

ENGINEERING  
TOMORROW

*Danfoss*

Catalogue

# Danfoss Waltech® tube fitting systems

## General overview

Guardian  
Seal Plating  
Technology -  
**1000+**  
hours resistance  
to red corrosion





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|   |          |
|---|----------|
| General information   | <b>A</b> |
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### System components (tube connecting parts)



Chapter **D**

### Blanking plugs / ends



Chapter **J**

### Male fittings



### Weld fittings



### Tube connectors



Chapter **E**

### Machines and tools



Chapter **K**

### 37° flared flanges



Chapter **I**

### Adjustable fittings



RSWS ... R / M    P-RSWV ... R / M    RSWS ... R-WD / M-WD    P-RSWV ... R-WD / M-WD    RSTS ... R / M    P-RSTV ... R / M    RSTS ... R-WD / M-WD    P-RSTV ... R-WD / M-WD

EWSD / P-EWS ... -SV    P-EWVD / P-EWV ... -SV    ETSD / P-ETS ... -SV    P-ETVD / P-ETV ... -SV    ELSD / P-ELS ... SV    P-ELVD / P-ELV ... -SV    EWSD 45    P-EWVD 45

EGESD ... R-WD / M-WD    P-EGES ... R-WD-SV / M-WD-SV    EGESD ... NPT    DAS    P-DAV    SNV    SNV .../... L    SNV .../... S    SNV .../... S

Chapter **F**

### Shuttle valves



TWS    P-TWV

### Swivels



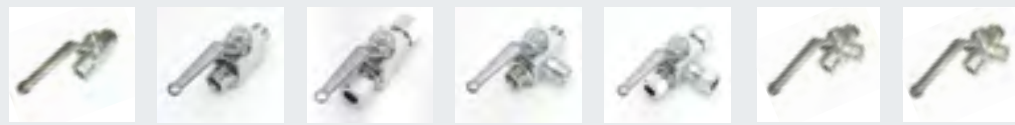
DGWES ... R-WD / M-WD    P-DGWEV ... R-WD / M-WD    DGWS    P-DGWV

### Check valves



Valve inserts    RS    P-RV    RSV...R-WD / M-WD    P-RVV...R-WD / M-WD    RSZ ... R-WD / M-WD    P-RVZ ... R-WD / M-WD

### Ball valves



KH-R    KHS    P-KHV    KH3KS ... -L/-T    P-KH3KV ... -L/-T    KH3KS-R ... -L/-T    KH3S-R ... -L/-T

Chapter **G**

### Flange studs



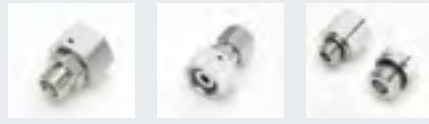
GFS    P-GFV    WFS    P-WFV

### Female fittings



GAS ... R / M    P-GAV ... R / M

### Reducer fittings



REDSDN / P-REDS ... -SV    P-REDVDN / P-REDV ... -SV    RED...WD/R

### Gauge couplings



EMASD    MAS ... R    P-MAV ... R

Chapter **H**

Left hand side - information about complete fittings with nut and profile ring (Walpro®)

Designation of the fitting  
Steel (black) / stainless steel (red)

Standards / details of the fittings and studs

Nominal pressure ratings of the steel version

Series

Designation and weight of the fitting

Article numbers of the Fittings Steel (black) / stainless steel (red)

Dimensions of the fitting and stud

Supplementary information

**Straight male fittings**

**P-GEV ... M**  
**P-GEV ... M-1.4571**  
Metric stud type B to DIN EN ISO 9974-3

| Series | PN bar (psi) | Tube outer diameter | Model                 | kg/100 pc. | M          | L <sub>2</sub> | L <sub>5</sub> | l    | i  | d  | S <sub>1</sub> | S <sub>2</sub> | Art. no.  | Art. no.   |
|--------|--------------|---------------------|-----------------------|------------|------------|----------------|----------------|------|----|----|----------------|----------------|-----------|------------|
| LL     | 100 (1450)   | 4                   | S-GEV 4 LLM           | 1.8        | M 8 x 1    | 19             | 13.5           | 9.5  | 8  | 12 | 12             | 10             | WAL038302 | WAL623050  |
|        |              | 6                   | S-GEV 6 LLM           | 1.9        | M 10 x 1   | 19.5           | 13.5           | 8    | 8  | 14 | 14             | 12             | WAL038304 | WAL623052  |
|        |              | 8                   | S-GEV 8 LLM           | 2.3        | M 10 x 1   | 20.5           | 14.5           | 9    | 8  | 14 | 14             | 14             | WAL038305 | WAL371486  |
|        |              | 6                   | P-GEV 6 LM            | 2.5        | M 10 x 1   | 23             | 15.5           | 8.5  | 8  | 14 | 14             | 14             | WAL373087 | WAL620023  |
|        |              | 6                   | P-GEV 6 L/M 12 x 1.5  | 4.0        | M 12 x 1.5 | 24.5           | 17             | 10   | 12 | 17 | 17             | 14             | WAL373088 | WAL623054  |
|        |              | 8                   | P-GEV 8 LM            | 4.0        | M 12 x 1.5 | 25             | 17             | 10   | 12 | 17 | 17             | 17             | WAL373089 | WAL620024  |
|        |              | 8                   | P-GEV 8 L/M 18 x 1.5  | 6.8        | M 18 x 1.5 | 26             | 18.5           | 11.5 | 12 | 23 | 24             | 17             | WAL373090 | WAL623056  |
|        |              | 10                  | P-GEV 10 LM           | 4.7        | M 14 x 1.5 | 26             | 18             | 11   | 12 | 19 | 19             | 19             | WAL373091 | WAL620025  |
|        |              | 10                  | P-GEV 10 L/M 16 x 1.5 | 6.2        | M 16 x 1.5 | 27             | 19.5           | 12.5 | 12 | 21 | 22             | 19             | WAL602652 | WAL623057  |
|        |              | 10                  | P-GEV 10 L/M 18 x 1.5 | 7.6        | M 18 x 1.5 | 27             | 19.5           | 12.5 | 12 | 22 | 24             | 10             | WAL373092 | WAL623059  |
| L      | 400 (5801)   | 10                  | P-GEV 10 L/M 22 x 1.5 | 8.3        | M 22 x 1.5 | 27.5           | 20             | 13   | 14 | 27 | 27             | 19             | WAL373093 | WAL623060  |
|        |              | 12                  | P-GEV 12 LM           | 6.3        | M 16 x 1.5 | 27             | 19.5           | 12.5 | 12 | 21 | 22             | 22             | WAL373094 | WAL620026  |
|        |              | 12                  | P-GEV 12 L/M 18 x 1.5 | 7.8        | M 18 x 1.5 | 27             | 19.5           | 12.5 | 12 | 23 | 24             | 22             | WAL373095 | WAL623062  |
|        |              | 12                  | P-GEV 12 L/M 22 x 1.5 | 9.5        | M 22 x 1.5 | 27.5           | 20             | 13   | 14 | 27 | 27             | 22             | WAL373096 | WAL623063  |
|        |              | 15                  | P-GEV 15 LM           | 9.5        | M 18 x 1.5 | 29             | 20.5           | 13.5 | 12 | 23 | 24             | 27             | WAL373097 | WAL620027  |
|        |              | 15                  | P-GEV 15 L/M 22 x 1.5 | 11.5       | M 22 x 1.5 | 29             | 21             | 14   | 14 | 27 | 27             | 27             | WAL373098 | WAL6200816 |
|        |              | 18                  | P-GEV 18 L/M 16 x 1.5 | 12.2       | M 16 x 1.5 | 31             | 21.5           | 14   | 12 | 23 | 27             | 32             | WAL373099 | WAL623065  |
|        |              | 18                  | P-GEV 18 LM           | 12.9       | M 22 x 1.5 | 31             | 22             | 14.5 | 14 | 27 | 27             | 32             | WAL373100 | WAL620028  |
|        |              | 22                  | P-GEV 22 LM           | 17.6       | M 26 x 1.5 | 33             | 24             | 16.5 | 16 | 31 | 32             | 36             | WAL373101 | WAL620424  |
|        |              | 28                  | P-GEV 28 LM           | 24.7       | M 33 x 2   | 34             | 25             | 17.5 | 18 | 39 | 41             | 41             | WAL373102 | WAL620029  |
| (3626) | 250          | 35                  | P-GEV 35 LM           | 40.7       | M 42 x 2   | 39             | 28             | 17.5 | 20 | 49 | 50             | 50             | WAL373103 | WAL620452  |
|        |              | 42                  | P-GEV 42 LM           | 45.6       | M 48 x 2   | 42             | 30             | 19   | 22 | 55 | 55             | 60             | WAL373104 | WAL620995  |
|        |              | 6                   | P-GEV 6 SM            | 4.5        | M 12 x 1.5 | 28             | 20             | 13   | 12 | 17 | 17             | 17             | WAL373105 | WAL620030  |
|        |              | 8                   | P-GEV 8 SM            | 5.5        | M 14 x 1.5 | 30             | 22             | 15   | 12 | 19 | 19             | 19             | WAL373106 | WAL620031  |
| (9137) | 630          | 10                  | P-GEV 10 SM           | 8.2        | M 16 x 1.5 | 31             | 22.5           | 15   | 12 | 21 | 22             | 22             | WAL373107 | WAL620032  |
|        |              | 12                  | P-GEV 12 SM           | 10.5       | M 18 x 1.5 | 33             | 24.5           | 17   | 12 | 23 | 24             | 24             | WAL373108 | WAL620033  |
|        |              | 14                  | P-GEV 14 SM           | 14.8       | M 20 x 1.5 | 37             | 27             | 19   | 14 | 25 | 27             | 27             | WAL373109 | WAL621510  |
|        |              | 16                  | P-GEV 16 SM           | 15.4       | M 22 x 1.5 | 37             | 27             | 18.5 | 14 | 27 | 27             | 30             | WAL373110 | WAL620661  |
| (5801) | 400          | 20                  | P-GEV 20 SM           | 25.3       | M 27 x 2   | 42             | 31             | 20.5 | 16 | 32 | 32             | 36             | WAL373111 | WAL620503  |
|        |              | 35                  | P-GEV 35 SM           | 46.5       | M 33 x 2   | 47             | 35             | 22   | 18 | 30 | 41             | 46             | WAL373112 | WAL620887  |

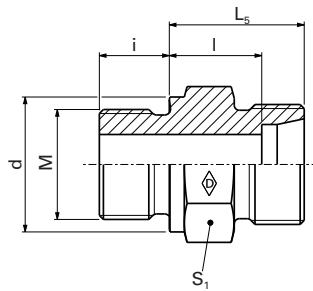
Drawing + image of the fitting

Right hand side - information about the studs

Designation of the stud  
Steel (black) /  
stainless steel (blue)

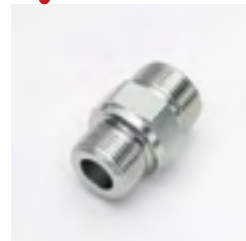


GES ... M  
GES ... M-1.4571



Straight male studs

Drawing + image of the stud



E

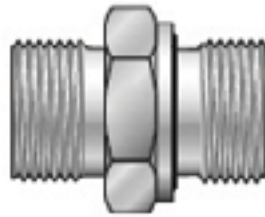
System nuts for supplementing the stud  
(for technical data, see part D of this catalog)

| Series | PN bar (psi) | Tube outer diameter | Model               | kg/100 pc.          | M          | Stud GES ... | Art. no.   | Stud Stainless steel GES ... -1.4571* | Walring W-R ... VI | Walform WF-M ... VI | Walform stainless steel WF-M ... VI-1.4571* |           |
|--------|--------------|---------------------|---------------------|---------------------|------------|--------------|------------|---------------------------------------|--------------------|---------------------|---|-----------|
| LL     | 100 (1450)   | 4                   | GES 4 LLM           | 0.9                 | M 8 x 1    | WAL03789     | WAL62051   |                                       |                    |                     |   |           |
|        |              | 6                   | GES 6 LLM           | 1.1                 | M 10 x 1   | WAL03791     | WAL62053   |                                       |                    |                     |   |           |
|        |              | 8                   | GES 8 LLM           | 1.2                 | M 10 x 1   | WAL03792     | WAL37485   |                                       |                    |                     |   |           |
|        | L            | 400 (5801)          | 6                   | GES 6 LM            | 1.4        | M 10 x 1     | WAL03793   | WAL02498                              | WAL624607          | WAL625940           | WAL625900                                   | WAL625900 |
|        |              |                     | 6                   | GES 6 L/M 12 x 1.5  | 2.6        | M 12 x 1.5   | WAL03794   | WAL62055                              | WAL624607          | WAL625940           | WAL625900                                   | WAL625900 |
|        |              |                     | 8                   | GES 8 LM            | 2.3        | M 12 x 1.5   | WAL03795   | WAL02499                              | WAL624608          | WAL625941           | WAL625981                                   | WAL625981 |
|        |              |                     | 8                   | GES 8 L/M 18 x 1.5  | 5.1        | M 18 x 1.5   | WAL02482   | WAL37571                              | WAL624608          | WAL625941           | WAL625981                                   | WAL625981 |
|        |              |                     | 10                  | GES 10 LM           | 2.9        | M 14 x 1.5   | WAL03796   | WAL02500                              | WAL624609          | WAL625942           | WAL625982                                   | WAL625982 |
|        |              |                     | 10                  | GES 10 L/M 16 x 1.5 | 4.0        | M 16 x 1.5   | WAL06390   | WAL623058                             | WAL624609          | WAL625942           | WAL625982                                   | WAL625982 |
|        |              |                     | 10                  | GES 10 L/M 18 x 1.5 | 5.0        | M 18 x 1.5   | WAL02587   | WAL372883                             | WAL624609          | WAL625942           | WAL625982                                   | WAL625982 |
| 10     |              |                     | GES 10 L/M 22 x 1.5 | 7.6                 | M 22 x 1.5 | WAL028692    | WAL623061  | WAL624609                             | WAL625942          | WAL625982           | WAL625982                                   |           |
| 12     |              |                     | GES 12 LM           | 4.0                 | M 16 x 1.5 | WAL037597    | WAL025501  | WAL624610                             | WAL625943          | WAL625983           | WAL625983                                   |           |
| 12     |              |                     | GES 12 L/M 18 x 1.5 | 4.7                 | M 18 x 1.5 | WAL037598    | WAL602783  | WAL624610                             | WAL625943          | WAL625983           | WAL625983                                   |           |
| L      | 400 (5801)   | 12                  | GES 12 L/M 22 x 1.5 | 7.3                 | M 22 x 1.5 | WAL028695    | WAL623064  | WAL624610                             | WAL625943          | WAL625983           | WAL625983                                   |           |
|        |              | 15                  | GES 15 LM           | 5.2                 | M 18 x 1.5 | WAL037599    | WAL025502  | WAL624611                             | WAL625944          | WAL625984           | WAL625984                                   |           |
|        |              | 15                  | GES 15 L/M 22 x 1.5 | 7.4                 | M 22 x 1.5 | WAL028117    | WAL604968  | WAL624611                             | WAL625944          | WAL625984           | WAL625984                                   |           |
|        |              | 18                  | GES 18 LM 18 x 1.5  | 6.4                 | M 18 x 1.5 | WAL029643    | WAL623066  | WAL624612                             | WAL625945          | WAL625985           | WAL625985                                   |           |
|        |              | 18                  | GES 18 LM           | 7.6                 | M 22 x 1.5 | WAL037600    | WAL025503  | WAL624612                             | WAL625945          | WAL625985           | WAL625985                                   |           |
|        |              | 22                  | GES 22 LM           | 10.1                | M 26 x 1.5 | WAL037601    | WAL604218  | WAL624613                             | WAL625946          | WAL625986           | WAL625986                                   |           |
|        |              | 28                  | GES 28 LM           | 16.7                | M 33 x 2   | WAL037602    | WAL025505  | WAL624614                             | WAL625947          | WAL625987           | WAL625987                                   |           |
|        |              | 35                  | GES 35 LM           | 28.2                | M 42 x 2   | WAL037603    | WAL025506  | WAL624615                             | WAL625948          | WAL625988           | WAL625988                                   |           |
|        |              | 42                  | GES 42 LM           | 35.8                | M 48 x 2   | WAL037604    | WAL617435  | WAL624616                             | WAL625949          | WAL625989           | WAL625989                                   |           |
|        |              | S                   | 630 (9137)          | 6                   | GES 6 SM   | 3.0          | M 12 x 1.5 | WAL037605                             | WAL028656          | WAL624617           | WAL625950                                   | WAL625990 |
| 8      | GES 8 SM     |                     |                     | 4.3                 | M 14 x 1.5 | WAL037606    | WAL025508  | WAL624618                             | WAL625951          | WAL625991           | WAL625991                                   |           |
| 10     | GES 10 SM    |                     |                     | 5.5                 | M 16 x 1.5 | WAL037607    | WAL025509  | WAL624619                             | WAL625952          | WAL625992           | WAL625992                                   |           |
| 12     | GES 12 SM    |                     |                     | 7.2                 | M 18 x 1.5 | WAL037608    | WAL025510  | WAL624620                             | WAL625953          | WAL625993           | WAL625993                                   |           |
| 14     | GES 14 SM    |                     |                     | 9.4                 | M 20 x 1.5 | WAL037609    | WAL025511  |                                       |                    |                     |   |           |
| 16     | GES 16 SM    |                     |                     | 9.8                 | M 22 x 1.5 | WAL037610    | WAL025512  | WAL624621                             | WAL625954          | WAL625994           | WAL625994                                   |           |
| 20     | GES 20 SM    |                     |                     | 15.3                | M 27 x 2   | WAL037611    | WAL025513  | WAL624622                             | WAL625955          | WAL625995           | WAL625995                                   |           |
| 25     | GES 25 SM    |                     |                     | 26.0                | M 33 x 2   | WAL037612    | WAL025514  | WAL624623                             | WAL625956          | WAL625996           | WAL625996                                   |           |

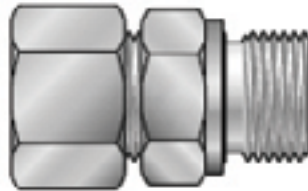
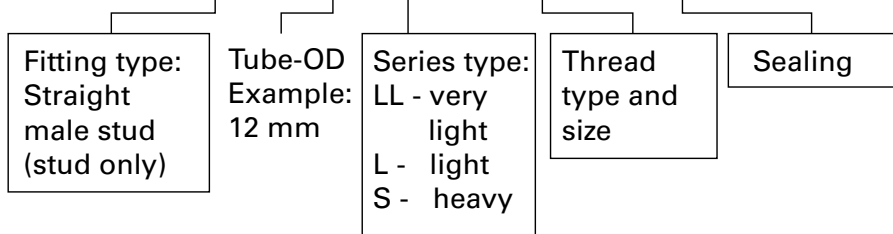
Article numbers of supplementary Walring®, Walform, Walform stainless steel system nuts

Article numbers of the studs Steel (black) / stainless steel (red)

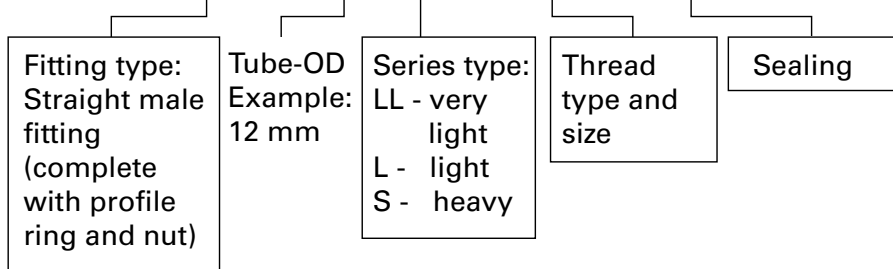
Designation and weight of the stud



**GES 12 L / R 1/2 -WD**



**P-GEV 12 L / R 1/2 -WD**





### Customized special solutions

Danfoss Waltech offers customers an extensive portfolio of customized special fittings, regardless of the quantity involved. We are able to produce any quantity, from very small batches to regular bulk shipments, at competitive prices thanks to our flexible machinery and the option of minimum purchase quantities.

We offer a wide range of different options, from jump sizes and various bore types (throttle bores) to special fitting and thread lengths as well as customized standard fittings. All of these options are available in both steel and stainless steel (1.4571). Alternative sealing materials are also available on request.

The Danfoss Waltech special steel fittings also feature the proven Danfoss Guardian Seal finish. In addition to reliable and reproducible assembly performance, they thus offer exceptionally high corrosion protection, including more than 1,000 hours against red rust.

We are happy to advise you on the design of special fittings to help you optimize your application and to analyze the technical implementation options in collaboration with you.

### The advantages of special fittings:

- Reduction in the number of required components
- Elimination of fitting chains and leakage paths
- Space savings
- Improved assembly options
- Elimination of leakage paths and thus reduction in follow-up costs
- Prevention of tube adjustments
- Flow reduction (throttling effect)
- Lower warehousing costs

### Examples of special fittings

Different lengths



Jump sizes



Throttle bores



Additional special fittings



# A

## General information



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A



## Welcome to Waltech

### **Are you looking for the perfect fitting system?**

When it comes to tube-fitting systems, reliable and leak-proof performance is crucial.

This depends on the quality of the tube fitting itself and on how well it performs as part of an assembly – for example, on the pressure resistance, load capacity and safety it delivers. Tube fittings require a high level of corrosion resistance (without compromising the performance of the assembly), and a user-friendly, replicable installation process that is easy to understand, even for untrained personnel.

Ideally, you should also have access to a comprehensive tube-fitting portfolio from a single source, along with customer success stories and certifications that demonstrate reliability across a wide range of applications.

### **Why choose Waltech?**

Simply put, our Waltech tube connection systems have more to offer. Our tube fittings provide outstanding performance thanks to their leak-proof design and high bending and pressure-impulse strength. We offer complete solutions for all your tube-fitting needs with various connection options. And the manual assembly of our fittings is easy, safe and replicable thanks to the reduced number of components, the consistent assembly torque and the controlled final assembly of the cutting rings.

Our innovative machine technology for cutting-ring assembly and tube reshaping ensures excellent performance, reduces malfunctions and avoids human error while also providing for faster and easier installation. Our unique Guardian Seal coating also improves safety by reducing variance in the installation process.

What's more, our products also come with excellent customer references, multiple approvals from certification bodies and OEM organizations, and an extensive library of successful application examples. Thanks to our large rental portfolio and our in-house machine development and production capabilities, we are able to tackle any tube-fitting challenge.



### The Waltech trilogy

Our main product is the **Walpro cutting-ring system**, which enables the manual assembly of tube fittings. But the Waltech capabilities go far beyond simple cutting-ring systems, in line with our commitment to deliver superior performance and leak-proof operation.



We have thus expanded our core portfolio to meet the demands of various applications:

- Our **Walring cutting-ring system** with additional soft seal
- Our **WalformPlus tube-fitting system** (based on the Walform machine) is designed to support even the most demanding high-pressure, high-vibration applications where safety is critical



### Key benefits

- Superior performance and leak-proof design
- Compatible with a wide range of application requirements
- Proven system reliability thanks to our end-to-end Waltech tube fittings
- The Guardian Seal coating ensures high corrosion resistance without compromising assembly strength
- A choice of system options to meet different requirements – from simple manual assembly to safety-critical applications
- Properties that make installation simple, fast and safe – including short tightening rotation, lower tightening torque, a unique pressure point to avoid excessive or insufficient tightening and an unlimited number of repeat installations without any loss of performance
- A comprehensive range of services – including machine rental and maintenance as well as staff training on site
- The combined strength of the Danfoss brand in terms of manufacturing quality, global presence, regulatory and OEM approvals and customer success stories



**A**

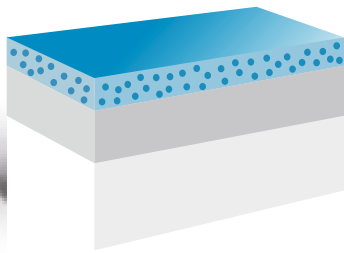
**Guardian Seal coating**

**Added benefits in terms of performance, health and the environment**

Guardian Seal is a unique zinc-based, electroplated finish, which not only provides excellent, durable corrosion protection, but also protects your health and the environment.

By means of a special process, the zinc layer is passivated to give it an open-pore structure. In the next step, organic micro-particles are incorporated into this structure using a dipping process that is matched to the chemical properties of the material. An optimized drying process causes the top layer to polymerize, so that the molecules on its surface become cross-linked.

This produces a long-lasting, highly corrosion-resistant finish that complies with the EN ISO 9227 standard while also being easy to install, safe, healthy and environmentally friendly.



Guardian Seal passivation / micro-impregnation

Zinc layer

Base metal

**Key features:**

- Corrosion protection: > 360 hours resistance to white rust / > 1,000 hours resistance to red rust
- Nickel-free
- Same torque values as chrome-3
- Premium silver finish
- Zinc base layer of 11-15 µm
- Resistant to standard hydraulic fluids



0 hours

720 hours

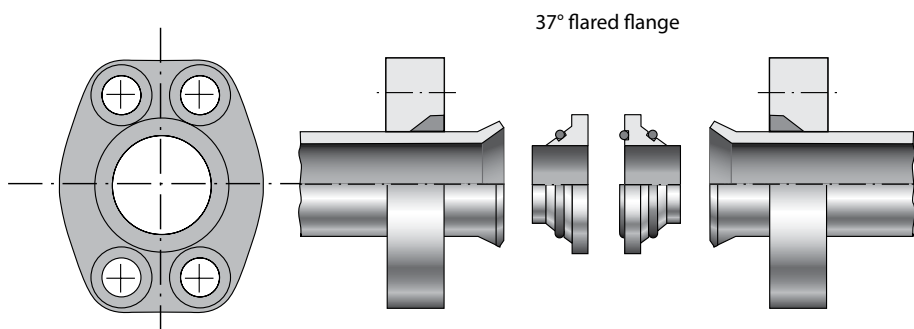
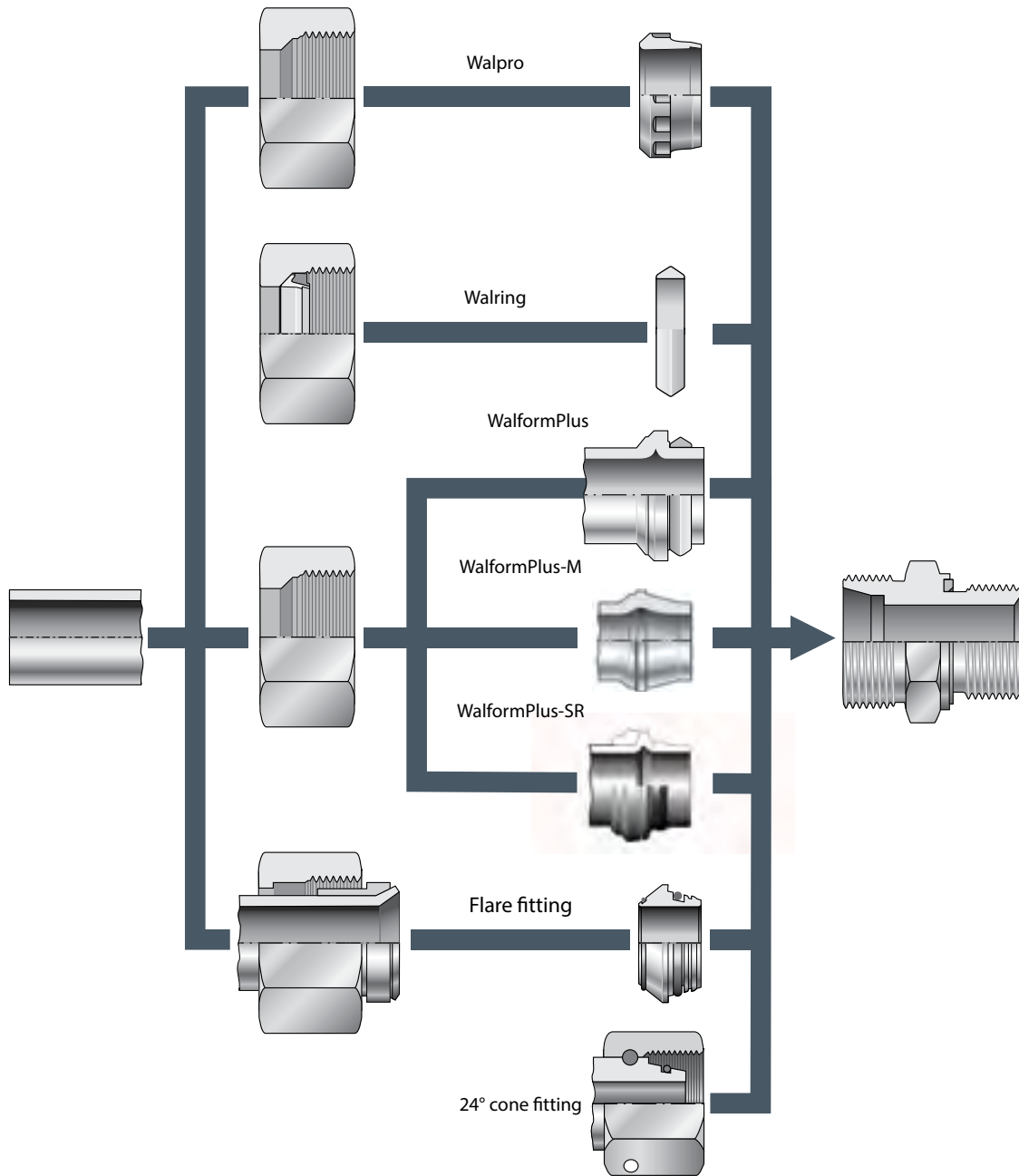
1,000 hours

**Key benefits**

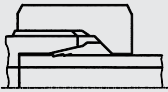
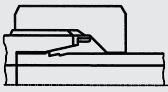
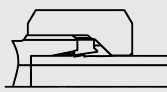
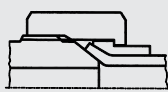
- Superior and durable corrosion protection
- Can be painted with commercially available coatings
- Superior resistance to red rust
- No risk of nickel dust during assembly and handling
- No risk of contact allergies
- Low assembly and disassembly torque to ensure safe connections and easy installation
- The waste water from the electroplating process requires less treatment

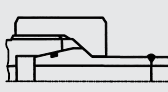
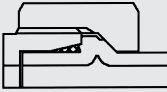
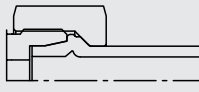
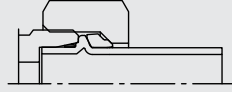
A cost-effective solution for every type of connection problem

A



**A**
**System comparison**

|                                      | <br><b>Z-R</b> | <br><b>P-R</b> | <br><b>Walring</b> | <br><b>B</b> |
|--------------------------------------|---|---|--|---|
|                                      | <b>Two-edge cutting ring</b>  | <b>Profile ring Two-edge cutting ring</b>   | <b>Walring Two-edge cutting ring + soft seal</b>   | <b>Flare fitting with O-ring</b>  |
| Standard Parts to standard           | DIN 2353<br>EN ISO 8434-1<br>All components   | DIN 2353<br>EN ISO 8434-1<br>All components   | DIN 2353<br>EN ISO 8434-1<br>Stud and nut  | DIN 3949<br>All components  |
| System characteristics               | Combined sealing/supporting function  | Combined sealing/supporting function  | Separate sealing/supporting function   | Separate sealing/supporting function  |
| Number of components                 | 3   | 3   | 3  | 4 (6 if O-rings are included)   |
| Number of leakage paths<br>Seal type | 2 metal-to-metal  | 2 metal-to-metal  | 2 elastomer + metal-to-metal   | 2 elastomer   |
| Tightening rotation*                 | 360°<br>(180° after pre-assembly)   | 360°<br>(180° after pre-assembly)<br>(30° controlled final assembly)                            | 360°<br>(60° after pre-assembly)   | 90° or 180°   |
| Risk of assembly errors              | High  | Medium, low for controlled final assembly   | Low  | Low   |
| Repair / servicing usually with      | Z-R, P-R  | Z-R, P-R  | S-R + WD<br>Z-R, P-R, Walring  | BO often with Z-R,<br>P-R = new nut   |

|   | <br><b>SN</b> | <br><b>WFplus</b> | <br><b>WFplus-M</b> | <br><b>WFplus-SR</b> |
|---|---|---|--|--|
|   | <b>Welding nipple</b>   | <b>WalformPlus</b>  | <b>WalformPlus-M</b>   | <b>WalformPlus-SR</b>  |
| Standard Parts to standard              | DIN 3865, Form A<br>ISO 8434-4<br>All components  | DIN 2353<br>EN ISO 8434-1<br>Stud and nut   | DIN 2353<br>EN ISO 8434-1<br>Stud and nut  | DIN 2353<br>EN ISO 8434-1<br>Stud and nut  |
| System characteristics                  | Separate sealing/<br>supporting function  | Separate sealing/<br>supporting function  | Separate sealing/<br>supporting function   | Separate sealing/<br>supporting function   |
| Number of components                    | 3 (4 if O-ring is included)   | 3   | 2  | 4  |
| Number of leakage paths<br>Sealing type | 1 elastomer   | 1 elastomer + metal-to-metal  | 1 metal-to-metal seal  | 1 elastomer + metal-to-metal   |
| Tightening rotation*                    | 120°  | Point of resistance   | Point of resistance  | Point of resistance  |
| Risk of assembly errors                 | Medium  | Very low  | Very low   | Very low   |
| Repair / servicing usually with         | SN<br>WF-WD / Wfplus  | WFplus, WF-WD, S-R + WD,<br>SN, Z-R, P-R  | WFplus-M, P-R  | WFplus-SR, S-R + WD,<br>P-R  |

\*See also the manufacturer's instructions

Z-R = two-edge cutting ring

P-R = profile ring

S-R / Z-R + WD = cutting ring + soft seal

B = flare fitting

BO = flare fitting with O-ring

SN = welding nipple

WFplus = WalformPlus

WFplus-M = WalformPlus-M (with metal-to-metal seal)

WFplus-SR = WalformPlus-SR (with support ring)



## The Danfoss Waltech service organization

### The right partner in every situation

Danfoss's Waltech products offer high-quality service, especially when it comes to flexibility and tailor-made offers. Danfoss Waltech customers know that they can rely on our trusted team for advice and assistance, be it by phone or directly on site.



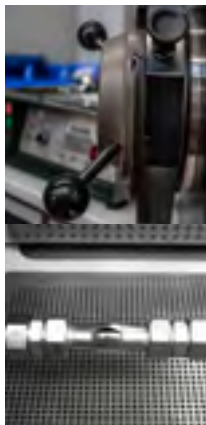
#### Danfoss Waltech service checks

- Qualified instructions for use
- Service checks for machines and tools
- Repair and replacement of machines



#### Danfoss Waltech trainings

- Product trainings and
- courses on how to assemble the various tube-fitting systems



#### Danfoss Waltech leasing

- Leasing offers for all common machine and tool types are available on request

#### Danfoss Waltech project consulting

- Solutions for critical installation conditions
- Designs for applications with stringent safety requirements
- Answers to all questions concerning the selection and installation of tube assemblies
- Support with sample tube assemblies
- Comprehensive logistics services
- Comprehensive testing on our test stands



#### Danfoss Waltech – a global partner

Quality transcends national borders, which is why the Danfoss Waltech product innovations have successfully established themselves on the international market. Waltech tube fittings are sold all over Europe and beyond, and our global distribution network and regional warehouses ensure fast delivery anywhere.

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#### Functional characteristics: Profile-ring tube fittings

Thanks to their ideal shape, Walpro fittings provide a secure and leak-proof tube connection.

During installation, the two cutting edges of the Walpro ring cut into the tube to create a positive-locking connection. At the same time, the union nut taper will radially deform the contoured shoulder of the cutting ring in such a way that the tube will become tightly clamped to absorb bending loads.

For leak-proof radial sealing, the ring is wedged between the tube and the fitting stud.

The progressive increase in tightening torque at the end of the assembly process ensures a high degree of safety.

Walpro fittings can be removed and re-assembled as often as required.

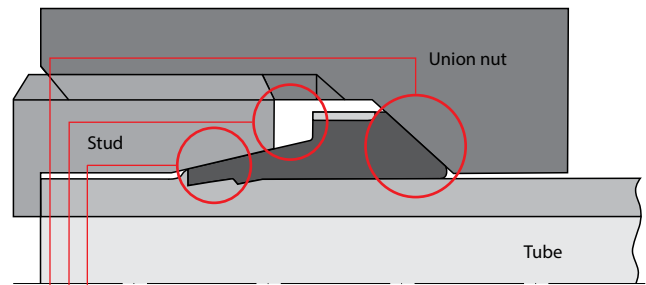
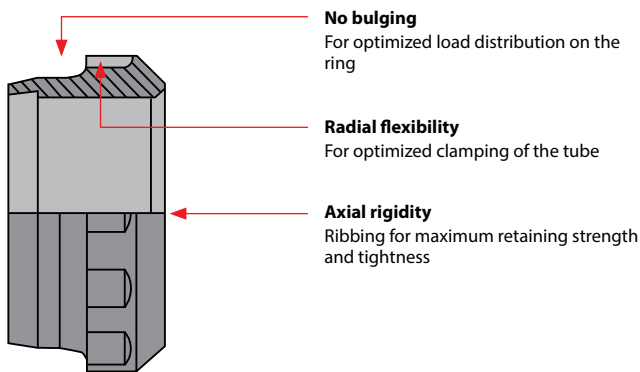
The specified performance of Walpro fittings can only be achieved if original Walpro parts are used and the assembly is carried out in accordance with the installation instructions.

### Computer-optimized tube-connection technology

The Walpro tube-fitting system has been fully optimized to meet current and future market requirements. With the help of the latest calculation methods, we have been able to significantly improve performance and increase installation safety. The design is based on an axially rigid ring with a shoulder section that has been radially weakened by means of a contoured profile. We have also implemented a novel design for the cutting edges to achieve leak-proof sealing and eliminate subsequent penetration.

#### Clear advantages for users:

- Greater functional reliability
- Lower installation costs
- Lower reworking costs
- Lower operating costs



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#### Optimized cutting edges

- Optimized cutting-edge angle
- Wedge-shaped cutting-edge flank
- Groove for chips
- Stable cutting edge

#### Optimized central section

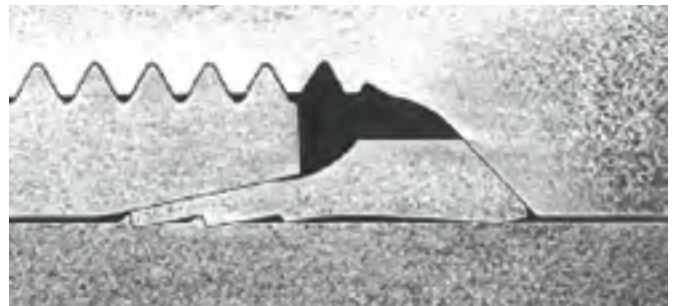
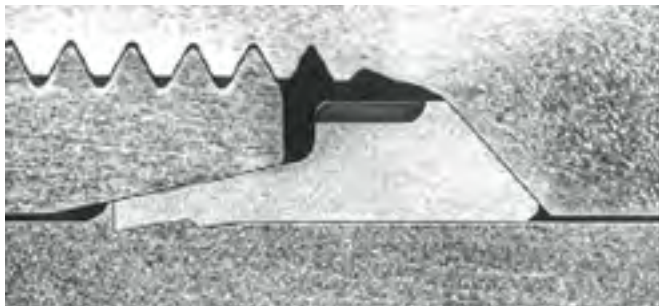
- Ideal contact angle
- Mechanical stop to prevent excessive tightening

#### Optimized shoulder section

- Contoured profile for greater rigidity
- Large ring-nut contact surface
- End radius

### Maximum tightness thanks to:

- 100 % positive locking of the cutting edges
- High sealing strength (preload)
- No settling or subsequent penetration



#### Cross section of the profile ring

- Profile system: rigid ring, no settling
- Compression of chips: no subsequent penetration
- Negative clearance angle: additional sealing surface, significantly higher sealing pressure

#### Cross section of a two-edge cutting ring

- Ring with thin cross section: settling of the connection
- Partially exposed cutting edges: subsequent penetration, settling
- Zero clearance at the cutting edge: only the tube face is sealed, poor sealing on the stud side

**A**

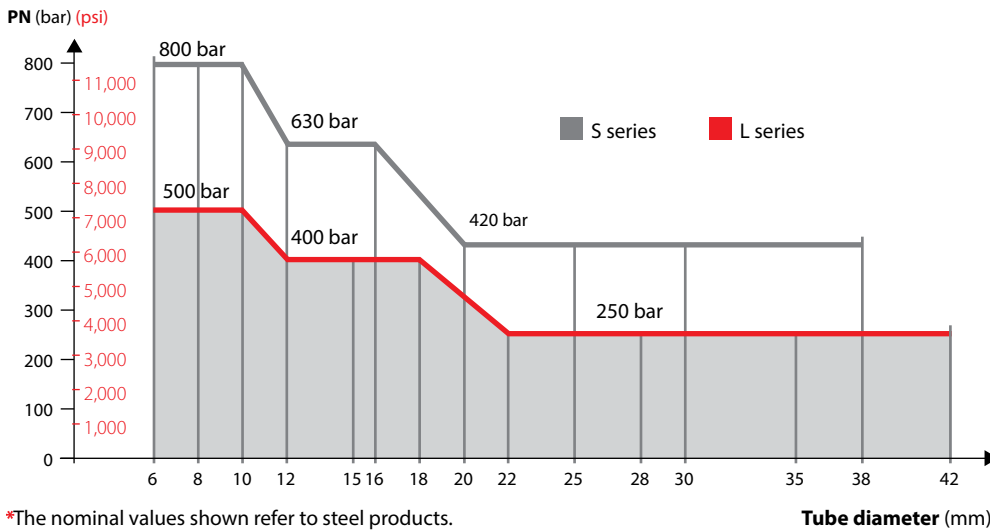
**High nominal pressure ratings**

**PN – nominal pressure**

Nominal pressure is an approximate pressure rating that is commonly used. Load tests for burst pressure must be carried out at no less than four times the nominal pressure of the fitting. Pressure-impulse tests must be carried out at no less than 1.33 times the nominal pressure of the fitting at one million load cycles.

- L series for nominal pressure up to 500 bar
- S series for nominal pressure up to 800 bar
- Only Waltech original parts should be used for high nominal pressure ratings

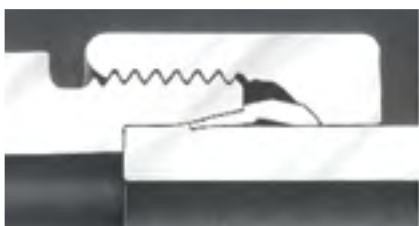
**Nominal pressure ratings\* of Walpro fittings**



\*The nominal values shown refer to steel products.

**Safe installation**

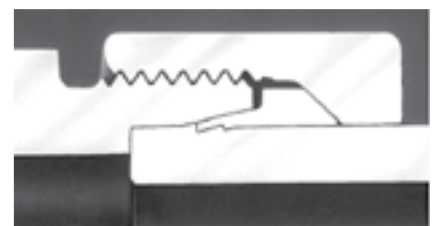
- Safe initial assembly with mechanical stop to limit tightening
- Safe re-assembly
- Work-hardening and compression of chips in the cut



Cutting ring – deformation due to excessive tightening



Two-edge cutting ring – deformation due to excessive tightening



**Profile ring – no deformation due to excessive tightening**

**High fatigue strength**

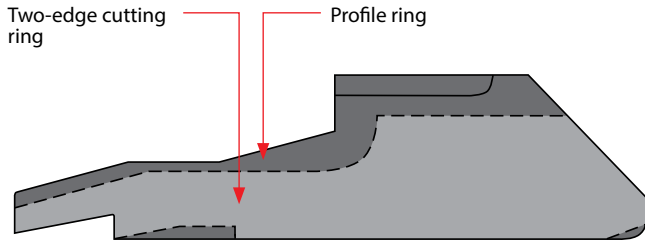
- Reliable tube retention
- Notch-free tube clamping

**Behavior of cutting ring and profile ring in the event of excessive tightening**

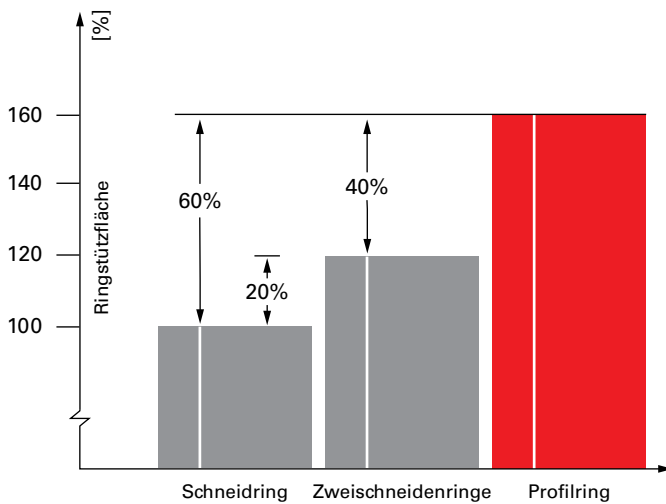
| Cutting ring – two-edge cutting ring                          | Profile ring  |
|---|---|
| No significant torque increase                                | + Significant torque increase   |
| Loss of travel during assembly due to compression of the ring | + No loss of travel, no compression of the ring   |
| Reduced preload due to compression of the ring                | + High preload to accommodate the operating load The stable, optimized ring design prevents compression |
| Increased stress concentration on the tube                    | + No stress concentration on the tube   |

### Reliable tube retention

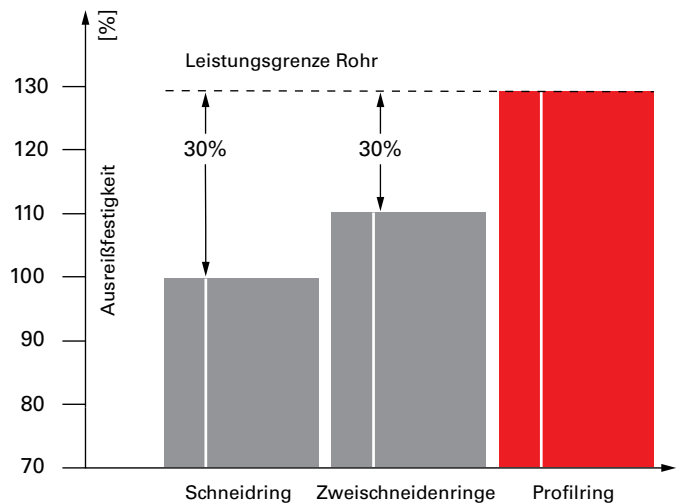
- Large ring contact area
- Rigid, profile-shaped ring
- High tensile strength



### Optimized ring contact area (mean values)

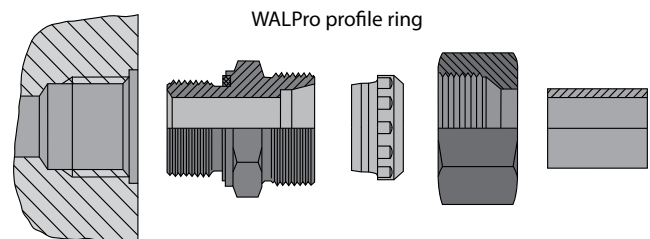


### Tensile strength of the tube connections (mean values)



### A universal, standardized solution

- All fitting components comply with DIN 2353 / EN ISO 8434-1
- Can be used with all standard tube materials
- Interchangeable with cutting ring and two-edge cutting ring



All fitting components comply with DIN 2353 / EN ISO 8434-1

### Approvals and test certificates

- American Bureau of Shipping
- Bureau Veritas
- DNV-GL
- Lloyd's Register of Shipping
- Registro Italiano Navale
- Polish Register of Shipping

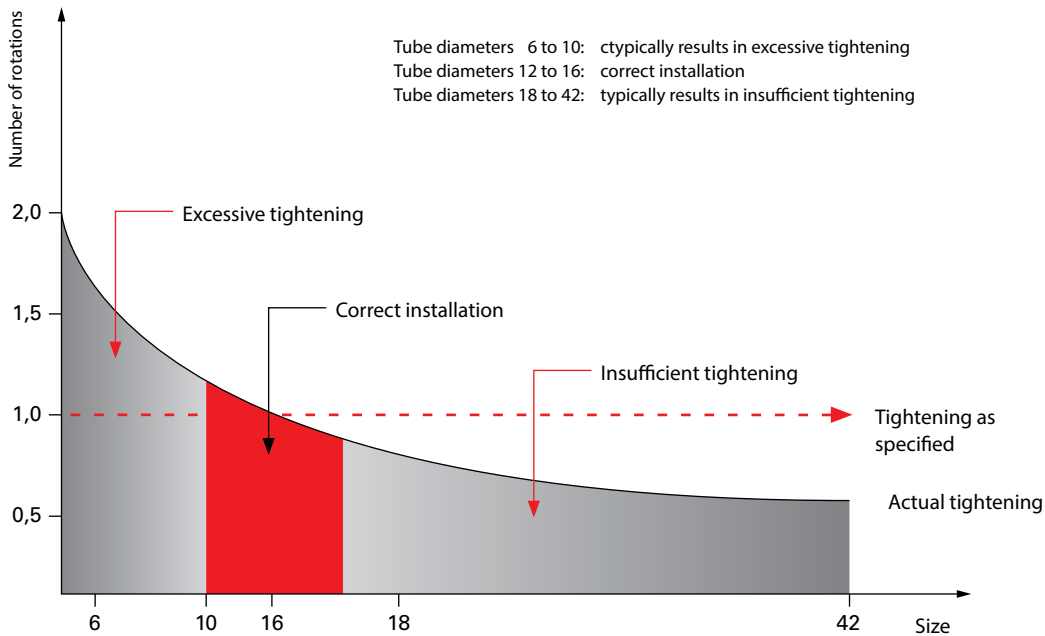
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**Controlled final assembly of profile-ring fittings**

The right choice for a completely dry hydraulic system. The Danfoss Waltech profile ring relies on controlled final assembly, a new type of assembly technology that eliminates the most common errors that occur during installation.

| Typical installation errors include:  | The result:  |
|---|--|
| <ul style="list-style-type: none"> <li>• Incorrect pre-assembly</li> <li>• Failure to complete the assembly process</li> <li>• Excessive tightening</li> <li>• Insufficient tightening</li> </ul> | <ul style="list-style-type: none"> <li>• Risk of accidents</li> <li>• Downtime</li> <li>• Maintenance costs</li> <li>• Leakage</li> <li>• Reputational damage</li> </ul> |

**Field test: Comparison of target and actual values in case of intuitive installation**

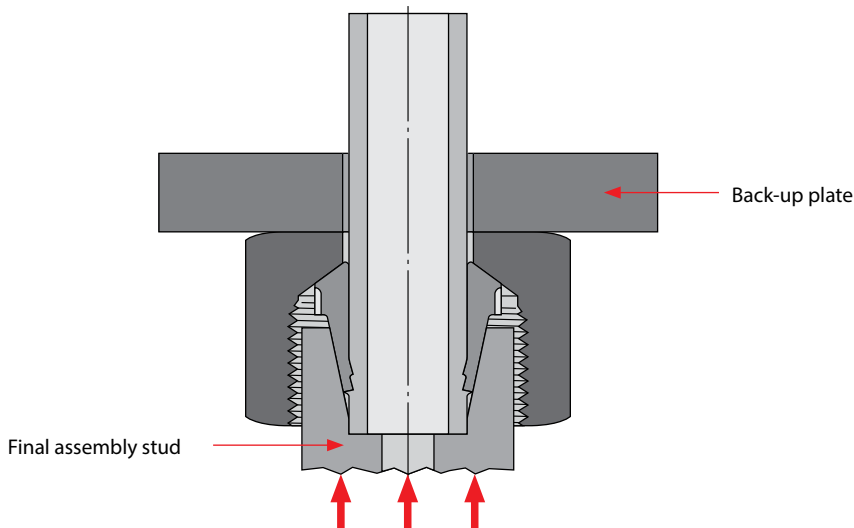


Possible errors during standard installation

A

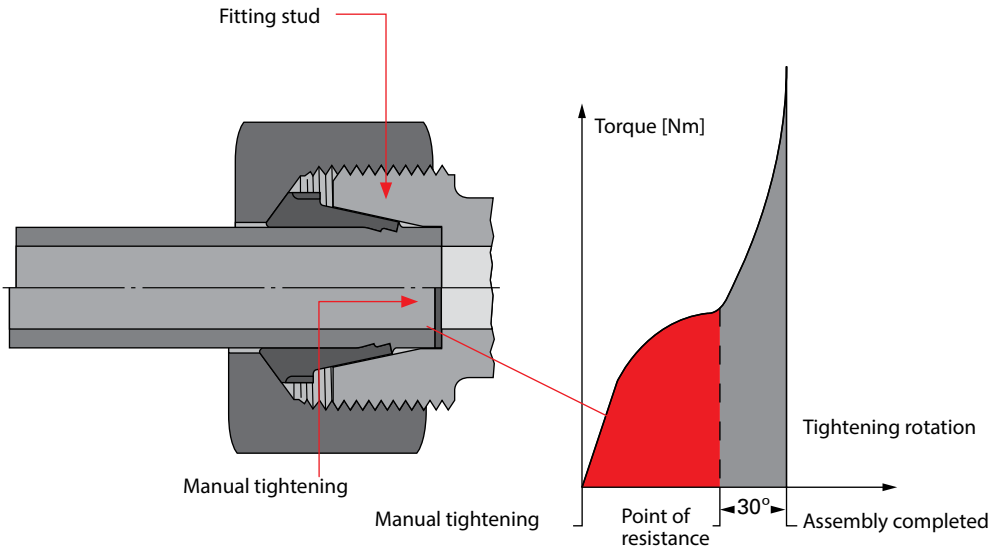
| The consequences of excessive tightening  | The result:   |
|---|---|
| <p><b>Constriction of the tube</b></p> <ul style="list-style-type: none"><li>• Fatigue failure</li></ul> <p><b>Deformation of the fitting components</b></p> <ul style="list-style-type: none"><li>• Leakage</li><li>• Retightening is not possible</li><li>• Risk of breaking</li><li>• Performance loss</li></ul> | <p><b>Insufficient cutting depth</b></p> <ul style="list-style-type: none"><li>• Reduced pressure load</li><li>• Leakage</li><li>• Insufficient clamping of the tube</li><li>• Cutting area at risk (fatigue failure)</li><li>• Reduced flexural fatigue strength</li></ul> |

Controlled final assembly with Danfoss assembly machine = the ring is cut to 100 %



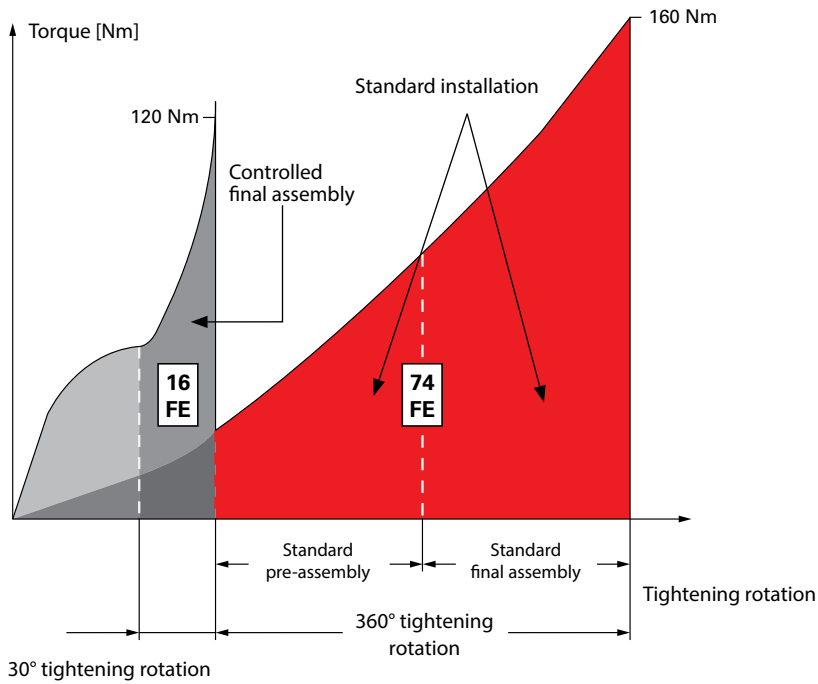
**A**

**Controlled final assembly = 30° tightening rotation after the point of resistance**



Point of resistance = tube at mechanical limit

**Comparison of assembly types, size 16 S**



FE = units of area, the amount of work required for assembly



**The most important features and benefits for customers**

- The assembly machine cuts the ring to 100 %
- Short tightening rotation for final assembly (30°), meaning less force is required (-30 %)
- A steep increase in torque clearly signals the completion of the assembly process
- Components according to DIN 2353 / EN ISO 8434-1
- Assembly time reduced by up to 50 %
- The assembly machine ensures consistent quality
- Controlled final assembly options: based on the tightening rotation or torque-controlled
- Easy to assemble even where space is limited
- A significant reduction in installation costs
- The controlled final assembly eliminates sources of error and thus ensures the reliable operation of your product
- Can also be mounted on stainless steel tubes

A



#### Functional characteristics – Profile-ring tube fittings

Protecting people and the environment: the tried and tested Danfoss Waltech technology is also available in stainless steel (1.4571).

Aggressive media and extreme operating environments require special solutions. Walpro-X has been specially developed for use in highly sensitive areas – wherever safety and the environmental protection are at stake.

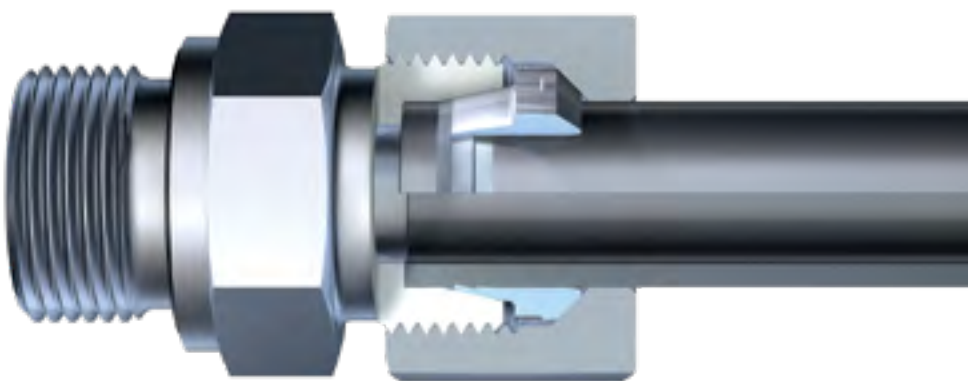
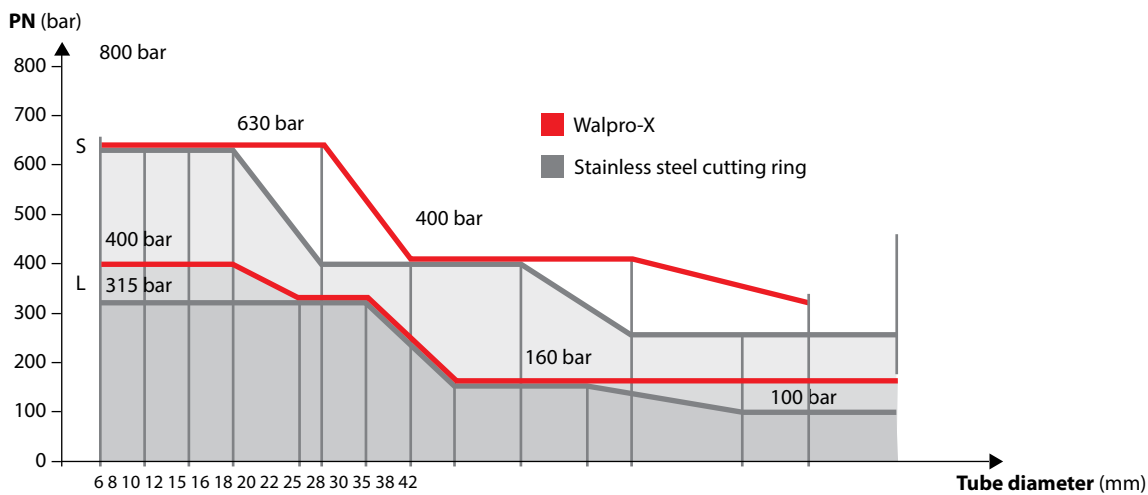
## High nominal pressure ratings

### PN – nominal pressure

Nominal pressure is an approximate pressure rating that is commonly used. Burst-pressure tests must be carried out at no less than four times the nominal pressure of the fitting. Pressure-impulse tests must be carried out at no less than 1.33 times the nominal pressure of the fitting at one million load cycles.

- L series for nominal pressure up to 400 bar
- S series for nominal pressure up to 630 bar
- Only Waltech original parts should be used for high nominal pressure ratings

### Nominal pressure ratings\* of Walpro-X fittings

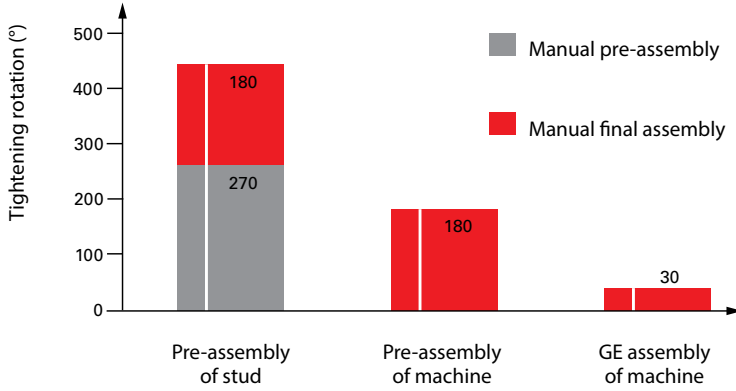


**A** A revolutionary assembly system

Machine-controlled final assembly is also available for Walpro-X.

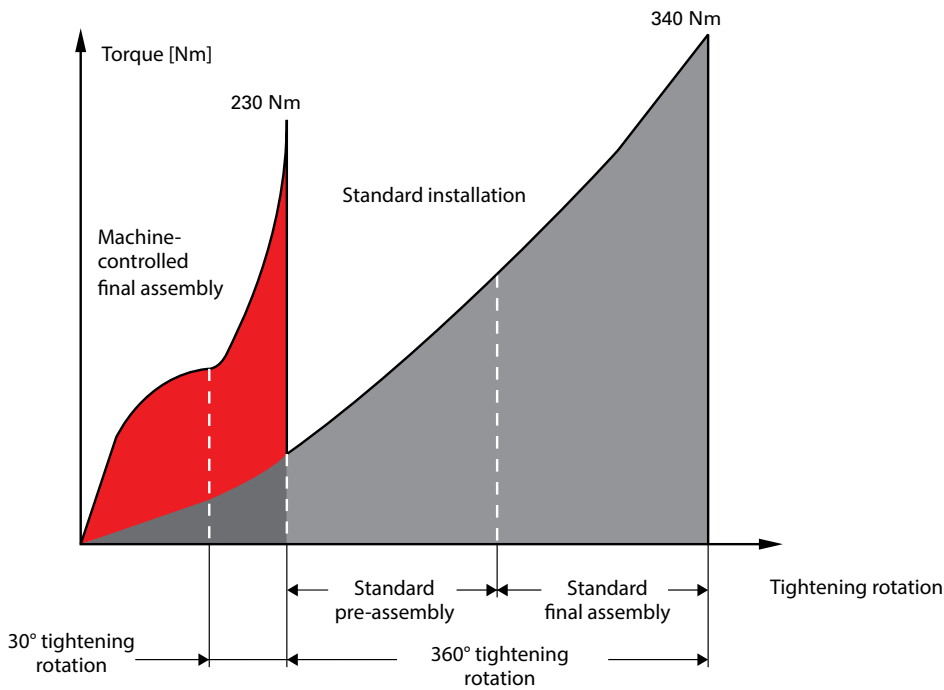
This reduces the required tightening rotation after the point of resistance to only 30°, thereby minimizing the necessary tightening force. This in turn reduces the installation time by up to 50 %.

**Tightening rotation comparison for Walpro-X**



**Comparison of assembly types**

Size 16 S

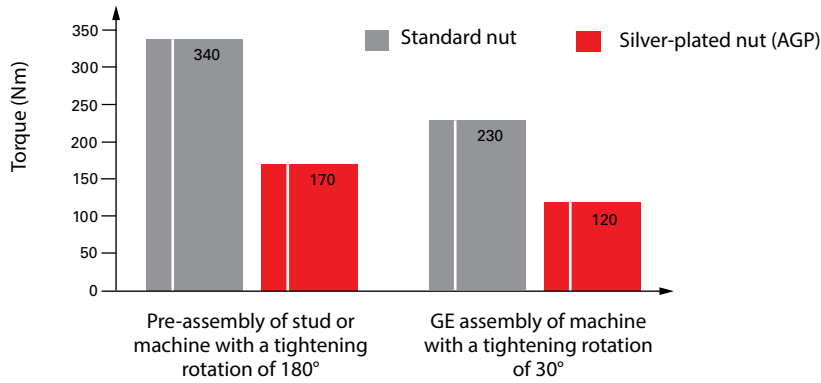


**Future-proof features**

Special nuts with silver-plated threads (AG/AGP, recommended from size 15L/12S and above) reduce the assembly and release torques to a minimum, which also makes disassembly and re-assembly significantly easier.

**Walpro-X final assembly torques**

**Size 16 S**



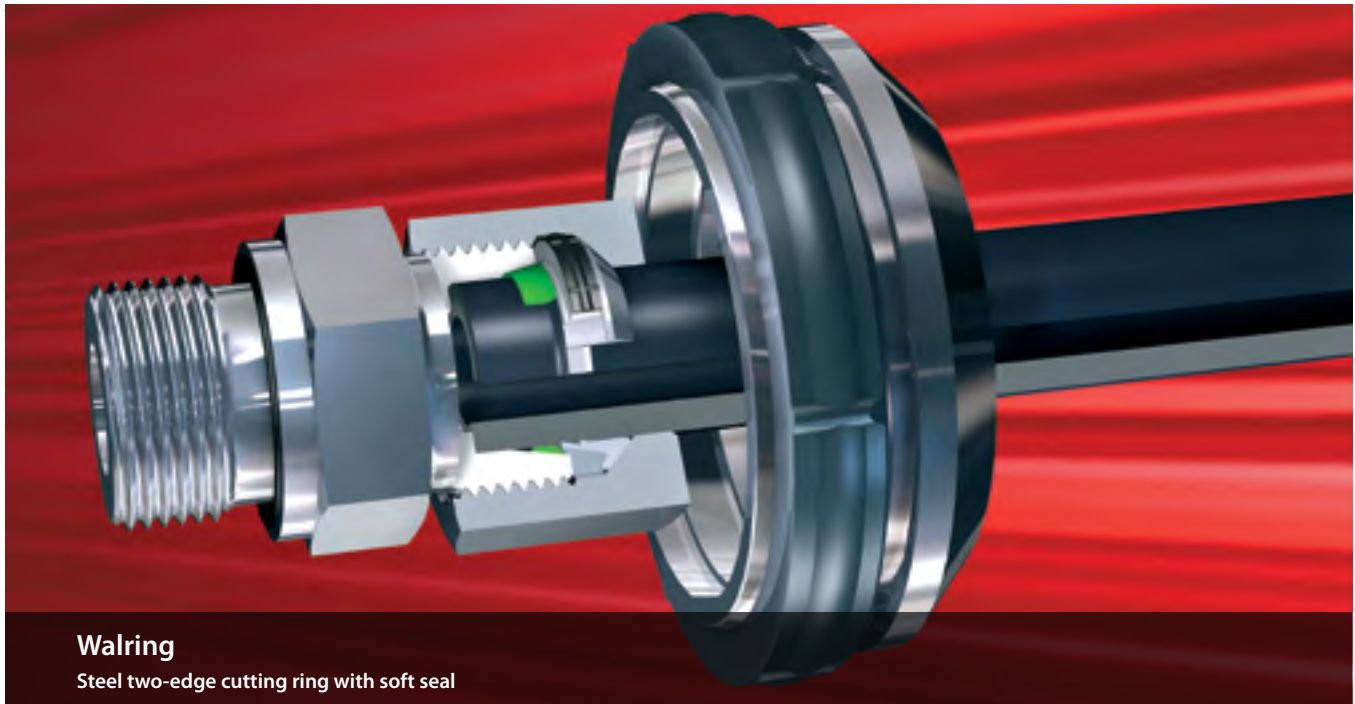
**The benefits at a glance**

- Unrivaled maximum nominal pressure of 400 bar for the L series / maximum nominal pressure of 630 bar for the S series
- The Danfoss Waltech final assembly machines ensure that the assembly process is 100 % reproducible
- Special silver-plated nuts (AG/AGP)
- Components according to DIN 2353, EN ISO 8434-1

**Approvals and test certificates**

- American Bureau of Shipping
- Bureau Veritas
- DNV-GL
- Lloyd's Register of Shipping
- Registro Italiano Navale
- Polish Register of Shipping

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### Waling

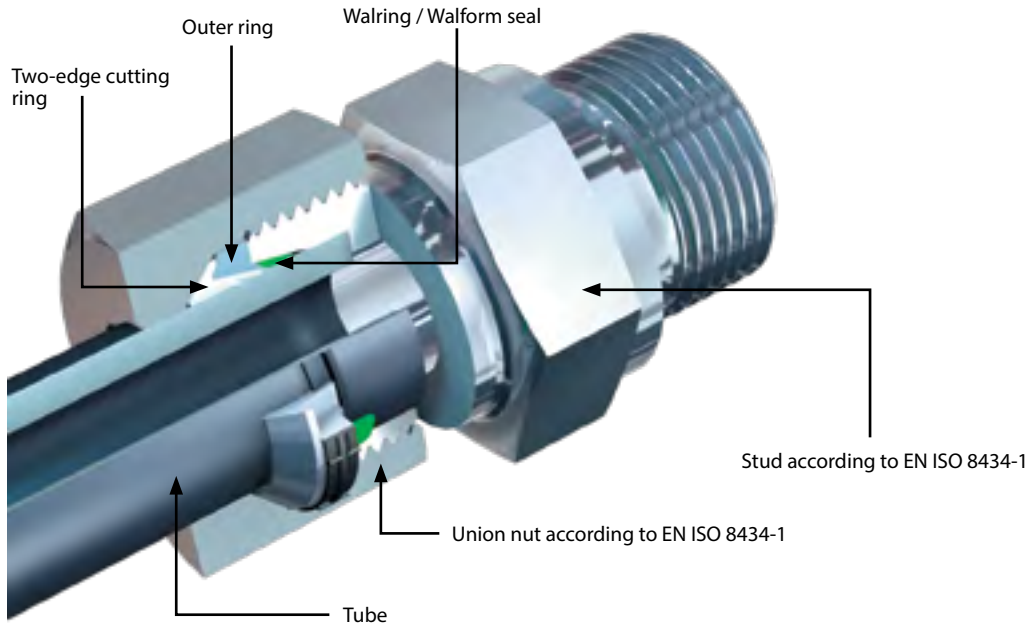
Steel two-edge cutting ring with soft seal

#### Functional characteristics: Waling tube fittings

Waling fittings combine all the advantages of two-edge cutting rings with the tried and tested WalformPlus soft-seal system and the user-friendly block assembly function. The contoured shoulder provides precisely calibrated support for the hydraulic tube behind the two cutting edges, ensuring the long-term functional safety of the fitting even in the face of high dynamic pressure impulses and reversed bending stress. The clearly detectable increase in the necessary tightening force at the end of the assembly process prevents insufficient and excessive tightening, the most common types of faults. And since the outer ring is fixed in place, the correct assembly of the connection can be easily verified.

**Cutting-ring system with soft seal**

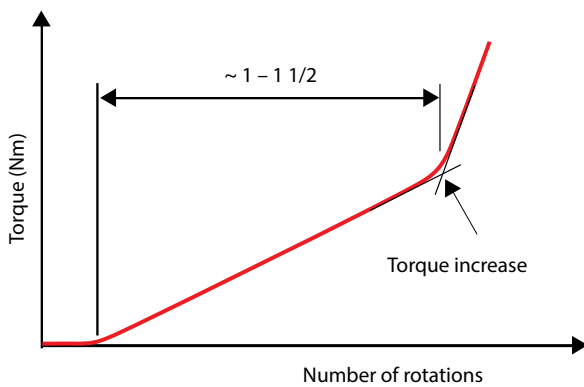
The Walring system consists of a DIN EN ISO union nut with an integrated two-edge cutting ring and outer ring, a Walform soft seal (system nut) and a DIN EN ISO fitting stud.

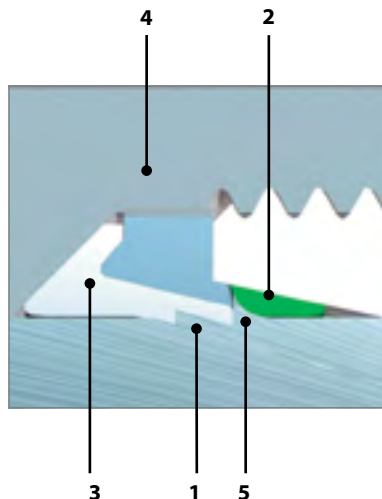


**No need to worry about incorrect installation**

Danfoss's Walring sets new standards in terms of installation safety: During manual assembly, there is a clearly detectable increase in the amount of tightening force required after one to one and a half rotations (depending on the model), thereby enabling users to identify the exact point when the fitting has been correctly assembled. The next generation of process safety.

**Tightening torque**



**A**
**The benefits in detail**

**1 Two equal cutting edges**

- Due to the reduced cutting depth, the fittings can also be used with very thin-walled tubes
- Maximum burst-pressure and pressure-impulse performance, due to the distribution of the relevant forces across two equal cutting edges

**2 The tried and tested Walform seal**

- The fittings are user-friendly and save costs, as they can simply be re-assembled or replaced in the event of damage
- There is no risk of damage during pre-assembly, as the seal is only fitted afterwards
- Standard material: Viton; alternative sealing materials are also available (FKM, NBR, EPDM)

**3 Interlocking of two-edge cutting ring and outer ring**

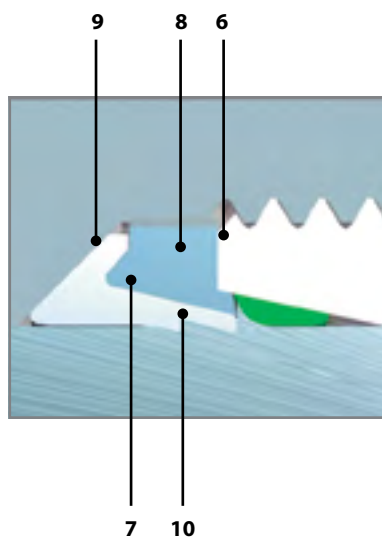
- The precision-engineered shoulder clasp increases flexural fatigue strength
- Reduced constriction of the shoulder area in the event of excessive tightening
- In the event of excessive tightening, the two-edged cutting ring is radially supported against expansion by the outer ring

**4 Pre-assembled Walring system nut**

- The Walring fitting already comes pre-assembled: The cutting ring and the outer ring are integrated in the DIN union nut (system nut).

**5 Precision cutting**

- The raised collar that secures the outer ring on the tube will only form if the ring is cut correctly. This means that the Walring system comes with a direct control feature to ensure correct cutting.


**6 The outer ring is secured inside the fitting**

- The outer ring is secured inside the fitting to prevent it from expanding radially, thereby ensuring that the connection can withstand even very high nominal pressures.
- This also prevents the tube from rotating during assembly.

**7 Parallel 45° contact surface**

- The completion of the assembly process can be easily detected thanks to the parallel contact surfaces, which ensure a significant increase in the required tightening force.
- This also prevents radial movement of the cutting ring and the outer ring.

**8 Hardened outer ring**

- The cutting ring does not cut into the outer ring.
- Closer tolerances ensure more precise cutting and prevent deformation.

**9 Large shoulder surface**

- The large shoulder surface prevents the fitting from settling and thus avoids loss of preload force.

**10 Optimized taper angle**

- At the end of the assembly process, the optimized taper angle causes a noticeable increase in the required tightening force after one to one and a half rotations, depending on the model.



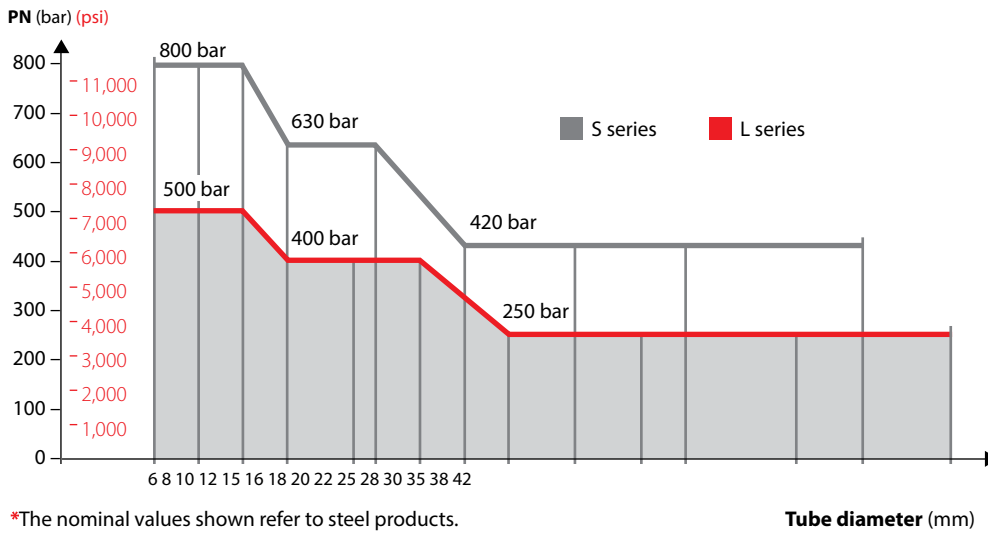
**High nominal pressure ratings**

**PN – nominal pressure**

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- S series for nominal pressure up to 800 bar
- Only Waltech original parts should be used for high nominal pressure ratings

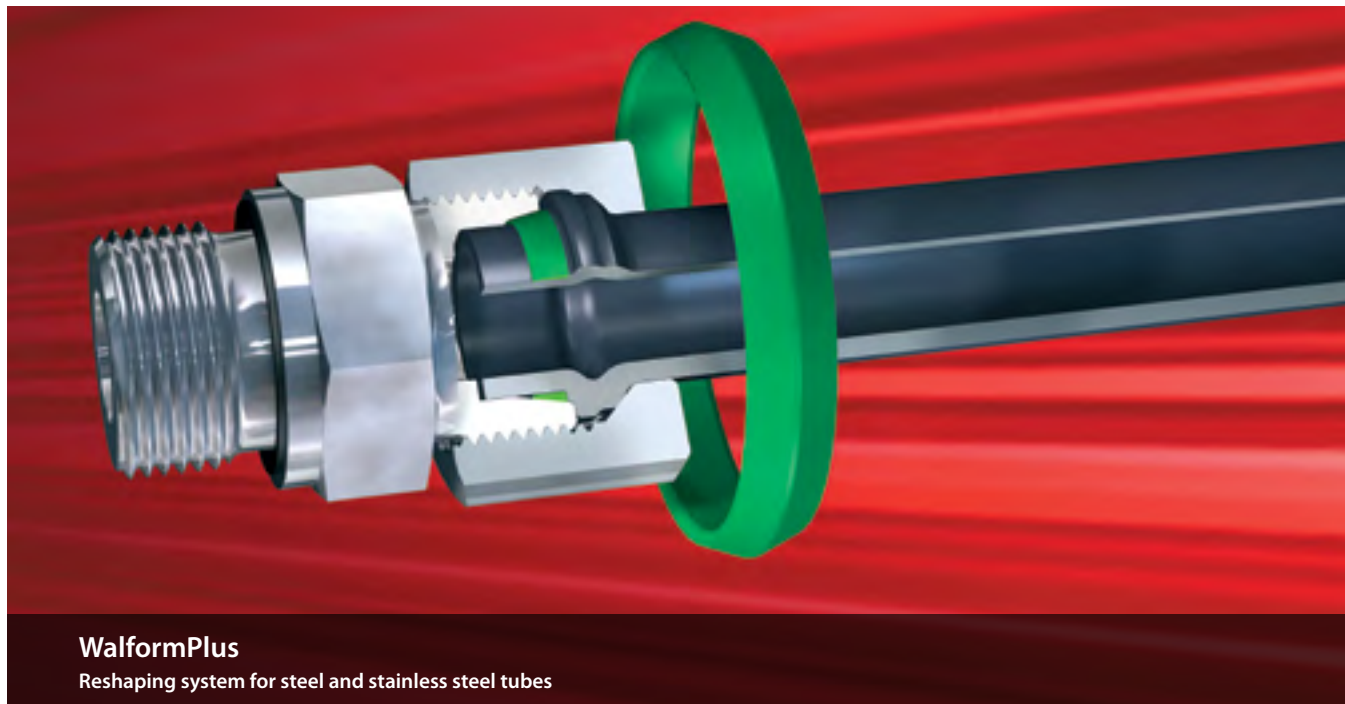
**Nominal pressure ratings\* of Wairing fittings**



**Approvals and test certificates**

- DNV-GL

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#### Functional characteristics: WalformPlus tube fittings

WalformPlus is a positive-locking fitting system for steel and stainless steel tubes that consists of only three components. The mechanically reshaped tube end is screwed together using a conventional DIN/ISO stud and a DIN/ISO union nut, and the only possibly leakage path is sealed off by means of an elastomer ring. A characteristic feature of the plus series is the shoulder on the flat surface of the reshaped tube, which is inserted into the 24° cone of the stud. This makes assembling the fittings significantly easier and prevents excessive tightening.

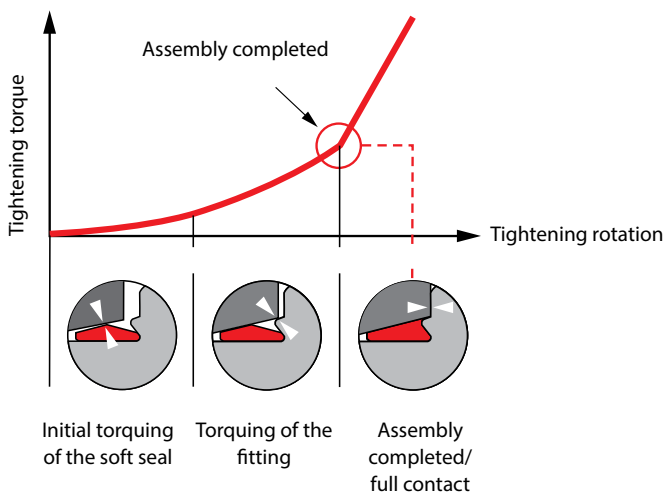
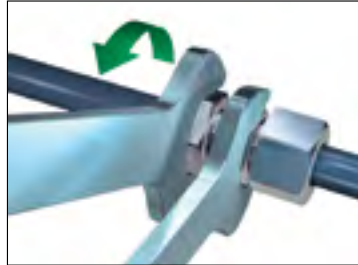
Thanks to the positive-locking connection, WalformPlus ensures secure tube retention, even under high dynamic loads. The assembly process is so easy and user-friendly that no special training is required, which enables a significant reduction in costs. Moreover, the system also facilitates additional savings by eliminating the need for pre-assembly and other auxiliary operations, while the small number of components reduces the costs for equipment and logistics.

**Fully leak-proof**

The only possible leakage path is sealed off in two ways: first by the WalformPlus soft seal and secondly by means of the metal-to-metal seal between the patented WalformPlus shoulder and the fitting stud.

**Assembly made easy**

- A clear increase in the tightening force
- Significantly lower tightening torque
- Clearly noticeable torque increase
- Short tightening rotation
- Effective protection against excessive tightening
- Can be re-assembled as often as necessary



**Reliable tube retention**

Thanks to the positive-locking connection, the system provides absolute safety even under the most extreme loads. This ensures reliable tube retention even in the event of insufficient or excessive tightening and prevents the tube from slipping out.

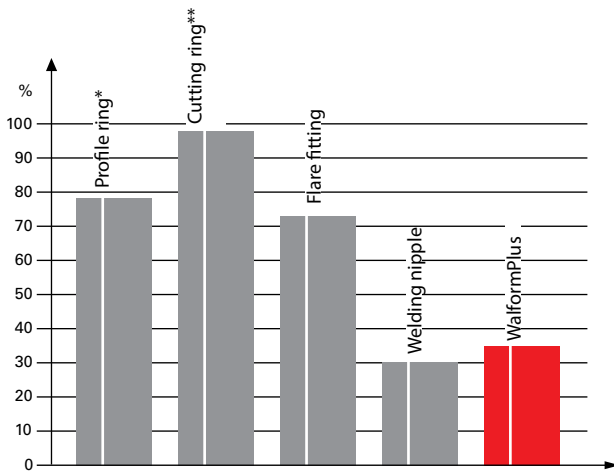
**A**

**Ease of assembly**

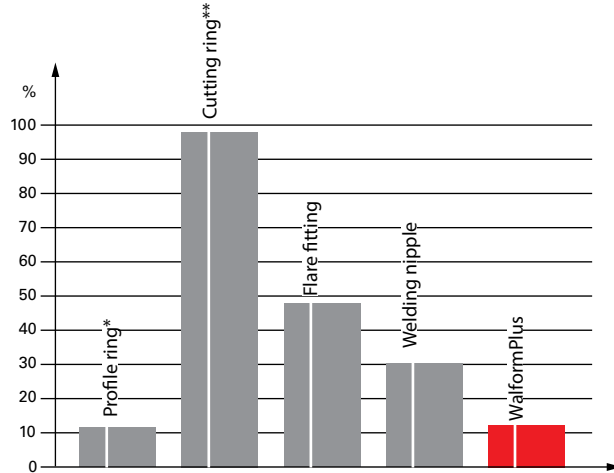
Installation made easy, with reproducible results

Thanks to its unique geometry, the assembly of the WalformPlus system is easy and user-friendly, and a noticeable increase in the required tightening force indicates that the process has been completed. Due to the short tightening rotation and the low torque, the installation process only takes a fraction of the time required for conventional tube-fitting systems. There is thus no need to comply with specific angles or to look for other signs that the process has been completed. Torque-based assembly is also possible.

**Comparison of the required torque**



**Comparison of the required tightening rotation**



\*after controlled final assembly    \*\*with and without soft seal

**High dynamic load capacity**

Thanks to the computer-optimized geometry of the reshaped tube, we are able to achieve excellent performance under dynamic loads, such as high resistance to reversed bending stress and dynamic pressure impulses. The WalformPlus system has been tried and tested many times over, both in practice and through extensive testing.

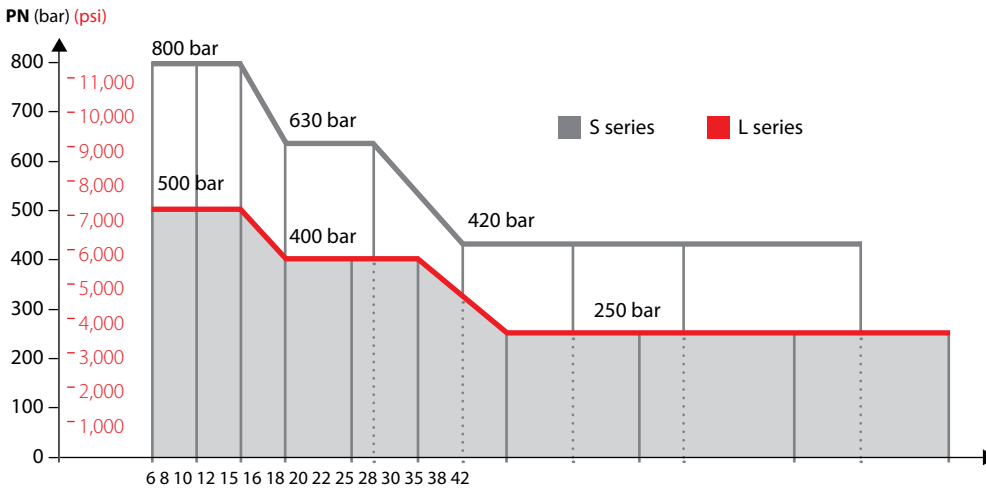
**High nominal pressure ratings**

**PN – nominal pressure**

Nominal pressure is an approximate pressure rating that is commonly used. Burst-pressure tests must be carried out at no less than four times the nominal pressure of the fitting. Pressure-impulse tests must be carried out at no less than 1.33 times the nominal pressure of the fitting at one million load cycles.

- L series for nominal pressure up to 500 bar
- S series for nominal pressure up to 800 bar
- Only Waltech original parts should be used for high nominal pressure ratings

**Nominal pressure ratings of the WalformPlus fittings**



\*The nominal values shown refer to steel products.

**A**

**WalformPlus tube fittings**



**A more cost-effective system**

- Fewer parts (which reduces the costs for material and logistics)
- Lower cost
- Compared to welding, no preparatory or finishing work required

**Increased safety thanks to the positive-locking connection**

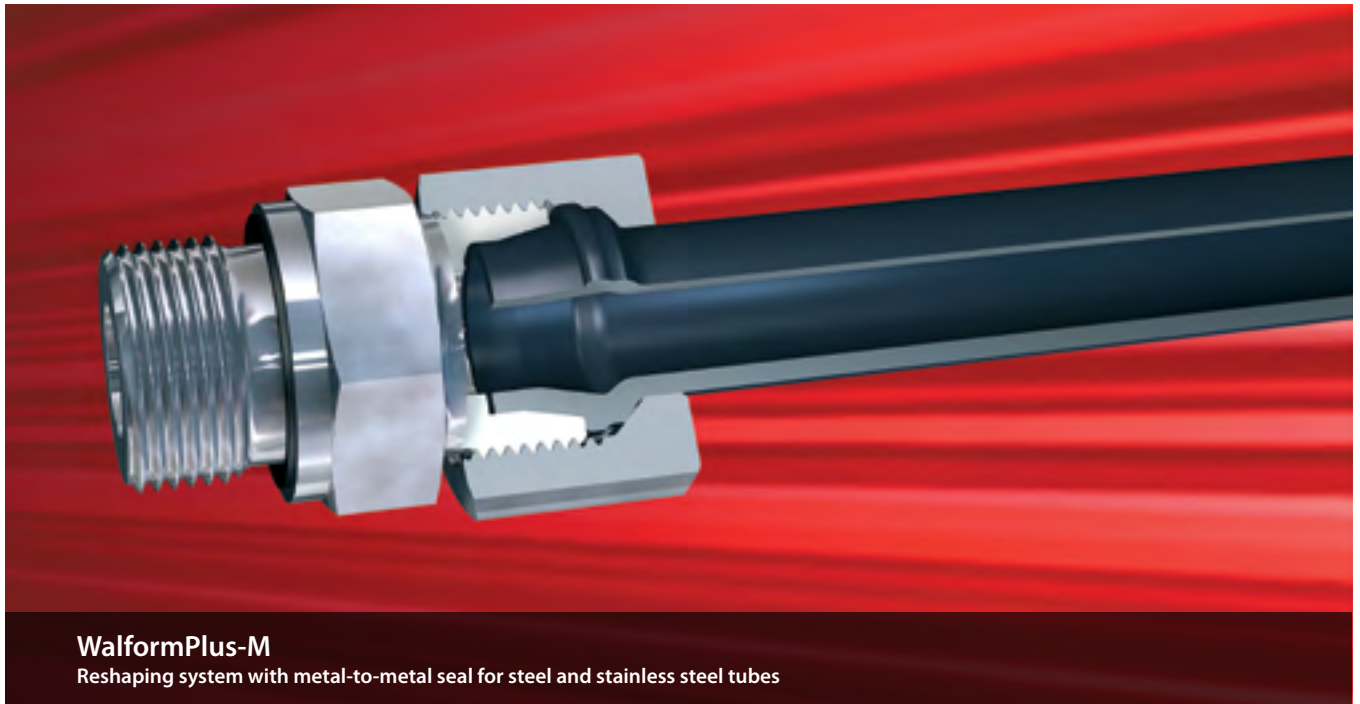
- High compressive strength
- Fully leak-proof
- Approved for use in safety-related applications
- High tolerance for assembly errors

**Ease of assembly**

- Only one separation/sealing point
- Easy assembly/clear indication when the assembly is completed
- Short installation time, low torque
- Extremely easy to assemble
- Significantly lower tightening torque compared to conventional cutting-ring fittings

**Approvals and test certificates**

- American Bureau of Shipping
- Bureau Veritas
- DNV-GL
- Lloyd’s Register of Shipping
- Polish Register of Shipping



### WalformPlus-M

Reshaping system with metal-to-metal seal for steel and stainless steel tubes

#### Functional characteristics: WalformPlus-M tube fittings

##### WalformPlus-M – an innovative alternative to ring-based systems

WalformPlus-M is a positive-locking fitting system for steel and stainless steel tubes that consists of only two components. The mechanically reshaped tube end is screwed together using a conventional DIN/ISO stud and a DIN/ISO union nut, and the only possibly leakage path is sealed off by means of the 24° taper of the tube. A characteristic feature of this series is the metal-to-metal seal, which certain types of applications require.

Thanks to the positive-locking connection, WalformPlus-M ensures secure tube retention even under high dynamic loads. The assembly process is so simple and user-friendly that no special training is required, which enables a significant reduction in costs. Moreover, the system also facilitates additional savings by eliminating the need for pre-assembly and other auxiliary operations, while the small number of components reduces the costs for equipment and logistics.

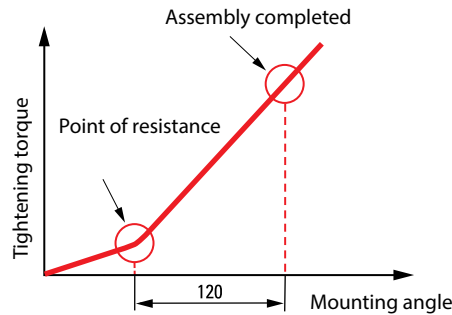
**A**

**Fully leak-proof**

A metal-to-metal seal between the contoured WalformPlus-M profile and the inner 24° taper of the fitting stud ensures that the only possible leakage path is sealed off.

**Assembly made easy**

- Low tightening torque
- Short tightening rotation
- Clearly noticeable torque increase
- Protection against excessive tightening
- Can be re-assembled as often as required



**Reliable tube retention**

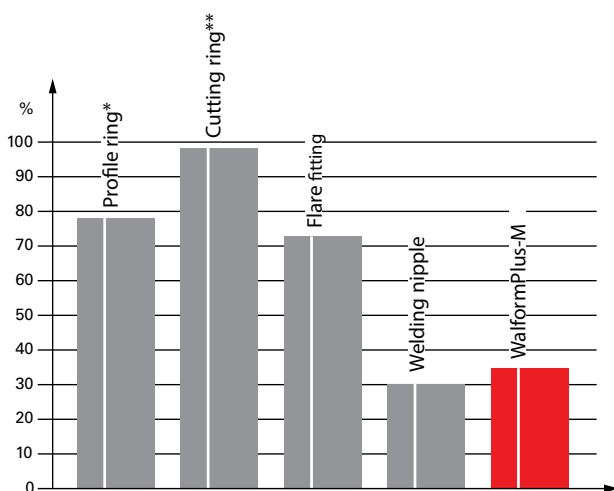
Thanks to the positive-locking connection, the system provides absolute safety even under the most extreme loads. This ensures reliable tube retention even in the event of insufficient or excessive tightening and prevents the tube from slipping out.

**Easy to assemble**

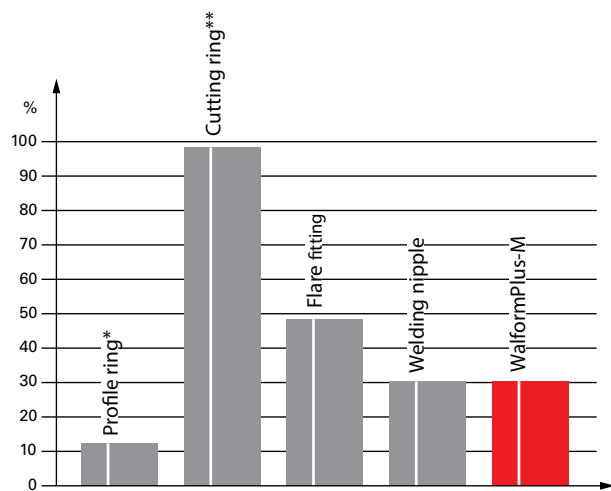
Installation made easy, with reproducible results.

Thanks to its unique geometry, the assembly of the WalformPlus-M system is user-friendly and offers effective protection against excessive tightening.

**Comparison of the required torque**



**Comparison of the required tightening rotation**



\*after controlled final assembly    \*\*with and without soft seal

**High dynamic load capacity**

The WalformPlus-M geometry of the reshaped tube ensures excellent performance under dynamic loads, such as reversed bending stress and dynamic pressure impulses. The WalformPlus-M system has been tried and tested many times over, both in practice and through extensive testing.



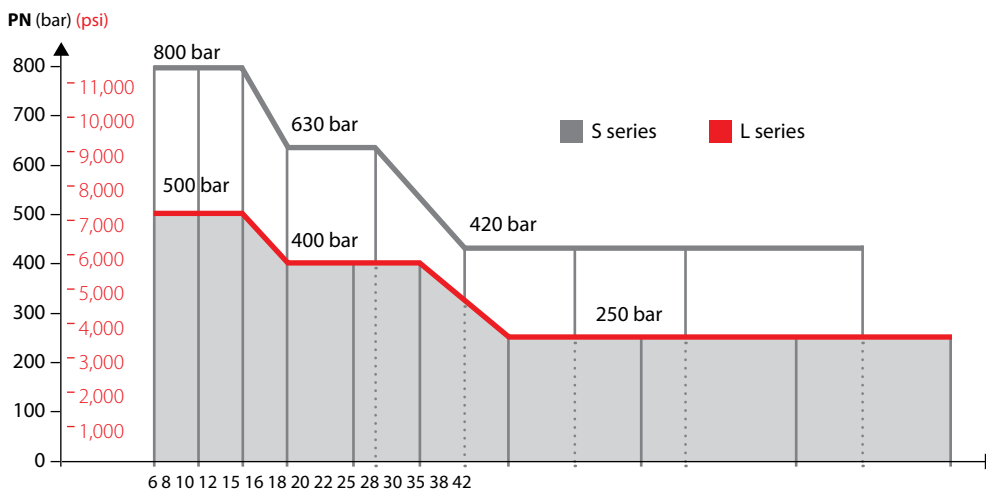
### High nominal pressure ratings

#### PN – nominal pressure

Nominal pressure is an approximate pressure rating that is commonly used. Burst-pressure tests must be carried out at no less than four times the nominal pressure of the fitting. Pressure-impulse tests must be carried out at no less than 1.33 times the nominal pressure of the fitting at one million load cycles.

- L series for nominal pressure up to 500 bar
- S series for nominal pressure up to 800 bar
- Only Waltech original parts should be used for high nominal pressure ratings

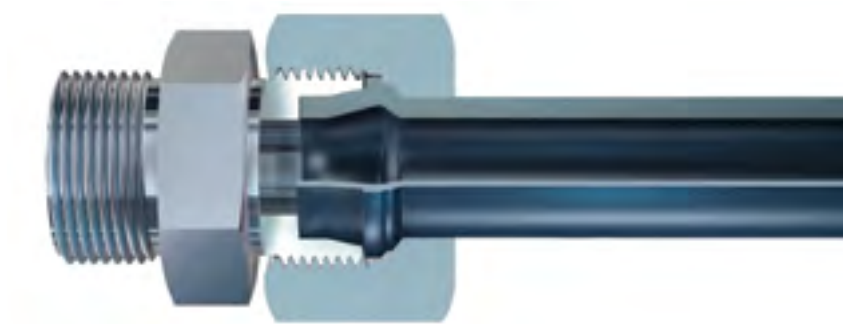
#### Nominal pressure ratings of the WalformPlus-M fittings\*



\*The nominal values shown refer to steel products.

**A**

**WalformPlus-M tube fittings**



**Highly cost-effective**

- Only two components (which reduces the costs for material and logistics)
- Much lower costs
- Compared to welding, no preparatory or finishing work required

**The positive-locking connection and the metal-to-metal seal ensure a high degree of safety**

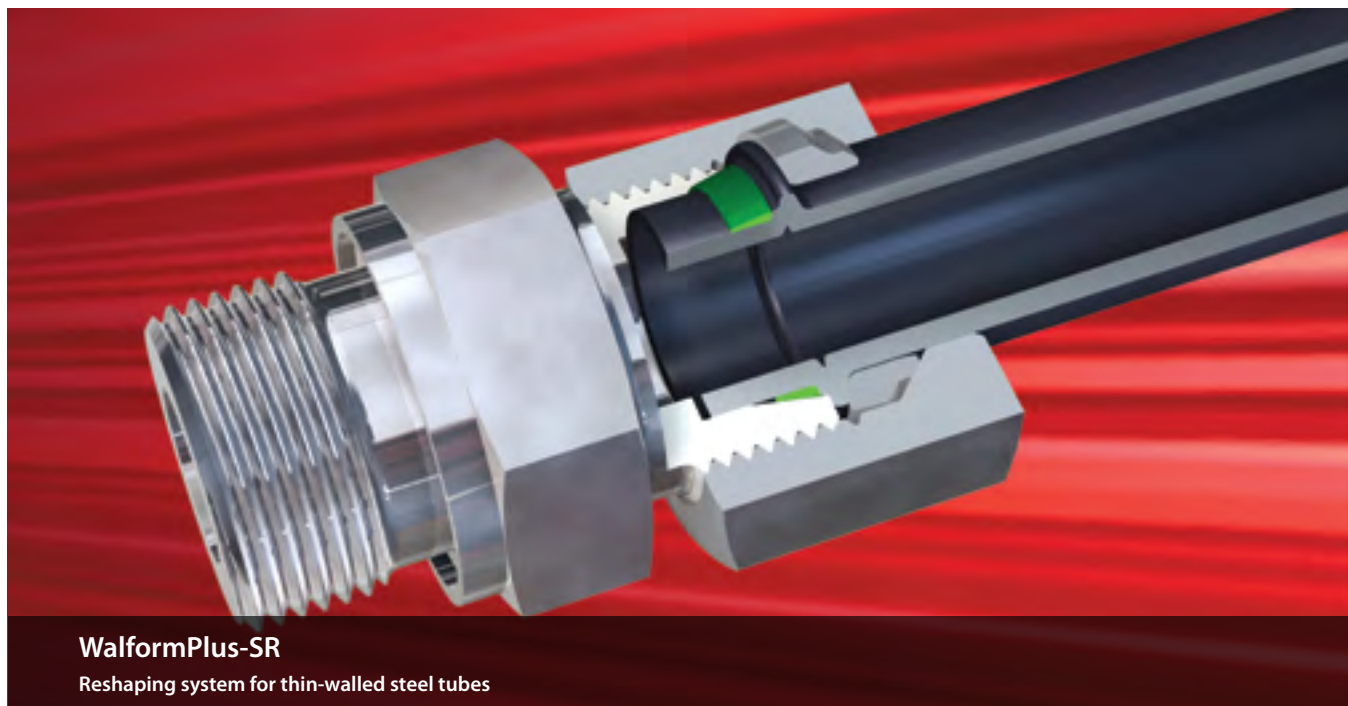
- Rugged metal-to-metal seal
- Fully leak-proof
- Approved for use in safety-related applications
- Avoids the side effects of elastomer seals

**Very easy to assemble**

- Only one separation/sealing point
- Short installation time, low torque
- Extremely easy to assemble
- Significantly lower tightening torque compared to conventional cutting-ring fittings

**Approvals and test certificates**

- American Bureau of Shipping
- DNV-GL
- Lloyd's Register of Shipping
- Polish Register of Shipping



### WalformPlus-SR

Reshaping system for thin-walled steel tubes

#### Functional characteristics: WalformPlus-SR tube fittings

##### WalformPlus-SR – the ideal connection system for thin-walled tubes

WalformPlus-SR is a positive-locking fitting system for thin-walled steel tubes. The mechanically reshaped tube end is screwed together using an additional support ring as well as a conventional DIN/ISO stud and a DIN/ISO union nut, while the only possibly leakage path is sealed off by means of an elastomer ring. A characteristic feature of this series is the additional support ring, which allows the proven WalformPlus system to be used even on thin-walled tubes.

Thanks to the positive-locking connection and the additional support ring, WalformPlus-SR ensures secure retention as well as greater resistance to dynamic loads.

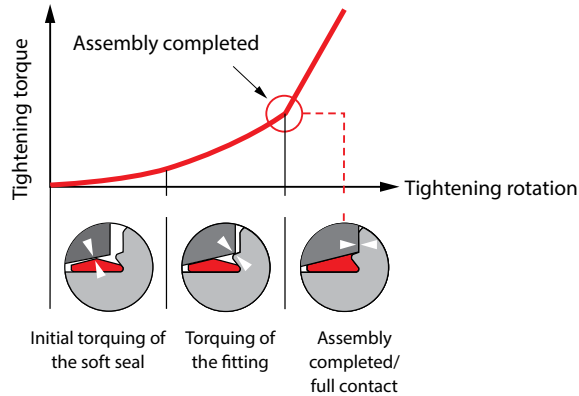
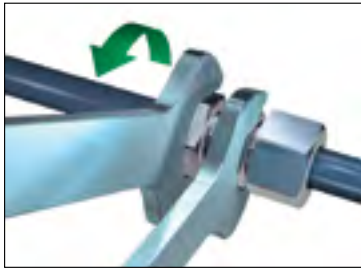
**A**

**Fully leak-proof**

The only possible leakage path is sealed off in two ways: first by the WalformPlus soft seal and secondly by means of the metal-to-metal seal between the patented WalformPlus shoulder and the fitting stud.

**Assembly made easy**

- A clear increase in the required tightening force
- Significantly lower tightening torque
- Clearly noticeable torque increase
- Short tightening rotation
- Effective protection against excessive tightening Can be re-assembled as often as required



**Reliable tube retention**

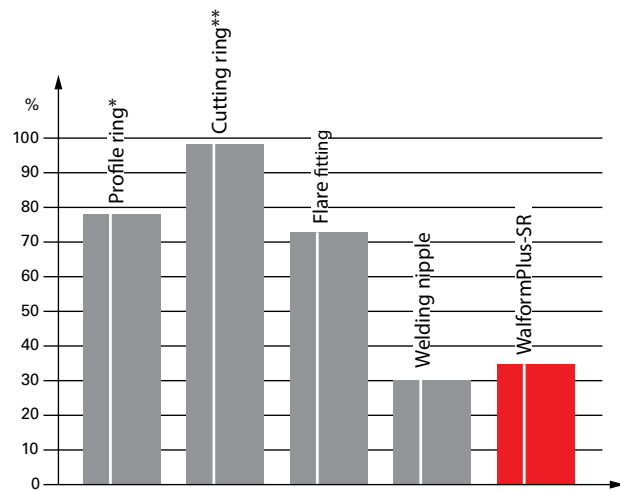
Thanks to the positive-locking connection, the system provides absolute safety even under the most extreme loads. This ensures reliable tube retention even in the event of insufficient or excessive tightening and prevents the tube from slipping out.

**Easy to assemble**

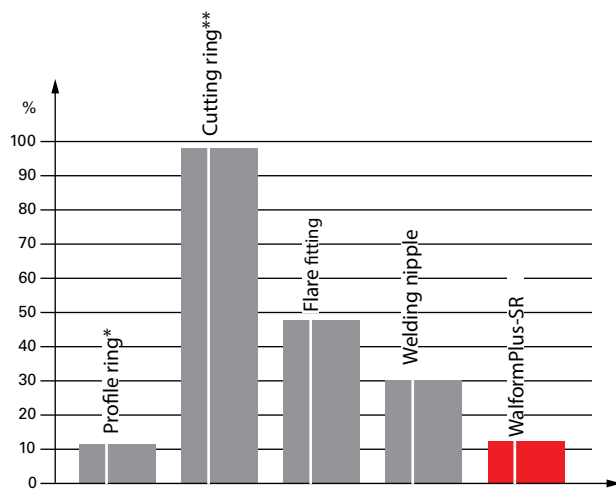
Installation made easy, with reproducible results.

Thanks to its unique geometry, the assembly of the WalformPlus-SR fittings is easy and user-friendly, and a noticeable increase in the required tightening force indicates that the process has been completed. Due to the short tightening rotation and the low torque, the installation process only takes a fraction of the time required for conventional tube-fitting systems. There is thus no need to comply with specific angles or to look for other signs that the process has been completed. Torque-based assembly is also possible.

**Comparison of the required torque**



**Comparison of the required tightening rotation**



\*after controlled final assembly    \*\*with and without soft seal

**High dynamic load capacity**

The WalformPlus-SR geometry of the reshaped tube ensures excellent performance under dynamic loads, such as reversed bending stress and dynamic pressure impulses. The WalformPlus-M system has been tried and tested many times over, both in practice and through extensive testing.

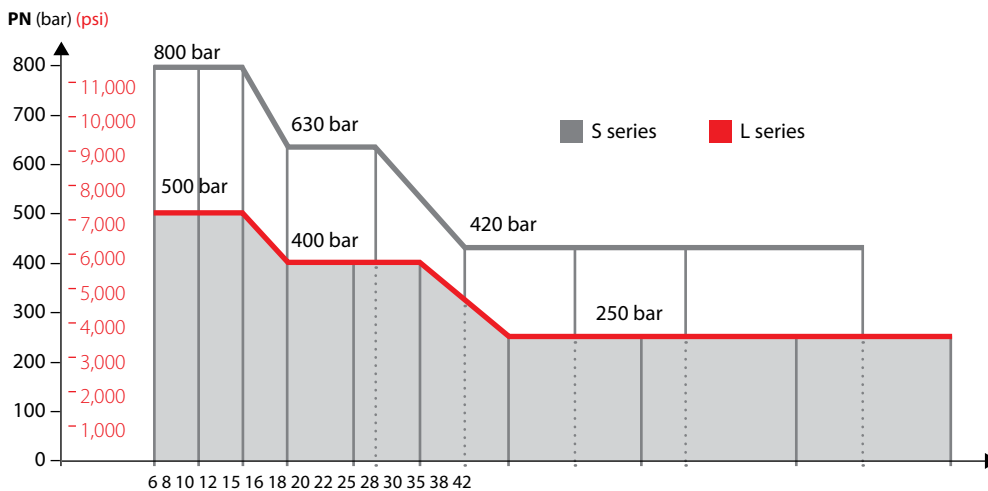
**High nominal pressure ratings**

**PN – nominal pressure**

Nominal pressure is an approximate pressure rating that is commonly used. Burst-pressure tests must be carried out at no less than four times the nominal pressure of the fitting. Pressure-impulse tests must be carried out at no less than 1.33 times the nominal pressure of the fitting at one million load cycles.

- L series for nominal pressure up to 500 bar
- S series for nominal pressure up to 800 bar
- Only Waltech original parts should be used for high nominal pressure ratings

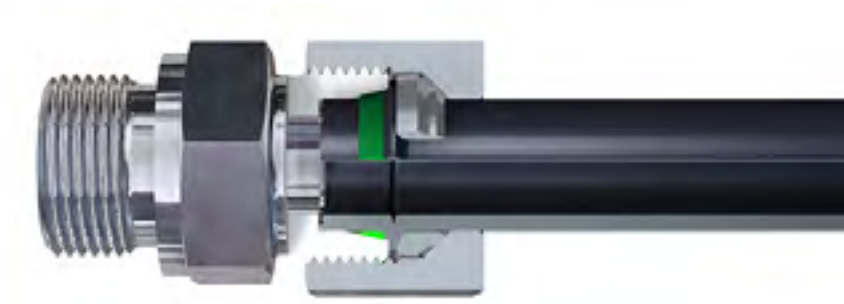
**Nominal pressure ratings of the WalformPlus-SR fittings\***



\*The nominal values shown refer to steel products.

**A**

**WalformPlus-SR tube fittings**



**Highly cost-effective**

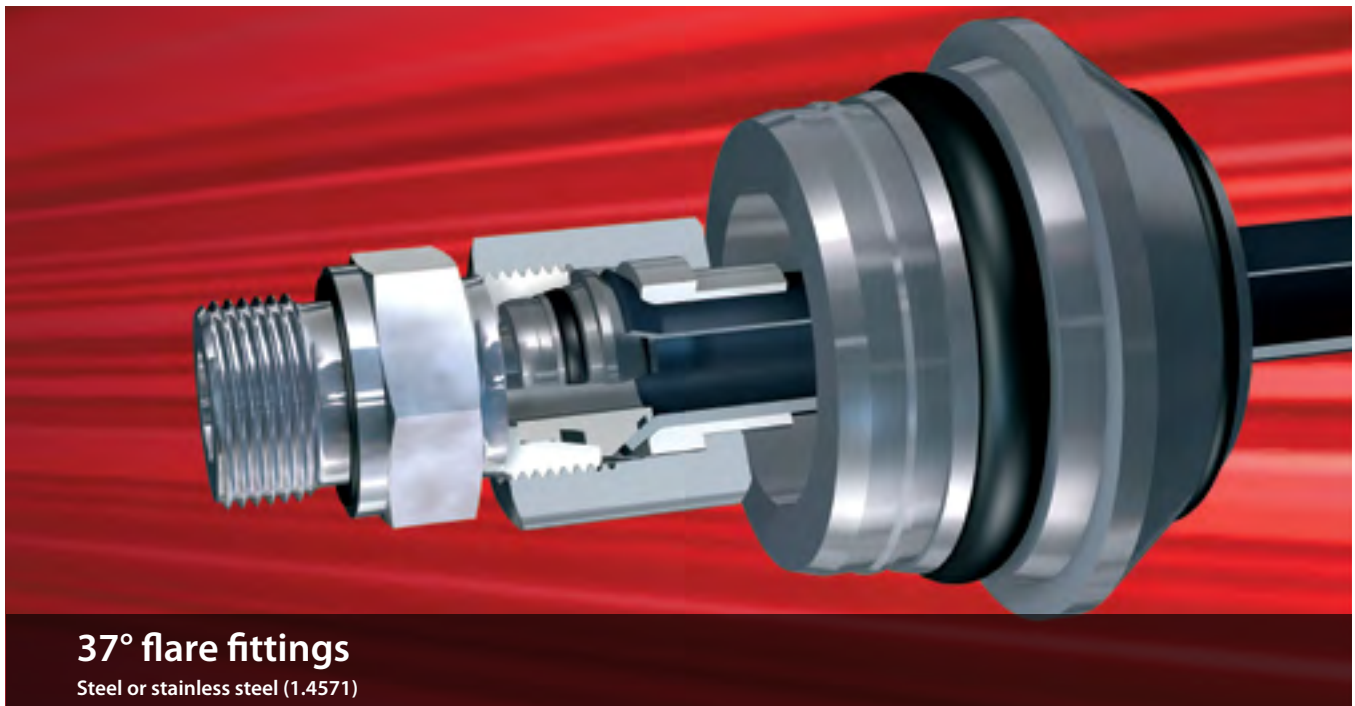
- Enables the use of the WalformPlus system on thin-walled tubes
- Lower cost
- Compared to welding, no preparatory or finishing work required

**Increased safety thanks to the positive-locking connection**

- High compressive strength
- Fully leak-proof
- Approved for use in safety-related applications
- High tolerance for assembly errors

**Very easy to assemble**

- Only one separation/sealing point
- Short installation time, low torque
- Extremely easy to assemble
- Significantly lower tightening torque compared to conventional cutting-ring fittings
- Easy assembly/clear indication when the assembly is completed



### 37° flare fittings

Steel or stainless steel (1.4571)

#### Functional characteristics: 37° flare fittings

Thanks to its ideal design, the four-component Danfoss Waltech flare fitting system enables the safe and leak-proof connection of flared tubes to standardized fitting studs according to DIN2353 / ISO 8434-1.

#### The fitting consists of the following parts:

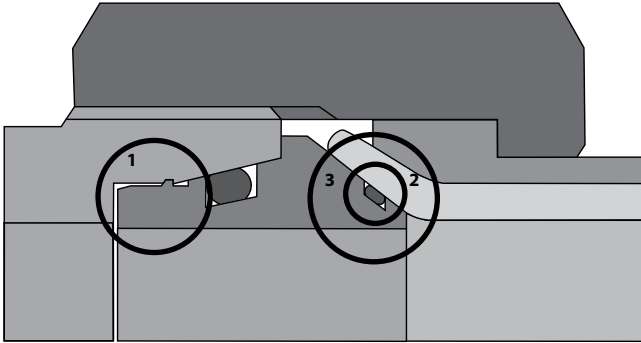
- Fitting stud according to DIN2353 / ISO 8434-1
- Intermediate ring with 2 elastomer seals and retaining collar
- Sleeve
- Flared union nut

The central component – the intermediate ring – forms the transition from the 24° cone of the fitting stud to the SAE-compliant 37° flare connection. Two O-rings are used to seal the stud cone and the flare connection, which ensures excellent sealing properties even in the event of pressure impulses. When the union nut is tightened, the intermediate ring is pressed into the fitting taper and deforms the retaining collar until it comes into contact with the intermediate ring and thus limits any further penetration. This prevents any detrimental expansion of the fitting stud. After tightening, the intermediate ring will be permanently connected to the fitting stud, which makes it significantly easier to re-assemble the fitting. The fitting can be removed and re-assembled as often as required. The sleeve ensures safe and notch-free tube clamping and thus guarantees high fatigue strength.

**A**

**Computer-optimized technology for flare tube fittings**

The Danfoss Waltech 37° flare tube-fitting system has been fully optimized to meet current and future market requirements. We have used state-of-the-art calculation methods to achieve high performance and installation safety, which is largely based on the optimized geometry of the individual parts. Two elastomer seals ensure excellent sealing properties, while the retaining collar on the intermediate ring facilitates safe handling.



**1 Retaining collar on the intermediate ring**

**2 Additional elastomer seal**

**3 Optimized part geometry**

- Large flare
- Optimized sleeve
- Notch-free tube clamping

**Intermediate ring with two elastomer seals**





**High precision sealing**

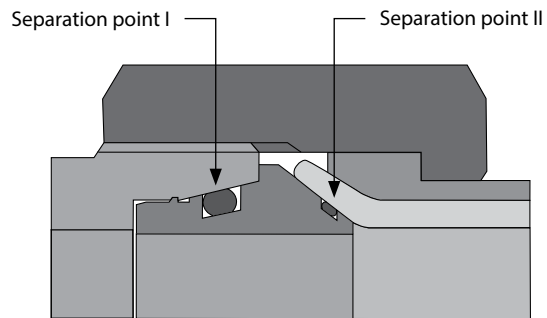
- Elastomer seals for both separation points
- No settling of the connection

**Elastomer seals for both separation points**

- Separation point I:  
Fitting stud – intermediate ring
- Separation point II:  
Intermediate ring – tube

**No settling of the connection**

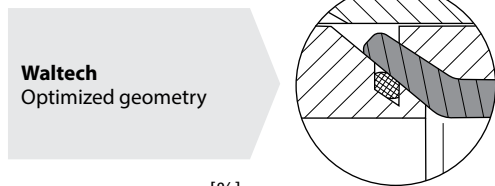
- Positive-locking connection between intermediate ring and fitting stud
- Positive-locking connection between sleeve and tube



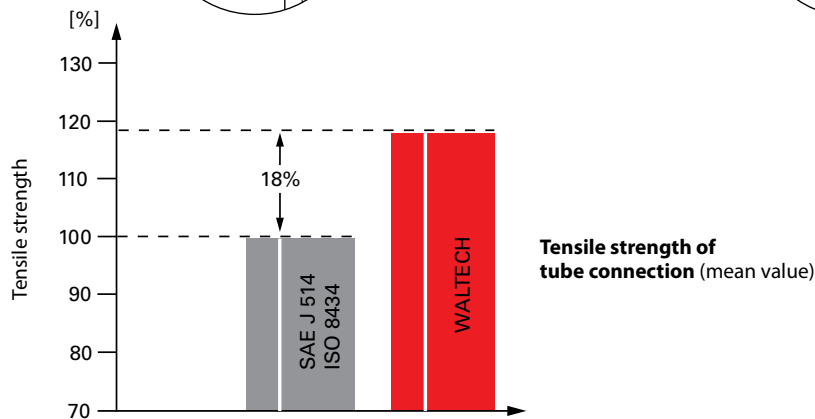
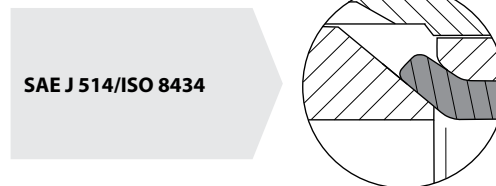
**Reliable tube retention**

- Large flare and optimized sleeve design
- High tensile strength
- No risk of disconnection in the event of insufficient tightening

**Danfoss Waltech version**



**SAE version**



**A**

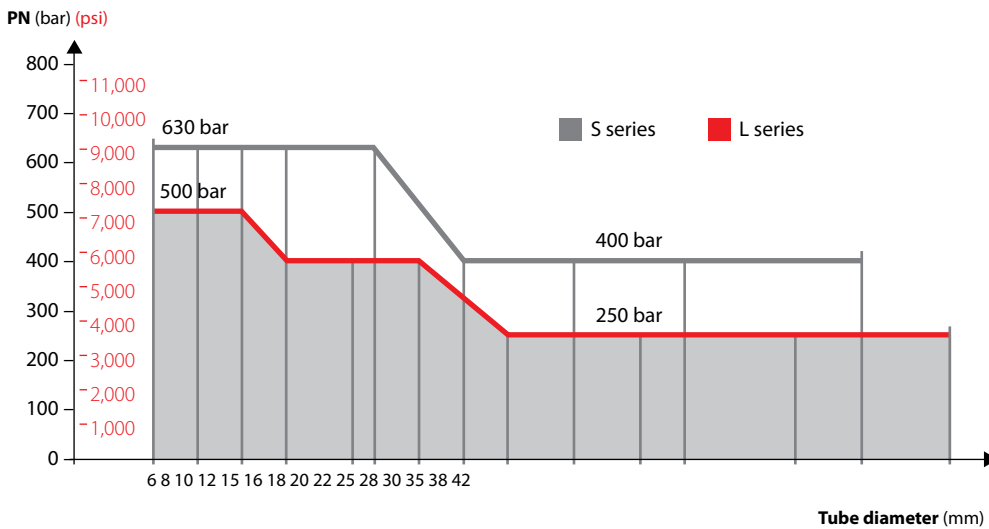
**High nominal pressure ratings**

**PN – nominal pressure**

Nominal pressure is an approximate pressure rating that is commonly used. Burst-pressure tests must be carried out at no less than four times the nominal pressure of the fitting. Pressure-impulse tests must be carried out at no less than 1.33 times the nominal pressure of the fitting at one million load cycles.

- L series for nominal pressure up to 500 bar
- S series for nominal pressure up to 630 bar
- Only Waltech original parts should be used for high nominal pressure ratings

**Nominal pressure ratings of the 37° flare fittings\***

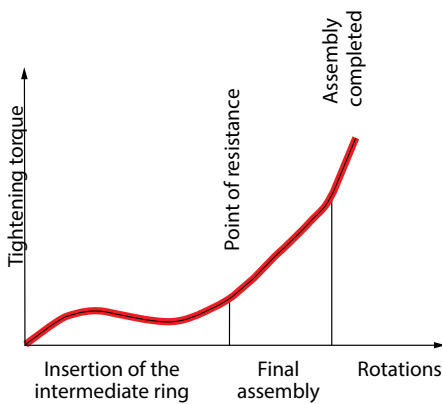


\*The nominal values shown refer to steel products.

**Safe installation**

- Noticeable torque increase during initial assembly
- The retaining collar of the intermediate ring ensures safe re-assembly

**Tightening torque curve**



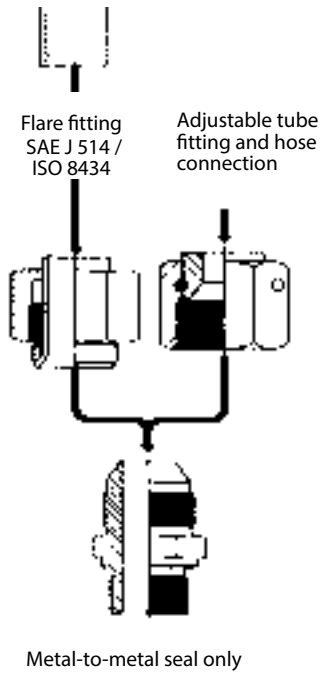
**High fatigue strength**

- Safe tube clamping
- Notch-free tube clamping

**Standard solution**

- Fitting studs according to DIN 2353 / ISO 8434-1

**Connection in accordance with SAE J 514/ISO 8434**



The Danfoss Waltech flare fitting (DIN 3949) as compared to flare fittings according to SAE J 514/ISO 8434

Compared to SAE J 514/ISO 8434 flare fittings, the fitting stud to DIN 2353 allows for a larger tube flare, so that tubes with greater wall thickness can be used. In addition, this also enables the use of elastomer seals on the tube side.

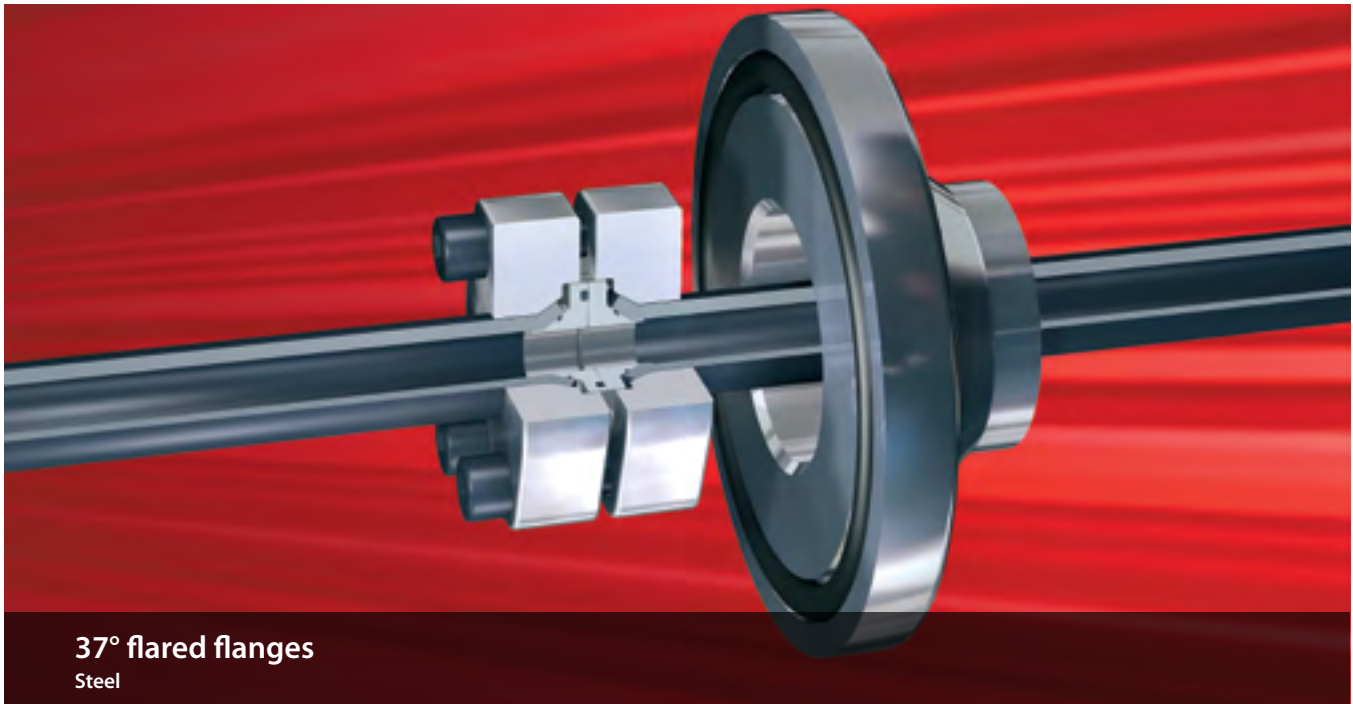
The Danfoss Waltech flare tube fittings are also perfectly matched to the various tube fitting and hose connection options of the L and S series: cutting ring/profile ring, welding nipple and taper with O-ring. The use of standard studs, hoses and fittings reduces the number of components and thus simplifies warehousing.

SAE J 514/ ISO 8434 flare fittings require separate studs and hose connections.

**Approvals and test certificates**

- American Bureau of Shipping
- Bureau Veritas
- DNV-GL
- Lloyd’s Register of Shipping

A



**37° flared flanges**  
Steel

**Functional characteristics: 37° flared flanges**

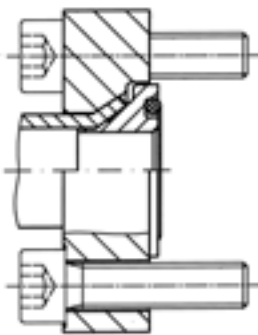
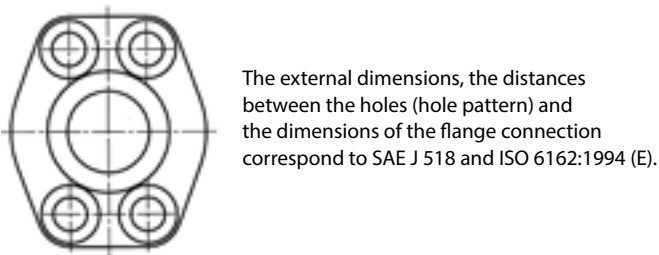
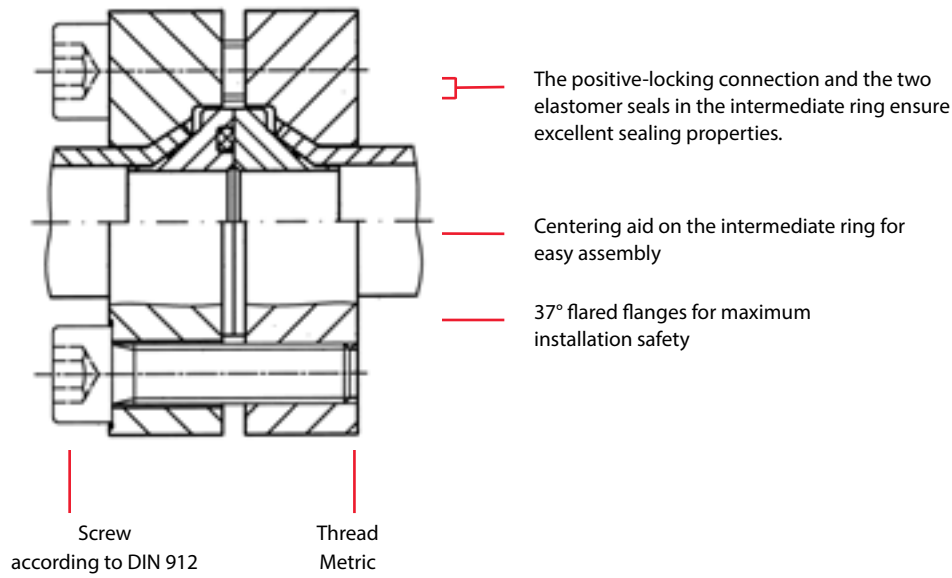
to SAE J518/ISO 6162

The "SAE 37°" flared-flange product line is a cost-effective alternative to tube connections that previously had to be welded.

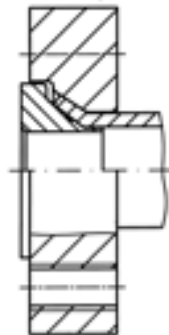
No tack welding, welding or pickling, which translates into dramatically lower investment costs for the necessary production equipment.

And Danfoss Waltech also offers electronically controlled reshaping machines for flaring from 16 mm and up. This ensures streamlined production with a high and consistent level of quality – both in the factory and in the field.

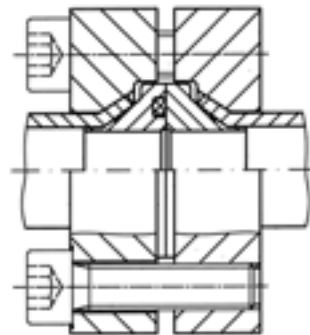
Connections without welding



**BO-FK**  
Flange assembly



**BO-FGK**  
Flange counterpart assembly



**BO-FVK**  
Flange connector assembly

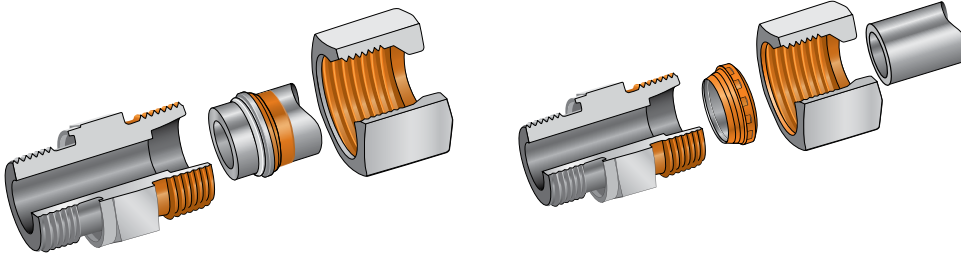
**A**

**Danfoss Waltech ABF grease (anti-block grease)**

Special grease for the installation of stainless steel couplings (1.4571)

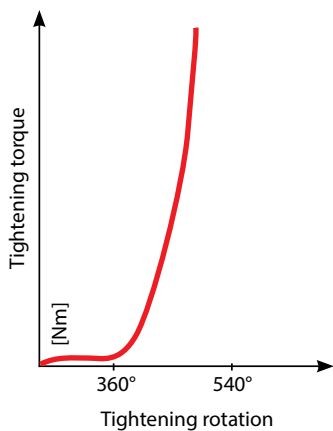
- Prevents gripping
- Reduces the friction coefficient

**Application examples**



Before assembly, the fittings must be thoroughly cleaned and all contact surfaces must be coated with a sufficient quantity of anti-block grease using a brush or lint-free cloth. After greasing, the fittings must be immediately assembled to prevent contamination. The assembly instructions of the respective tube-fitting systems must be observed.

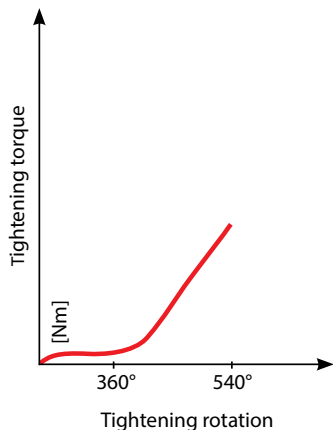
**Assembly tests with Danfoss Waltech ABF grease (anti-block grease)**



**Assembly without Danfoss Waltech ABF grease (anti-block grease)**

Gripping may occur

- High tightening torque due to friction, which results in a loss of tightening force
- Insufficient preload of the connection



**Assembly with Danfoss Waltech ABF grease (anti-block grease)**

- Reduced friction and elimination of gripping
- Simplified assembly thanks to a reduction in the tightening torque of up to 70 %
- Reduced torsional stress on the fitting body
- Strong grease adhesion on the contact surfaces

**Note:** For best results, use silver-plated stainless steel nuts (AG/AGP) plus Danfoss Waltech ABF grease (anti-block grease). For applications at temperature ranges from 110°C to 400°C, we recommend our ABF-HT anti-block grease for high temperatures. Please consult us for more information.  
 Note: Not approved for use in drinking water applications!

**Available quantities:**

**Can of 1000 g**

Order no. WAL371741

**Tube of 100 g**

Order no. WAL624320

**B**

**Technical** information





|   |    |
|---|----|
| Materials and finishes .....  | 3  |
| Pressure strength and temperature resistance .....                          | 5  |
| Calculated pressures and tolerances of seamless precision-steel tubes ..... | 11 |
| Stud and port types .....   | 14 |
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| Table for length correction .....   | 17 |
| Overview of the applicable standards .....                                  | 18 |



## Technical information

### Materials and finishes

#### Fitting materials

B

Danfoss Waltech fittings are made from drawn or forged steel. The materials used are in accordance with DIN 3859-1 (Technical specifications for tube fittings). Union nuts are either cold- or hot-pressed. Our fittings are also available in stainless steel type 1.4571 (X6CrNiMoTi17122) as per DIN EN 10088-3 and DIN EN 10222-5, respectively. Special materials on request.

#### Sealing materials

| Fitting material      |                          | Sealing materials* |            |
|-----------------------|--------------------------|--------------------|------------|
| Steel                 | Stainless steel (1.4571) | As standard        | On request |
| ●                     |                          | NBR                | FPM        |
|                       | ●                        | FPM                | NBR        |
| WalringPlus soft seal |                          | FPM                | NBR / EPDM |
| Walring soft seal     |                          | FPM                | NBR / EPDM |

\*NBR (e.g. Perbunan®); FPM (e.g. Viton®)

#### Finishes

All steel product lines are galvanized with the unique Danfoss Guardian Seal™ finish and are chrome-6-free. The silver finish lends the tube fittings an attractive appearance. The Guardian Seal™ finish offers significant advantages in terms of occupational safety and environmental protection, and it meets the latest EU legislative requirements (e.g. Directive 2000/53/EC). The finish can be easily painted over with standard industry paints (please make sure to follow the manufacturer's instructions). The steel union nuts are anti-friction coated to reduce torque. All welded fittings are phosphated.

#### Media

Danfoss Waltech fittings are designed for use with commercially available hydraulic oils. When using special media, such as flame-retardant fluids or native oils, please consult our application support team.

**⚠ Caution:** DIN 7716 applies to all fittings with elastomer seals (Elastomers: storage, cleaning, maintenance). Store in a dry, cool place (below 25 °C) and away from drafts and protect from sunlight, ozone and strong artificial light.

**Special care must be taken with** pre-assembled NBR O-rings, which are particularly sensitive to drafts and ozone exposure. Brittle fracture will occur if stored in open areas that are not protected from light and drafts! Recommendation: Use O-rings made of Viton (not sensitive to drafts and ozone).

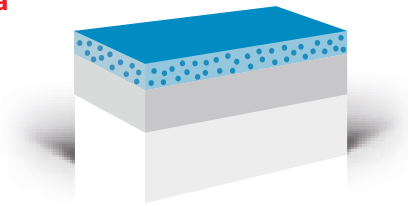
| Material | Description   | Surface protection/finish |                                   |         |
|----------|---------------|---------------------------|-----------------------------------|---------|
|          |               | A4GS/A2GS                 | A4GS/A2GS + anti-friction coating | Znphr5f |
| Steel    | Fitting body  | ●                         |                                   |         |
|          | Union nuts    |                           | ●                                 |         |
|          | Profile rings | ●                         |                                   |         |
|          | Welded socket |                           |                                   | ●       |

- Danfoss Guardian Seal™ technical data sheet
- Znphr5f to DIN EN ISO 3892 and DIN 50942

| Material                 | Description                      | Surface protection/finish |               |
|--------------------------|----------------------------------|---------------------------|---------------|
|                          |                                  | Untreated                 | Silver-plated |
| Stainless steel (1.4571) | Fitting body                     | ●                         |               |
|                          | Union nuts<br>Up to size 12L/10S | ●                         |               |
|                          | Union nuts<br>From size 15L/12S  | ●                         | ●             |
|                          | Profile rings                    | ●                         |               |
|                          | Welded socket                    | ●                         |               |

**Guardian Seal™ technical data**
**Layer structure:**

- Zinc base layer
- Micro-passivation
- Micro-impregnation


**Layer thickness:**

- |                       |                                     |
|-----------------------|-------------------------------------|
| • Zinc layer: 1       | 10-15 µm (for some products 5-7 µm) |
| • Micro-passivation:  | 0.3 µm                              |
| • Micro-impregnation: | < 2 µm                              |

**Corrosion resistance to DIN EN ISO 9227:**

- Danfoss Waltech Products: 360 hours to white rust 1,000 hours to red rust

**Coloring:**

- The Guardian Seal coating gives the Danfoss Waltech tube fittings a consistent silver finish.

**Paintable:**

- The Guardian Seal coating can be painted with commercially available paints. If necessary, paint adhesion can be checked by means of a cross cut (DIN ISO 2409).

**Resistance to fluids:**

- Guardian Seal is resistant to standard hydraulic fluids.

**Environmental compatibility:**

- Guardian Seal complies with the EU End-of-Life Vehicle Directive (ELV 2000/53/EC).

**Friction coefficients / installation behavior:**

- No change in the installation and disassembly behavior/torques compared to Cr (III)-coated Danfoss Waltech fittings.

**Combining Guardian Seal fittings with Cr (III)- or ZnNi-coated fittings:**

- It is possible to combine Guardian Seal-coated fittings and chrome (III)- and zinc-nickel-coated fittings.

## Technical information

### Pressure strength and temperature resistance

#### Pressure strength

##### PB – operating pressure

**B**

The allowable operating pressure of a component is the maximum permissible positive pressure inside that component at the permissible operating temperature (TB) during fault-free operation, based on the material in question and the relevant formulas.

##### PN – nominal pressure

Nominal pressure is an approximate pressure rating that is commonly used.

#### Pressure ranges

| Series                                       | Steel – profile ring + Walring + Walform |                  |        | Stainless steel – profile ring + Walform (1.4571) |   |       |                                 |       |
|--|--|------------------|--------|---|---|-------|---------------------------------|-------|
|  | Tube outer diameter                      | Nominal pressure |        | Tube outer diameter                               | Nominal pressure of profile ring 1.4571 |       | Nominal pressure Walform 1.4571 |       |
|  |  | bar              | psi    |   | bar                                     | psi   | bar                             | psi   |
| <b>LL</b><br>(very light, cutting ring only) | 4-8                                      | 100              | 1,450  | 4-8   | 100                                     | 1,450 | -                               | -     |
| <b>L</b><br>(light)                          | 6-10                                     | 500              | 7,252  | 6-12  | 400                                     | 5,801 | 400                             | 5,801 |
|  | 12-18                                    | 400              | 5,801  | 15-18   | 315                                     | 4,569 | 315                             | 4,569 |
|  | 22-42                                    | 250              | 3,626  | 22-42   | 160                                     | 2,321 | 250                             | 3,626 |
| <b>S</b><br>(heavy)                          | 6-10                                     | 800              | 11,603 | 6-16  | 630                                     | 9,137 | 630                             | 9,137 |
|  | 12-16                                    | 630              | 9,137  | 20-30   | 400                                     | 5,801 | 400                             | 5,801 |
|  | 20-38                                    | 420              | 6,091  | 38  | 315                                     | 4,569 | 330                             | 4,786 |

| Series              | Steel – flare fitting |                  |       | Stainless steel – flare fitting |                  |       |
|---------------------|-----------------------|------------------|-------|---------------------------------|------------------|-------|
|                     | Tube outer diameter   | Nominal pressure |       | Tube outer diameter             | Nominal pressure |       |
|                     |                       | bar              | psi   |                                 | bar              | psi   |
| <b>L</b><br>(light) | 6-10                  | 500              | 7,252 | 6-12                            | 400              | 5,801 |
|                     | 12-18                 | 400              | 5,801 | 15-18                           | 315              | 4,569 |
|                     | 22-42                 | 250              | 3,626 | 22-42                           | 160              | 2,321 |
| <b>S</b><br>(heavy) | 6-10                  | 630              | 9,137 | 6-16                            | 630              | 9,137 |
|                     | 20-38                 | 420              | 6,091 | 20-30                           | 400              | 5,801 |
|                     |                       |                  |       | 38                              | 315              | 4,569 |

**⚠ Caution:** Some models have different nominal pressure ratings. Please refer to the respective nominal pressure ratings of each model. The nominal pressure ratings are also available on request.

## Temperature range

Fitting and sealing materials must be selected in accordance with the operating temperature

**B**

| Material  | Permissible operating temperature TB °C |     |     |     |     |     |     |      |      |      |      |      |      |
|---|---|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
|   | -60                                     | -40 | -35 | -25 | +20 | +50 | +80 | +100 | +120 | +175 | +200 | +250 | +400 |
| Steel fittings*                                       |   | ●   | ●   | ●   | ●   | ●   | ●   | ●    | ●    |      |      |      |      |
| Stainless steel fittings (1.4571)                     | ●                                       | ●   | ●   | ●   | ●   | ●   | ●   | ●    | ●    | ●    | ●    | ●    | ●    |
| Sealing material NBR<br>(e.g. Perbunan <sup>®</sup> ) |   |     | ●   | ●   | ●   | ●   | ●   | ●    |      |      |      |      |      |
| Sealing material FPM<br>(e.g. Viton <sup>®</sup> )    |   |     |     | ●   | ●   | ●   | ●   | ●    | ●    | ●    | ●    |      |      |
| Sealing material POM<br>(e.g. Delrin <sup>®</sup> )   |   | ●   | ●   | ●   | ●   | ●   | ●   |      |      |      |      |      |      |

● Permissible operating temperature

- If different fitting and sealing materials are used, the lowest specified temperature applies!
- Registered trademarks: Perbunan (Bayer), Viton (Chemours), Delrin (DuPont)
- Special materials on request.

At present, the manufacturers of the materials 11SMnPb30, 11SMn30, 11SMnPb30+C (or equivalent) according to DIN EN 10087 and DIN EN 10277-3 do not confirm cold resistance at temperatures of -40 °C. However, the practical experience of hose and tube-fitting manufacturers to date has not indicated any negative consequences.

## Safety

The nominal pressure (PN) and operating pressure (PB) ratings of the fittings indicate the maximum permissible operating pressures, including pressure peaks. The information given under the "temperatures" and "pressure reductions" headings must be observed.

Under static load (up to 120 °C), the functional safety of fittings with PN ratings is 4-fold, and that of fittings with PB ratings is 2.5-fold or 1.5-fold. For ball valves, banjo fittings and swivel banjos, the specified safety properties must be taken into account. Strong pressure surges and mechanical stresses, such as vibrations, require special consideration.

The specified pressure and safety ratings are dependent on compliance with the Danfoss Waltech assembly instructions. An additional prerequisite is the stress-free installation of the tube assembly systems (a sufficient number of tube clamps must be used).

## Note

At temperatures < -20 °C, the use of fittings made from free-cutting steel is at the discretion of the user.

## Pressure reductions

Stainless steel 1.4571 can accommodate pressure reductions, depending on the temperature.  
(DIN EN 10088-3, DIN EN 10216-5)

**⚠ Caution:** If different fitting and sealing materials are used, the lowest specified temperature applies!

| Temperature      | Pressure reduction |
|------------------|--------------------|
| -60 °C to +20 °C | -                  |
| +50 °C           | 4.5 %              |
| +100 °C          | 11 %               |
| +200 °C          | 20 %               |
| +300 °C          | 29 %               |
| +400 °C          | 33 %               |

## Technical information

### Resistance to different media

The following table shows the compatibility of different elastomers and metals depending on the hydraulic fluid being used. This table is intended for use with Danfoss fittings and should not be used to determine compatibility with other products. It is intended for reference purposes only and does not constitute any warranty. The definitive selection of the correct materials for the seals and metal components depends on many additional factors, including pressure, ambient temperature, concentration, exposure time, etc.

**B**

### How to use this table

1. When determining the suitability of a combination of materials for a fitting, both the elastomer and the metal must be considered.
2. Identify the hydraulic fluid and determine the suitability of the elastomer and metal components in accordance with the specified resistance ratings.
3. For the dimensions and operating data of each fitting component, please refer to the relevant catalog pages.
4. For information on the various sealing options for fittings and how to select them, see the relevant sections of this catalog.
5. Use the table above to determine the maximum operating temperature range of the elastomer you intend to use.
6. For more information on the products listed in this catalog and their applications, contact your Danfoss sales representative or Danfoss's Technical Support.

### Resistance ratings

E = excellent - fluid has little or no effect

G = good - fluid has low to moderate effect

C = conditional - please consult Danfoss regarding the operating conditions to determine suitability for your application

U = unsatisfactory

The difference between the "E" and "G" ratings is relative, as both indicate satisfactory performance. Where there is a choice, the materials rated "E" can be expected to offer better or longer performance than those rated "G".

The following tables are for reference purposes only. This table contains information on material compatibility only and is not intended as an application guide.

| Fluid Seal Metal                 | Elastomer               |                      | Metal |                 |
|----------------------------------|-------------------------|----------------------|-------|-----------------|
|                                  | NBR<br>(e.g. Perbunan®) | FPM<br>(e.g. Viton®) | Steel | Stainless steel |
| Acetaldehyde                     | U                       | U                    | G     | E               |
| Acetic acid, 10 %                | U                       | G                    | U     | C               |
| Acetic acid, glacial acetic acid | U                       | U                    | U     | C               |
| Acetone                          | U                       | U                    | E     | E               |
| Acetophenone                     | U                       | U                    | E     | E               |
| Acetyl acetone                   | U                       | U                    | U     | C               |
| Acetyl chloride                  | U                       | E                    | C     | C               |
| Acetylene (1)                    | G                       | E                    | E     | E               |
| Air, hot (up to +160 °F)         | E                       | E                    | E     | E               |
| Air, hot (161 °F - 200 °F)       | C                       | E                    | E     | E               |
| Air, hot (201 °F - 300 °F)       | U                       | E                    | E     | E               |
| Air, wet (below 160 °F)          | E                       | E                    | U     | E               |
| Aluminum chloride, 10 % aqueous  | E                       | E                    | U     | U               |
| Aluminum fluoride, 10 % aqueous  | E                       | E                    | U     | U               |
| Aluminum nitrate, 10 % aqueous   | E                       | E                    | U     | C               |

| Fluid Seal Metal                       | Elastomer               |                      | Metal |                 |
|--|-------------------------|----------------------|-------|-----------------|
|  | NBR<br>(e.g. Perbunan®) | FPM<br>(e.g. Viton®) | Steel | Stainless steel |
| Aluminum sulfate, 10 % aqueous         | E                       | E                    | U     | C               |
| Alums, 10 % aqueous                    | E                       | E                    | U     | C               |
| Ammonia, cold                          | E                       | U                    | E     | E               |
| Ammonia, hot                           | U                       | U                    | E     | E               |
| Ammonia, anhydrous                     | G                       | U                    | E     | E               |
| Ammonia, aqueous                       | E                       | U                    | E     | E               |
| Ammonium carbonate, 10 % aqueous       | U                       | U                    | C     | C               |
| Ammonium chloride, 10 % aqueous        | G                       | U                    | U     | U               |
| Ammonium hydroxide, 10 % aqueous       | C                       | C                    | G     | C               |
| Ammonium nitrate, 10 % aqueous         | E                       | U                    | G     | G               |
| Ammonium phosphate, 10 % aqueous       | E                       | -                    | U     | E               |
| Ammonium sulfate/sulfide, 10 % aqueous | E                       | U                    | U     | U               |
| Amyl acetate                           | U                       | U                    | E     | E               |
| Amyl alcohol                           | G                       | G                    | G     | U               |
| Aniline, aniline oil                   | U                       | U                    | E     | E               |

E = excellent  
G = good  
C = conditional  
U = unsatisfactory

| Fluid Seal Metal                   | NBR<br>(e.g. Perbunan®) | FPM<br>(e.g. Viton®) | Steel | Stainless steel |
|------------------------------------|-------------------------|----------------------|-------|-----------------|
| Aniline dyes                       | U                       | G                    | U     | G               |
| Asphalt, < 200 °F                  | G                       | E                    | E     | E               |
| IRM 901 oil                        | E                       | E                    | E     | E               |
| IRM 902 oil                        | E                       | E                    | E     | E               |
| IRM 903 oil                        | E                       | E                    | E     | E               |
| Automatic transmission fluid       | E                       | E                    | E     | E               |
| Barium chloride, 10 % aqueous      | E                       | E                    | U     | G               |
| Barium hydroxide, 10 % aqueous     | E                       | E                    | G     | G               |
| Barium sulfide, 10 % aqueous       | E                       | E                    | C     | G               |
| Benzene                            | U                       | E                    | G     | E               |
| Benzoic acid                       | U                       | E                    | U     | G               |
| Benzyl alcohol                     | U                       | E                    | E     | E               |
| Biodiesel (< B20)                  | G                       | E                    |       |                 |
| Biodiesel (> B20)                  | G                       | E                    |       |                 |
| Black sulfate liquor               | C                       | E                    | E     | E               |
| Blast furnace gas                  | U                       | E                    | E     | E               |
| Borax, 10 % aqueous                | G                       | E                    | E     | E               |
| Boric acid, 10 % aqueous           | G                       | E                    | U     | C               |
| Brine                              | E                       | E                    | U     | G               |
| Bromine, dry                       | U                       | E                    | U     | U               |
| Butane                             | E                       | E                    | E     | E               |
| Butyl acetate                      | U                       | U                    | E     | E               |
| Butyl alcohol                      | E                       | E                    | G     | G               |
| Butyl Cellosolve                   | U                       | U                    | E     | E               |
| Butylene                           | C                       | E                    | E     | E               |
| Butyl stearate                     | G                       | E                    | G     | G               |
| Butyraldehyde                      | U                       | U                    | E     | E               |
| Calcium acetate, 10 % aqueous      | G                       | U                    | G     | G               |
| Calcium bisulfate, 10 % aqueous    | E                       | E                    | U     | C               |
| Calcium hydroxide, 10 % aqueous    | E                       | E                    | G     | G               |
| Calcium hydroxide, 10 % aqueous    | E                       | E                    | G     | G               |
| Calcium hypochlorite, 10 % aqueous | U                       | E                    | U     | C               |
| Calcium nitrate, 10 % aqueous      | E                       | E                    | G     | G               |
| Carbitol                           | G                       | G                    | E     | E               |
| Carbolic acid                      | U                       | E                    | U     | E               |
| Carbonic acid                      | G                       | E                    | U     | E               |
| Carbon dioxide, dry                | G                       | E                    | E     | E               |
| Carbon disulfide                   | U                       | E                    | G     | G               |
| Carbon monoxide                    | G                       | E                    | E     | E               |
| Carbon tetrachloride               | U                       | E                    | U     | G               |
| Castor oil                         | E                       | E                    | E     | E               |
| Cellosolve acetate                 | U                       | U                    | U     | E               |
| China wood oil (tung oil)          | G                       | E                    | E     | E               |
| Chlorine, dry                      | U                       | G                    | C     | C               |
| Chloroacetic acid                  | U                       | U                    | U     | U               |
| Chloroacetone                      | U                       | U                    | G     | G               |
| Chlorobenzene                      | U                       | G                    | G     | G               |
| Chloroform                         | U                       | E                    | G     | G               |
| O-chlorophenol                     | U                       | E                    | G     | G               |
| Chlosulfonic acid                  | U                       | U                    | G     | G               |
| Chrome plating solution            | U                       | E                    | C     | U               |

| Fluid Seal Metal                | NBR<br>(e.g. Perbunan®) | FPM<br>(e.g. Viton®) | Steel | Stainless steel |
|---------------------------------|-------------------------|----------------------|-------|-----------------|
| Chromic acid                    | U                       | E                    | C     | U               |
| Citric acid                     | E                       | E                    | C     | C               |
| Coke oven gas                   | U                       | E                    | E     | E               |
| Copper chloride, 10 % aqueous   | E                       | E                    | U     | U               |
| Copper cyanide, 10 % aqueous    | E                       | E                    | E     | G               |
| Copper sulfate, 10 % aqueous    | E                       | E                    | U     | G               |
| Cotton seed oil                 | E                       | E                    | E     | E               |
| Creosote (coal tar)             | G                       | E                    | E     | E               |
| Crude oil                       | E                       | E                    | G     | G               |
| Cyclohexanol                    | E                       | E                    | E     | E               |
| Cyclohexanone                   | U                       | U                    | E     | E               |
| Detergent/water solution        | E                       | E                    | G     | E               |
| Diacetone alcohol (acetol)      | U                       | U                    | E     | E               |
| Dibenzyl ether                  | U                       | U                    | G     | G               |
| Diesel oil                      | E                       | E                    | E     | E               |
| Diethylamine                    | G                       | U                    | E     | E               |
| Diethyl phthalate (DOP)         | U                       | G                    | E     | E               |
| DOT #3/#4 brake fluid           | C                       | U                    | E     | E               |
| Dowtherm A&E                    | U                       | E                    | G     | E               |
| Ethyl alcohol (ethanol)         | E                       | E                    | E     | E               |
| Ethyl acetate                   | U                       | U                    | E     | E               |
| Ethyl benzene                   | U                       | E                    | E     | G               |
| Ethyl cellulose                 | G                       | U                    | E     | G               |
| Ethyl chloride                  | U                       | E                    | E     | E               |
| Ethylene dichloride             | U                       | G                    | E     | G               |
| Ethylene glycol                 | E                       | E                    | U     | E               |
| Ferric chloride, 10 % aqueous   | E                       | E                    | U     | U               |
| Ferric nitrate, 10 % aqueous    | E                       | E                    | U     | G               |
| Ferric sulfate, 10 % aqueous    | G                       | E                    | U     | E               |
| Formaldehyde                    | C                       | G                    | E     | E               |
| Formic acid                     | C                       | U                    | U     | C               |
| Fuel oil                        | E                       | E                    | E     | E               |
| Furfural                        | C                       | U                    | G     | G               |
| Gallic acid, solution           | G                       | E                    | U     | G               |
| Gasoline                        | E                       | E                    | E     | E               |
| Gasohol                         | G                       | E                    | E     | E               |
| Glycerin/glycerol               | E                       | E                    | E     | E               |
| Green sulfate liquor            | G                       | E                    | U     | E               |
| Helium (1)                      | E                       | E                    | E     | E               |
| Heptane                         | E                       | E                    | E     | E               |
| Hexaldehyde                     | U                       | U                    | G     | E               |
| Hexane                          | E                       | E                    | E     | E               |
| Hydraulic oils, petroleum base  | G                       | E                    | E     | E               |
| Ester blend                     | E                       | E                    | E     | E               |
| Phosphate ester/petroleum blend | U                       | C                    | E     | E               |
| Silicon oils                    | E                       | E                    | E     | E               |
| Straight petroleum base         | E                       | E                    | E     | E               |
| Straight phosphate ester        | U                       | C                    | E     | E               |
| Water glycol                    | E                       | E                    | E     | E               |
| Water-petroleum emulsion        | E                       | E                    | C     | E               |
| Hydrobromic acid                | U                       | E                    | E     | E               |

## Technical information

### Resistance to different media

B

E = excellent  
G = good  
C = conditional  
U = unsatisfactory

| Fluid Seal Metal                  | NBR<br>(e.g. Perbunan®) | FPM<br>(e.g. Viton®) | Steel | Stainless steel |
|-----------------------------------|-------------------------|----------------------|-------|-----------------|
| Hydrochloric acid, cold           | U                       | E                    | U     | U               |
| Hydrocyanic acid                  | C                       | E                    | E     | G               |
| Hydrofluoric acid                 | U                       | U                    | U     | U               |
| Hydrofluorosilic acid             | G                       | E                    | U     | U               |
| Hydrogen                          | E                       | E                    | E     | E               |
| Hydrogen peroxide                 | G                       | E                    | U     | G               |
| Hydrogen sulfide, dry             | U                       | U                    | E     | G               |
| Isocyanate                        | U                       | E                    | G     | G               |
| Iso-octane                        | E                       | E                    | E     | E               |
| Isopropyl acetate                 | U                       | U                    | E     | E               |
| Isopropyl alcohol                 | G                       | E                    | E     | E               |
| Isopropyl ether                   | G                       | U                    | G     | G               |
| JP-4, JP-5                        | E                       | E                    | E     | E               |
| Kerosene                          | E                       | E                    | E     | E               |
| Lacquer/lacquer solvents          | U                       | U                    | U     | E               |
| Lime sulfur                       | U                       | E                    | G     | G               |
| Linseed oil                       | E                       | E                    | E     | E               |
| LPG                               | E                       | E                    | E     | E               |
| Magnesium chloride, 10 % aqueous  | E                       | E                    | E     | C               |
| Magnesium hydroxide, 10 % aqueous | G                       | E                    | E     | E               |
| Magnesium sulfate, 10 % aqueous   | E                       | E                    | E     | E               |
| Maleic acid                       | U                       | E                    | E     | G               |
| Maleic anhydride                  | U                       | E                    | G     | E               |
| Malic acid                        | G                       | G                    | U     | E               |
| Mercury chloride                  | E                       | E                    | U     | U               |
| Mercury                           | E                       | E                    | E     | E               |
| Methanol                          | G                       | U                    | G     | E               |
| Methyl bromide                    | G                       | E                    | E     | G               |
| Methyl chloride                   | U                       | E                    | E     | E               |
| Methyl butyl ketone               | U                       | U                    | E     | E               |
| Methyl ethyl ketone               | U                       | U                    | G     | G               |
| Methylene chloride                | U                       | G                    | G     | G               |
| Methyl isobutyl ketone            | U                       | U                    | G     | G               |
| Methyl isopropyl ketone           | U                       | U                    | G     | G               |
| Methyl salicylate                 | U                       | U                    | E     | G               |
| MIL-L-2104                        | E                       | E                    | E     | E               |
| MIL-H-5606                        | E                       | E                    | E     | E               |
| MIL-H-6083                        | E                       | E                    | E     | E               |
| MIL-L-7808                        | G                       | E                    | G     | E               |
| MIL-L-23699                       | G                       | E                    | E     | E               |
| MIL-H-46170                       | E                       | E                    | E     | E               |
| MIL-H-83282                       | E                       | E                    | E     | E               |
| Mineral oils                      | E                       | E                    | E     | E               |
| Naphtha                           | C                       | E                    | -     | -               |
| Naphthalene                       | U                       | E                    | E     | E               |
| Naphthenic acid                   | C                       | E                    | -     | E               |
| Natural gas                       | E                       | E                    | G     | G               |
| Nickel acetate, 10 % aqueous      | C                       | G                    | G     | E               |
| Nickel chloride, 10 % aqueous     | E                       | E                    | U     | G               |
| Nickel sulfate, 10 % aqueous      | E                       | E                    | U     | G               |
| Nitric acid, up to 10 %           | U                       | E                    | U     | E               |

| Fluid Seal Metal                   | NBR<br>(e.g. Perbunan®) | FPM<br>(e.g. Viton®) | Steel | Stainless steel |
|------------------------------------|-------------------------|----------------------|-------|-----------------|
| Nitric acid, above 10 %            | U                       | E                    | U     | E               |
| Nitro benzene                      | U                       | G                    | E     | E               |
| Nitrogen                           | E                       | E                    | E     | E               |
| Octyl alcohol                      | E                       | E                    | E     | E               |
| Oleic acid                         | U                       | G                    | C     | G               |
| Oleum, fuming sulfuric acid        | U                       | E                    | E     | E               |
| Ortho-dichlorobenzene              | U                       | E                    | G     | G               |
| Oxalic acid, 10 % aqueous          | G                       | E                    | U     | C               |
| Oxygen                             | -                       | E                    | G     | G               |
| Palmitic acid                      | E                       | E                    | G     | E               |
| Para-dichlorobenzene               | U                       | E                    | G     | G               |
| Pentane                            | E                       | E                    | G     | G               |
| Perchloric acid                    | E                       | E                    | U     | U               |
| Perchloroethylene                  | U                       | E                    | C     | G               |
| Petroleum base oils                | E                       | E                    | E     | E               |
| Phenol (carbolic acid)             | U                       | E                    | U     | E               |
| Phosphate ester                    | U                       | C                    | E     | E               |
| Phosphoric acid, 20 %              | U                       | E                    | U     | U               |
| Phosphorus trichloride             | U                       | E                    | C     | C               |
| Potassium acetate, 10 % aqueous    | G                       | U                    | C     | C               |
| Potassium chloride, 10 % aqueous   | E                       | E                    | E     | E               |
| Potassium cyanide, 10 % aqueous    | E                       | E                    | C     | G               |
| Potassium dichromate, 10 % aqueous | E                       | E                    | C     | C               |
| Potassium hydroxide, up to 10 %    | G                       | G                    | G     | G               |
| Potassium hydroxide, above 10 %    | C                       | U                    | G     | G               |
| Potassium nitrate, 10 % aqueous    | E                       | E                    | G     | E               |
| Potassium sulfate, 10 % aqueous    | E                       | E                    | -     | -               |
| Propane (liquefied)                | C                       | E                    | E     | E               |
| Propyl acetate                     | U                       | U                    | E     | E               |
| Propyl alcohol                     | E                       | E                    | E     | E               |
| Propylene                          | U                       | E                    | E     | E               |
| Rapeseed oil (B100)                | G                       | E                    |       |                 |
| Refrigerant R-12                   | G                       | E                    | E     | E               |
| Refrigerant R-13                   | G                       | E                    | E     | E               |
| Refrigerant R-22                   | U                       | U                    | E     | E               |
| Refrigerant R-134a                 | E                       | U                    | E     | E               |
| Sewage                             | E                       | E                    | G     | G               |
| Silicon oils                       | E                       | E                    | E     | E               |
| Soap (water solutions)             | E                       | E                    | E     | E               |
| Sodium acetate, 10 % aqueous       | G                       | U                    | E     | G               |
| Sodium bicarbonate, 10 % aqueous   | E                       | E                    | G     | E               |
| Sodium borate, 10 % aqueous        | E                       | E                    | E     | E               |
| Sodium carbonate, 10 % aqueous     | E                       | E                    | E     | E               |
| Sodium chloride, 10 % aqueous      | E                       | E                    | U     | C               |
| Sodium cyanide, 10 % aqueous       | E                       | E                    | E     | C               |
| Sodium hydroxide, up to 10 %       | U                       | E                    | C     | C               |
| Sodium hydroxide, above 10 %       | U                       | E                    | C     | C               |
| Sodium hypochlorite, 10 % aqueous  | C                       | C                    | U     | U               |
| Sodium metaphosphate, 10 % aqueous | E                       | E                    | E     | G               |
| Sodium nitrate, 10 % aqueous       | G                       | -                    | E     | E               |
| Sodium perborate, 10 % aqueous     | G                       | E                    | C     | C               |



E = excellent  
G = good  
C = conditional  
U = unsatisfactory

| Fluid Seal Metal                 | NBR<br>(e.g. Perbunan®) | FPM<br>(e.g. Viton®) | Steel | Stainless steel |
|----------------------------------|-------------------------|----------------------|-------|-----------------|
| Sodium peroxide, 10 % aqueous    | G                       | E                    | U     | C               |
| Sodium phosphates, 10 % aqueous  | E                       | E                    | U     | G               |
| Sodium silicate, 10 % aqueous    | E                       | E                    | E     | E               |
| Sodium sulfate, 10 % aqueous     | E                       | E                    | C     | G               |
| Sodium sulfide, 10 % aqueous     | E                       | E                    | C     | C               |
| Sodium thiosulfate, 10 % aqueous | G                       | E                    | U     | C               |
| Soy bean oil (B100)              | E                       | E                    | E     | E               |
| Stannic chloride                 | E                       | E                    | U     | U               |
| Steam (up to 388 °F)             | U                       | C                    | E     | E               |
| Stearic acid                     | G                       | E                    | C     | E               |
| Stoddard solvent                 | E                       | E                    | E     | E               |
| Styrene                          | U                       | G                    | E     | E               |
| Sulfur, slurry                   | U                       | E                    | E     | G               |
| Sulfur chloride, wet             | U                       | E                    | G     | G               |
| Sulfur dioxide, dry              | U                       | E                    | E     | G               |
| Sulfur trioxide                  | U                       | E                    | G     | G               |
| Sulfuric acid, up to 10 %        | U                       | E                    | U     | C               |
| Sulfuric acid, above 10 %        | U                       | G                    | C     | G               |
| Sulfurous acid                   | C                       | G                    | U     | C               |
| Tannic acid                      | G                       | E                    | E     | E               |
| Tar (bituminous)                 | G                       | E                    | E     | E               |

| Fluid Seal Metal            | NBR<br>(e.g. Perbunan®) | FPM<br>(e.g. Viton®) | Steel | Stainless steel |
|-----------------------------|-------------------------|----------------------|-------|-----------------|
| Tartaric acid               | E                       | E                    | U     | C               |
| Tertiary butyl alcohol      | G                       | E                    | G     | G               |
| Titanium tetrachloride      | C                       | E                    | E     | G               |
| Toluene (toluol)            | U                       | E                    | E     | E               |
| Trichloroethylene           | U                       | E                    | E     | E               |
| Tricresyl phosphate         | U                       | G                    | E     | C               |
| Triethanolamine             | E                       | U                    | E     | E               |
| Tung oil                    | G                       | E                    | E     | E               |
| Turpentine                  | G                       | E                    | G     | G               |
| Varnish                     | G                       | E                    | E     | E               |
| Vinyl chloride              | U                       | E                    | E     | C               |
| Water (up to +150 °F)       | E                       | E                    | C     | E               |
| Water (+151 °F to +200 °F)  | E                       | E                    | C     | E               |
| Water (+201 °F to +350 °F)  | U                       | G                    | C     | E               |
| Water glycol                | E                       | E                    | E     | E               |
| Water-petroleum emulsion    | E                       | E                    | C     | E               |
| Xylene                      | U                       | E                    | E     | E               |
| Zinc chloride, 10 % aqueous | E                       | E                    | E     | U               |
| Zinc sulfate, 10 % aqueous  | E                       | E                    | U     | G               |

## Technical information

### Calculated pressures and tolerances of seamless precision-steel tubes

The use of tube inserts is recommended for thin-walled tube assemblies that are subject to severe stress.

**B**

| Calculation to DIN 2413, scope of application I,<br>for primarily static load conditions at temperatures up to 120 °C        |  |   |
|--|--|---|
| Material   | Steel St E235                                | Stainless steel 1.4571                    |
| Calculation to DIN 2413 (1993-10), scope of application I, for primarily static load conditions at temperatures up to 120 °C |  |   |
| Yield point/Rp1.0:   | 235 N/mm <sup>2</sup><br>(DIN EN 10305-4)    | 245 N/mm <sup>2</sup><br>(DIN EN 10216-5) |
| Design factor:   | 1.5  | 1.5                                       |
| Allowance factor c1:   | 10 % of wall thickness                       | 10 % of wall thickness                    |
| Allowance factor c2:   | 0 (no corrosion allowance)                   | 0 (no corrosion allowance)                |
| Calculation to DIN 2413, scope of application III, pulsating load conditions at temperatures up to 120 °C                    |  |   |
| Pulsating fatigue limit:   | 225 N/mm <sup>2</sup><br>see DIN 2413, 4.2.3 | 190 N/mm <sup>2</sup><br>Assumed value    |
| Allowance factor c1:   | 10 % of wall thickness                       | 10 % of wall thickness                    |

In case of problems or where other tube materials are involved, please consult our application engineers and the tube manufacturer.

**⚠ Caution:** At temperatures above 20 °C, the pressure reductions for tube material 1.4571 indicated on page B6 apply.

**Calculated pressures and tolerances of seamless precision-steel tubes**

We recommend the use of seamless precision-steel tubes according to DIN EN 10305-4, materials E235 and E355. For stainless steel tubes, we recommend the use of seamless, cold-drawn, bright-annealed tube made of X6CrNiMoTi17-12-2 (1.4571), type CFA according to DIN EN ISO 10216-5, with dimensions and tolerances according to DIN EN ISO 10305-4.

**B**

| Outer diameter | Tolerance | Wall thickness | E235                   |                         | Stainless steel 1.4571 |                         |
|----------------|-----------|----------------|------------------------|-------------------------|------------------------|-------------------------|
|                |           |                | *Calculated pressure I | Calculated pressure III | Calculated pressure I  | Calculated pressure III |
| mm             | mm        | mm             | bar                    | bar                     | bar                    | bar                     |
| 6              | ±0.08     | 1.0            | 409                    | 391                     | 426                    | 330                     |
| 6              | ±0.08     | 1.5            | 576                    | 551                     | 600                    | 465                     |
| 8              | ±0.08     | 1.0            | 353                    | 303                     | 368                    | 256                     |
| 8              | ±0.08     | 1.5            | 452                    | 433                     | 472                    | 366                     |
| 8              | ±0.08     | 2.0            | 576                    | 551                     | 600                    | 465                     |
| 10             | ±0.08     | 1.0            | 282                    | 248                     | 294                    | 209                     |
| 10             | ±0.08     | 1.5            | 373                    | 357                     | 389                    | 301                     |
| 10             | ±0.08     | 2.0            | 478                    | 458                     | 498                    | 386                     |
| 10             | ±0.08     | 2.5            | 576                    | 551                     | 600                    | 465                     |
| 10             | ±0.08     | 3.0            | 666                    | 638                     | 694                    | 539                     |
| 12             | ±0.08     | 1.0            | 235                    | 209                     | 245                    | 177                     |
| 12             | ±0.08     | 1.5            | 353                    | 303                     | 368                    | 256                     |
| 12             | ±0.08     | 2.0            | 409                    | 391                     | 426                    | 330                     |
| 12             | ±0.08     | 2.5            | 495                    | 474                     | 516                    | 400                     |
| 12             | ±0.08     | 3.0            | 576                    | 551                     | 600                    | 465                     |
| 12             | ±0.08     | 3.5            | 651                    | 624                     | 679                    | 527                     |
| 15             | ±0.08     | 1.5            | 282                    | 248                     | 294                    | 209                     |
| 15             | ±0.08     | 2.0            | 336                    | 321                     | 350                    | 271                     |
| 15             | ±0.08     | 2.5            | 409                    | 391                     | 426                    | 330                     |
| 15             | ±0.08     | 3.0            | 478                    | 458                     | 498                    | 386                     |
| 16             | ±0.08     | 2.0            | 353                    | 303                     | 368                    | 256                     |
| 16             | ±0.08     | 2.5            | 386                    | 370                     | 403                    | 312                     |
| 16             | ±0.08     | 3.0            | 452                    | 433                     | 472                    | 366                     |
| 16             | ±0.08     | 3.5            | 515                    | 493                     | 537                    | 417                     |
| 16             | ±0.08     | 4.0            | 576                    | 551                     | 600                    | 465                     |
| 18             | ±0.08     | 1.5            | 235                    | 209                     | 245                    | 177                     |
| 18             | ±0.08     | 2.0            | 313                    | 273                     | 327                    | 230                     |
| 18             | ±0.08     | 2.5            | 348                    | 333                     | 363                    | 281                     |
| 18             | ±0.08     | 3.0            | 409                    | 391                     | 426                    | 330                     |
| 20             | ±0.08     | 2.0            | 282                    | 248                     | 294                    | 209                     |
| 20             | ±0.08     | 2.5            | 353                    | 303                     | 368                    | 256                     |
| 20             | ±0.08     | 3.0            | 373                    | 357                     | 389                    | 301                     |
| 20             | ±0.08     | 3.5            | 426                    | 408                     | 444                    | 345                     |
| 20             | ±0.08     | 4.0            | 478                    | 458                     | 498                    | 386                     |
| 22             | ±0.08     | 1.5            | 192                    | 173                     | 200                    | 146                     |
| 22             | ±0.08     | 2.0            | 256                    | 227                     | 267                    | 192                     |
| 22             | ±0.08     | 2.5            | 320                    | 278                     | 334                    | 235                     |
| 22             | ±0.08     | 3.0            | 343                    | 328                     | 357                    | 277                     |
| 22             | ±0.08     | 3.5            | 392                    | 376                     | 409                    | 317                     |
| 25             | ±0.08     | 2.0            | 226                    | 201                     | 235                    | 170                     |
| 25             | ±0.08     | 2.5            | 282                    | 248                     | 294                    | 209                     |
| 25             | ±0.08     | 3.0            | 338                    | 292                     | 353                    | 247                     |
| 25             | ±0.08     | 4.0            | 394                    | 378                     | 411                    | 319                     |
| 25             | ±0.08     | 4.5            | 437                    | 418                     | 455                    | 353                     |
| 25             | ±0.08     | 5.0            | 478                    | 458                     | 498                    | 386                     |
| 28             | ±0.08     | 2.0            | 201                    | 181                     | 210                    | 153                     |
| 28             | ±0.08     | 2.5            | 252                    | 223                     | 263                    | 188                     |
| 28             | ±0.08     | 3.0            | 302                    | 264                     | 315                    | 223                     |
| 28             | ±0.08     | 3.5            | 353                    | 303                     | 368                    | 256                     |
| 28             | ±0.08     | 4.0            | 357                    | 342                     | 372                    | 289                     |
| 28             | ±0.08     | 5.0            | 434                    | 415                     | 452                    | 351                     |

## Technical information

### Calculated pressures and tolerances of seamless precision-steel tubes

**B**

| Outer diameter | Tolerance | Wall thickness | E235                   |                         | Stainless steel 1.4571 |                         |
|----------------|-----------|----------------|------------------------|-------------------------|------------------------|-------------------------|
|                |           |                | *Calculated pressure I | Calculated pressure III | Calculated pressure I  | Calculated pressure III |
| mm             | mm        | mm             | bar                    | bar                     | bar                    | bar                     |
| 30             | ±0.08     | 2.0            | 188                    | 170                     | 196                    | 143                     |
| 30             | ±0.08     | 2.5            | 235                    | 209                     | 245                    | 177                     |
| 30             | ±0.08     | 3.0            | 282                    | 248                     | 294                    | 209                     |
| 30             | ±0.08     | 3.5            | 329                    | 285                     | 343                    | 241                     |
| 30             | ±0.08     | 4.0            | 336                    | 321                     | 350                    | 271                     |
| 30             | ±0.08     | 5.0            | 409                    | 391                     | 426                    | 330                     |
| 30             | ±0.08     | 6.0            | 478                    | 458                     | 498                    | 386                     |
| 35             | ±0.15     | 2.0            | 161                    | 147                     | 168                    | 124                     |
| 35             | ±0.15     | 2.5            | 201                    | 181                     | 210                    | 153                     |
| 35             | ±0.15     | 3.0            | 242                    | 215                     | 252                    | 181                     |
| 35             | ±0.15     | 3.5            | 282                    | 248                     | 294                    | 209                     |
| 35             | ±0.15     | 4.0            | 322                    | 280                     | 336                    | 236                     |
| 35             | ±0.15     | 5.0            | 357                    | 342                     | 372                    | 289                     |
| 35             | ±0.15     | 6.0            | 419                    | 401                     | 437                    | 339                     |
| 38             | ±0.15     | 2.5            | 186                    | 168                     | 193                    | 142                     |
| 38             | ±0.15     | 3.0            | 223                    | 199                     | 232                    | 168                     |
| 38             | ±0.15     | 3.5            | 260                    | 230                     | 271                    | 194                     |
| 38             | ±0.15     | 4.0            | 297                    | 260                     | 309                    | 219                     |
| 38             | ±0.15     | 5.0            | 332                    | 318                     | 346                    | 268                     |
| 38             | ±0.15     | 6.0            | 390                    | 373                     | 406                    | 315                     |
| 38             | ±0.15     | 7.0            | 446                    | 427                     | 465                    | 360                     |
| 42             | ±0.20     | 2.0            | 134                    | 123                     | 140                    | 104                     |
| 42             | ±0.20     | 2.5            | 168                    | 153                     | 175                    | 129                     |
| 42             | ±0.20     | 3.0            | 201                    | 181                     | 210                    | 153                     |
| 42             | ±0.20     | 3.5            | 235                    | 209                     | 245                    | 177                     |
| 42             | ±0.20     | 4.0            | 269                    | 237                     | 280                    | 200                     |
| 48.3           | ±0.20     | 3.2            | 187                    | 169                     |                        |                         |
| 50             | ±0.20     | 2.5            | 141                    | 129                     |                        |                         |
| 50             | ±0.20     | 3.0            | 169                    | 154                     |                        |                         |
| 50             | ±0.20     | 5.0            | 282                    | 248                     |                        |                         |
| 50             | ±0.20     | 6.0            | 338                    | 292                     |                        |                         |
| 50             | ±0.20     | 8.0            | 394                    | 378                     |                        |                         |
| 60             | ±0.25     | 3.0            | 141                    | 129                     |                        |                         |
| 60             | ±0.25     | 6.0            | 282                    | 248                     |                        |                         |
| 60             | ±0.25     | 8.0            | 336                    | 321                     |                        |                         |
| 60             | ±0.25     | 10.0           | 409                    | 391                     |                        |                         |
| 60.3           | ±0.25     | 3.6            | 168                    | 153                     |                        |                         |
| 60.3           | ±0.25     | 5.6            | 262                    | 231                     |                        |                         |
| 60.3           | ±0.25     | 8.0            | 334                    | 320                     |                        |                         |
| 60.3           | ±0.25     | 10.0           | 407                    | 390                     |                        |                         |

\*Calculated pressure I = static load \*Calculated pressure III = pulsating load

**Metric ISO thread (parallel) DIN 13**
**Stud type B**

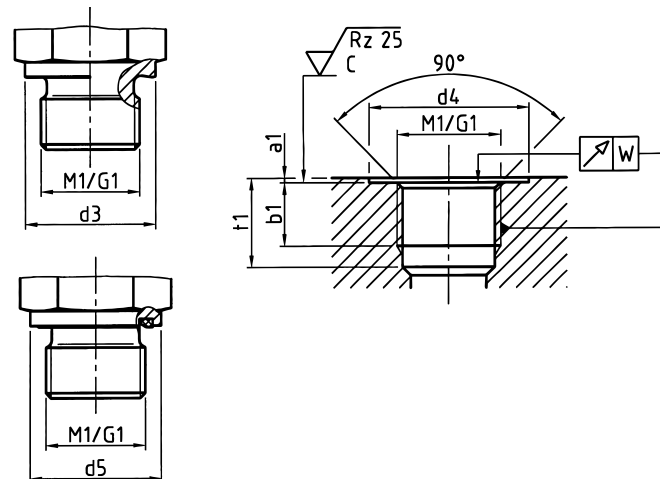
- DIN EN ISO 9974-3 (metric)
- DIN EN ISO 1179-3 (BSP thread)
- With metal-to-metal seal

**Stud type E**

- ISO 9974-2 (metric)
- DIN EN ISO 1179-2 (BSP thread)
- With soft seal (WD)

**Port type X, Y**

- DIN 3852-1 / ISO 9974-1 (metric)
- DIN 3852-2 / DIN EN ISO 1179-1 (BSP thread)
- (For parallel threads)


**B**

| M <sub>1</sub> | d <sub>3</sub> | d <sub>4</sub> <sup>+0.4</sup> | d <sup>5</sup> | a <sub>1 max.</sub> | b <sub>1 min.</sub> | t <sub>1 min.</sub> | Ø*<br>LL | Ø* L | Ø* S | W   |
|----------------|----------------|--------------------------------|----------------|---------------------|---------------------|---------------------|----------|------|------|-----|
| M 8 x 1        | 12             | 13                             | 12             | 1                   | 8                   | 13.5                | 3.5      | -    | -    | 0.1 |
| M 10 x 1       | 14             | 15                             | 13.9           | 1                   | 8                   | 13.5                | 5        | 4    | -    | 0.1 |
| M 12 x 1.5     | 17             | 18                             | 16.9           | 1.5                 | 12                  | 18.5                | -        | 6    | 4    | 0.1 |
| M 14 x 1.5     | 19             | 20                             | 18.9           | 1.5                 | 12                  | 18.5                | -        | 7    | 5    | 0.1 |
| M 16 x 1.5     | 21             | 22                             | 21.9           | 1.5                 | 12                  | 18.5                | -        | 9    | 7    | 0.1 |
| M 18 x 1.5     | 23             | 24                             | 23.9           | 2                   | 12                  | 18.5                | -        | 11   | 8    | 0.1 |
| M 20 x 1.5     | 25             | 26                             | 25.9           | 2                   | 14                  | 20.5                | -        | -    | 10   | 0.1 |
| M 22 x 1.5     | 27             | 28                             | 26.9           | 2.5                 | 14                  | 20.5                | -        | 14   | 12   | 0.1 |
| M 26 x 1.5     | 31             | 32                             | 31.9           | 2.5                 | 16                  | 22.5                | -        | 18   | -    | 0.2 |
| M 27 x 2       | 32             | 33                             | 31.9           | 2.5                 | 16                  | 24                  | -        | -    | 16   | 0.2 |
| M 33 x 2       | 39             | 40                             | 39.9           | 2.5                 | 18                  | 26                  | -        | 23   | 20   | 0.2 |
| M 42 x 2       | 49             | 50                             | 49.9           | 2.5                 | 20                  | 28                  | -        | 30   | 25   | 0.2 |
| M 48 x 2       | 55             | 56                             | 54.9           | 2.5                 | 22                  | 30                  | -        | 36   | 32   | 0.2 |

| M <sub>1</sub> | d <sub>3</sub> | d <sub>4</sub> <sup>+0.4</sup> | d <sup>5</sup> | a <sub>1 max.</sub> | b <sub>1 min.</sub> | t <sub>1 min.</sub> | Ø*<br>LL | Ø* L | Ø* S | W   |
|----------------|----------------|--------------------------------|----------------|---------------------|---------------------|---------------------|----------|------|------|-----|
| G 1/8A**       | 14             | 15                             | 13.9           | 1                   | 8                   | 13                  | 5        | 4    | -    | 0.1 |
| G 1/4A**       | 18             | 19                             | 18.9           | 1.5                 | 12                  | 18.5                | -        | 7    | 5    | 0.1 |
| G 3/8A**       | 22             | 23                             | 21.9           | 2                   | 12                  | 18.5                | -        | 9    | 8    | 0.1 |
| G 1/2A**       | 26             | 27                             | 26.9           | 2.5                 | 14                  | 22                  | -        | 14   | 12   | 0.1 |
| G 3/4A**       | 32             | 33                             | 31.9           | 2.5                 | 16                  | 24                  | -        | 18   | 16   | 0.2 |
| G 1A**         | 39             | 40                             | 39.9           | 2.5                 | 18                  | 27                  | -        | 23   | 20   | 0.2 |
| G 1 1/4A**     | 49             | 50                             | 49.9           | 2.5                 | 20                  | 29                  | -        | 30   | 25   | 0.2 |
| G 1 1/2A**     | 55             | 56                             | 54.9           | 2.5                 | 22                  | 31                  | -        | 36   | 32   | 0.2 |

\*Stud hole. Special designs may have different holes.

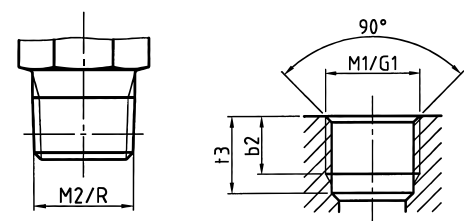
\*\*A does not apply to female threads.

**Metric ISO thread (parallel) DIN 13**
**Stud type C**

- DIN 3852-1 (metric)
- DIN 3852-2 (BSP thread)
- With taper thread seal

**Port type Z**

- DIN 3852-1 (metric)
- DIN 3852-2 (BSP thread)
- (Only for taper threads)\*\*



| M <sub>2</sub>   | b <sub>2 min.</sub> | t <sub>3 min.</sub> |
|------------------|---------------------|---------------------|
| M 8 x 1 taper    | 5.5                 | 10                  |
| M 10 x 1 taper   | 5.5                 | 10                  |
| M 12 x 1.5 taper | 8.5                 | 13.5                |
| M 14 x 1.5 taper | 8.5                 | 13.5                |
| M 16 x 1.5 taper | 8.5                 | 13.5                |
| M 18 x 1.5 taper | 8.5                 | 13.5                |
| M 20 x 1.5 taper | 10.5                | 15.5                |
| M 22 x 1.5 taper | 10.5                | 15.5                |

| R           | b <sub>2 min.</sub> | t <sub>3 min.</sub> |
|-------------|---------------------|---------------------|
| R 1/8 taper | 5.5                 | 9.5                 |
| R 1/4 taper | 8.5                 | 13.5                |
| R 3/8 taper | 8.5                 | 13.5                |
| R 1/2 taper | 10.5                | 16.5                |

\*\*\*Caution: Additional sealing material required!

## Technical information

### Stud and port types

#### Metric ISO thread (parallel) DIN 13 UNF/UN thread ISO 725 / ANSI B1.1-1974

**B**

##### Stud (metric)

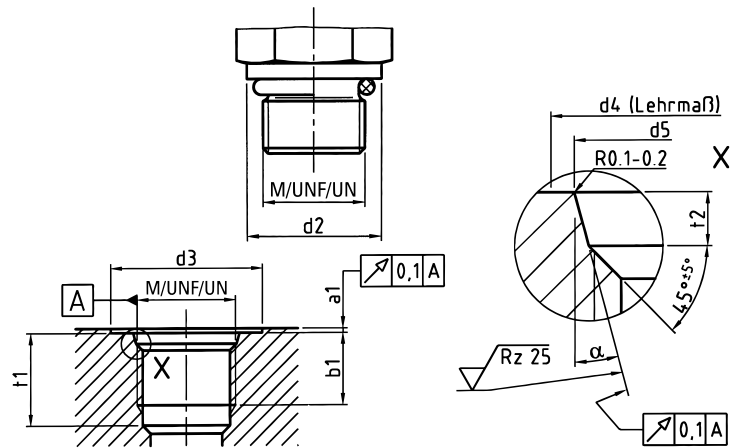
- With O-ring seal
- DIN EN ISO 6149-2 and -3

##### UST stud

- With O-ring seal
- ISO 11926-2 and -3

##### Port (metric)

- For O-ring seal  
DIN EN ISO 6149-1
- ISO 11926-1 (UST)



| M          | d <sub>2</sub> | d <sub>3 min.</sub> | d <sub>4</sub> | d <sub>5+0.4</sub> | a <sub>1 max.</sub> | t <sub>2</sub> | t <sub>1 min.</sub> | b <sub>1 min.</sub> | a <sub>±1°</sub> |
|------------|----------------|---------------------|----------------|--------------------|---------------------|----------------|---------------------|---------------------|------------------|
| M 8 x 1    | 10.9           | 17                  | 11             | 9.1                | 1                   | 1.6            | 11.5                | 10                  | 12°              |
| M 10 x 1   | 12.9           | 20                  | 13             | 11.1               | 1                   | 1.6            | 11.5                | 10                  | 12°              |
| M 12 x 1.5 | 16.9           | 22                  | 16             | 13.8               | 1.5                 | 2.4            | 14                  | 11.5                | 15°              |
| M 14 x 1.5 | 18.9           | 25                  | 18             | 15.8               | 1.5                 | 2.4            | 14                  | 11.5                | 15°              |
| M 16 x 1.5 | 20.9           | 27                  | 20             | 17.8               | 1.5                 | 2.4            | 15.5                | 13                  | 15°              |
| M 18 x 1.5 | 22.9           | 29                  | 22             | 19.8               | 2                   | 2.4            | 16.5                | 14.5                | 15°              |
| M 20 x 1.5 | 24.9           | 32                  | 24             | 21.8               | 2                   | 2.4            | 16.5                | 14                  | 15°              |
| M 22 x 1.5 | 26.9           | 34                  | 26             | 23.8               | 2                   | 2.4            | 18                  | 15.5                | 15°              |
| M 26 x 1.5 | 30.9           | 37                  | 31             | 29.05              | 2                   | 3.1            | 18.5                | 16                  | 15°              |
| M 27 x 2   | 31.9           | 40                  | 32             | 29.4               | 2                   | 3.1            | 22                  | 19                  | 15°              |
| M 33 x 2   | 37.9           | 46                  | 38             | 35.4               | 2.5                 | 3.1            | 22                  | 19                  | 15°              |
| M 42 x 2   | 47.9           | 56                  | 47             | 44.4               | 2.5                 | 3.1            | 22.5                | 19.5                | 15°              |
| M 48 x 2   | 54.9           | 64                  | 53             | 50.4               | 2.5                 | 3.1            | 25                  | 22                  | 15°              |

| UNF/UN        | d <sub>2</sub> | d <sub>3 min.</sub> | d <sub>4</sub> | d <sub>5+0.4</sub> | a <sub>1 max.</sub> | t <sub>2</sub> | t <sub>1 min.</sub> | b <sub>1 min.</sub> | a <sub>±1°</sub> |
|---------------|----------------|---------------------|----------------|--------------------|---------------------|----------------|---------------------|---------------------|------------------|
| 7/16 - 20 UNF | 14.4           | 21                  | 15             | 12.4               | 1.6                 | 2.4            | 14                  | 11.5                | 12°              |
| 9/16 - 18 UNF | 17.6           | 25                  | 18             | 15.6               | 1.6                 | 2.5            | 15.5                | 12.7                | 12°              |
| 3/4 - 16 UNF  | 22.3           | 30                  | 23             | 20.6               | 2.4                 | 2.5            | 17.5                | 14.3                | 15°              |
| 7/8 - 14 UNF  | 25.5           | 34                  | 26             | 23.9               | 2.4                 | 2.5            | 20                  | 16.7                | 15°              |
| 11/16 - 12 UN | 31.9           | 41                  | 32             | 29.2               | 2.4                 | 3.3            | 23                  | 19                  | 15°              |
| 15/16 - 12 UN | 38.2           | 49                  | 39             | 35.5               | 3.2                 | 3.3            | 23                  | 19                  | 15°              |
| 15/8 - 12 UN  | 47.7           | 58                  | 48             | 43.5               | 3.2                 | 3.3            | 23                  | 19                  | 15°              |
| M 48 x 2      | 54.9           | 64                  | 53             | 50.4               | 2.5                 | 3.1            | 25                  | 22                  | 15°              |

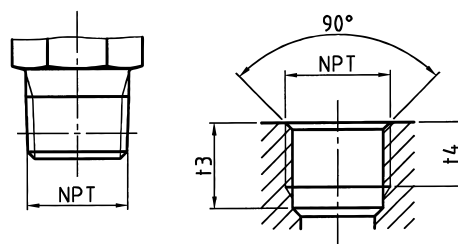
#### NPT thread = ANSI/ASME B1.20.1 - 1983

##### Stud

- NPT
- ANSI/ASME
- B1.20.1-1983

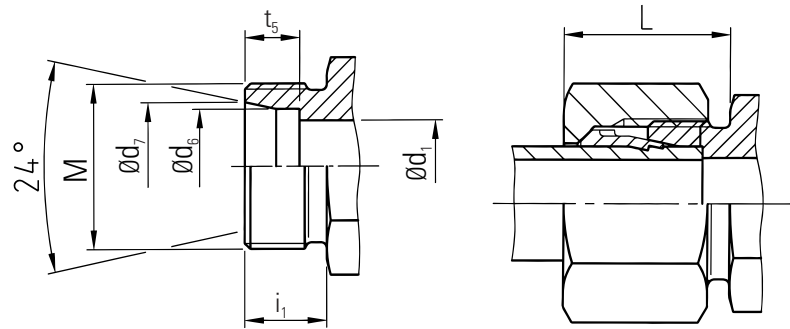
##### Port

- NPT
- ANSI/ASME
- B1.20.1-1983



| d <sub>1 NPT</sub> | t <sub>3 min.</sub> | t <sub>4 min.</sub> |
|--------------------|---------------------|---------------------|
| 1/8 - 27 NPT       | 11.6                | 6.9                 |
| 1/4 - 18 NPT       | 16.4                | 10.0                |
| 3/8 - 18 NPT       | 17.4                | 10.3                |
| 1/2 - 14 NPT       | 22.6                | 13.6                |
| 3/4 - 14 NPT       | 23.1                | 14.1                |
| 1 - 11.5 NPT       | 27.8                | 16.8                |
| 1 1/4 - 11.5 NPT   | 28.3                | 17.3                |
| 1 1/2 - 11.5 NPT   | 28.3                | 17.3                |

Stud and tube connection according to DIN EN ISO 8434-1


**B**

| Series | Tube outer diameter | M          | Ød <sub>1</sub> | Ød <sub>6</sub> | Ød <sub>7</sub> | i <sub>1</sub> | L  | t <sub>5</sub> |
|--------|---------------------|------------|-----------------|-----------------|-----------------|----------------|----|----------------|
| LL     | 4                   | M 8 x 1    | 3               | 4               | 5               | 8              | 14 | 4              |
|        | 6                   | M 10 x 1   | 4.5             | 6               | 7.5             | 8              | 14 | 5.5            |
|        | 8                   | M 12 x 1   | 6               | 8               | 9.5             | 9              | 15 | 5.5            |
| L      | 6                   | M 12 x 1.5 | 4               | 6               | 8.1             | 10             | 18 | 7              |
|        | 8                   | M 14 x 1.5 | 6               | 8               | 10.1            | 10             | 18 | 7              |
|        | 10                  | M 16 x 1.5 | 8               | 10              | 12.3            | 11             | 19 | 7              |
|        | 12                  | M 18 x 1.5 | 10              | 12              | 14.3            | 11             | 19 | 7              |
|        | 15                  | M 22 x 1.5 | 12              | 15              | 17.3            | 12             | 20 | 7              |
|        | 18                  | M 26 x 1.5 | 15              | 18              | 20.3            | 12             | 21 | 7.5            |
|        | 22                  | M 30 x 2   | 19              | 22              | 24.3            | 14             | 23 | 7.5            |
|        | 28                  | M 36 x 2   | 24              | 28              | 30.3            | 14             | 23 | 7.5            |
|        | 35                  | M 45 x 2   | 30              | 35.3            | 38              | 16             | 27 | 10.5           |
| 42     | M 52 x 2            | 36         | 42.3            | 45              | 16              | 28             | 11 |                |
| S      | 6                   | M 14 x 1.5 | 4               | 6               | 8.1             | 12             | 20 | 7              |
|        | 8                   | M 16 x 1.5 | 5               | 8               | 10.1            | 12             | 20 | 7              |
|        | 10                  | M 18 x 1.5 | 7               | 10              | 12.3            | 12             | 21 | 7.5            |
|        | 12                  | M 20 x 1.5 | 8               | 12              | 14.3            | 12             | 21 | 7.5            |
|        | 14                  | M 22 x 1.5 | 10              | 14              | 16.3            | 14             | 24 | 8              |
|        | 16                  | M 24 x 1.5 | 12              | 16              | 18.3            | 14             | 24 | 8.5            |
|        | 20                  | M 30 x 2   | 16              | 20              | 22.9            | 16             | 27 | 10.5           |
|        | 25                  | M 36 x 2   | 20              | 25              | 27.9            | 18             | 30 | 12             |
|        | 30                  | M 42 x 2   | 25              | 30              | 33              | 20             | 33 | 13.5           |
| 38     | M 52 x 2            | 32         | 38.3            | 41              | 22              | 37             | 16 |                |

## Technical information

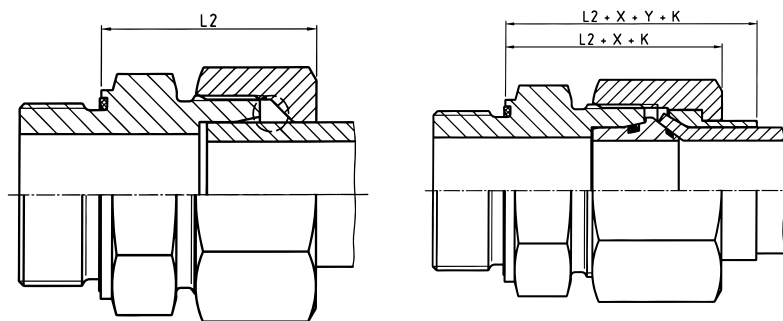
### Length correction table

For all parts, L2 indicates the approximate length if the union nut is tightened. In the catalog, this value always refers to an assembled profile-ring or Walform fitting.

**B**

#### Lengths of BO tube assemblies

For flare fittings, L2 must be calculated for each size by adding the X value (see table 1: X/Y value) and the correction factor K (see table 2: correction factor), which depends on the wall thickness of the tube. To determine the linear length until the end of the sleeve, the Y value also has to be added.



Example: GES 15 LM-WD with tube 15x2 correction factor = +1

$$L2 + X + K = 29 + 6.5 + 1 = 36.5$$

$$L2 + X + Y + K = 29 + 6.5 + 4 + 1 = 40.5$$

The dimensions marked • in the following length correction table indicate the tube wall thickness on which the lengths in the lists of dimensions are based. For other tube wall thicknesses, the overall lengths must be modified by means of the correction factor specified in the table.

**Table 1**

#### X/Y values

| Series | Tube outer diameter | X value | Y value |
|--------|---------------------|---------|---------|
| L      | 6                   | 3       | 3       |
|        | 8                   | 3.5     | 3       |
|        | 10                  | 5       | 4.5     |
|        | 12                  | 5.5     | 4.5     |
|        | 15                  | 6.5     | 4       |
|        | 18                  | 7       | 3.5     |
|        | 22                  | 8       | 6.5     |
|        | 28                  | 9.5     | 5.5     |
|        | 35                  | 8.5     | 6       |
|        | 42                  | 11.5    | 6       |
| S      | 6                   | 2.5     | 3       |
|        | 8                   | 3.5     | 3       |
|        | 10                  | 4       | 5.5     |
|        | 12                  | 4.5     | 5.5     |
|        | 14                  | 5       | 4.5     |
|        | 16                  | 6.5     | 6       |
|        | 20                  | 6       | 5.5     |
|        | 25                  | 7       | 7.5     |
|        | 30                  | 6.5     | 8.5     |
|        | 38                  | 6.5     | 10.5    |

**Table 2**

#### Tube wall thickness correction factor

| Series | Tube outer diameter | 1  | 1.5  | 2    | 2.5  | 3    | 3.5 | 4    | 5    | 6  |
|--------|---------------------|----|------|------|------|------|-----|------|------|----|
| L      | 6                   | •  | +1   |      |      |      |     |      |      |    |
|        | 8                   | •  | +1   | +1.5 |      |      |     |      |      |    |
|        | 10                  | -1 | •    | +1   |      |      |     |      |      |    |
|        | 12                  | -1 | •    | +1   |      |      |     |      |      |    |
|        | 15                  |    | •    | +1   | +2   |      |     |      |      |    |
|        | 18                  |    | -1   | •    | +1   |      |     |      |      |    |
|        | 22                  |    | -1   | •    | +1   | +1.5 |     |      |      |    |
|        | 28                  |    |      | -1.5 | -0.5 | •    |     |      |      |    |
|        | 35                  |    |      | -1.5 | -1   | •    |     | +1.5 |      |    |
|        | 42                  |    |      | -1.5 |      | •    |     |      |      |    |
| S      | 6                   | •  | +1   |      |      |      |     |      |      |    |
|        | 8                   | •  | +1   | +1.5 |      |      |     |      |      |    |
|        | 10                  | -1 | •    | +1   |      |      |     |      |      |    |
|        | 12                  | -1 | •    | +1   |      |      |     |      |      |    |
|        | 14                  |    | -0.5 | •    | +1   | +2   |     |      |      |    |
|        | 16                  |    | -1   | •    | +0.5 | +1.5 |     |      |      |    |
|        | 20                  |    |      | •    | +1   | +2   | +3  |      |      |    |
|        | 25                  |    |      | -1.5 | -1   | •    |     | +1.5 |      |    |
|        | 30                  |    |      | -2   | -1   | •    |     | +2   | +3.5 |    |
|        | 38                  |    |      |      | 0.5  | •    |     | +1.5 | +3.5 | +5 |



**Overview of the applicable standards for tube fitting systems**

|                                 | Profile-ring fittings                    | 37° flare fittings  | Taper seal/welding nipple fittings |
|---------------------------------|--|---|------------------------------------|
| <b>Fitting body</b>             | DIN 2353<br>DIN EN ISO 8434-1            |   | DIN EN ISO 8434-1, DIN 3946        |
| <b>Components</b>               | DIN 3861, DIN 3870,<br>DIN EN ISO 8434-1 | DIN 3949  | DIN EN ISO 8434-4                  |
| <b>Tube connection</b>          | DIN 3861<br>DIN EN ISO 8434-1            |   |                                    |
| <b>Stud</b>                     | Metric                                   | DIN 3852-1<br>DIN EN ISO 9974-2 and -3<br>DIN ISO 6149-2 and -3 |                                    |
|                                 | In inches                                | DIN 3852-2<br>DIN EN ISO 1179-2 and -4                          |                                    |
|                                 | UN/UNF                                   | ISO 11926-2 and -3  |                                    |
|                                 | NPT                                      | ANSI/ASME B 1.20.1-1983   |                                    |
| <b>Technical specifications</b> | DIN 3859-1                               |   |                                    |
| <b>Tests</b>                    | DIN EN ISO 8434-1, DIN EN ISO 19879      |   |                                    |
| <b>Assembly</b>                 | DIN 3859-2                               |   |                                    |

**B**

|                | SAE 37° flared-flange system         |
|----------------|--------------------------------------|
| <b>Version</b> | Hole pattern to SAE J518<br>ISO 6162 |

**Tube specification**

Seamless, cold-drawn, normalized (+N or NBK) hydraulic tubes, calculated pressure to DIN 2413

| Material                                      | Specifications                   | Dimensions/tolerances | Compatibility with tube-fitting systems |          |         |           |              |                |               |                    |                   |
|---|----------------------------------|-----------------------|---|----------|---------|-----------|--------------|----------------|---------------|--------------------|-------------------|
|   |                                  |                       | Walpro                                  | Walpro-X | Walform | Walform-M | WalringPlus® | WalringPlus-SR | WalringPlus-M | 37° flare fittings | 37° flared flange |
| St37.4 (1.0255) to<br>DIN 1630 (1984-10)*     | DIN 2391-1 (1994-09) C           |                       | ●                                       | ●        | ●       | ●         | ●            | ●              | ●             | ●                  | ●                 |
| St52.4 (1.0581) to<br>DIN 1630 (1984-10)*     | DIN 2391-1 (1994-09) C           |                       | ●                                       | ●        | ●       | ●         | ●            | ●              | ●             | ●                  | ●                 |
| E235 (1.0308)                                 | DIN EN 10305-4                   |                       | ●                                       | ●        | ●       | ●         | ●            | ●              | ●             | ●                  | ●                 |
| E355 (1.0580)                                 | DIN EN 10305-4                   |                       | ●                                       | ●        | ●       | ●         | ●            | ●              | ●             | ●                  | ●                 |
| X6CrNiMoTi17-12-2-(1.4571) cold-<br>finished* | DIN 17458 (1985-07)<br>version m | DIN 2391-1 (1994-09)  | ●                                       | ●        | ●       | ●         | ●            |                | ●             | ●                  | ●                 |
| X6CrNiMoTi17-12-2-(1.4571) cold-<br>finished  | DIN EN 10216-5<br>Version CFA    | DIN EN 10305-4        | ●                                       | ●        | ●       | ●         | ●            |                | ●             | ●                  | ●                 |

\*The dated standards have been withdrawn. This ordering information is therefore obsolete.

C

# Assembly instructions



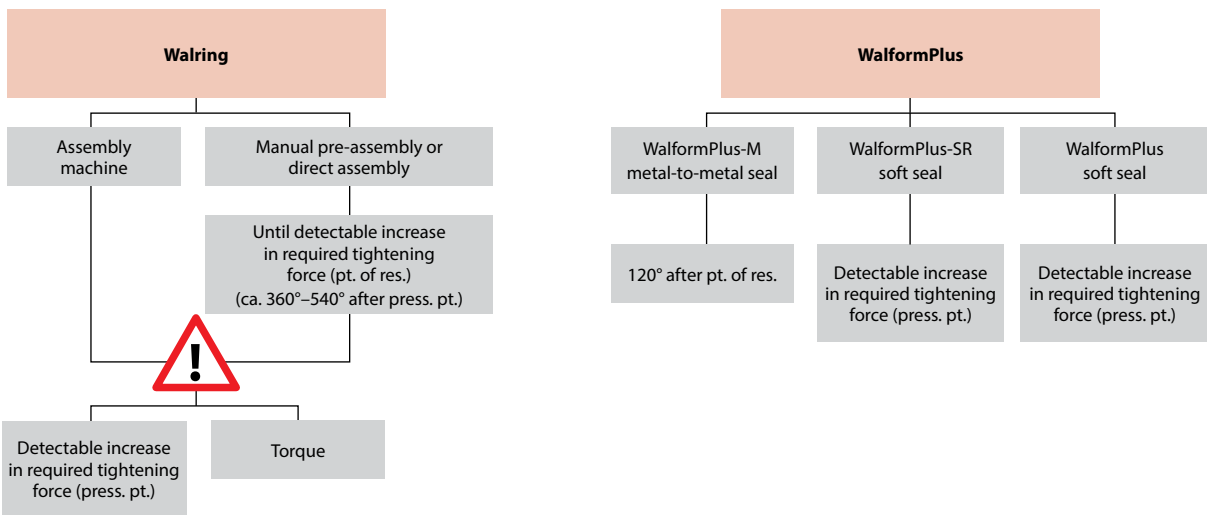
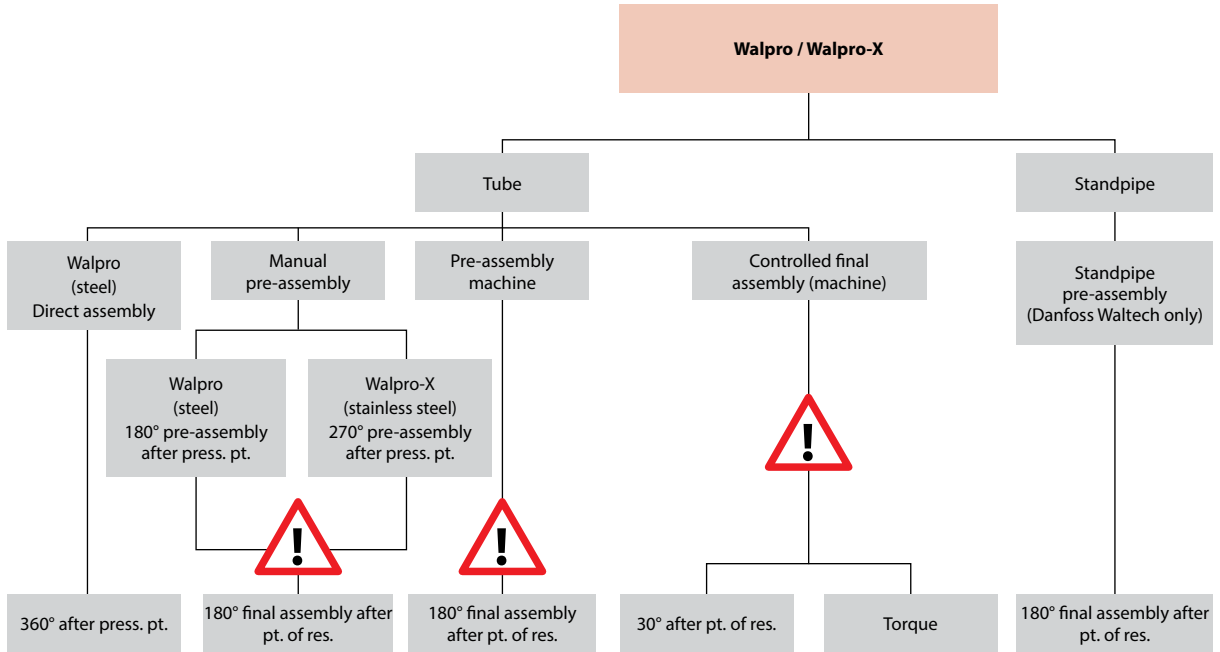
|   |    |
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| Safety instructions .....   | 5  |
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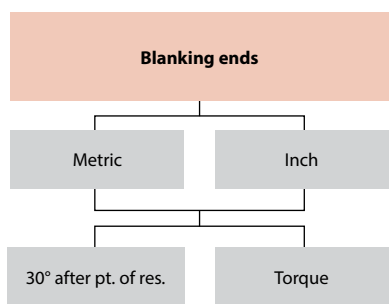
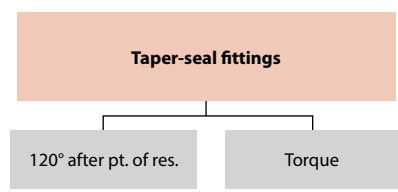
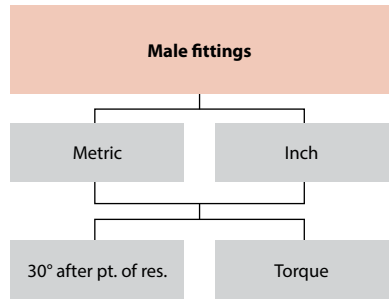
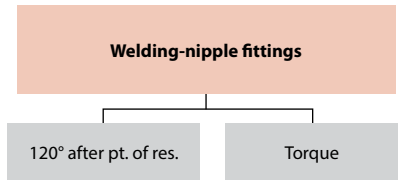
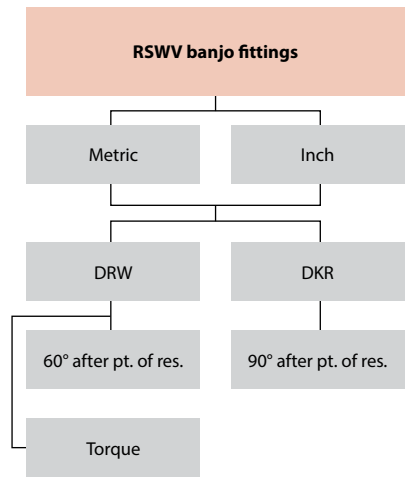
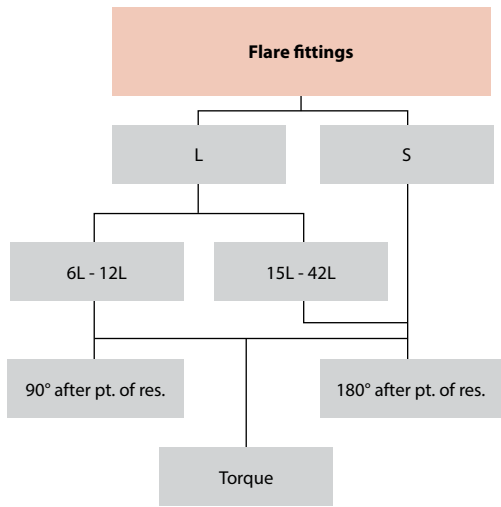
C



In the case of cutting-ring fittings, the cut must always be checked (a clearly visible raised collar should form in front of the first cutting edge).



after press. pt. = after pressure point  
 after pt. of res. = after point of resistance  
 after man. tight. = after manual tightening



after pt. of res. = rotation after point of resistance  
 after press. pt. = rotation after pressure point

### Safety instructions

To ensure a permanent, secure and leakage-free connection, the following safety instructions must be observed.

#### C

#### General safety instructions

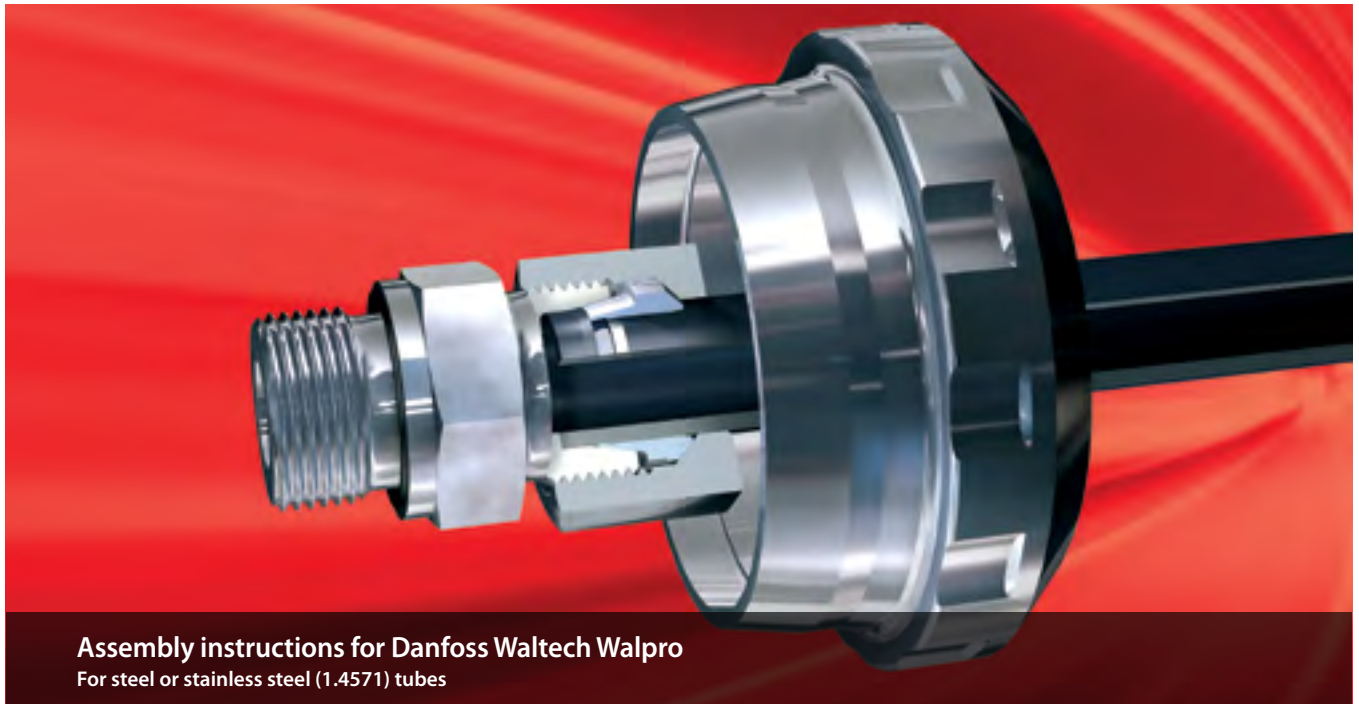
- 1 Danfoss Waltech tube fittings are designed for fluid applications.
- 2 The permissible pressure and temperature ranges and other operating conditions must be observed.
- 3 Materials or tolerances that deviate from the recommended tube specifications may result in incorrect installation or total failure of the fitting.
- 4 Only fittings that have been correctly installed are able to sustain continuous pressure and vibration loads. Incorrect installation may result in leakage or failure.
- 5 Fittings that are under pressure must never be bled, loosened or retightened. There is a danger to life.
- 6 Tubes may only be attached at suitable fixed points and not to one another. Cable ties or steel clamps are not suitable for this purpose. Tubes may not be used as supports for filters, fans, valve blocks, etc.
- 7 Vibrations must be absorbed by means of suitable tube supports. Systems that vibrate independently of one another must be isolated by means of hoses. Otherwise, tube breaks may occur.
- 8 If tube assemblies are dismantled, transported and re-assembled, care must be taken to protect the fittings against dirt. Threads and seals must not be damaged and the tubes must not be bent. Care must be taken to prevent the seals from being lost or damaged, for example by means of suitable protective caps.
- 9 Disassembled fittings must be checked for dimensional accuracy and damage and replaced if necessary.
- 10 Hand-held cut-off saws or other inappropriate tools must not be used for cutting tubes.
- 11 Dirt and chips may lead to system malfunctions or leakage.
- 12 Flow velocities > 8m/s will exert excessive forces on bent tube assemblies and can cause damage. Such velocities should therefore be avoided.
- 13 The relevant guidelines (BG, TÜV, DIN etc.) must always be followed.
- 14 Only weld fittings are made of weldable material.
- 15 Tube fittings must not be handled like bulk material.
- 16 The prescribed tools and machines must be used to reshape the flare fittings and the Walform tube fittings. These must be suitable for the respective materials and dimensions! Failure to do so may damage the machines, cause tools or tubes to break or lead to leakage.
- 17 The control diameters of flare and Walform fittings must be true to size and the sealing surfaces must be in perfect condition.



#### Safe assembly

- 1 When installing Walpro / Walpro-X and Walring fittings, the face end of the tube must always be in contact with the tool or the tube stop of the fitting stud. Otherwise the ring will not cut properly into the tube, which may cause the tube to slip out unexpectedly if exposed to stress.
- 2 The final assembly of pre-assembled Walpro / Walpro-X and Walring fittings must be carried out according to the instructions.
- 3 After each time the fitting is disassembled, the union nut must be retightened with the same amount of force as during initial assembly. Incorrect assembly may significantly reduce the pressure strength and vibration resistance of the fitting or lead to total failure.
- 4 Once assembled, tube connections and fitting bodies form a single unit. Fitting bodies should only be used for pre-assembly once.
- 5 During assembly, the tube assemblies must not be subjected to any stress. The union nut must always be easy to turn. Otherwise, leakage or tube breaks may occur.
- 6 The tools, equipment and lubricants recommended by Danfoss Waltech ensure safe assembly. Before using other manufacturers' products, their suitability must first be checked.
- 7 The specified torque values are only valid under the conditions stated in the assembly instructions. If parts have been damaged or the tubes are subjected to stress during installation, the torque values may vary considerably.
- 8 The threads and possible contact surfaces of stainless steel fittings must be sufficiently lubricated using Danfoss Waltech ABF grease (anti-block grease). Failure to do so will normally increase the amount of tightening force required, which may cause leakage or even sudden failure.
- 9 Stainless steel cutting rings must be pre-assembled using hardened pre-assembly tools. Failure to do so may cause sudden failure.
- 10 If pre-assembly tools are used to pre-assemble the Walpro / Walpro-X or Walring fittings, the appropriately marked Danfoss Waltech original tools must be used.
- 11 The respective operating instructions of the assembly/reshaping machines or hand-held tools must be observed.

If you are in any doubt, please contact an Danfoss Waltech tube fittings representative.



### Assembly instructions for Danfoss Waltech Walpro For steel or stainless steel (1.4571) tubes

#### Tube selection

The pressure strength specifications refer to the following tube grades:

#### Steel

**Material:** E235 / E355, to EN 10305-4 (formerly St. 37.4 / 52.4 to DIN 1630). Type: Seamless cold-drawn, normalized bright annealed steel, designation NBK as per DIN EN 10305-4.

#### Stainless steel

**Material:** X6CrNiMoti17122 (1.4571) to DIN EN 102165 Type: Seamless cold-drawn, scale-free, heat-treated stainless steel, designation CFA as per DIN EN 10216-5 (formerly DIN 17458). Dimensions and tolerances to DIN EN 10305-4 (formerly DIN 2391-1). Additional stainless steel grades are available on request.

**Calculated pressures:** DIN 2413

**⚠ Caution:** Materials or tolerances that deviate from the recommended tube specifications may result in incorrect installation, tool break or total failure of the fitting.

**⚠ Caution:** The specified nominal pressure ratings always refer to the fitting. For tube pressure ratings, see the specifications of the respective manufacturers.

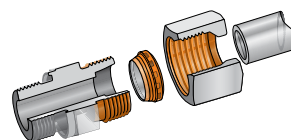
**Note:** In order to ensure the proper functioning of the assembly process, Walpro fittings (steel) should always be pre-assembled using an oiled pre-assembly stud, and Walpro-X fittings (stainless steel 1.4571) should always be pre-assembled using a pre-assembly stud lubricated with Danfoss Waltech ABF grease (anti-block grease). Direct assembly is only possible in the case of Walpro steel fittings.

Controlled final assembly can only be carried out using original Danfoss Waltech parts. Assembly can only be carried out with final assembly studs marked "GE".



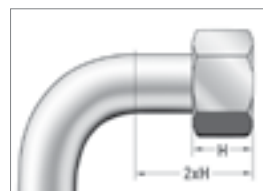
**Danfoss Waltech ABF grease  
(anti-block grease)  
Stainless steel (1.4571)**

**Application:** Prior to assembly, the fittings must be thoroughly cleaned and the threads in particular checked for damage. All contact surfaces must be sufficiently coated with Danfoss Waltech ABF grease (anti-block grease) using a brush or a lint-free cloth. After greasing, the fittings must be immediately assembled to prevent contamination. For best results, use Danfoss Waltech stainless steel nuts with silver-plated threads (AG/ AGP) plus Danfoss Waltech ABF grease (anti-block grease).



#### Minimum length of straight tube ends in the case of tube bends

In the case of tube bends, the straight tube end up to the beginning of the bending radius must be at least twice the height of the union nut (depending on the machine type).





**Direct assembly**  
**inside the fitting stud (only for the Walpro steel version)**

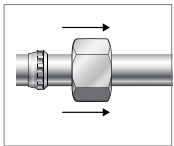
C



1. **Cut the tube at a right angle**  
 Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of 1/2° from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.



2. **Gently deburr the tube ends and clean the tube**  
 Deburr the inside and outside of the tube (max. 0.2 x 45°) and clean it. The part of the tube where the fitting will be assembled (at least twice the height of the union nut) must be free of chips, dirt and paint! If the tube end is greasy or oily, use an environmentally friendly solvent.



3. **Slide the union nut and the profile ring onto the tube**



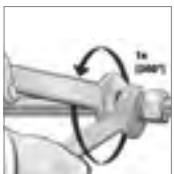
4. **Pretightening**  
 Press the tube against the tube stop inside the fitting stud. Tighten the union nut until the profile ring engages the tube, which can be clearly detected by the increase in torque (pressure point).



**△ Caution:** In case of unfavorable assembly conditions and with large tube sizes, direct assembly must be carried out using a vice. Use the same fitting stud (see above) for this purpose.



5. **Direct assembly**  
 Next, complete the direct assembly by means of 1 full rotation (360°)



**Important:** Hold the fitting stud in place by means of a wrench.  
**△ Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak or the tube to slip out.



6. **Assembly verification**  
 Check the penetration of the cutting edge. A visibly raised collar should fill the space in front of the profile-ring end face. The profile ring may rotate, but it should not be possible to move it axially.



7. **Re-assembly**  
 After each time the fitting is disassembled, the union nut must be retightened (same torque as during final assembly).





## Rotation-based pre-assembly using the manual pre-assembly stud



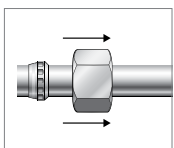
### 1. Cut the tube at a right angle

Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of  $1/2^\circ$  from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.



### 2. Gently deburr the tube ends and clean the tube

Deburr the inside and outside of the tube (max.  $0.2 \times 45^\circ$ ) and clean it. The part of the tube where the fitting will be assembled (at least twice the height of the union nut) must be free of chips, dirt and paint! If the tube end is greasy or oily, use an environmentally friendly solvent.



### 3. Slide the union nut and the profile ring onto the tube

**Important:** In the case of stainless steel (1.4571) fittings, please refer to the instructions for using Danfoss Waltech ABF grease (anti-block grease).



### 4. Pretightening

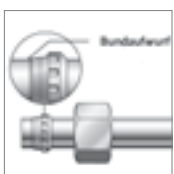
Use a vice to secure the manual pre-assembly stud in place. Press the tube against the tube stop inside the manual pre-assembly stud. Tighten the union nut until the profile ring has engaged the tube, which can be clearly detected by the increase in torque (pressure point).



### 5. Pre-assembly

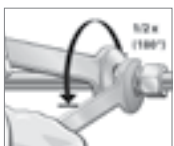
After reaching the pressure point, tighten the union nut by  $1/2$  a rotation ( $180^\circ$ ) in the case of steel and a  $3/4$  rotation ( $270^\circ$ ) in the case of stainless steel (1.4571) fittings.

**⚠ Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak or the tube to slip out.



### 6. Assembly verification

Check the penetration of the cutting edge. A visibly raised collar should fill the space in front of the profile-ring cutting edge. The profile ring may rotate, but it should not be possible to move it axially.



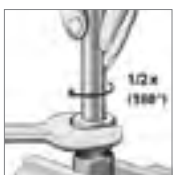
### 7. Final assembly inside the fitting stud

Tighten the union nut until there is a noticeable increase in the required force (point of resistance), then complete the assembly process by means of  $1/2$  a rotation ( $180^\circ$ ).

**⚠ Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak.

**Important:** Hold the fitting stud in place by means of a wrench.

**Note:** In case of unfavorable assembly conditions and with large tube sizes, final assembly must be carried out using a vice. Use the same fitting stud (see above) for this purpose.



### 8. Re-assembly

After each time the fitting is disassembled, the union nut must be retightened (same torque as during final assembly).

**Important:** In the case of stainless steel (1.4571) fittings, please refer to the instructions for using Danfoss Waltech ABF grease (anti-block grease).

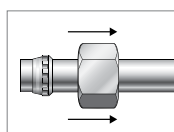

**Controlled final assembly using**
**the Danfoss Waltech M-R7 assembly machine (please also see the operating instructions for the M-R7 assembly machine).**
**C**

**1. Cut the tube at a right angle**

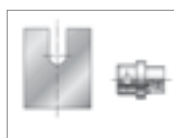
Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of  $1/2^\circ$  from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.


**2. Gently deburr the tube ends and clean the tube**

Deburr the inside and outside of the tube (max.  $0.2 \times 45^\circ$ ) and clean it. The part of the tube where the fitting will be assembled (at least twice the height of the union nut) must be free of chips, dirt and paint! If the tube end is greasy or oily, use an environmentally friendly solvent.


**3. Slide the union nut and the profile ring onto the tube**

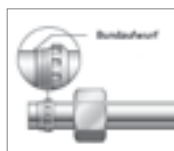
**Important:** In the case of stainless steel (1.4571) fittings, please refer to the instructions for using Danfoss Waltech ABF grease (anti-block grease).


**4. Place the tools inside the machine**

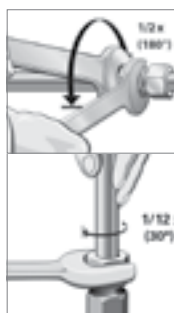
Switch on the assembly machine and insert the backing plate and the GE stud. Only use Danfoss Waltech studs marked "GE".


**5. Insert the tube into the machine, together with the union nut and the profile ring**

Push the union nut and profile ring onto the tube and start the assembly process. To do so, press the tube against the cylinder until the mechanical stop is reached and hold it in place until the assembly process is complete. The assembly process will be completed automatically.


**6. Assembly verification**

Check the penetration of the cutting edge. A visibly raised collar should fill the space in front of the profile-ring cutting edge. The profile ring may rotate, but it should not be possible to move it axially.


**7. Final assembly inside the fitting stud**

Tighten the union nut until there is a noticeable increase in the required force (point of resistance), then complete the assembly process by means of a  $1/12$  rotation ( $30^\circ$ ). Alternatively, torque-based assembly is also possible, by tightening the union nut using a torque wrench (see the "tightening torque" table).

**△ Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak.

**Important:** Hold the fitting stud in place by means of a wrench.

**Note:** In case of unfavorable assembly conditions and with large tube sizes, final assembly must be carried out using a vice. Use the same fitting stud (see above) for this purpose.


**8. Re-assembly**

After each time the fitting is disassembled, the union nut must be retightened (same torque as during final assembly).

**Important:** In the case of stainless steel (1.4571) fittings, please refer to the instructions for using Danfoss Waltech ABF grease (anti-block grease).

**Note:** If the pre-assembly and the controlled final assembly are carried out using older machine models (MEG-R4/5/6), the relevant Danfoss Waltech assembly instructions must be observed.

### The use and assembly of tube inserts with profile-ring fittings

Tube inserts are generally required when using plastic tubes. As a rule, this also applies to tubes made of non-ferrous metals such as copper, brass and aluminum. Tube inserts are also recommended if thin-walled steel tubes are used, as is usually the case with low pressures.

The material strength, wall thickness and thus the resistance of thin-walled tubes is often insufficient to withstand the radial forces exerted by the rings during assembly. This may cause the tubes to constrict and the fittings to leak.



1. Tube inserts for safe assembly of plastic, non-ferrous metal and thin-walled steel tubes.



2. Cut off the tube at a right angle (do not use a pipe cutter). Gently deburr the tube ends on the inside and outside (do not chamfer!) and then clean them.



3. Push the tube insert into the tube (up to the knurled edge).



4. Use a plastic or hard rubber hammer to fully drive in the insert. The knurled edge will then be pressed into the inner wall of the tube and thereby prevents the insert from shifting or falling out.



5. The insert must be flush with the tube end.



6. If tube inserts are used, the tube must not be constricted after assembly. Continue the assembly process in line with the assembly instructions for profile-ring fittings.

| Tube outer diameter (mm) | Wall thickness (mm) |     |   |
|--------------------------|---------------------|-----|---|
|                          | 1                   | 1.5 | 2 |
| 12                       | ●                   |     |   |
| 18                       | ○                   | ●   |   |
| 22                       | ○                   | ○   | ● |
| 25                       | ○                   | ○   | ● |
| 28                       | ○                   | ○   | ● |
| 35                       | ○                   | ○   | ● |

● These sizes require functional testing. Please consult us for more information.

○ Tube inserts are recommended

The use of tube inserts is recommended for thin-walled tube assemblies that are subject to severe stress.

For steel (E235 / E355) or stainless steel (1.4571) tubes.

**Tightening torque**

C

| Series | Tube outer diameter (mm) | Walpro steel (Nm) | Walpro-X stainless steel (1.4571) (Nm) |
|--------|--------------------------|-------------------|--|
| L      | 6                        | 25                | 35                                     |
|        | 8                        | 40                | 50                                     |
|        | 10                       | 50                | 60                                     |
|        | 12                       | 70                | 90                                     |
|        | 15                       | 90                | 160                                    |
|        | 18                       | 115               | 200                                    |
|        | 22                       | 210               | 240                                    |
|        | 28                       | 310               | 420                                    |
|        | 35                       | 500               | 560                                    |
|        | 42                       | 600               | 700                                    |
| S      | 6                        | 35                | 50                                     |
|        | 8                        | 55                | 70                                     |
|        | 10                       | 70                | 110                                    |
|        | 12                       | 85                | 120                                    |
|        | 14                       | 110               | 200                                    |
|        | 16                       | 120               | 200                                    |
|        | 20                       | 200               | 300                                    |
|        | 25                       | 340               | 440                                    |
|        | 30                       | 480               | 660                                    |
|        | 38                       | 850               | 900                                    |

**⚠ Caution:** The specified torque values are only valid under the conditions stated in the assembly instructions. If parts have been damaged or the tubes have been subjected to stress during installation, the torque values may vary considerably.



C

### Assembly instructions for Danfoss Waltech Walring For steel tubes

#### Tube selection

The pressure strength specifications refer to the following tube grades:

#### Steel

**Material:** E235 / E355, to EN 10305-4 (formerly St. 37.4 / 52.4 to DIN 1630). Type: Seamless cold-drawn, normalized bright annealed steel, designation NBK as per DIN EN 10305-4.

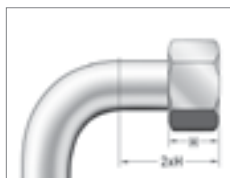
**Calculated pressures:** DIN 2413

**⚠ Caution:** Materials or tolerances that deviate from the recommended tube specifications may result in tool break, incorrect installation or total failure of the fitting.

**⚠ Caution:** The specified nominal pressure ratings always refer to the fitting. For tube pressure ratings, see the specifications of the respective manufacturers.

#### Minimum length of straight tube ends in the case of tube bends

In the case of tube bends, the straight tube end up to the beginning of the bending radius must be at least twice the height of the union nut.





**Direct assembly  
inside the fitting stud**

C



**1. Cut the tube at a right angle**

Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of 1/2° from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.

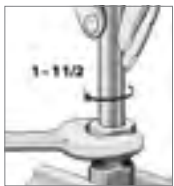


**2. Gently deburr the tube ends and clean the tube**

Deburr the inside and outside of the tube (max. 0.2 x 45°) and clean it. The part of the tube where the fitting will be assembled (at least twice the height of the union nut) must be free of chips, dirt and paint! If the tube end is greasy or oily, use an environmentally friendly solvent.



**3. Slide the system nut onto the tube**



**4. Direct assembly**

Press the tube against the tube stop inside the fitting stud. Tighten the union nut by approximately 1 to 1 1/2 rotations until there is a clearly detectable increase in the required tightening force (point of resistance).

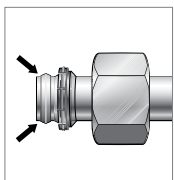
**△ Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak.

**△ Caution:** In case of unfavorable assembly conditions and with large tube sizes, final assembly must be carried out using a vice. Use the same fitting stud (see above) for this purpose.



**5. Assembly verification**

Loosen the system nut. A visibly raised collar should have formed in front of the outer ring. If this collar firmly secures the outer ring on the tube, the assembly process has been completed correctly. If not, the process has to be repeated. A slight axial movement and twisting of the outer ring are permissible.



**6. Install the soft seal**

Pull the soft seal onto the tube until the mechanical stop is reached. Take care not to twist or damage the parts during installation. The proper function and safety of the fitting are only ensured if original Danfoss Waltech Walform soft seals are used!

**Continue to step 8. Final assembly**



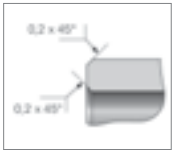
## Direct assembly using the manual pre-assembly stud

C



### 1. Cut the tube at a right angle

Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of  $1/2^\circ$  from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.



### 2. Gently deburr the tube ends and clean the tube

Deburr the inside and outside of the tube (max.  $0.2 \times 45^\circ$ ) and clean it. The part of the tube where the fitting will be assembled (at least twice the height of the union nut) must be free of chips, dirt and paint! If the tube end is greasy or oily, use an environmentally friendly solvent.



### 3. Slide the system nut onto the tube



### 4. Direct assembly

Use a vice to secure the manual pre-assembly stud in place. Press the tube against the tube stop inside the Walring manual pre-assembly stud. Tighten the union nut by approximately 1 to 1 1/2 rotations until there is a clearly detectable increase in the required tightening force (point of resistance).

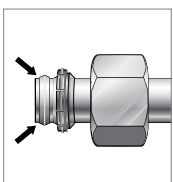
**⚠ Caution:** Only use Danfoss Waltech Walring manual pre-assembly studs marked "W-R".

**⚠ Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak.



### 5. Assembly verification

Loosen the system nut. A visibly raised collar should have formed in front of the outer ring. If this collar firmly secures the outer ring on the tube, the assembly process has been completed correctly. If not, the process has to be repeated. A slight axial movement and twisting of the outer ring are permissible.



### 6. Install the soft seal

Pull the soft seal onto the tube until the mechanical stop is reached. Take care not to twist or damage the parts during installation. The proper function and safety of the fitting are only ensured if original Danfoss Waltech Walform soft seals are used!

**Continue to step 8. Final assembly**



**Controlled final assembly using**

**the Danfoss Waltech M-R7 assembly machine (please also see the operating instructions for the M-R7 assembly machine).**

C



**1. Cut the tube at a right angle**

Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of 1/2° from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.

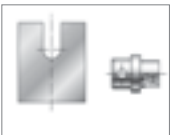


**2. Gently deburr the tube ends and clean the tube**

Deburr the inside and outside of the tube (max. 0.2 x 45°) and clean it. The part of the tube where the fitting will be assembled (at least twice the height of the union nut) must be free of chips, dirt and paint! If the tube end is greasy or oily, use an environmentally friendly solvent.



**3. Slide the system nut onto the tube**



**4. Place the tools inside the machine**

Switch on the assembly machine and insert the backing plate and the W-R stud. Only use W-R studs from Danfoss Waltech.



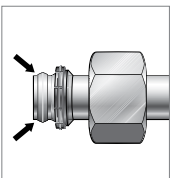
**5. Insert the tube into the machine together with the system nut**

Slide the Walring system nut over the tube and start the assembly process. To do so, press the tube against the cylinder until the mechanical stop is reached and hold it in place until the assembly process is complete. The assembly process will be completed automatically.



**6. Assembly verification**

Loosen the system nut. A visibly raised collar should have formed in front of the outer ring. If this collar firmly secures the outer ring on the tube, the assembly process has been completed correctly. If not, the process has to be repeated. A slight axial movement and twisting of the outer ring are permissible.

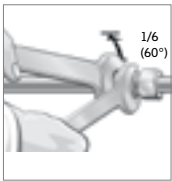


**7. Install the soft seal**

Pull the soft seal onto the tube until the mechanical stop is reached. Take care not to twist or damage the parts during installation. The proper function and safety of the fitting are only ensured if original Danfoss Waltech Walform soft seals are used!

**Note:** If the pre-assembly and the controlled final assembly are carried out using older machine models (MEG-R4/5/6), the relevant Danfoss Waltech assembly instructions must be observed.





**8. Final assembly**

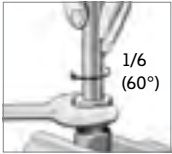
**8.1 Rotation-based final assembly inside the fitting stud**

Tighten the union nut until there is a clearly detectable increase in the required tightening force (without wrench extension) and then complete the assembly by means of a minimum rotation of 1/6 (60°).

**⚠ Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak.

**Important:** Hold the fitting stud in place by means of a wrench.

**Note:** In case of unfavorable assembly conditions and with large tube sizes, final assembly must be carried out using a vice. Use the same fitting stud (see above) for this purpose.

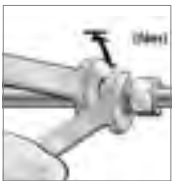


**8.2 Torque-based final assembly inside the fitting stud**

Tighten the union nut using a torque wrench (see the “tightening torque” table).

**⚠ Caution:** Any deviation from the specified torque will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak.

**Important:** Hold the fitting stud in place by means of a wrench.



**Tightening torque**

| Series | Tube outer diameter (mm) | Walring Final assembly (Nm) |
|--------|--------------------------|-----------------------------|
| L      | 6                        | 30                          |
|        | 8                        | 40                          |
|        | 10                       | 50                          |
|        | 12                       | 60                          |
|        | 15                       | 95                          |
|        | 18                       | 160                         |
|        | 22                       | 210                         |
|        | 28                       | 240                         |
|        | 35                       | 520                         |
| S      | 42                       | 800                         |
|        | 6                        | 35                          |
|        | 8                        | 60                          |
|        | 10                       | 70                          |
|        | 12                       | 95                          |
|        | 16                       | 160                         |
|        | 20                       | 260                         |
|        | 25                       | 420                         |
| 30     | 540                      |                             |
|        | 38                       | 850                         |

**⚠ Caution:** The specified torque values are only valid under the conditions stated in the assembly instructions. If parts have been damaged or the tubes have been subjected to stress during installation, the torque values may vary considerably.

**Replacing the soft seal/re-assembly**



- The soft seal can easily be replaced separately.
- If damaged, remove the soft seal and replace it with a new one.
- Complete the assembly process until the clearly detectable increase in the required tightening force (without wrench extension)
- Next, tighten by a minimum rotation of 1/6 (60°)
- **Alternatively,** torque-based final assembly is also possible (see table)

### The use and assembly of tube inserts with Waling fittings

Tube inserts are generally required when using plastic tubes. As a rule, this also applies to tubes made of non-ferrous metals such as copper, brass and aluminum. Tube inserts are also recommended if thin-walled steel tubes are used, as is usually the case with low pressures.

C

The material strength, wall thickness and thus the resistance of tin-walled tubes is often insufficient to withstand the radial forces exerted by the rings during assembly. This may cause the tubes to constrict and the fittings to leak.



1. Tube inserts for safe assembly of plastic, non-ferrous metal and thin-walled steel tubes.



2. Cut off the tube at a right angle (do not use a pipe cutter). Gently deburr the tube ends on the inside and outside (do not chamfer!) and then clean them.



3. Push the tube insert into the tube (up to the knurled edge).



4. Use a plastic or hard rubber hammer to fully drive in the insert. The knurled edge will then be pressed into the inner wall of the tube and thereby prevents the insert from shifting or falling out.



5. The insert must be flush with the tube end.



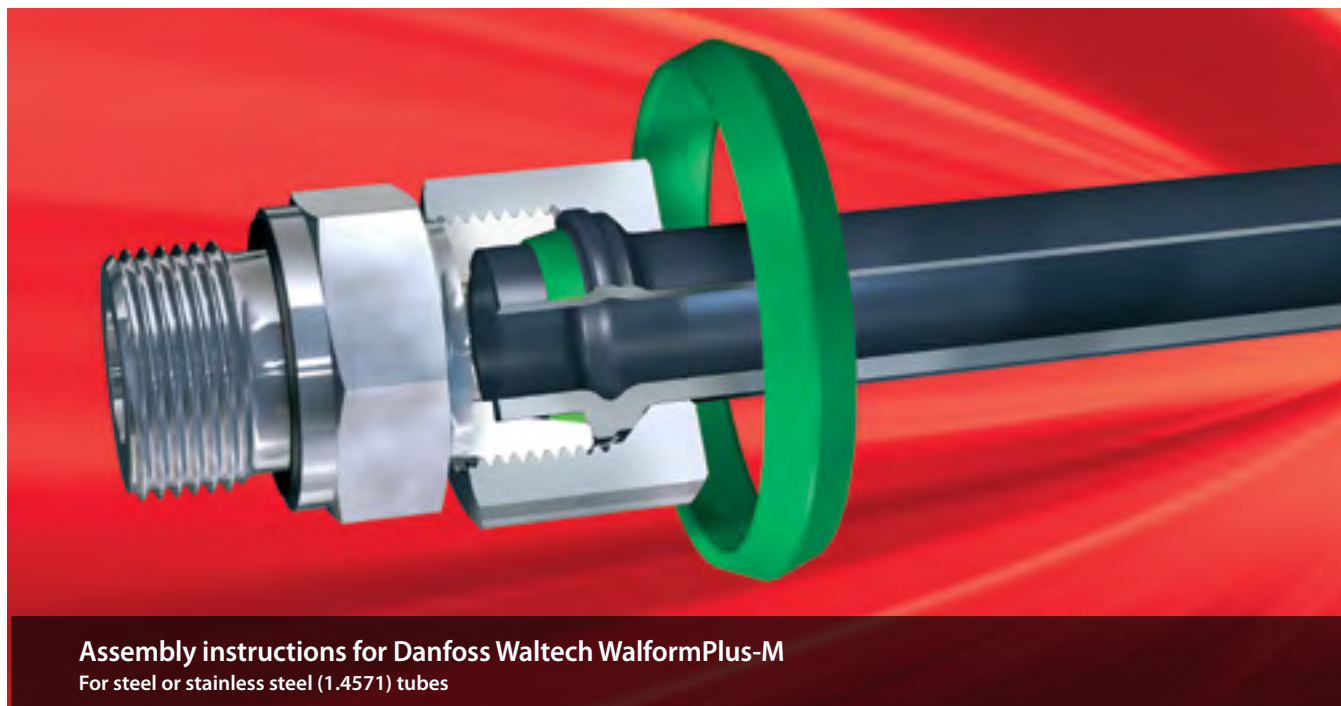
6. If tube inserts are used, the tube must not be constricted after assembly. Continue the assembly process in line with the assembly instructions for profile-ring fittings.

| Series | Tube outer diameter (mm) | Wall thickness (mm) |     |   |     |
|--------|--------------------------|---------------------|-----|---|-----|
|        |                          | 1                   | 1.5 | 2 | 2.5 |
| L      | 18                       | ●                   |     |   |     |
|        | 22                       | ●                   |     |   |     |
|        | 28                       | ○                   |     |   |     |
|        | 35                       | ○                   | ○   |   |     |
|        | 42                       | ●                   | ○   |   |     |
| S      | 16                       | ○                   |     |   |     |
|        | 20                       | ○                   |     |   |     |
|        | 25                       | ○                   | ○   |   |     |
|        | 30                       | ○                   | ○   |   |     |
|        | 38                       | ○                   | ○   | ○ | ○   |

● These sizes require functional testing. Please consult us for more information.

○ Tube inserts are recommended

The use of tube inserts is recommended for thin-walled tube assemblies that are subject to severe stress. For steel tubes (St 37.4 / St 52.4)



C

### Assembly instructions for Danfoss Waltech WalformPlus-M

For steel or stainless steel (1.4571) tubes

#### Tube selection

The pressure strength specifications refer to the following tube grades:

#### Steel

**Material:** E235 / E355, to EN 10305-4 (formerly St. 37.4 / 52.4 to DIN 1630). Type: Seamless cold-drawn, normalized bright annealed steel, designation NBK as per DIN EN 10305-4.

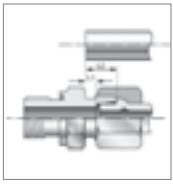
#### Stainless steel

**Material:** X6CrNiMoti17122 (1.4571) to DIN EN 10216-5 Type: Seamless cold-drawn, scale-free, heat-treated stainless steel, designation CFA as per DIN EN 10216-5 (formerly DIN 17458). Dimensions and tolerances to DIN EN 10305-4 (formerly DIN 2391-1). Additional stainless steel grades are available on request.

**Calculated pressures:** DIN 2413

**⚠ Caution:** Materials or tolerances that deviate from the recommended tube specifications may result in incorrect installation, tool break or total failure of the fitting.

**⚠ Caution:** The specified nominal pressure ratings always refer to the fitting. For tube pressure ratings, see the specifications of the respective manufacturers.

**C**

**1. Determine the tube length**

a) By measuring the distance between the tube stops of two studs.  
The length L1 must be added to the measured length of each tube connection (see the "tube length determination" table).

b) By measuring the distance between the face ends of two studs.  
The length L2 must be added to the measured length of each tube connection (see the "tube length determination" table).

**△ Caution:** Steel and stainless steel (1.4571) have different tube determination lengths L1 and L2 (see the "tube length determination" table).


**2. Cut the tube at a right angle**

Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of 1/2° from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.


**3. Gently deburr the tube ends and clean the tube**

Deburr the inside and outside of the tube (max. 0.2 x 45°) and clean it. The clamping and reshaping area must be free of chips, dirt and paint! The clamping area should be free of grease and oil. If the tube end is greasy or oily, use an environmentally friendly solvent.

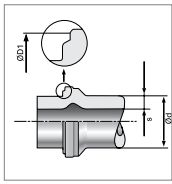

**4. Slide the union nut onto the tube**

**Important:** In the case of stainless steel (1.4571) fittings, please refer to the instructions for using Danfoss Waltech ABF grease (anti-block grease).


**5. Reshape the tube ends using an Danfoss Waltech Walform machine**

To do so, insert the tools into the machine and move them into the insertion position. Insert the tube end into the machine until the clearly detectable mechanical stop in the base of the forming tool. Hold it in place to start the reshaping process. The reshaping process takes place automatically. Follow the operating instructions of the Walform machine.

**△ Caution:** Make sure to select the correct tool, in line with the tube dimensions, the tube material and the selected WalformPlus system.


**6. Verification of the reshaped tube**

Check the diameter D1 of the reshaped tube for dimensional accuracy (see the “minimum tube lengths” table, column “D1 min Ø”). The outside of the reshaped tube must be clean. Proper reshaping is a prerequisite for a long service life of the connection.


**7. Install the soft seal**

Pull the soft seal onto the tube until the mechanical stop is reached. Take care not to twist or damage the parts during installation. The proper functioning and safety of the fitting are only guaranteed if original Danfoss Waltech Walform soft seals are used!

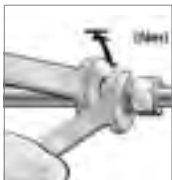

**8. Final assembly inside the fitting stud**

Using an appropriate wrench, tighten the union nut until there is a clearly detectable increase in the required force (point of resistance). The torque values for the required increase in tightening force can be found in the corresponding table (see the “tightening torque” table).

**Important:** In the case of stainless steel (1.4571) fittings, please refer to the instructions for using Danfoss Waltech ABF grease (anti-block grease).

**△ Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause leakage or other malfunctions.

**Important:** Hold the fitting stud in place by means of a wrench.


**9. Re-assembly**

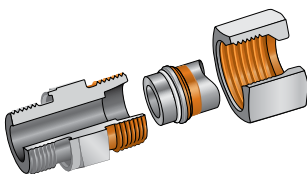
After each time the fitting is loosened, the soft seal must be checked for damage and replaced if necessary. Afterwards, firmly retighten the union nut. The torque during re-assembly must be the same as during initial assembly!

**Important:** In the case of stainless steel (1.4571) fittings, please refer to the instructions for using Danfoss Waltech ABF grease (anti-block grease).



**Danfoss Waltech ABF grease**  
(anti-block grease)  
**Stainless steel (1.4571)**

**Application:** Prior to assembly, the fittings must be thoroughly cleaned and the threads in particular checked for damage. All contact surfaces must be sufficiently coated with Danfoss Waltech ABF grease (anti-block grease) using a brush or a lint-free cloth. After greasing, the fittings must be immediately assembled to prevent contamination. For best results, use Danfoss Waltech stainless steel nuts with silver-plated threads (AG/AGP) plus Danfoss Waltech ABF grease (anti-block grease).




**Tube length determination**
**Steel**
**Stainless steel (1.4571)**
**C**
**WalformPlus**

| d<br>(mm) | s<br>(mm)                |                            |                            |                             |              |                             |                             |   |
|-----------|--------------------------|----------------------------|----------------------------|-----------------------------|--------------|-----------------------------|-----------------------------|---|
|           | 1.5                      | 2                          | 2.5                        | 3                           | 3.5          | 4                           | 5                           | 6   |
| 6 L/S     | 6.5 / 13.5<br>6.5 / 13.5 |                            |                            |                             |              |                             |                             |   |
| 8 L/S     | 7.0 / 14.0<br>7.0 / 14.0 | 7.0 / 14.0<br>7.0 / 14.0   | 6.0 / 13.0**               |                             |              |                             |                             |   |
| 10 L      | 7.0 / 14.0<br>7.5 / 14.5 | 6.0 / 13.0<br>7.0 / 14.0   | 6.0 / 13.0**               | 5.5 / 12.5**                |              |                             |                             | Steel L1 (mm) L2 (mm)<br>Stainless steel (1.4571) L1 (mm) L2 (mm) |
| 10 S      | 6.5 / 14.0<br>7.0 / 14.5 | 5.5 / 13.0<br>6.5 / 14.0   |                            |                             |              |                             |                             |   |
| 12 L      | 7.0 / 14.0<br>7.0 / 14.0 | 6.5 / 13.5<br>6.5 / 13.5   | 6.0 / 13.0**<br>6.5 / 13.5 | 4.5 / 11.5**<br>6.0 / 13.0  |              |                             |                             |   |
| 12 S      | 6.5 / 14.0<br>6.5 / 14.0 | 6.0 / 13.5<br>6.0 / 13.5   | 5.5 / 13.0**<br>6.0 / 13.5 | 4.0 / 11.5**<br>5.5 / 13.0  |              |                             |                             |   |
| 15 L      | 6.5 / 13.5<br>7.5 / 14.5 | 6.5 / 13.5<br>7.0 / 14.0   | 6.0 / 13.0                 |                             |              |                             |                             |   |
| 16 S      |                          | 7.0 / 15.5<br>7.0 / 15.5   | 6.5 / 15.0<br>7.5 / 16.0   | 7.0 / 15.5<br>7.5 / 16.0    |              | 5.0 / 13.5**                |                             |   |
| 18 L      |                          | 6.5 / 14.0<br>7.0 / 14.5   | 6.5 / 14.0**<br>7.0 / 14.5 | 6.5 / 13.5**<br>6.5 / 14.0  |              |                             |                             |   |
| 20 S      |                          | 8.5 / 19.0<br>9.5 / 20.0   | 8.0 / 18.5**<br>9.0 / 19.5 | 7.5 / 18.0*<br>8.5 / 19.5   | 7.5 / 18.0*  | 7.5 / 18.0*                 |                             |   |
| 22 L      |                          | 7.0 / 14.5<br>7.5 / 15.0   | 7.0 / 14.5**<br>7.0 / 14.5 | 6.5 / 14.0**<br>7.0 / 14.5  |              |                             |                             |   |
| 25 S      |                          | 9.0 / 21.0*<br>10.0 / 22.0 | 8.0 / 20.0*<br>10.0 / 22.0 | 8.0 / 20.0*<br>7.5 / 19.5   | 8.5 / 20.5*  | 8.0 / 20.0*<br>9.0 / 21.0   | 7.5 / 19.5*                 |   |
| 28 L      |                          | 6.5 / 14.0<br>8.0 / 15.5   | 6.5 / 14.0**<br>8.0 / 15.5 | 6.5 / 14.0**<br>8.0 / 15.5  | 7.5 / 14.5** | 7.5 / 14.5**                |                             |   |
| 30 S      |                          |                            | 8.5 / 22.0<br>9.0 / 22.5   | 9.0 / 22.5<br>10.5 / 24.0   |              | 9.0 / 22.5*<br>10.5 / 24.0  | 9.0 / 22.5*<br>10.0 / 23.5  | 8.5 / 22.0*   |
| 35 L      |                          |                            | 8.0 / 18.5**               | 8.0 / 18.5**<br>8.5 / 19.0  |              | 8.0 / 19.0**<br>9.5 / 20.0  | 8.0 / 18.5**<br>9.5 / 20.0  |   |
| 38 S      |                          |                            |                            | 9.5 / 25.5**<br>11.5 / 27.5 |              | 9.5 / 25.5**<br>11.0 / 27.0 | 10.0 / 26.0*<br>11.5 / 27.0 | 10.0 / 26.0*  |
| 42 L      |                          |                            |                            | 8.0 / 19.0<br>10.0 / 21.0   | 8.0 / 19.0** | 8.5 / 19.5**                |                             |   |

\*For these dimensions, L1/L2 may vary for material E355 due to the different clamping jaws used

\*\*These dimensions are currently not qualified for use with material E355. They can be qualified on request.

**Note**

Any tube length differences must be appropriately compensated, for example by installing tube bends. Tubes that are longer or shorter than the specified tube length may result in leakage. Prior to installation, short straight tube sections without length compensation between the installation ends must be checked for compliance with the final dimension and adapted, if necessary.

## Tightening torque

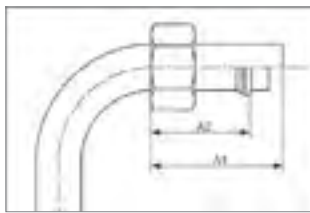
| Series | Tube outer diameter (mm) | Steel (Nm) | Stainless steel (1.4571) (Nm) |
|--------|--------------------------|------------|-------------------------------|
| L      | 6                        | 30         | 30                            |
|        | 8                        | 35         | 35                            |
|        | 10                       | 40         | 40                            |
|        | 12                       | 55         | 55                            |
|        | 15                       | 80         | 80                            |
|        | 18                       | 110        | 120                           |
|        | 22                       | 140        | 170                           |
|        | 28                       | 210        | 250                           |
|        | 35                       | 300        | 380                           |
|        | 42                       | 400        | 520                           |
| S      | 6                        | 35         | 35                            |
|        | 8                        | 40         | 40                            |
|        | 10                       | 55         | 55                            |
|        | 12                       | 70         | 70                            |
|        | 16                       | 110        | 110                           |
|        | 20                       | 150        | 170                           |
|        | 25                       | 210        | 260                           |
|        | 30                       | 280        | 370                           |
|        | 38                       | 410        | 590                           |

**Important:** The specified torques are reference values for identifying the point of resistance (completion of assembly), which are only valid under optimum conditions.

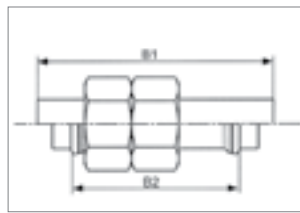
These torque values may deviate considerably due to differing tolerances, tubes that were subjected to stress during installation or improper lubrication of stainless steel parts (ABF grease). Care must be taken to prevent the occurrence of these factors when applying the torque values during initial assembly.

C

## Minimum tube lengths for clamping straight and bent tubes



Minimum length of straight tube (A)

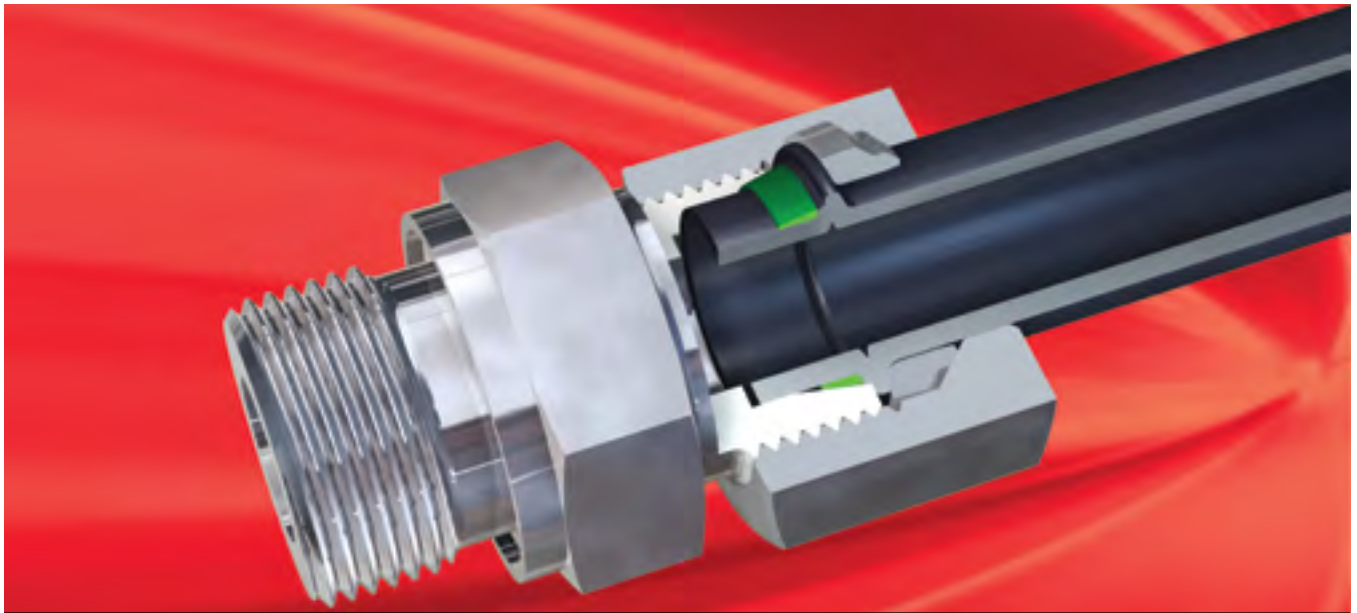


Length of straight tube (B)

| d (mm) | A1* (mm) | A2* (mm) | B1 (mm) | B2 (mm) | D1 min Ø (mm) |
|--------|----------|----------|---------|---------|---------------|
| 6 L/S  | 69       | 56       | 90      | 64      | 9.2           |
| 8 L/S  | 66       | 52       | 88      | 60      | 11.3          |
| 10 L/S | 62       | 48       | 84      | 57      | 13.6          |
| 12 L/S | 62       | 48       | 85      | 57      | 15.8          |
| 15 L   | 69       | 56       | 90      | 64      | 18.6          |
| 16 S   | 73       | 58       | 99      | 68      | 19.8          |
| 18 L   | 79       | 65       | 102     | 74      | 21.6          |
| 20 S   | 85       | 66       | 115     | 77      | 24.5          |
| 22 L   | 87       | 72       | 112     | 83      | 25.6          |
| 25 S   | 114      | 93       | 148     | 106     | 29.6          |
| 28 L   | 103      | 87       | 129     | 98      | 31.6          |
| 30 S   | 121      | 98       | 157     | 112     | 34.7          |
| 35 L   | 112      | 93       | 144     | 106     | 39.2          |
| 38 S   | 127      | 102      | 169     | 116     | 42.8          |
| 42 L   | 114      | 94       | 146     | 107     | 46.2          |

\*If the straight tube end needs to be shorter than indicated in the table due to installation difficulties, it must be bent after reshaping.

C



**Assembly instructions for Danfoss Waltech WalformPlus-SR**  
For thin-walled steel tubes

**Tube selection**

The pressure strength specifications refer to the following tube grades:

**Steel**

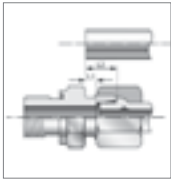
**Material:** E235 / E355, to EN 10305-4 (formerly St. 37.4 / 52.4 to DIN 1630). Type: Seamless cold-drawn, normalized bright annealed steel, designation NBK as per DIN EN 10305-4.

**Calculated pressures:** DIN 2413

**⚠ Caution:** Materials or tolerances that deviate from the recommended tube specifications may result in incorrect installation, tool break or total failure of the fitting.

**⚠ Caution:** The specified nominal pressure ratings always refer to the fitting. For tube pressure ratings, see the specifications of the respective manufacturers.




**1. Tube length determination**

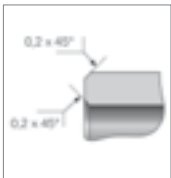
a) By measuring the distance between the tube stops of two studs.  
The length L1 must be added to the measured length of each tube connection (see the "tube length determination" table).

b) By measuring the distance between the face ends of two studs.  
The length L2 must be added to the measured length of each tube connection (see the "tube length determination" table).

**⚠ Caution:** Steel and stainless steel (1.4571) have different tube determination lengths L1 and L2 (see the "tube length determination" table).


**2. Cut the tube at a right angle**

Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of 1/2° from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.


**3. Gently deburr the tube ends and clean the tube**

Deburr the inside and outside of the tube (max. 0.2 x 45°) and clean it. The clamping and reshaping area must be free of chips, dirt and paint! The clamping area should be free of grease and oil. If the tube end is greasy or oily, use an environmentally friendly solvent.


**4. Slide the union nut and the support ring onto the tube**

**Important:** Make sure that the installation direction of the support ring is correct. Incorrect assembly may significantly reduce the pressure strength and vibration resistance of the fitting.


**5. Reshape the tube ends using an Danfoss Waltech Walform machine**

To do so, insert the tools into the machine and move them into the insertion position. Insert the tube end into the machine until the clearly detectable mechanical stop in the base of the forming tool. Hold it in place to start the reshaping process. The reshaping process takes place automatically. Follow the operating instructions of the Walform machine.

**⚠ Caution:** Make sure to select the correct tool, in line with the tube dimensions, the tube material and the selected WalformPlus system.

C



### 6. Verification of the reshaped tube

Check the diameter D1 of the reshaped tube for dimensional accuracy (see the “minimum tube lengths” table, column “D1 min  $\varnothing$ ”). The outside of the reshaped tube must be clean. Proper reshaping is a prerequisite for a long service life of the connection.



### 7. Install the soft seal

Pull the soft seal onto the tube until the mechanical stop is reached. Take care not to twist or damage the parts during installation. The proper functioning and safety of the fitting are only guaranteed if original Danfoss Waltech Walform soft seals are used!



### 8. Final assembly inside the fitting stud

Using an appropriate wrench, tighten the union nut until there is a clearly detectable increase in the required force (point of resistance). The torque values for the required increase in tightening force can be found in the corresponding table (see the “tightening torque” table).

**Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause leakage or other malfunctions.

**Important:** Hold the fitting stud in place by means of a wrench.



### 9. Re-assembly

After each time the fitting is loosened, the soft seal must be checked for damage and replaced if necessary. Afterwards, firmly retighten the union nut. The torque during re-assembly must be the same as during initial assembly!



**Tube length determination**

| WalformPlus-SR |            |     |                       |
|----------------|------------|-----|-----------------------|
| d<br>(mm)      | s<br>(mm)  |     |                       |
|                | 1          | 1.5 | 2                     |
| 6 L            | 4.0 / 11.5 |     | Steel L1 (mm) L2 (mm) |
| 8 L            | 3.5 / 11.0 |     |                       |
| 10 L           | 3.5 / 11.0 |     |                       |
| 12 L           | 3.5 / 11.0 |     |                       |
| 15 L           | 3.5 / 11.0 |     |                       |
| 16 S           | 4.5 / 13.0 |     |                       |
| 18 L           | 4.5 / 12.0 |     |                       |
| 20 S           |            |     |                       |
| 22 L           | 4.5 / 12.0 |     |                       |
| 30 S           | 5.5 / 19.0 |     |                       |
| 35 L           | 6.5 / 17.0 |     |                       |
| 42 S           | 6.5 / 17.5 |     |                       |

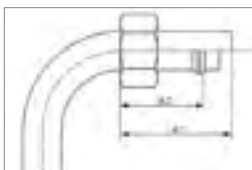

**Steel E235**
**Note**

Any tube length differences must be appropriately compensated, for example by installing tube bends. Tubes that are longer or shorter than the specified tube length may result in leakage. Prior to installation, short straight tube sections without length compensation between the installation ends must be checked for compliance with the final dimension and adapted, if necessary.

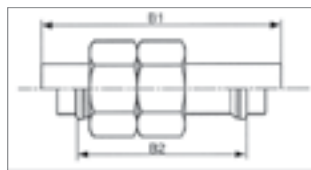
**Tightening torque**

| Series | Tube outer diameter<br>(mm) | WalformPlus-SR<br>Steel<br>(Nm) |
|--------|-----------------------------|---------------------------------|
| L      | 6x1                         | 25                              |
|        | 8x1                         | 35                              |
|        | 10x1                        | 40                              |
|        | 12x1                        | 55                              |
|        | 15x1                        | 80                              |
|        | 18x1.5                      | 110                             |
|        | 22x1.5                      | 140                             |
|        | 35x2                        | 300                             |
| S      | 42x2                        | 400                             |
|        | 16x1.5                      | 110                             |
|        | 20x2                        | 180                             |
|        | 30x2                        | 280                             |

**Important:** The specified torques are reference values for identifying the point of resistance (completion of assembly), which are only valid under optimum conditions.

**Minimum tube lengths for clamping straight and bent tubes**


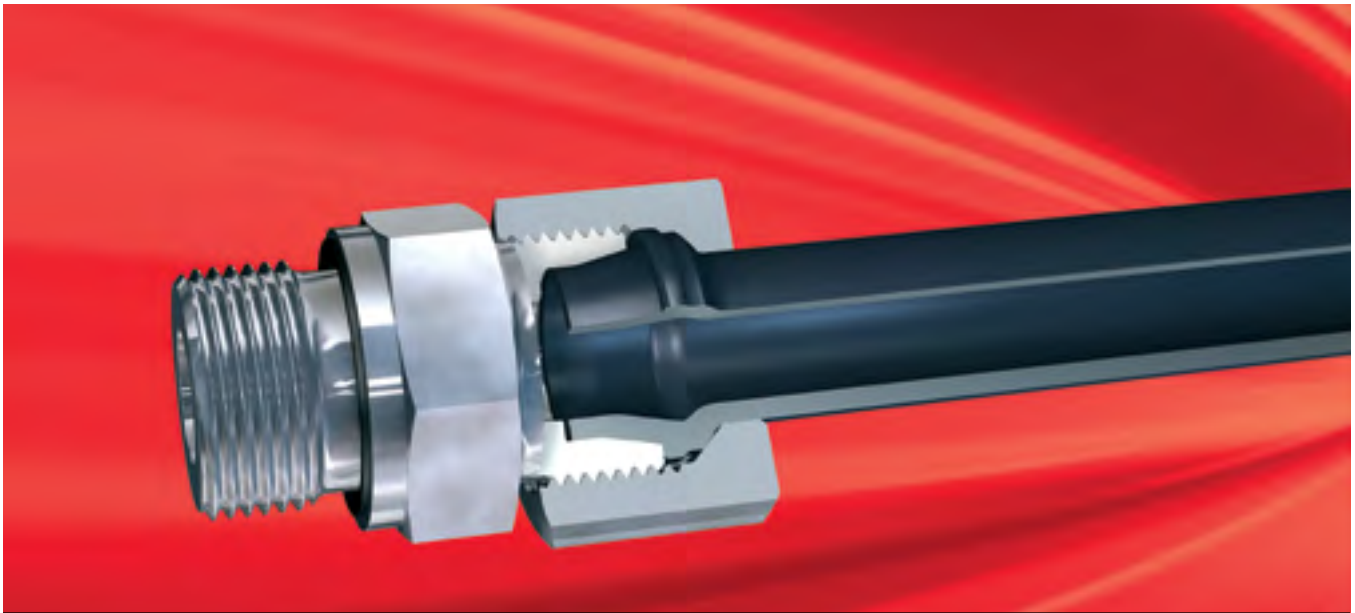
Minimum length of straight tube (A)



Length of straight tube (B)

| d<br>(mm) | A1*<br>(mm) | A2*<br>(mm) | B1<br>(mm) | B2<br>(mm) | D1 min Ø<br>(mm) |
|-----------|-------------|-------------|------------|------------|------------------|
| 6 L       | 65          | 54          | 84         | 61         | 9.1              |
| 8 L       | 61          | 50          | 79         | 58         | 11.6             |
| 10 L      | 57          | 46          | 75         | 53         | 13.1             |
| 12 L      | 56          | 46          | 74         | 51         | 15.3             |
| 15 L      | 64          | 56          | 83         | 62         | 18.5             |
| 16 S      | 69          | 53          | 92         | 66         | 19.8             |
| 18 L      | 75          | 63          | 97         | 72         | 22.2             |
| 20 S      | 78          | 62          | 108        | 73         | 25.3             |
| 22 L      | 83          | 70          | 105        | 81         | 25.9             |
| 30 S      | 119         | 100         | 153        | 115        | 37.0             |
| 35 L      | 112         | 96          | 142        | 108        | 41.3             |
| 42 L      | 116         | 98          | 145        | 110        | 48.9             |

\*If the straight tube end needs to be shorter than indicated in the table due to installation difficulties, it must be bent after reshaping.



**Assembly instructions for Danfoss Waltech WalformPlus-M**  
For steel or stainless steel (1.4571) tubes

**Tube selection**

The pressure strength specifications refer to the following tube grades:

**Steel**

**Material:** E235 / E355, to EN 10305-4 (formerly St. 37.4 / 52.4 to DIN 1630). Type: Seamless cold-drawn, normalized bright annealed steel, designation NBK as per DIN EN 10305-4.

**Stainless steel**

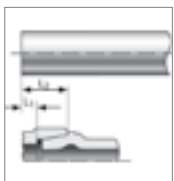
**Material:** X6CrNiMoti17122 (1.4571) to DIN EN 10216- 5 Type: Seamless cold-drawn, scale-free, heat-treated stainless steel, designation CFA as per DIN EN 10216-5 (formerly DIN 17458). Dimensions and tolerances to DIN EN 10305-4 (formerly DIN 2391-1). Additional stainless steel grades

are available on request.

**Calculated pressures:** DIN 2413

**⚠ Caution:** Materials or tolerances that deviate from the recommended tube specifications may result in tool break, incorrect installation or total failure of the fitting.

**⚠ Caution:** The specified nominal pressure ratings always refer to the fitting. For tube pressure ratings, see the specifications of the respective manufacturers!



**1. Tube length determination**

- a) By measuring the distance between the tube stops of two studs. The length L1 must be added to the measured length of each tube connection.
- b) By measuring the distance between the face ends of two studs. The length L2 must be added to the measured length of each tube connection.

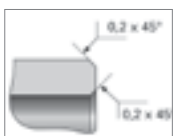
The lengths L1 and L2 as well as minimum lengths of straight tubes and the minimum lengths of straight tube ends in the case of tube bends can be found in the operating instructions and/or the corresponding tables.



**2. Cut the tube at a right angle**

Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of 1/2° from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.

**⚠ Caution:** Deviations in the tube end shape, e.g. tubes that were cut at an angle or incorrectly deburred, will reduce the service life and the tightness of the fitting.



**3. Gently deburr the tube ends and clean the tube**

Deburr the inside and outside of the tube (max. 0.2 x 45°) and clean it. The clamping and reshaping area must be free of chips, dirt and paint! The clamping area should be free of grease and oil! If the tube end is greasy or oily, use an environmentally friendly solvent.

**4. Slide the union nut onto the tube.**



**5. Reshape the tube ends using an Danfoss Waltech Walform machine**

To do so, insert the tools into the machine and move them into the insertion position. Insert the tube end into the machine until the clearly detectable mechanical stop in the base of the forming tool. Hold it in place to start the reshaping process. The reshaping process takes place automatically. Follow the operating instructions of the Walform machine.



**⚠ Caution:** Make sure to select the correct tool, in line with the tube dimensions, the tube material and the selected WalformPlus system.

**6. Verification of the reshaped tube**

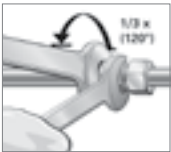
The two functional surfaces ① and ② must be shaped in such a way that a flat contact surface has formed. Care must therefore be taken to ensure that the tube sealing face ① is not damaged, especially not by axial scoring! Damage to the tube's sealing face will reduce the pressure strength and service life of the fitting.



- ① 12° taper for a positive fit inside the fitting stud
- ② 45° taper for fitting the union nut

**7. Final assembly inside the fitting stud**

Using an appropriate wrench, tighten the union nut until there is a clearly detectable increase in the required force (point of resistance). Next, complete the assembly by means of a 120° rotation (two wrench faces).



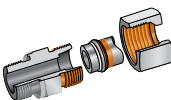
**⚠ Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause leakage or other malfunctions.

**Important:** Hold the fitting stud in place by means of a wrench.

**8. Re-assembly**

After each time the fitting is disassembled, the union nut must be retightened. Any re-assembly must be carried out in the same way as the final assembly!

**Important:** In the case of stainless steel fittings, the threads and the tube parts that will be reshaped must be sufficiently lubricated with Danfoss Waltech ABF grease (anti-block grease) prior to re-assembly.



**Danfoss Waltech ABF grease  
(anti-block grease)  
Stainless steel (1.4571)**

**Application:** Prior to assembly, the fittings must be thoroughly cleaned and the threads in particular checked for damage. All contact surfaces must be sufficiently coated with Danfoss Waltech ABF grease (anti-block grease) using a brush or a lint-free cloth. After greasing, the fittings must be immediately assembled to prevent contamination. For best results, use Danfoss Waltech stainless steel nuts with silver-plated threads (AG/AGP) plus Danfoss Waltech ABF grease (anti-block grease).

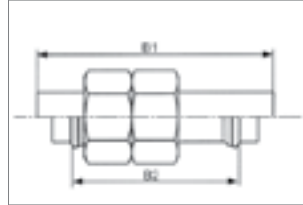
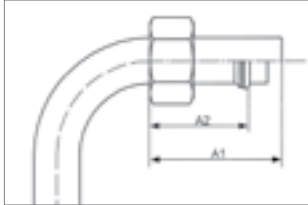

**Tube length determination\***
**Steel**
**Stainless steel (1.4571)**
**C**

| <b>WalformPlus-M</b> |                          |                          |                          |            |                           |  |                           |
|----------------------|--------------------------|--------------------------|--------------------------|------------|---------------------------|--|---------------------------|
| <b>d<br/>(mm)</b>    | <b>s<br/>(mm)</b>        |                          |                          |            |                           |  |                           |
|                      | <b>2</b>                 | <b>2.5</b>               | <b>3</b>                 | <b>3.5</b> | <b>4</b>                  | <b>5</b>                                 | <b>6</b>                  |
| 8 L                  | 8.5 / 15.5               | 7.5 / 15.0               | 8.0 / 15.0               |            |                           |  |                           |
| 8 S                  | 8.0 / 15.0               | 7.5 / 15.0               | 7.5 / 14.5               |            | Steel L1 (mm) L2 (mm)     |  |                           |
|                      |                          |                          |                          |            |                           | Stainless steel (1.4571) L1 (mm) L2 (mm) |                           |
| 10 L                 | 8.0 / 15.0<br>6.5 / 14.0 | 6.5 / 14.0               | 7.0 / 14.0<br>6.5 / 14.0 |            |                           |  |                           |
| 10 S                 | 7.5 / 15.5<br>6.0 / 14.0 | 6.0 / 14.0               | 6.0 / 13.5<br>6.0 / 14.0 |            |                           |  |                           |
| 12 L                 | 6.0 / 13.5<br>7.0 / 14.0 |                          | 6.5 / 13.5               |            | 5.5 / 12.5                |  |                           |
| 12 S                 | 6.0 / 13.5<br>6.5 / 14.0 |                          | 6.0 / 13.5               |            | 5.0 / 12.5                |  |                           |
| 15 L                 | 6.0 / 13.5<br>6.5 / 14.0 |                          | 6.0 / 13.0<br>6.5 / 13.5 |            |                           |  |                           |
| 16 S                 | 7.0 / 15.5<br>8.5 / 16.5 | 8.5 / 16.5               | 8.5 / 16.5               |            | 6.5 / 15.5<br>6.5 / 14.0  |  |                           |
| 18 L                 | 8.5 / 16.5               | 5.5 / 13.0               |                          |            | 5.5 / 13.0<br>8.5 / 16.5  |  |                           |
| 20 S                 |                          | 7.5 / 18.5<br>9.5 / 20.0 |                          |            | 7.0 / 18.0<br>9.5 / 20.0  |  |                           |
| 22 L                 |                          | 7.0 / 14.5               | 6.0 / 13.5<br>7.5 / 15.0 | 6.5 / 14.0 |                           |  |                           |
| 25 S                 |                          | 10.0 / 22.5              | 8.0 / 20.0<br>9.5 / 21.5 |            |                           | 8.0 / 20.0<br>9.5 / 21.5                 |                           |
| 28 L                 |                          |                          | 6.0 / 13.5<br>7.5 / 15.0 | 6.5 / 14.0 | 7.0 / 15.0                |  |                           |
| 30 S                 |                          |                          | 10.0 / 23.5              | 7.5 / 21.0 | 10.0 / 23.5               | 10.0 / 23.5                              | 8.0 / 21.5                |
| 35 L                 |                          |                          |                          |            |                           | 7.5 / 18.0<br>9.5 / 20.0                 | 7.5 / 18.0                |
| 38 S                 |                          |                          | 11.0 / 27.0              |            | 8.0 / 24.0<br>11.0 / 27.0 | 11.0 / 27.0                              | 8.0 / 24.0<br>11.5 / 27.5 |
| 42 L                 |                          |                          |                          |            |                           | 7.5 / 18.5                               | 7.5 / 18.5                |

\*The dimensions for determining the length of qualified tube lengths that are not given in the table are available on request.

**Note**

Any tube length differences must be appropriately compensated, for example by installing tube bends. Tubes that are longer or shorter than the specified tube length may result in leakage. Prior to installation, short straight tube sections without length compensation between the installation ends must be checked for compliance with the final dimension and adapted, if necessary.

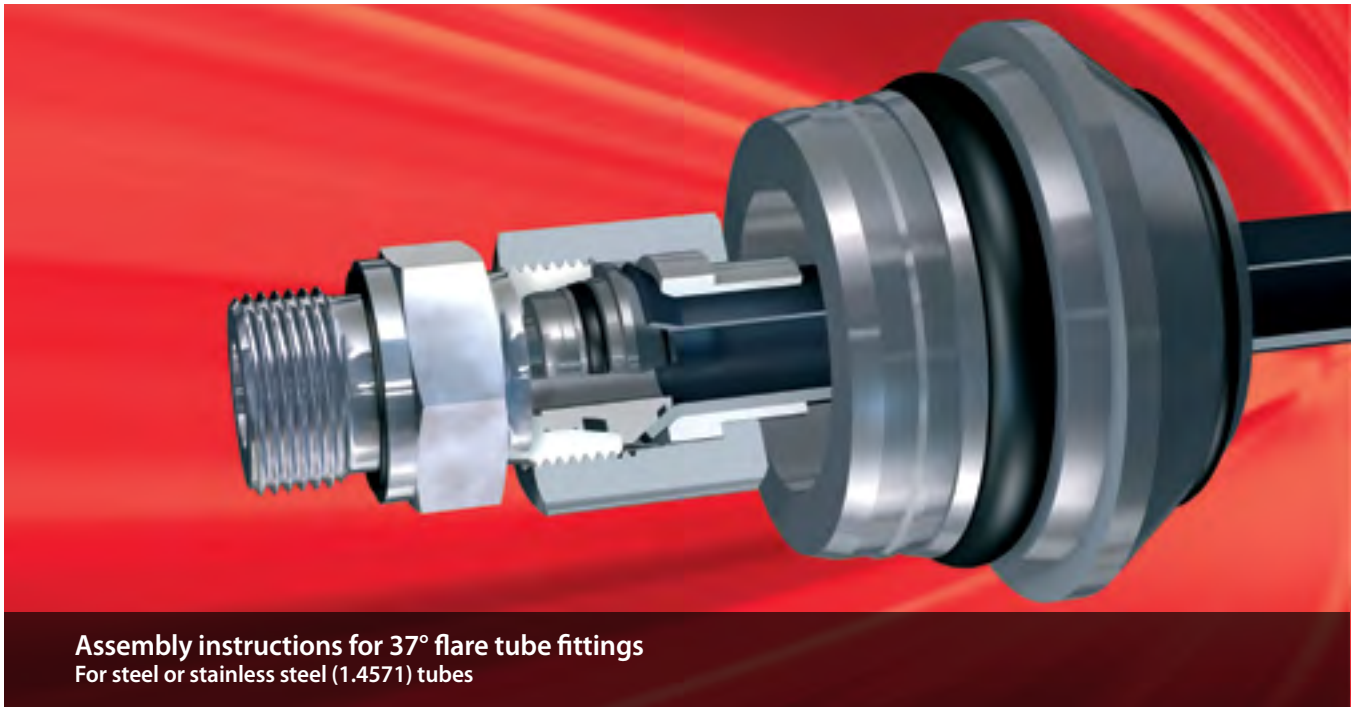

**Minimum tube lengths for clamping straight and bent tubes**
**Steel**
**Stainless steel (1.4571)**
**C**


Minimum length of straight tube (A)

Length of straight tube (B)

| d (mm) | A1* (mm)   | A2* (mm)   | B1 (mm)    | B2 (mm)    |
|--------|------------|------------|------------|------------|
| 8 L    | 65<br>64   | 50<br>49   | 89<br>87   | 58<br>57   |
| 8 S    | 67<br>66   | 53<br>51   | 91<br>90   | 61<br>60   |
| 10 L   | 60<br>58   | 46<br>48   | 83<br>83   | 53<br>55   |
| 10 S   | 62<br>60   | 49<br>50   | 87<br>84   | 56<br>56   |
| 12 L   | 59<br>58   | 46<br>45   | 80<br>80   | 53<br>52   |
| 12 S   | 61<br>61   | 48<br>48   | 82<br>83   | 55<br>55   |
| 15 L   | 68<br>66   | 55<br>53   | 91<br>88   | 64<br>60   |
| 16 S   | 71<br>70   | 56<br>56   | 97<br>95   | 66<br>62   |
| 18 L   | 76<br>77   | 63<br>61   | 98<br>102  | 72<br>69   |
| 20 S   | 82<br>83   | 64<br>63   | 113<br>115 | 76<br>75   |
| 22 L   | 84<br>84   | 71<br>70   | 109<br>109 | 81<br>79   |
| 25 S   | 110<br>112 | 90<br>90   | 143<br>147 | 103<br>102 |
| 28 L   | 100<br>100 | 87<br>85   | 124<br>125 | 96<br>94   |
| 30 S   | 121<br>124 | 100<br>101 | 159<br>161 | 116<br>114 |
| 35 L   | 112<br>116 | 94<br>96   | 143<br>148 | 107<br>108 |
| 38 S   | 129<br>132 | 105<br>105 | 169<br>174 | 121<br>119 |
| 42 L   | 116        | 98         | 148        | 111        |

\*If the straight tube end needs to be shorter than indicated in the table due to installation difficulties, it must be bent after reshaping.



**Assembly instructions for 37° flare tube fittings**  
For steel or stainless steel (1.4571) tubes

**Tube selection**

The pressure strength specifications refer to the following tube grades:

**Steel**

**Material:** E235 / E355, to EN 10305-4 (formerly St. 37.4 / 52.4 to DIN 1630). Type: Seamless cold-drawn, normalized bright annealed steel, designation NBK as per DIN EN 10305-4.

**Stainless steel**

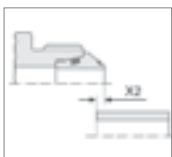
**Material:** X6CrNiMoti17122 (1.4571) to DIN EN 10216- 5 Type: Seamless cold-drawn, scale-free, heat-treated stainless steel, designation CFA as per DIN EN 10216-5 (formerly DIN 17458). Dimensions and tolerances to DIN EN 10305-4 (formerly DIN 2391-1). Additional stainless steel grades

are available on request.

**Calculated pressures:** DIN 2413.

**⚠ Caution:** Materials or tolerances that deviate from the recommended tube specifications may result in tool break, incorrect installation or total failure of the fitting.

**⚠ Caution:** The specified nominal pressure ratings always refer to the fitting. For tube pressure ratings, see the specifications of the respective manufacturers!



**1. Determining the tube length if the intermediate ring is pressed in**

The tube length is determined by measuring the distance between the face ends of two intermediate rings, to which the length X2 must then be added for each tube connection (see tables).



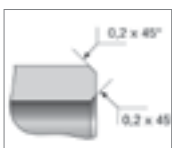
**Determining the tube length without intermediate ring**

The tube length is determined by measuring the distance between the face ends of two studs, from which the length X1 must then be subtracted for each tube connection (see tables). The length L1 corresponds to the difference in tube length compared to cutting-ring fittings to DIN 2353. When converting from a ring fitting (e.g. cutting ring) to flared fitting parts, the tube must be shortened by the length L1.



**2. Cut the tube at a right angle**

Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of 1/2° from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.



**3. Gently deburr the tube ends and clean the tube**

Deburr the inside and outside of the tube (max. 0.2 x 45°) and clean it. The clamping and reshaping area must be free of chips, dirt and paint! The clamping area should be free of grease and oil! If the tube end is greasy or oily, use an environmentally friendly solvent.




**4. Tube flare**

Slide the union nut and the sleeve onto the tube as shown. Flare the tube end using an Danfoss Waltech flaring machine (see the operating instructions for flaring machines).


**5. Verification of the flared tube**

Verify the dimensional accuracy of the flare (see tables) and check for any contamination. The outer diameter of the flare should correspond to the verification diameter (Da). The flare must be at a right angle to the tube axis and concentric with the tube and the sleeve. Uneven and off-center flares indicate faulty tools or operating errors. The inner taper of the flared tube must be clean. Proper flaring is a prerequisite for a long service life of the connection.


**6. Insertion of the intermediate ring**

The intermediate ring should ideally be inserted using a vice. Protect the fitting parts from damage. Oil the O-rings before pressing them in.


**6.1 Alternatively, the intermediate ring can be loosely inserted into the fitting stud. Tighten the union nut manually.**

**Important:** The threads of stainless steel fittings should be sufficiently greased with Danfoss Waltech ABF grease (anti-block grease) prior to assembly.


**7. Final assembly with pressed-in intermediate ring (point 6)**

Tighten the union nut until there is a clearly detectable increase in the required force (point of resistance).

Next, complete the final assembly: 1/2 rotation  
1/4 rotation for sizes 6 L to 12 L


**7.1 Final assembly with loosely mounted intermediate ring (point 6.1)**

Tighten the union nut until there is a clearly detectable increase in the required force (point of resistance). Doing so will press the intermediate ring into the stud.

Next, complete the final assembly: 1/2 rotation  
1/4 rotation for sizes 6 L to 12 L

**7.2 Final assembly using a torque wrench**

The torque values for the required increase in tightening force can be found in the corresponding table (see the "tightening torque" table).

**Important:** Hold the fitting stud in place by means of a wrench

**⚠ Caution:** Any deviation from the specified torque/tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak.

**Important:** In the case of stainless steel fittings, the threads and the contoured edge of the sleeve must be sufficiently lubricated with Danfoss Waltech ABF grease (anti-block grease) prior to re-assembly.


**8. Re-assembly**

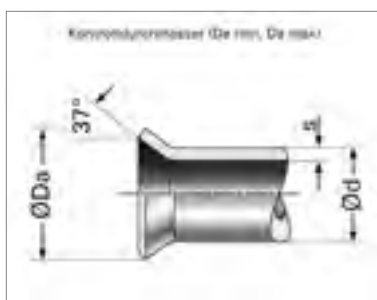
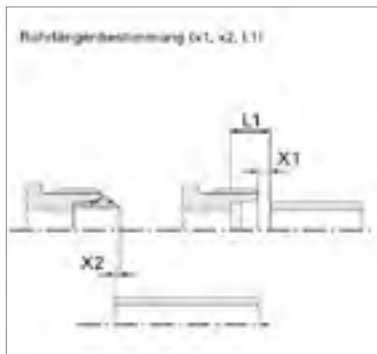
After each time the fitting is disassembled, the union nut must be retightened (same torque as during final assembly).

**Important:** In the case of stainless steel fittings, the threads and the contoured edge of the sleeve must be sufficiently lubricated with Danfoss Waltech ABF grease (anti-block grease) prior to re-assembly.


**9. Minimum length of straight tube ends in the case of tube bends and minimum length of straight tubes (see tables).**

**Tightening torque**

| C | Series | Tube outer diameter (mm) | Steel (Nm) | Stainless steel (1.4571) (Nm) |
|---|--------|--------------------------|------------|-------------------------------|
| L |        | 6                        | 20         | 30                            |
|   |        | 8                        | 40         | 55                            |
|   |        | 10                       | 45         | 65                            |
|   |        | 12                       | 55         | 110                           |
|   |        | 15                       | 70         | 190                           |
|   |        | 18                       | 120        | 250                           |
|   |        | 22                       | 200        | 400                           |
|   |        | 28                       | 300        | 550                           |
|   |        | 35                       | 600        | 900                           |
|   |        | 42                       | 800        | 900                           |
|   | S      |                          | 6          | 30                            |
|   |        | 8                        | 45         | 100                           |
|   |        | 10                       | 55         | 130                           |
|   |        | 12                       | 80         | 190                           |
|   |        | 14                       | 90         | 260                           |
|   |        | 16                       | 130        | 330                           |
|   |        | 20                       | 250        | 350                           |
|   |        | 25                       | 400        | 700                           |
|   |        | 30                       | 500        | 900                           |
|   |        | 38                       | 800        | 900                           |

**Tube length and control diameter**


| d (mm) | s (mm) | X1 (mm) | X2 (mm) | L1 (mm) | Da min (mm) | Da max (mm) |
|--------|--------|---------|---------|---------|-------------|-------------|
| 6      | 1      | 1       | 3.5     | 8       | 9.1         | 10          |
|        | 1.5    | 2       | 2.5     | 9       |             |             |
| 8      | 1      | 1       | 4       | 8       | 11.3        | 12          |
|        | 1.5    | 2       | 3       | 9       |             |             |
| 10     | 2      | 2.5     | 2.5     | 9.5     | 13.1        | 14          |
|        | 1      | 1       | 4.5     | 8       |             |             |
| 12     | 1.5    | 2       | 3.5     | 9       | 15.3        | 16          |
|        | 2      | 3       | 2.5     | 10      |             |             |
| 14     | 1      | 1       | 4.5     | 8       | 18.6        | 19.6        |
|        | 1.5    | 2       | 3.5     | 9       |             |             |
|        | 1.5    | 0.5     | 5.5     | 8.5     |             |             |
| 15     | 2      | 1       | 5       | 9       | 19.1        | 20          |
|        | 2.5    | 2       | 4       | 10      |             |             |
|        | 3      | 3       | 3       | 11      |             |             |
| 16     | 1.5    | 1       | 4.5     | 8       | 20.6        | 22          |
|        | 2      | 2       | 3.5     | 9       |             |             |
|        | 2.5    | 3       | 2.5     | 10      |             |             |
|        | 1.5    | 0       | 6.5     | 8.5     |             |             |
| 18     | 2      | 1       | 5.5     | 9.5     | 23.2        | 24          |
|        | 2.5    | 1.5     | 5       | 10      |             |             |
|        | 3      | 2.5     | 4       | 11      |             |             |
|        | 1.5    | 0       | 5.5     | 7.5     |             |             |
| 20     | 2      | 1       | 7       | 11.5    | 25.6        | 26.8        |
|        | 2.5    | 2       | 6       | 12.5    |             |             |
|        | 3      | 3       | 5       | 13.6    |             |             |
|        | 3.5    | 4       | 4       | 14.5    |             |             |
| 22     | 1.5    | 1       | 5.7     | 8.5     | 26.5        | 27.5        |
|        | 2      | 2       | 4.7     | 9.5     |             |             |
|        | 2.5    | 3       | 3.7     | 10.5    |             |             |
|        | 3      | 3.5     | 3.2     | 11      |             |             |
| 25     | 2      | 1       | 7       | 13      | 31.1        | 33          |
|        | 2.5    | 1.5     | 6.5     | 13.5    |             |             |
|        | 3      | 2.5     | 5.5     | 14.5    |             |             |
|        | 4      | 4       | 4       | 16      |             |             |
| 28     | 2      | 1.5     | 5.7     | 9       | 32.7        | 33.3        |
|        | 2.5    | 2.5     | 4.7     | 10      |             |             |
|        | 3      | 3       | 4.2     | 10.5    |             |             |
| 30     | 2      | -0.5    | 9       | 13      | 37          | 38.7        |
|        | 2.5    | 0.5     | 8       | 14      |             |             |
|        | 3      | 1       | 7.5     | 14.5    |             |             |
|        | 4      | 3       | 5.5     | 16.5    |             |             |
|        | 5      | 4.5     | 4       | 18      |             |             |
| 35     | 2      | 1.5     | 6.5     | 12      | 41.8        | 42.7        |
|        | 2.5    | 2       | 6       | 12.5    |             |             |
|        | 3      | 3       | 5       | 13.5    |             |             |
|        | 4      | 4.5     | 3.5     | 15      |             |             |
| 38     | 2.5    | 0       | 10      | 16      | 46          | 47.2        |
|        | 3      | 0.5     | 9.5     | 16.5    |             |             |
|        | 4      | 2       | 8       | 18      |             |             |
|        | 5      | 4       | 6       | 20      |             |             |
|        | 6*     | 2.5     | 7.5     | 18.5    |             |             |
| 42     | 2      | 1.5     | 7       | 12.5    | 48.8        | 49.8        |
|        | 3      | 3       | 6.5     | 14      |             |             |
|        | 4      | 4.5     | 5       | 15.5    |             |             |

\*Only with flaring machine MEG-BO2, MEG-WF1/BO2 and special flaring clamps.

**Length of straight tube the until start of the bending radius**

C



**“Bend first, then flare”**

Length of the straight tube end (**length L1**) until the start of the bending radius

- a) Manual flaring tool
- b) Flaring machine

| Tube outer diameter (mm) | L1                  |  |
|--------------------------|---------------------|--|
|                          | Manual flaring tool | Flaring machine MEG-B02 MEG-WF1/B02 MHH-B0 |
| 6                        | 36                  | 43   |
| 8                        | 37                  | 44   |
| 10                       | 39                  | 46   |
| 12                       | 45                  | 47   |
| 14                       | 46                  | 50   |
| 15                       | 46                  | 50   |
| 16                       | 48                  | 52   |
| 18                       | 46                  | 58   |
| 20                       | 50                  | 58   |
| 22                       | 50                  | 60   |
| 25                       | 72                  | 60   |
| 28                       | 70                  | 60   |
| 30                       | 73                  | 62   |
| 35                       | 72                  | 62   |
| 38                       | 78                  | 70   |
| 42                       | 73                  | 70   |

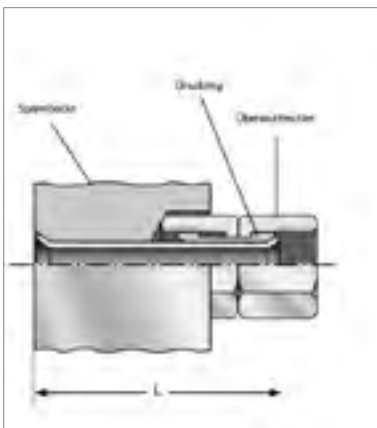


**“Flare first, then bend”**

If the straight tube end (**length L2**) needs to be shorter than indicated in the table due to installation difficulties, it must first be flared and then bent (see tube bending tools).

| Tube outer diameter (mm) | L2 |
|--------------------------|----|
| 10                       | 15 |
| 12                       | 15 |
| 15                       | 17 |
| 16                       | 21 |
| 18                       | 18 |

Tube diameters 6, 8 and 14 are available on request.



**Minimum length of straight tube L**

| Tube outer diameter (mm) | L                   |  |
|--------------------------|---------------------|--|
|                          | Manual flaring tool | Flaring machine MEG-B02 MEG-WF1/B02 MHH-B0 |
| 6                        | 52                  | 59   |
| 8                        | 54                  | 62   |
| 10                       | 55                  | 64   |
| 12                       | 63                  | 67   |
| 15                       | 67                  | 75   |
| 18                       | 67                  | 76   |
| 22                       | 71                  | 81   |
| 28                       | 93                  | 88   |
| 35                       | 100                 | 92   |
| 42                       | 110                 | 130  |
| <hr/>                    |                     |  |
| 6                        | 51                  | 61   |
| 8                        | 53                  | 64   |
| 10                       | 54                  | 66   |
| 12                       | 62                  | 68   |
| 14                       | 67                  | 74   |
| 16                       | 69                  | 79   |
| 20                       | 73                  | 82   |
| 25                       | 99                  | 94   |
| 30                       | 100                 | 96   |
| 38                       | 110                 | 136  |

**Pressure setting of the flaring machine M-WF385X/BO**
**M-WF385X/BO**

**Steel E235 / E355**

| Tube outer diameter (mm) | Wall thickness s (mm) | Potentiometer setting M-WF385X/BO | Flare diameter Da (mm) |      |
|--------------------------|-----------------------|-----------------------------------|------------------------|------|
|                          |                       |                                   | min.                   | max. |
| 16                       | 2.0                   | 20                                | 20.6                   | 22.0 |
|                          | 2.5                   | 28                                |                        |      |
|                          | 3.0                   | 30                                |                        |      |
| 20                       | 2.0                   | 25                                | 25.6                   | 26.8 |
|                          | 2.5                   | 28                                |                        |      |
|                          | 3.0                   | 30                                |                        |      |
|                          | 3.5                   | 35                                |                        |      |
| 22                       | 2.0                   | 25                                | 25.6                   | 27.5 |
|                          | 2.5                   | 35                                |                        |      |
| 25                       | 3.0                   | 32                                | 31.1                   | 33.0 |
|                          | 4.0                   | 39                                |                        |      |
| 28                       | 3.0                   | 30                                | 32.7                   | 33.3 |
|                          | 4.0                   | 35                                |                        |      |
| 30                       | 5.0                   | 40                                | 37.0                   | 38.7 |
|                          | 4.0                   | 30                                |                        |      |
| 35                       | 5.0                   | 50                                | 41.8                   | 42.7 |
|                          | 4.0                   | 35                                |                        |      |
| 38                       | 5.0                   | 50                                | 46.0                   | 47.2 |
|                          | 6.0                   | 50                                |                        |      |
| 42                       | 3.0                   | 55                                | 48.8                   | 49.8 |
|                          | 4.0                   | 65                                |                        |      |

**Pressure setting of the flaring machine MHH-BO**
**MHH-BO**

**Steel E235 / E355**

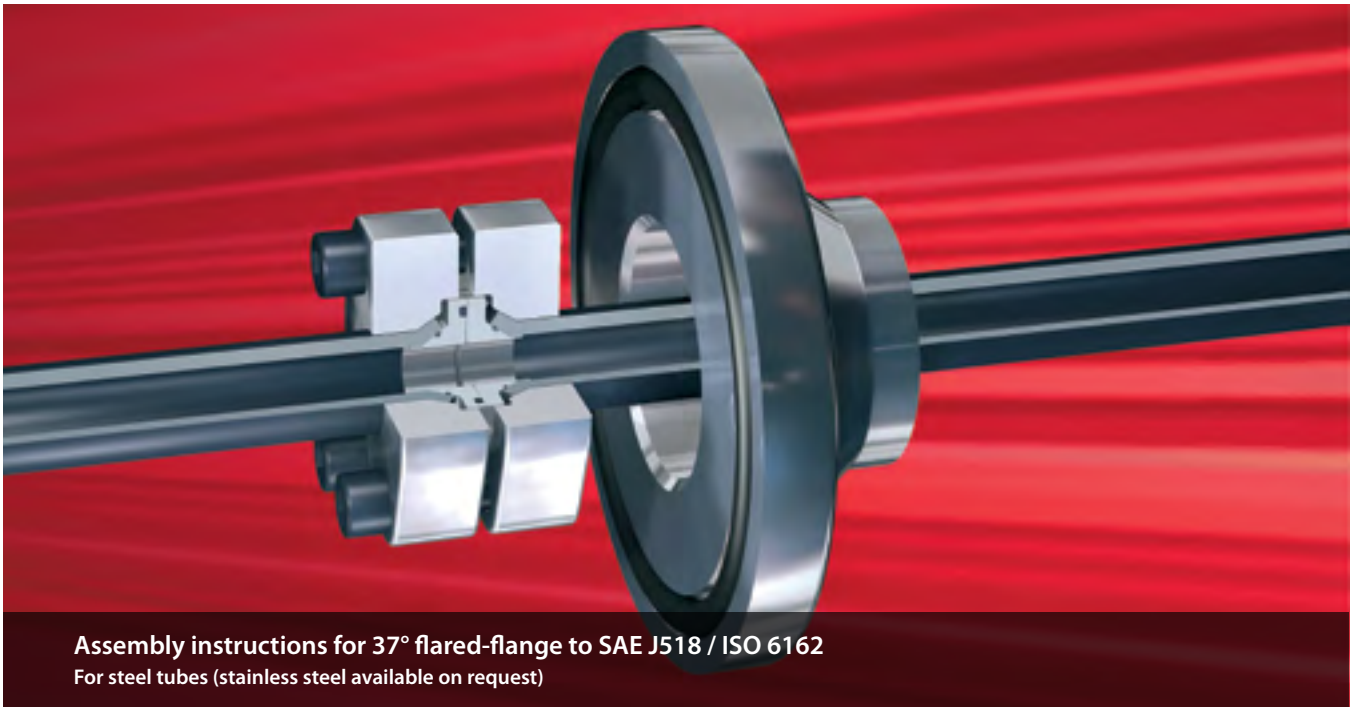
| Tube outer diameter (mm) | Wall thickness s (mm) |     |     |     |     |     |     |     |                  |  |
|--------------------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|------------------|--|
|                          | 1                     | 1.5 | 2   | 2.5 | 3   | 3.5 | 4   | 5   | 6                |  |
| <b>Pressure setting</b>  |                       |     |     |     |     |     |     |     |                  |  |
| 6                        | 110                   | 160 |     |     |     |     |     |     |                  |  |
| 8                        | 100                   | 150 | 200 |     |     |     |     |     |                  |  |
| 10                       | 90                    | 140 | 180 |     |     |     |     |     |                  |  |
| 12                       | 80                    | 140 | 170 |     |     |     |     |     |                  |  |
| 14                       |                       | 140 | 160 | 270 | 370 |     |     |     |                  |  |
| 15                       |                       | 140 | 160 | 200 |     |     |     |     |                  |  |
| 16                       |                       | 140 | 140 | 250 | 370 |     |     |     |                  |  |
| 18                       |                       | 140 | 140 | 250 |     |     |     |     |                  |  |
| 20                       |                       |     | 150 | 250 | 350 | 440 |     |     |                  |  |
| 22                       |                       | 160 | 160 | 260 | 350 |     |     |     |                  |  |
| 25                       |                       |     | 200 | 280 | 360 |     | 500 |     |                  |  |
| 28                       |                       |     | 210 | 290 | 360 |     |     |     |                  |  |
| 30                       |                       |     | 230 | 300 | 370 |     | 500 | 600 |                  |  |
| 35                       |                       |     | 250 | 320 | 390 |     | 500 |     |                  |  |
| 38                       |                       |     |     | 360 | 410 |     | 600 | 600 | 620 <sup>1</sup> |  |
| 42                       |                       |     | 280 |     | 420 |     | 500 |     |                  |  |

Special clamps are available on request.

<sup>1</sup>For materials to the latest standards, see Chapter B.

**Danfoss Waltech ABF grease  
(anti-block grease)  
Stainless steel (1.4571)**

**Application:** Prior to assembly, the fittings must be thoroughly cleaned and the threads in particular checked for damage. All contact surfaces must be sufficiently coated with Danfoss Waltech ABF grease (anti-block grease) using a brush or a lint-free cloth. After greasing, the fittings must be immediately assembled to prevent contamination. For best results, use Danfoss Waltech stainless steel nuts with silver-plated threads (AG/AGP) plus Danfoss Waltech ABF grease (anti-block grease).



**Assembly instructions for 37° flared-flange to SAE J518 / ISO 6162**  
For steel tubes (stainless steel available on request)

**Tube selection**

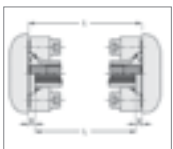
The pressure strength specifications refer to the following tube grades:

**Steel Material:** Steel E235 / E355, to EN 10305-4 (formerly St. 37.4 / 52.4 to DIN 1630). Type: Seamless cold-drawn, normalized bright annealed steel, designation NBK as per DIN EN 10305-4.

**Calculated pressures:** DIN 2413

**⚠ Caution:** Materials or tolerances that deviate from the recommended tube specifications may result in tool break, incorrect installation or total failure of the fitting.

**⚠ Caution:** The specified nominal pressure ratings always refer to the fitting. For tube pressure ratings, see the specifications of the respective manufacturers!



**1. Tube length determination**

The tube length is determined by measuring the distance between the fittings (L1), from which the length X must be subtracted for each tube connection. The length X can be found in the operating instructions and/or in the corresponding tables.



**2. Cut the tube at a right angle**

Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of 1/2° from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.

**⚠ Caution:** Deviations in the tube end shape, e.g. tubes that were cut at an angle or incorrectly deburred, will reduce the service life and the tightness of the fitting.



**3. Gently deburr the tube ends and clean the tube**

Deburr the inside and outside of the tube (max. 0.2 x 45°) and clean it. The clamping and reshaping area must be free of chips, dirt and paint! The clamping area should be free of grease and oil! If the tube end is greasy or oily, use an environmentally friendly solvent.

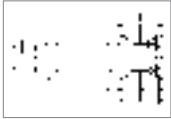


**4. Tube flare**

Slide the flange onto the tube as shown. Flare the tube end using an Danfoss Waltech flaring machine (see operating instructions for flaring machines).


**5. Verification of the flared tube**

Check the diameter  $D_a$  of the flared tube for dimensional accuracy and any contamination. The control diameter ( $D_a$ ) (see the "machine settings" table) corresponds to the outer diameter of the flared collar. The dimensions can be found in the operating instructions and/or the corresponding tables. The flare must be at a right angle to the tube axis and concentric with the tube and the flange. Uneven and off-center flares indicate faulty tools or operating errors. Proper flaring is a prerequisite for a long service life of the connection.


**6. Minimum length of straight tube ends in the case of tube bends and minimum length of straight tubes (see tables)**

**7. Insert the intermediate ring into the flange**

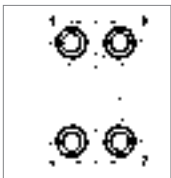
Make sure that the soft seals are properly positioned. Place the intermediate ring in the flared tube with the centering element first. Slide the flange over the intermediate ring. The centering element must not be used to secure the intermediate ring inside the tube!

**8. Fit the screws**

Insert four screws (hexagon head or hexagon socket head) into the clearance holes provided. Hexagon socket head screw (DIN EN ISO 4762) - hexagon head screw (DIN EN ISO 4014).


**9. Fit the flange**

Place the flange on the connection point. (If two tubes need to be connected, the flanges should be in contact with one another.) Manually screw in the screws.


**10. Tighten the screws**

The screws must be tightened based on torque (see below). Rotation-based assembly is not possible! Tighten the screws in crosswise (1-2-3-4) sequence and several torque steps until the maximum torque is reached.

**⚠ Caution:** Any deviation from the specified torque will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak.

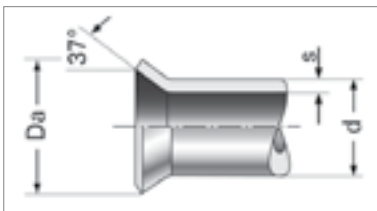
**Screw tightening torque**

| Flange<br>3,000 PSI (") | Screw    | Flange<br>6,000 PSI (") | Screw<br>(mm) Ø | Torque M for 8.8 screw<br>(Nm) |
|-------------------------|----------|-------------------------|-----------------|--------------------------------|
| 1/2                     | M8 x 30  | 1/2                     | M8 x 30         | 25                             |
| 3/4                     | M10 x 35 | 3/4                     | M10 x 35        | 53                             |
| 1                       | M10 x 35 |                         |                 |                                |
| 1 1/4                   | M10 x 40 | 1                       | M12 x 45        | 95                             |
| 1 1/2                   | M12 x 40 |                         |                 |                                |
| 2                       | M12 x 45 |                         |                 |                                |
|                         |          | 1 1/4                   | M14 x 55        | 150                            |
|                         |          | 1 1/2                   | M16 x 60        | 220                            |
|                         |          | 2                       | M20 x 60        | 390                            |

There is a safety margin of 2.5 in the case of 8.8 screws.

Machine settings / flare control diameter

C



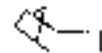
Steel E235

| Tube outer diameter (mm) | Wall thickness S (mm) | M-WF385X/B0 | Flare diameter Da (mm) |      |
|--------------------------|-----------------------|-------------|------------------------|------|
|                          |                       |             | min.                   | max. |
| 16                       | 2.0                   | 20          | 20.6                   | 22.0 |
|                          | 2.5                   | 28          |                        |      |
|                          | 3.0                   | 30          |                        |      |
| 20                       | 2.0                   | 25          | 25.6                   | 26.8 |
|                          | 2.5                   | 28          |                        |      |
|                          | 3.0                   | 30          |                        |      |
|                          | 3.5                   | 35          |                        |      |
| 22                       | 2.0                   | 25          | 26.5                   | 27.5 |
|                          | 2.5                   | 35          |                        |      |
| 25                       | 3.0                   | 32          | 31.1                   | 33.0 |
|                          | 4.0                   | 39          |                        |      |
| 28                       | 3.0                   | 30          | 32.7                   | 33.3 |
|                          | 4.0                   | 35          |                        |      |
| 30                       | 5.0                   | 40          | 37.0                   | 38.7 |
|                          | 3.0                   | 30          |                        |      |
| 35                       | 5.0                   | 50          | 41.8                   | 42.7 |
|                          | 4.0                   | 35          |                        |      |
| 38                       | 5.0                   | 50          | 46.0                   | 47.2 |
|                          | 6.0                   | 50          |                        |      |
|                          | 3.0                   | 55          |                        |      |
| 42                       | 4.0                   | 65          | 48.8                   | 49.8 |
|                          | 3.2                   | 50          |                        |      |
| 48.3                     | 2.5                   | 48          | 58.0                   | 59.0 |
|                          | 3.0                   | 50          |                        |      |
|                          | 5.0                   | 55          |                        |      |
|                          | 6.0                   | 70          |                        |      |
| 50                       | 8.0                   | 83          | 59.0                   | 60.5 |
|                          | 3.0                   | 40          |                        |      |
| 60                       | 3.6                   | 50          | 70.0                   | 71.0 |
|                          | 5.6                   | -           |                        |      |
| 60.3                     | 5.0                   | 65          | 70.0                   | 71.0 |
|                          | 6.0                   | 80          |                        |      |
|                          | 8.0                   | 95          |                        |      |
| 60 / 60.3                | 10.0                  | -           |                        |      |

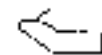
The settings indicated above are only valid for E235 steel tubes. Tubes made from stronger material require a higher pressure setting. The pressure setting must be increased until the specified collar diameter is reached and the flare geometry has fully formed (both inside and outside).

**⚠ Caution:** Do not attempt to determine the pressure setting by means of subsequent flaring; use a new piece of tube each time (test flaring). For materials to the latest standards, see section B12.

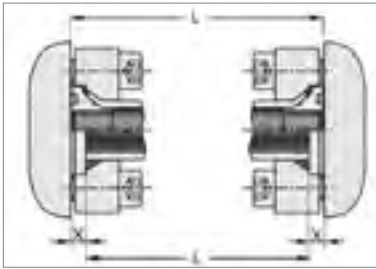
Correct



Incorrect



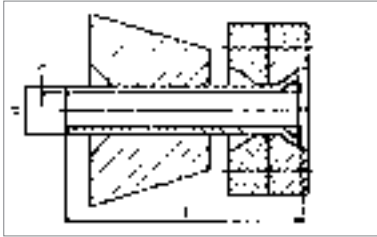


**Length X ± 0-5 mm for determining the tube length**

**C**

| Tube outer diameter (mm) | Wall thickness S (mm) | 1/2 " | 3/4 " | 1"  | 1 1/4" | 1 1/2" | 2"   |
|--------------------------|-----------------------|-------|-------|-----|--------|--------|------|
| 16                       | 2.0                   | 5.4   |       |     |        |        |      |
|                          | 2.5                   | 5.7   |       |     |        |        |      |
|                          | 3.0                   | 5.9   |       |     |        |        |      |
| 20                       | 2.0                   | 6.0   | 7.6   |     |        |        |      |
|                          | 2.5                   | 6.1   | 7.7   |     |        |        |      |
|                          | 3.0                   | 6.2   | 7.8   |     |        |        |      |
|                          | 3.5                   | 6.3   | 7.9   |     |        |        |      |
|                          | 4.0                   |       | 7.5   |     |        |        |      |
| 22                       | 2.0                   | 6.2   |       |     |        |        |      |
| 25                       | 2.5                   |       | 6.7   | 8.6 |        |        |      |
|                          | 3.0                   |       | 6.5   | 8.4 |        |        |      |
|                          | 4.0                   |       | 6.3   | 8.2 |        |        |      |
| 28                       | 3.0                   |       | 6.6   |     |        |        |      |
| 30                       | 4.0                   |       |       | 7.4 |        |        |      |
|                          | 5.0                   |       |       | 7.5 | 8.1    |        |      |
| 35                       | 3.0                   |       |       | 6.9 |        |        |      |
|                          | 5.0                   |       |       | 6.5 |        |        |      |
| 38                       | 4.0                   |       |       |     | 6.6    | 7.7    |      |
|                          | 5.0                   |       |       | 4.8 | 5.8    | 6.4    |      |
|                          | 6.0                   |       |       |     | 4.7    | 5.1    |      |
| 42                       | 3.0                   |       |       |     | 7.0    | 9.1    |      |
|                          | 4.0                   |       |       |     | 6.8    | 9.2    |      |
| 48.3                     | 3.2                   |       |       |     |        | 7.5    |      |
| 50                       | 2.5                   |       |       |     |        | 8.1    |      |
|                          | 3.0                   |       |       |     |        | 7.9    |      |
|                          | 5.0                   |       |       |     |        | 7.7    |      |
|                          | 6.0                   |       |       |     |        | 7.5    |      |
|                          | 8.0                   |       |       |     |        | 7.3    |      |
| 60                       | 3.0                   |       |       |     |        |        | 10.6 |
| 60.3                     | 3.6                   |       |       |     |        |        | 10.3 |
|                          | 5.6                   |       |       |     |        |        | 9.6  |
| 60                       | 5.0                   |       |       |     |        |        | 9.2  |
|                          | 6.0                   |       |       |     |        |        | 8.8  |
| 60 / 60.3                | 8.0                   |       |       |     |        |        | 8.1  |
|                          | 10.0                  |       |       |     |        |        | 7.5  |

**Minimum length of straight tube L**

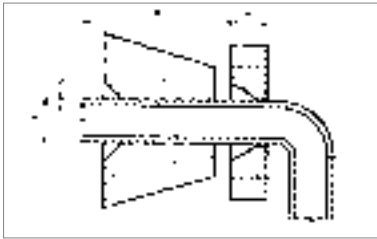
C



| 3,000 PSI (mm) |                             |
|----------------|-----------------------------|
| Flange<br>(")  | M-WF385X/B0<br>(MEG-WF2/B0) |
| 1/2            | 112                         |
| 3/4            | 114                         |
| 1              | 118                         |
| 1 1/4          | 120                         |
| 1 1/2          | 124                         |
| 2              | 128                         |

| 6,000 PSI (mm) |                             |
|----------------|-----------------------------|
| Flange<br>(")  | M-WF385X/B0<br>(MEG-WF2/B0) |
| 1/2            | 112                         |
| 3/4            | 118                         |
| 1              | 129                         |
| 1 1/4          | 140                         |
| 1 1/2          | 144                         |
| 2              | 144                         |

### Minimum length of straight tube ends in the case of tube bends



C



#### Minimum tube length A for all sizes (mm)

M-WF385X/B0  
(MEG-WF2/B0)

80

| Flange<br>(") | Flange height 3,000 PSI<br>(mm) | Flange height 6,000 PSI<br>(mm) |
|---------------|---------------------------------|---------------------------------|
| 1/2           | 16                              | 16                              |
| 3/4           | 17                              | 19                              |
| 1             | 19                              | 24,5                            |
| 1 1/4         | 20                              | 30                              |
| 1 1/2         | 22                              | 32                              |
| 2             | 24                              | 32                              |



**Danfoss Waltech ABF grease**  
(anti-block grease)

**Stainless steel (1.4571)**

**Application:** Prior to assembly, the fittings must be thoroughly cleaned and the threads in particular checked for damage. All contact surfaces must be sufficiently coated with Danfoss Waltech ABF grease (anti-block grease) using a brush or a lint-free cloth. After greasing, the fittings must be immediately assembled to prevent contamination. For best results, use Danfoss Waltech stainless steel nuts with silver-plated threads (AG/AGP) plus Danfoss Waltech ABF grease (anti-block grease).

C



**Assembly instructions for welding-nipple fittings to DIN 3865**  
For steel or stainless steel (1.4571) tubes

**Tube selection**

The pressure strength specifications refer to the following tube grades:

**Steel**

**Material:** Steel E235 / E355, to EN 10305-4 (formerly St. 37.4 / 52.4 to DIN 1630). Type: Seamless cold-drawn, normalized bright annealed steel, designation NBK as per DIN EN 10305-4.

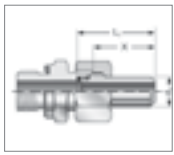
**Stainless steel**

**Material:** X6CrNiMoti17122 (1.4571) to DIN EN 10216- 5 Type: Seamless cold drawn, scale-free, heat-treated stainless steel, designation CFA as per DIN EN 10216-5 (formerly DIN 17458). Dimensions and tolerances to DIN EN 10305-4 (formerly DIN 2391-1).

**Calculated pressures:** DIN 2413

**⚠ Caution:** Materials or tolerances that deviate from the recommended tube specifications may result in incorrect installation or total failure of the fitting.

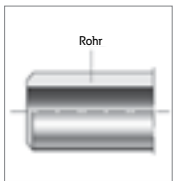
**⚠ Caution:** The specified nominal pressure ratings always refer to the fitting. For tube pressure ratings, see the specifications of the respective manufacturers!


**1. Tube length determination**

The tube length is determined by measuring the distance between the face ends of two fitting studs, from which the length X must then be subtracted for each tube connection. When converting from cutting ring to welding nipple fittings, the tube end must be shortened by the length L.


**2. Cut the tube at a right angle**

Cut off the tube at least 10 mm from the manufacturer's cut-off (this is a common source of error due to delivery conditions). Cut the tube at a right angle; an angular deviation of 1/2° from the tube axis is permissible. Do not use pipe cutters or cut-off saws, as these will result in pronounced burring or diagonal cuts. Use a sawing machine or similar equipment.


**3. Before welding, chamfer the outside of the tube end, lightly deburr it and clean the inside**

Deburr the inside and outside of the tube (max. 0.2 x 45°) and clean it. If the tube end is greasy or oily, use an environmentally friendly solvent.


**4. Slide the union nut onto the welding nipple and weld**

Weld the welding nipple and the tube according to welding guidelines. Descal the welding point and clean the O-ring groove.


**5. Mount the O-ring, which is supplied separately**

Oil the thread and O-ring.

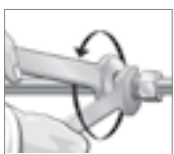
**△ Caution:** Make sure that the O-ring is not twisted.


**6. Final assembly**

Tighten the union nut manually. Tighten the union nut by a 1/3 rotation past the clearly detectable increase in the required tightening force. Hold the fitting stud in place by means of a wrench. The torque values for the required increase in tightening force can be found in the corresponding table (see the "tightening torque" table).

Note: When assembling welding nipples, tension on the tube must be avoided.

**△ Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak.


**7. Re-assembly**

After each time the fitting is loosened, the soft seal must be checked for damage and replaced if necessary. Afterwards, firmly retighten the union nut. The torque during re-assembly must be the same as during initial assembly!

**Tightening torque**

| Series | Tube outer diameter (mm) | Tightening torque (Nm) | Series | Tube outer diameter (mm) | Tightening torque (Nm) |
|--------|--------------------------|------------------------|--------|--------------------------|------------------------|
| L      | 6                        | 20                     | S      | 6                        | 20                     |
|        | 8                        | 25                     |        | 8                        | 35                     |
|        | 10                       | 45                     |        | 10                       | 50                     |
|        | 12                       | 50                     |        | 12                       | 65                     |
|        | 15                       | 60                     |        | 14                       | 70                     |
|        | 18                       | 70                     |        | 16                       | 85                     |
|        | 22                       | 130                    |        | 20                       | 135                    |
|        | 28                       | 180                    |        | 25                       | 170                    |
|        | 35                       | 300                    |        | 30                       | 280                    |
|        | 42                       | 320                    |        | 38                       | 320                    |

### Tube length determination

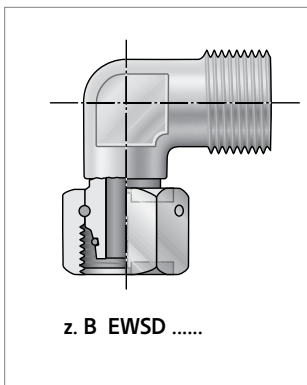
C

| Tube outer diameter (mm) | d <sub>2</sub> | L <sub>1</sub> | X    |
|--------------------------|----------------|----------------|------|
| 8                        | 8              | 32             | 25   |
| 10                       | 10             | 33.5           | 26   |
| 12                       | 12             | 33.5           | 26   |
| 16                       | 16             | 40.5           | 32   |
| 20                       | 20             | 47             | 36.5 |
| 25                       | 25             | 53.5           | 41.5 |
| 30                       | 30             | 57.5           | 44   |
| 38                       | 38             | 64.5           | 48.5 |

**Note**

Any tube length differences must be appropriately compensated, for example by installing tube bends. Tubes that are longer or shorter than the specified tube length may result in leakage. Prior to installation, short straight tube sections without length compensation between the installation ends must be checked for compliance with the final dimension and adapted, if necessary.

### Assembly instructions for taper-seal fittings



**Assembly of taper-seal fittings**

Oil the O-ring. Align the tube connection in the required direction and tighten the union nut manually. Tighten the union nut by a 1/3 rotation past the clearly detectable increase in the tightening force (point of resistance).

Alternatively, in the case of steel fittings, tighten the union nut using a torque wrench (see the "tightening torque" table).

**Important:** Hold the fitting stud in place by means of a wrench. In case of unfavorable assembly conditions and with large tube sizes, final assembly must be carried out using a vice. Use the same fitting stud (see above) for this purpose.

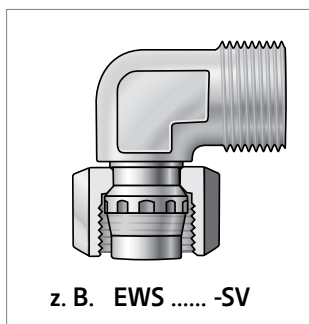
**⚠ Caution:** Any deviation from the specified torque/tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak.

**Important:** The threads of stainless steel fittings must be cleaned and checked for damage prior to assembly. The fitting threads must be sufficiently lubricated using Danfoss Waltech ABF grease (anti-block grease). After greasing, the fittings must be immediately assembled to prevent any contamination.

### Tightening torque

| Series | Tube outer diameter (mm) | Tightening torque (Nm) | Series | Tube outer diameter (mm) | Tightening torque (Nm) |
|--------|--------------------------|------------------------|--------|--------------------------|------------------------|
| L      | 6                        | 20                     | S      | 6                        | 20                     |
|        | 8                        | 25                     |        | 8                        | 35                     |
|        | 10                       | 45                     |        | 10                       | 50                     |
|        | 12                       | 50                     |        | 12                       | 65                     |
|        | 15                       | 60                     |        | 14                       | 70                     |
|        | 18                       | 70                     |        | 16                       | 85                     |
|        | 22                       | 130                    |        | 20                       | 135                    |
|        | 28                       | 180                    |        | 25                       | 170                    |
|        | 35                       | 300                    |        | 30                       | 280                    |
|        | 42                       | 320                    |        | 38                       | 320                    |

## Assembly instructions for standpipe fittings



### Assembling the standpipe parts

Standpipe parts are always supplied with a pre-assembled profile ring. Final assembly: Align the tube connection in the required direction and tighten the union nut manually. Tighten the union nut by 1/2 a rotation past the detectable increase in the tightening force (point of resistance).

**Important:** Hold the fitting stud in place by means of a wrench. In case of unfavorable assembly conditions and with large tube sizes, final assembly must be carried out using a vice. Use the same fitting stud (see above) for this purpose.

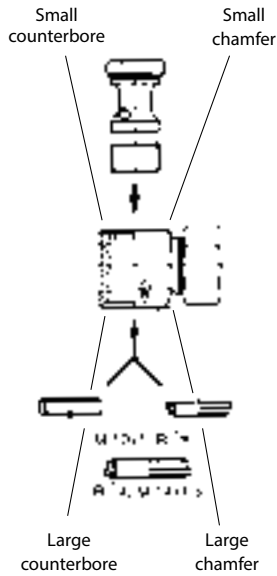
**Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This will cause the fitting to leak or the standpipe to slip out.

**Important:** The threads of stainless steel fittings must be cleaned and checked for damage prior to assembly. The fitting threads must be sufficiently lubricated using Danfoss Waltech ABF grease (anti-block grease). After greasing, the fittings must be immediately assembled to prevent any contamination.



Assembly instructions for adjustable fittings

C



Tightening torques of the soft-seal version (...-WD)

| Tube outer diameter (mm) | LR series Md (Nm) | LM series Md (Nm) |
|--------------------------|-------------------|-------------------|
| 6                        | 25                | 25                |
| 8                        | 50                | 60                |
| 10                       | 50                | 60                |
| 12                       | 80                | 85                |
| 15                       | 140               | 100               |
| 18                       | 140               | 140               |
| 22                       | 210               | 215               |
| 28                       | 1,400             | 400               |
| 35                       | 600               | 600               |
| 42                       | 850               | 850               |

|    | SR series Md (Nm) | SM series Md (Nm) |
|----|-------------------|-------------------|
| 6  | 50                | 60                |
| 8  | 50                | 60                |
| 10 | 80                | 85                |
| 12 | 80                | 110               |
| 14 | 160               | -                 |
| 16 | 180               | 150               |
| 20 | 250               | 310               |
| 25 | 410               | 410               |
| 30 | 650               | 650               |
| 38 | 850               | 850               |

1. In the case of steel fittings, the port thread and the O-ring of the banjo bolt must be oiled.

1.1 In the case of stainless steel fittings, the port threads of the banjo bolts should be sufficiently greased with Danfoss Waltech ABF grease (anti-block grease). After greasing, the fittings must be immediately assembled to prevent any contamination. Oil the banjo-bolt O-ring.

2. Insert the banjo bolt through the banjo body (on the side that features a small counterbore).

3. Insert the sealing-edge ring or the soft-seal ring into the large counterbore in the body. The fitting is centered via the banjo bolt thread. If the soft-seal ring is used, the fitting is additionally centered via the counterbore in the body (there should be no clearance between the seal ring and the body; with thread sizes M 10x1, R 1/8, R 1/4 and M 14x1.5, only the smaller diameter of the seal ring will fit into the counterbore; with the remaining dimensions, only the larger one will fit).

4. Align the banjo body and tighten the banjo bolt using a wrench until there is a clearly detectable increase in the required torque (pressure point).

5.1 **With soft-seal ring:** While holding the body in place, use a wrench to tighten the banjo bolt by a 1/6 rotation (60°) past the pressure point (see the "tightening torque" table).

5.2 **With sealing-edge ring:** While holding the body in place, use a wrench to tighten the banjo bolt by a 1/4 rotation (90°) past the pressure point. The fitting is now fixed in place and sealed.

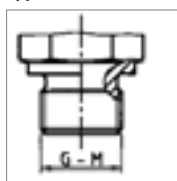
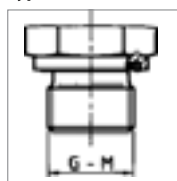
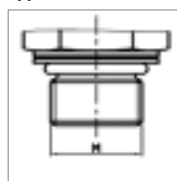
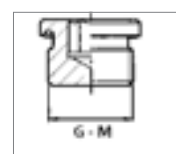
**⚠ Caution:** The tightening rotation of the soft-seal version is shorter and the tightening torque lower than for the banjo fitting with sealing-edge ring.

6. Re-assembly is possible. Check the O-ring and the soft seal for damage and replace if necessary.

**Important:** The threads of stainless steel fittings should be sufficiently greased with Danfoss Waltech ABF grease (anti-block grease) prior to re-assembly.

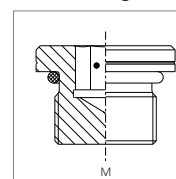
**⚠ Caution:** Any deviation from the specified tightening rotation will reduce the nominal pressure rating and the service life of the fitting. This may cause the fitting to leak.



**Tightening torques for steel studs to DIN 3852**
**Type B**

**Type E**

**Type F**

**Blanking ends**
**VS-R ...-WD, VS-M ...-WD**

**C**

| Series | Tube outer diameter (mm) | Standard value |                |                |            |                |
|--------|--------------------------|----------------|----------------|----------------|------------|----------------|
|        |                          | G-M            | Type B Md (Nm) | Type E Md (Nm) | M          | Type F Md (Nm) |
| L      | 6                        | M 10 x 1       | 18             | 18             | M 10 x 1.5 | 15             |
|        | 8                        | M 12 x 1.5     | 30             | 25             | M 12 x 1.5 | 25             |
|        | 10                       | M 14 x 1.5     | 45             | 45             | M 14 x 1.5 | 35             |
|        | 12                       | M 16 x 1.5     | 65             | 55             | M 16 x 1.5 | 40             |
|        | 15                       | M 18 x 1.5     | 80             | 70             | M 18 x 1.5 | 45             |
|        | 18                       | M 22 x 1.5     | 140            | 125            | M 22 x 1.5 | 60             |
|        | 22                       | M 26 x 1.5     | 190            | 180            | M 27 x 2   | 100            |
|        | 28                       | M 33 x 2       | 340            | 310            | M 33 x 2   | 160            |
|        | 35                       | M 42 x 2       | 500            | 450            | M 42 x 2   | 210            |
|        | 42                       | M 48 x 2       | 630            | 540            | M 48 x 2   | 260            |
| S      | 6                        | M 12 x 1.5     | 35             | 35             | M 12 x 1.5 | 35             |
|        | 8                        | M 14 x 1.5     | 55             | 55             | M 14 x 1.5 | 45             |
|        | 10                       | M 16 x 1.5     | 70             | 70             | M 16 x 1.5 | 55             |
|        | 12                       | M 18 x 1.5     | 110            | 90             | M 18 x 1.5 | 70             |
|        | 14                       | M 20 x 1.5     | 150            | 125            |            |                |
|        | 16                       | M 22 x 1.5     | 170            | 135            | M 22 x 1.5 | 100            |
|        | 20                       | M 27 x 2       | 270            | 180            | M 27 x 2   | 170            |
|        | 25                       | M 33 x 2       | 410            | 310            | M 33 x 2   | 310            |
|        | 30                       | M 42 x 2       | 540            | 450            | M 42 x 2   | 330            |
|        | 38                       | M 48 x 2       | 700            | 540            | M 48 x 2   | 420            |
| L      | 6                        | G 1/8 A        | 18             | 18             |            |                |
|        | 8                        | G 1/4 A        | 35             | 35             |            |                |
|        | 10                       | G 1/4 A        | 35             | 35             |            |                |
|        | 12                       | G 3/8 A        | 70             | 70             |            |                |
|        | 15                       | G 1/2 A        | 140            | 90             |            |                |
|        | 18                       | G 1/2 A        | 100            | 90             |            |                |
|        | 22                       | G 3/4 A        | 180            | 180            |            |                |
|        | 28                       | G 1 A          | 330            | 310            |            |                |
|        | 35                       | G 1 1/4 A      | 540            | 450            |            |                |
|        | 42                       | G 1 1/2 A      | 630            | 540            |            |                |
| S      | 6                        | G 1/4 A        | 55             | 55             |            |                |
|        | 8                        | G 1/4 A        | 55             | 55             |            |                |
|        | 10                       | G 3/8 A        | 90             | 80             |            |                |
|        | 12                       | G 3/8 A        | 90             | 80             |            |                |
|        | 14                       | G 1/2 A        | 130            | 115            |            |                |
|        | 16                       | G 1/2 A        | 130            | 115            |            |                |
|        | 20                       | G 3/4 A        | 270            | 180            |            |                |
|        | 25                       | G 1 A          | 340            | 310            |            |                |
|        | 30                       | G 1 1/4 A      | 540            | 450            |            |                |
|        | 38                       | G 1 1/2 A      | 700            | 540            |            |                |

| G-M        | PN  | Standard value Md (Nm) |
|------------|-----|------------------------|
| G 1/8 A    |     | 10                     |
| G 1/4 A    |     | 30                     |
| G 3/8 A    | 400 | 40                     |
| G 1/2 A    |     | 80                     |
| G 3/4 A    |     | 120                    |
| G 1 A      |     | 200                    |
| G 1 1/4 A  | 250 | 350                    |
| G 1 1/2 A  |     | 400                    |
| G 1 1/4    | 400 | 400                    |
| G 1 1/2    |     | 500                    |
| M 10 x 1   |     | 10                     |
| M 12 x 1.5 |     | 20                     |
| M 14 x 1.5 |     | 30                     |
| M 16 x 1.5 |     | 40                     |
| M 18 x 1.5 |     | 50                     |
| M 20 x 1.5 | 400 | 60                     |
| M 22 x 1.5 |     | 80                     |
| M 26 x 1.5 |     | 100                    |
| M 27 x 2   |     | 120                    |
| M 33 x 2   |     | 200                    |
| M 42 x 2   | 250 | 350                    |
| M 48 x 2   |     | 400                    |
| M 42 x 2   | 400 | 400                    |
| M 48 x 2   |     | 500                    |

**VS... blanking ends M-OR**


| M          | Standard value Md (Nm) |
|------------|------------------------|
| M 10 x 1.5 | 20                     |
| M 12 x 1.5 | 35                     |
| M 14 x 1.5 | 45                     |
| M 16 x 1.5 | 55                     |
| M 18 x 1.5 | 70                     |
| M 22 x 1.5 | 100                    |
| M 27 x 2   | 170                    |
| M 33 x 2   | 310                    |
| M 42 x 2   | 330                    |
| M 48 x 2   | 420                    |

**Note:**

Oil the stud before screwing it in!

The tightening torques refer to counterparts made of steel.

The permissible tolerance of the values in the table is +10%

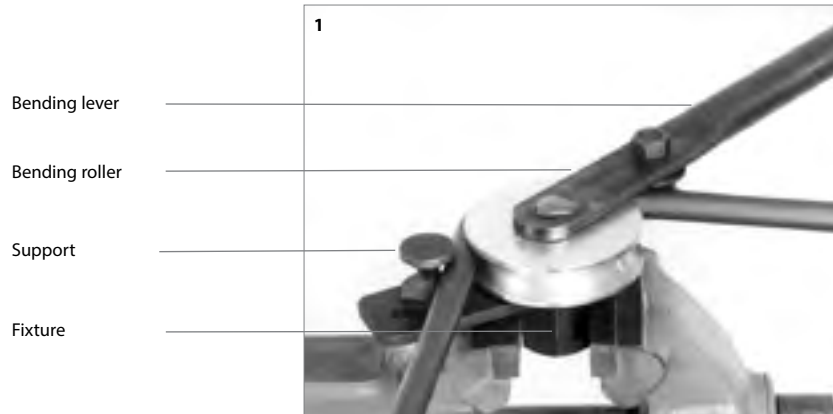
**Instructions for tube bending**

**For tubes with an outer diameter of 6-18 mm**

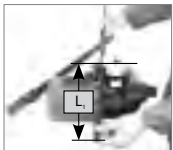


**Tube outer diameter 6-12 mm**  
**Art. no. WAL033012**

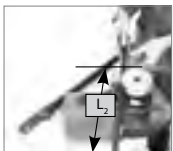
**Tube outer diameter 10-18 mm**  
**Art. no. WAL033020**



2. Clamp the fixture and screw in the support. Attach a bending roller of the required size (the tube outer diameter is indicated on the bending roller).



3. Determining the tube length  $L_1$   
 Mark the desired distance between the straight tube end and the beginning of the tube bend. Insert the tube and align it so that the marking is at a right angle to the center of the bending roller.



4. Determining the tube length  $L_2$  (only for 90° bends)  
 Mark the required distance between the straight end of the tube and the beginning of the bend. Insert the tube and align it so that the marking is at a right angle to the outer edge of the bending roller.



5. Insert the bending lever and bend the tube quickly until the required final shape is almost reached. While bending, gently move the tube along manually.



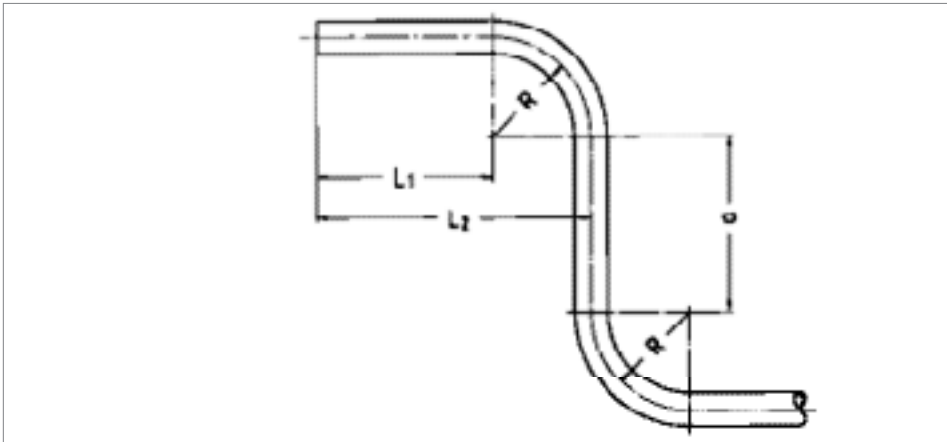
6. Slowly pull the bending lever until the required bending angle is reached.



7. Remove the bent tube. With complicated tube bends, it may also be necessary to remove the bending lever and the bending roller.

### Determining the length and radius

For tubes with an outer diameter of 6-18 mm



C

| Tube outer diameter (mm) | Tube outer diameter 6-12 mm |            | Tube outer diameter 10-18 mm |            |
|--------------------------|-----------------------------|------------|------------------------------|------------|
|                          | Art. no. WAL033012          |            | Art. no. WAL033012           |            |
|                          | R                           | a / L1 min | R                            | a / L1 min |
| 6                        | 20                          | 36         | -                            | -          |
| 8                        | 20                          | 36         | -                            | -          |
| 10                       | 25                          | 32         | 36                           | 64         |
| 12                       | 25                          | 32         | 36                           | 64         |
| 15                       | -                           | -          | 43                           | 53         |
| 16                       | -                           | -          | 44                           | 53         |
| 18                       | -                           | -          | 51                           | 73         |

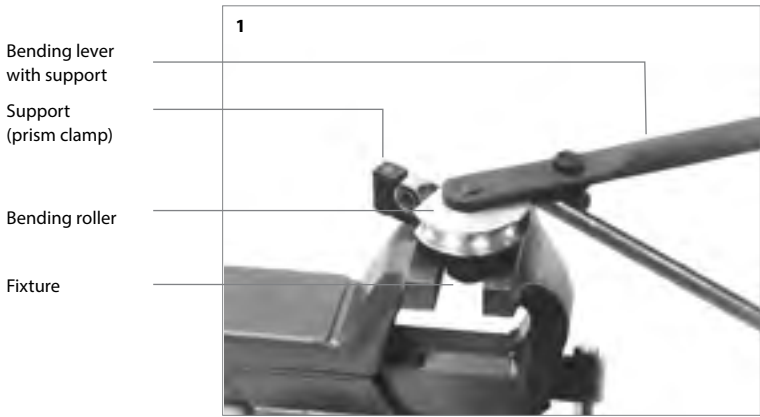
**Instructions for tube bending**

**For tubes with an outer diameter of 10-18 mm**

C

If the tube bending tool SA1 is used, tubes can be bent directly behind an already mounted nut.

**Art. no. WAL063805**



2. Clamp the fixture and attach the prism clamp (in accordance with the tube outer diameter). Attach a bending roller of the required size (the tube outer diameter is indicated on the bending roller).



3. Insert the tube together with the nut, so that the nut is positioned between the prism clamp and the bending roller. Attach the bending lever.

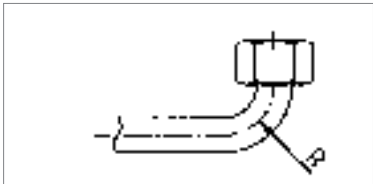


4. Quickly bend the tube until the required final shape is almost reached. While bending, gently move the tube along manually. Slowly pull the bending lever until the required bending angle is reached.



5. Remove the bent tube. With complicated tube bends, it may also be necessary to remove the bending lever and the bending roller.

**Radius determination**



**Tube outer diameter 10-18 mm**

**Art. no. WAL063805**

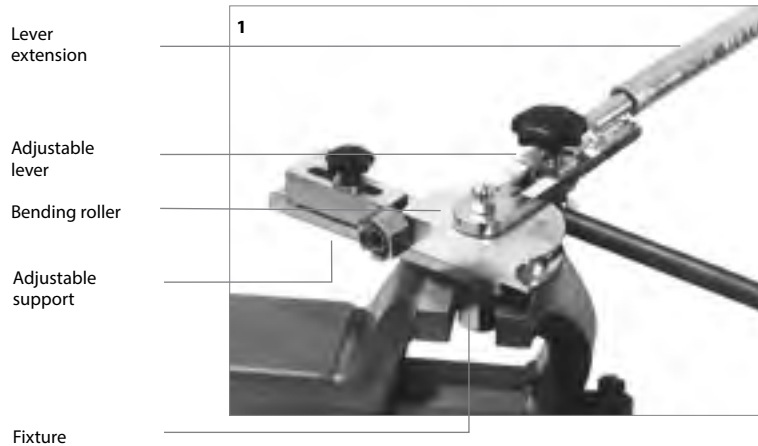
| Tube outer diameter (mm) | R  |
|--------------------------|----|
| 10                       | 36 |
| 12                       | 36 |
| 15                       | 44 |
| 16                       | 44 |
| 18                       | 52 |

## Instructions for tube bending

### For tubes with an outer diameter of 6-22 mm

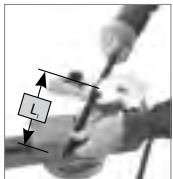
If the tube bending tool SA2 is used, tubes can be bent 24 mm behind an already mounted nut.

**Art. no. WAL615706**



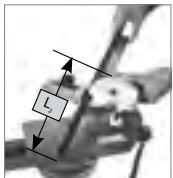
#### 2. Bending 24 mm behind the nut

Clamp the fixture using the adjustable support. Attach a bending roller of the required size (the tube outer diameter is indicated on the bending roller). Insert the tube and fix the support in place in accordance with the tube outer diameter. The nut should rest on the flat surfaces of the support and the bending roller.



#### 3. Bending after determining the tube length $L_1$

Clamp the fixture using the adjustable support. Attach a bending roller of the required size (the tube outer diameter is indicated on the bending roller). Turn the support, so that the broad surface points towards the bending roller. Mark the desired distance between the straight tube end and the beginning of the tube bend. Insert the tube and align it so that the marking is at a right angle to the center of the bending roller.



#### 4. Bending after determining the tube length $L_2$ (only for 90° bends)

Clamp the fixture using the adjustable support. Attach a bending roller of the required size (the tube outer diameter is indicated on the bending roller). Turn the support, so that the broad surface points towards the bending roller. Mark the required distance between the straight end of the tube and the beginning of the bend. Insert the tube and align it so that the marking is at a right angle to the outer edge of the bending roller.



#### 5. Attach the adjustable lever and lock it in position in accordance with the tube outer diameter.

Assembly instructions

C

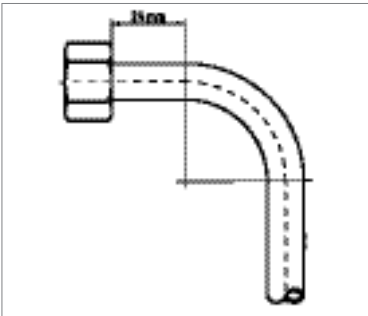


6. Attach the lever extension. Quickly bend the tube until the required final shape is almost reached. While bending, gently move the tube along manually. Slowly pull the bending lever until the required bending angle is reached.



7. Release the support to remove the tube bend. Remove the bent tube. With complicated tube bends, it may also be necessary to remove the lever and the bending roller.

Radius determination



Tube outer diameter 6-22 mm

Art. no. WAL615706

| Tube outer diameter (mm) | R  |
|--------------------------|----|
| 6                        | 36 |
| 8                        | 36 |
| 10                       | 36 |
| 12                       | 36 |
| 14                       | 36 |
| 15                       | 44 |
| 16                       | 44 |
| 18                       | 52 |
| 20                       | 64 |
| 22                       | 63 |

## Installation guidelines for tube assemblies

### Installation guidelines:

- Any tube length differences and heat expansions must be appropriately compensated, for example by installing tube bends.
- Tubes that are longer or shorter than the specified tube length may cause leakage.
- Prior to installation, short straight tube sections without length compensation between the installation ends must be checked for compliance with the final dimension and adapted, if necessary.
- Straight connections between two fixed points should be avoided. Use tube bends for stress compensation.
- Aim for a clear tube arrangement.
- Allow easy access to the connection points and the components to simplify installation and maintenance.
- Make sure that the tubes are not assembled under stress and compensate for possible heat expansions while taking tube bends into account.
- System loads should be compensated as much as possible by means of vibration damping and vibration isolation.
- Aim for low pressure loss during installation.

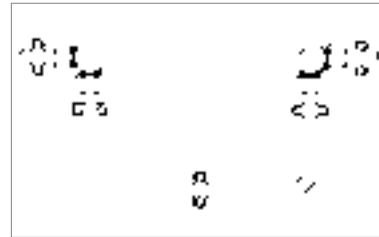
### Fastening instructions:

Tube assemblies must be fastened in such a way that

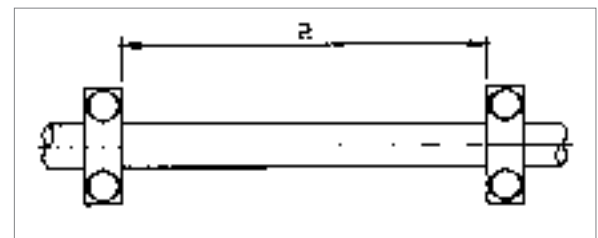
- They do not vibrate uncontrollably,
- They are not in direct contact with other parts,
- They are not in contact with one another,
- The fastening method ensures stress-free installation,
- They are not used to fasten other components.

### Fastening locations:

- The first clamp should be fitted immediately after the fitting, as this will prevent the fitting from vibrating - Table 1.
- Tube bends must be supported directly before and after each bend.
- A minimum distance between the clamp and the union nuts/union bolts should be observed in order to ensure that union nuts/union bolts are able to move axially for disassembly - Table 2.



C



**Recommended fastening distances (to DIN 24346)**

| Tube outer diameter (mm) | Max. distance between clamps a (m) |
|--------------------------|------------------------------------|
| 6-10                     | 1                                  |
| 10-25                    | 1.5                                |
| Greater than 25          | 2.0                                |

**Table 1**

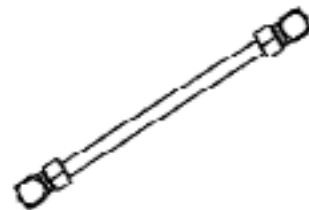
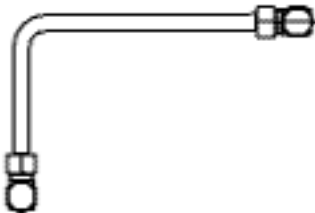
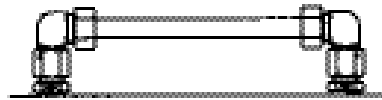
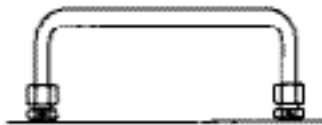
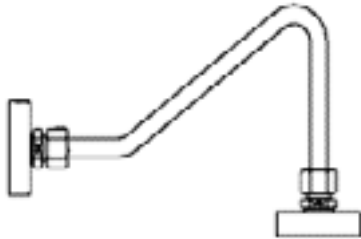
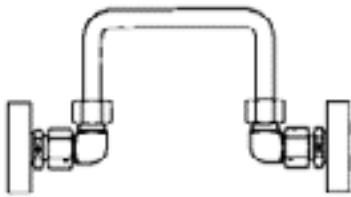
This information is intended for reference only; for more detailed information, see the specifications of the tube clamp manufacturer.

Tube installation examples

Advantageous

Disadvantageous

C



Min. axial clearance for union nut

| Tube outer diameter (mm) | Distance between clamp and nut (mm) |
|--------------------------|-------------------------------------|
| 6, 8                     | 13                                  |
| 10, 12, 15               | 15                                  |
| 16                       | 16.5                                |
| 18                       | 15.5                                |
| 20                       | 19.5                                |
| 22, 25                   | 22.5                                |
| 28                       | 17.5                                |
| 30                       | 25.5                                |
| 35                       | 22.5                                |
| 38                       | 31.5                                |
| 42                       | 26                                  |

Table 2

















D

## Tube connecting parts



|  |  | <b>Figure</b>   | <b>Model</b>   | <b>Page</b> |
|--|--|---|----------------|-------------|
| Tube connecting parts                                | Union nut  |    | M ...          | D3          |
| Walring  | System nut with integrated soft seal             |    | W-R ...        | D4          |
| Tube connecting parts for profile-ring tube fittings | Walpro system nut                                |    | PR-M ...       | D5          |
|  | Walpro profile ring                              |    | P-R ...        | D6          |
| Tube connecting parts for Walform tube fittings      | Walform system nut                               |    | WF-M ...       | D7          |
|  | Support ring                                     |    | WF-PLUS-SR ... | D7          |
|  | Soft seal  |    | WF-WD ...      | D8          |
| Flare connecting parts for flare tube fittings       | Flare connecting parts                           |   | BO-A ...       | D9          |
|  | Intermediate ring                                |  | BO-ZR ...      | D10         |
|  | Sleeve   |  | BO-DR ...      | D11         |
|  | Union nut  |  | BO-M ...       | D12         |
|  | Protective cap for intermediate rings (tube end) |  | Cap M ...      | D13         |

**D**

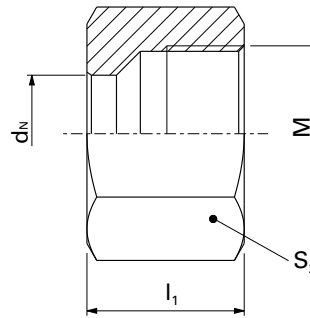
## Union nut

**M ...**

**M ... -1.4571**

• Union nut

D



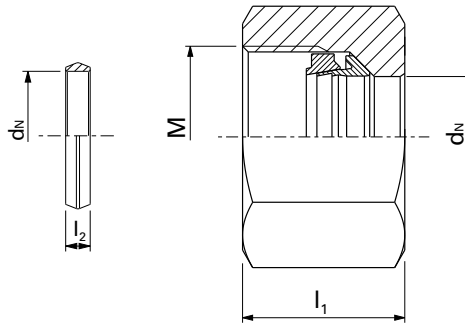
|            |                 |  |               |             |            |                |                  |                  | Union nut<br>Stainless steel (1.4571)<br>M ...<br>-1.4571* |
|------------|-----------------|--|---------------|-------------|------------|----------------|------------------|------------------|--|
| Series     | PN<br>bar (psi) | Tube outer<br>diameter<br>d <sub>n</sub> | Model         | kg/ 100 pc. | M          | l <sub>1</sub> | S <sub>2</sub>   | Art. no.         | Art. no.   |
| LL         | 100 (1450)      | 4  | <b>M 4 LL</b> | 0.4         | M 8 x 1    | 11             | 10               | <b>WAL039838</b> | <b>WAL027923</b>   |
|            |                 | 6  | <b>M 6 LL</b> | 0.5         | M 10 x 1   | 11.5           | 12               | <b>WAL039840</b> | <b>WAL027925</b>   |
|            |                 | 8  | <b>M 8 LL</b> | 0.7         | M 12 x 1   | 12             | 14               | <b>WAL039841</b> | <b>WAL027926</b>   |
| L          | 500 (7252)      | 6  | <b>M 6 L</b>  | 0.9         | M 12 x 1.5 | 14.5           | 14               | <b>WAL039842</b> | <b>WAL027927</b>   |
|            |                 | 8  | <b>M 8 L</b>  | 1.4         | M 14 x 1.5 | 14.5           | 17               | <b>WAL039843</b> | <b>WAL027928</b>   |
|            |                 | 10                                       | <b>M 10 L</b> | 2.0         | M 16 x 1.5 | 15.5           | 19               | <b>WAL039844</b> | <b>WAL027929</b>   |
|            | 400 (5801)      | 12                                       | <b>M 12 L</b> | 2.5         | M 18 x 1.5 | 15.5           | 22               | <b>WAL039845</b> | <b>WAL027930</b>   |
|            |                 | 15                                       | <b>M 15 L</b> | 4.0         | M 22 x 1.5 | 17             | 27               | <b>WAL039846</b> | <b>WAL027931</b>   |
|            |                 | 18                                       | <b>M 18 L</b> | 6.0         | M 26 x 1.5 | 18             | 32               | <b>WAL039847</b> | <b>WAL027932</b>   |
|            |                 | 22                                       | <b>M 22 L</b> | 8.0         | M 30 x 2   | 20             | 36               | <b>WAL039848</b> | <b>WAL027933</b>   |
| 250 (3626) | 28              | <b>M 28 L</b>                            | 8.5           | M 36 x 2    | 21         | 41             | <b>WAL039849</b> | <b>WAL027934</b> |  |
|            | 35              | <b>M 35 L</b>                            | 13.0          | M 45 x 2    | 24         | 50             | <b>WAL039850</b> | <b>WAL027935</b> |  |
| S          | 800 (11603)     | 42                                       | <b>M 42 L</b> | 21.0        | M 52 x 2   | 24             | 60               | <b>WAL039851</b> | <b>WAL027936</b>   |
|            |                 | 6  | <b>M 6 S</b>  | 1.5         | M 14 x 1.5 | 16.5           | 17               | <b>WAL039852</b> | <b>WAL028649</b>   |
|            |                 | 8  | <b>M 8 S</b>  | 1.7         | M 16 x 1.5 | 16.5           | 19               | <b>WAL039853</b> | <b>WAL027937</b>   |
|            | 630 (9137)      | 10                                       | <b>M 10 S</b> | 3.0         | M 18 x 1.5 | 17.5           | 22               | <b>WAL039854</b> | <b>WAL027938</b>   |
|            |                 | 12                                       | <b>M 12 S</b> | 3.5         | M 20 x 1.5 | 17.5           | 24               | <b>WAL039855</b> | <b>WAL027939</b>   |
|            |                 | 14                                       | <b>M 14 S</b> | 5.0         | M 22 x 1.5 | 20.5           | 27               | <b>WAL039856</b> | <b>WAL027940</b>   |
|            |                 | 16                                       | <b>M 16 S</b> | 6.0         | M 24 x 1.5 | 20.5           | 30               | <b>WAL039857</b> | <b>WAL027941</b>   |
|            | 420 (6091)      | 20                                       | <b>M 20 S</b> | 9.5         | M 30 x 2   | 24             | 36               | <b>WAL039858</b> | <b>WAL027942</b>   |
|            |                 | 25                                       | <b>M 25 S</b> | 19.5        | M 36 x 2   | 27             | 46               | <b>WAL039859</b> | <b>WAL027943</b>   |
|            |                 | 30                                       | <b>M 30 S</b> | 21.5        | M 42 x 2   | 29             | 50               | <b>WAL039860</b> | <b>WAL027944</b>   |
|            |                 | 38                                       | <b>M 38 S</b> | 31.0        | M 52 x 2   | 32.5           | 60               | <b>WAL039861</b> | <b>WAL027945</b>   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Silver-plated stainless steel nut (AG/AGP), see price list

**W-R...**

- Waling system nut with integrated soft seal
- Walform soft seal made from FPM\* (e.g. Viton)
- Alternative option: Walform soft seal made from NBR (e.g. Perbunan)



D

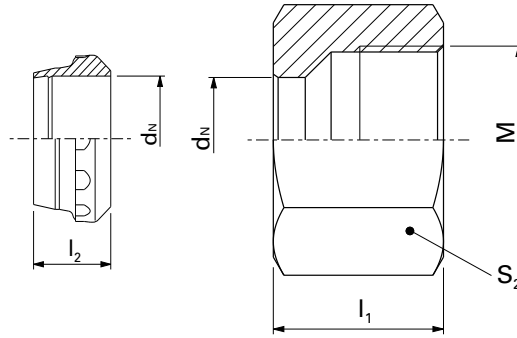
| Series | PN bar (psi) | Tube outer diameter d <sub>N</sub> | Model              | kg/ 100 pc. | M          | l <sub>1</sub> | l <sub>2</sub> | S <sub>2</sub> | Waling           | Replacement            | Alternative option: WF-WD                    |
|--------|--------------|------------------------------------|--------------------|-------------|------------|----------------|----------------|----------------|------------------|------------------------|--|
|        |              |                                    |                    |             |            |                |                |                | W-R ... VI       | soft seal WF-WD ... VI | made from NBR Replacement soft seal WF-WD... |
|        |              |                                    |                    |             |            |                |                |                | Art. no.         | Art. no.               | Art. no.                                     |
| L      | 500 (7252)   | 6                                  | <b>W-R 6 L VI</b>  | 0.9         | M 12 x 1.5 | 14.5           | 2.7            | 14             | <b>WAL624607</b> | <b>WAL610871</b>       | <b>WAL612893</b>                             |
|        |              | 8                                  | <b>W-R 8 L VI</b>  | 1.4         | M 14 x 1.5 | 14.5           | 2.7            | 17             | <b>WAL624608</b> | <b>WAL610872</b>       | <b>WAL612894</b>                             |
|        |              | 10                                 | <b>W-R 10 L VI</b> | 2.0         | M 16 x 1.5 | 15.5           | 2.95           | 19             | <b>WAL624609</b> | <b>WAL610873</b>       | <b>WAL612840</b>                             |
|        | 400 (5801)   | 12                                 | <b>W-R 12 L VI</b> | 2.5         | M 18 x 1.5 | 15.5           | 2.95           | 22             | <b>WAL624610</b> | <b>WAL610874</b>       | <b>WAL612790</b>                             |
|        |              | 15                                 | <b>W-R 15 L VI</b> | 4.0         | M 22 x 1.5 | 17             | 2.95           | 27             | <b>WAL624611</b> | <b>WAL610875</b>       | <b>WAL612479</b>                             |
|        |              | 18                                 | <b>W-R 18 L VI</b> | 6.0         | M 26 x 1.5 | 18             | 2.95           | 32             | <b>WAL624612</b> | <b>WAL610877</b>       | <b>WAL612896</b>                             |
|        | 250 (3626)   | 22                                 | <b>W-R 22 L VI</b> | 8.0         | M 30 x 2   | 20             | 2.95           | 36             | <b>WAL624613</b> | <b>WAL610879</b>       | <b>WAL612897</b>                             |
|        |              | 28                                 | <b>W-R 28 L VI</b> | 8.5         | M 36 x 2   | 21             | 2.95           | 41             | <b>WAL624614</b> | <b>WAL610881</b>       | <b>WAL612898</b>                             |
|        |              | 35                                 | <b>W-R 35 L VI</b> | 13.0        | M 45 x 2   | 24             | 3.5            | 50             | <b>WAL624615</b> | <b>WAL610883</b>       | <b>WAL612899</b>                             |
|        |              | 42                                 | <b>W-R 42 L VI</b> | 21.0        | M 52 x 2   | 24             | 3.5            | 60             | <b>WAL624616</b> | <b>WAL610885</b>       | <b>WAL612900</b>                             |
| S      | 800 (11603)  | 6                                  | <b>W-R 6 S VI</b>  | 1.5         | M 14 x 1.5 | 16.5           | 2.7            | 17             | <b>WAL624617</b> | <b>WAL610871</b>       | <b>WAL612893</b>                             |
|        |              | 8                                  | <b>W-R 8 S VI</b>  | 1.7         | M 16 x 1.5 | 16.5           | 2.7            | 19             | <b>WAL624618</b> | <b>WAL610872</b>       | <b>WAL612894</b>                             |
|        |              | 10                                 | <b>W-R 10 S VI</b> | 3.0         | M 18 x 1.5 | 17.5           | 2.95           | 22             | <b>WAL624619</b> | <b>WAL610873</b>       | <b>WAL612840</b>                             |
|        | 630 (9137)   | 12                                 | <b>W-R 12 S VI</b> | 3.5         | M 20 x 1.5 | 17.5           | 2.95           | 24             | <b>WAL624620</b> | <b>WAL610874</b>       | <b>WAL612790</b>                             |
|        |              | 16                                 | <b>W-R 16 S VI</b> | 6.0         | M 24 x 1.5 | 20.5           | 2.95           | 30             | <b>WAL624621</b> | <b>WAL610876</b>       | <b>WAL612895</b>                             |
|        |              | 20                                 | <b>W-R 20 S VI</b> | 9.5         | M 30 x 2   | 24             | 3.7            | 36             | <b>WAL624622</b> | <b>WAL610878</b>       | <b>WAL612480</b>                             |
|        | 420 (6091)   | 25                                 | <b>W-R 25 S VI</b> | 19.5        | M 36 x 2   | 27             | 3.7            | 46             | <b>WAL624623</b> | <b>WAL610880</b>       | <b>WAL612791</b>                             |
|        |              | 30                                 | <b>W-R 30 S VI</b> | 21.5        | M 42 x 2   | 29             | 3.85           | 50             | <b>WAL624624</b> | <b>WAL610882</b>       | <b>WAL612481</b>                             |
|        |              | 38                                 | <b>W-R 38 S VI</b> | 31.0        | M 52 x 2   | 32.5           | 3.5            | 60             | <b>WAL624625</b> | <b>WAL610884</b>       | <b>WAL612837</b>                             |

\*EPDM available on request

**PR-M ...**

**PR-M ... -1.4571**

- Walpro system nut



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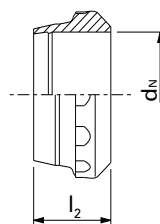
|        |              |                                    |           |             |            |                |                |                |           | Walpro system nut stainless steel (1.4571)<br>PR-M ... -1.4571* |
|--------|--------------|------------------------------------|-----------|-------------|------------|----------------|----------------|----------------|-----------|---|
|        |              |                                    |           |             |            |                |                |                |           | Walpro system nut PR-M ...                                      |
| Series | PN bar (psi) | Tube outer diameter d <sub>N</sub> | Model     | kg/ 100 pc. | M          | I <sub>1</sub> | S <sub>2</sub> | I <sub>2</sub> | Art. no.  | Art. no.  |
| LL     | 100 (1450)   | 4                                  | SR-M 4 LL | 0.5         | M 8 x 1    | 11             | 10             | 6              | WAL626000 | WAL626100   |
|        |              | 6                                  | SR-M 6 LL | 0.6         | M 10 x 1   | 11.5           | 12             | 7              | WAL626001 | WAL626101   |
|        |              | 8                                  | SR-M 8 LL | 0.8         | M 12 x 1   | 12             | 14             | 7              | WAL626002 | WAL626102   |
| L      | 500 (7252)   | 6                                  | PR-M 6 L  | 1.1         | M 12 x 1.5 | 14.5           | 14             | 9.8            | WAL626003 | WAL626103   |
|        |              | 8                                  | PR-M 8 L  | 1.7         | M 14 x 1.5 | 14.5           | 17             | 9.5            | WAL626004 | WAL626104   |
|        |              | 10                                 | PR-M 10 L | 2.4         | M 16 x 1.5 | 15.5           | 19             | 10             | WAL626005 | WAL626105   |
|        | 400 (5801)   | 12                                 | PR-M 12 L | 3.0         | M 18 x 1.5 | 15.5           | 22             | 9.5            | WAL626006 | WAL626106   |
|        |              | 15                                 | PR-M 15 L | 4.6         | M 22 x 1.5 | 17             | 27             | 9.8            | WAL626007 | WAL626107   |
|        |              | 18                                 | PR-M 18 L | 6.7         | M 26 x 1.5 | 18             | 32             | 9.8            | WAL626008 | WAL626108   |
|        |              | 22                                 | PR-M 22 L | 8.9         | M 30 x 2   | 20             | 36             | 10.5           | WAL626009 | WAL626109   |
|        | 250 (3626)   | 28                                 | PR-M 28 L | 9.7         | M 36 x 2   | 21             | 41             | 11             | WAL626010 | WAL626110   |
|        |              | 35                                 | PR-M 35 L | 15.3        | M 45 x 2   | 24             | 50             | 13             | WAL626011 | WAL626111   |
|        |              | 42                                 | PR-M 42 L | 23.8        | M 52 x 2   | 24             | 60             | 13             | WAL626012 | WAL626112   |
| S      |              | 800 (11603)                        | 6         | PR-M 6 S    | 1.7        | M 14 x 1.5     | 16.5           | 17             | 9.8       | WAL626013   |
|        | 8            |                                    | PR-M 8 S  | 2.0         | M 16 x 1.5 | 16.5           | 19             | 9.5            | WAL626014 | WAL626114   |
|        | 10           |                                    | PR-M 10 S | 3.4         | M 18 x 1.5 | 17.5           | 22             | 10             | WAL626015 | WAL626115   |
|        | 630 (9137)   | 12                                 | PR-M 12 S | 4.0         | M 20 x 1.5 | 17.5           | 24             | 9.5            | WAL626016 | WAL626116   |
|        |              | 14                                 | PR-M 14 S | 5.6         | M 22 x 1.5 | 20.5           | 27             | 10             | WAL626017 | WAL626117   |
|        |              | 16                                 | PR-M 16 S | 6.7         | M 24 x 1.5 | 20.5           | 30             | 10.3           | WAL626018 | WAL626118   |
|        | 420 (6091)   | 20                                 | PR-M 20 S | 10.6        | M 30 x 2   | 24             | 36             | 12             | WAL626019 | WAL626119   |
|        |              | 25                                 | PR-M 25 S | 21.0        | M 36 x 2   | 27             | 46             | 12             | WAL626020 | WAL626120   |
| 30     |              | PR-M 30 S                          | 23.6      | M 42 x 2    | 29         | 50             | 13             | WAL626021      | WAL626121 |   |
|        |              | 38                                 | PR-M 38 S | 33.6        | M 52 x 2   | 32.5           | 60             | 13             | WAL626022 | WAL626122   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Silver-plated stainless steel nut (AG/AGP), see price list

**P-R ...**
**P-R ... -1.4571**

- Walpro profile ring


**D**

|        |                 |                              |            |             |       | Profile ring<br>P-R... | Profile ring<br>stainless steel (1.4571)<br>P-R...<br>-1.4571* |
|--------|-----------------|------------------------------|------------|-------------|-------|------------------------|--|
| Series | PN<br>bar (psi) | Tube outer diameter<br>$d_N$ | Model      | kg/ 100 pc. | $l_2$ | Art. no.               | Art. no.   |
| LL     | 100 (1450)      | 4                            | S-R 4 LL   | 0.05        | 6     | WAL039862              | WAL029780  |
|        |                 | 6                            | S-R 6 LL   | 0.09        | 7     | WAL039864              | WAL029782  |
|        |                 | 8                            | S-R 8 LL   | 0.1         | 7     | WAL039865              | WAL029783  |
| L      | 500 (7252)      | 6                            | P-R 6 L/S  | 0.2         | 9.8   | WAL372404              | WAL618843  |
|        |                 | 8                            | P-R 8 L/S  | 0.29        | 9.5   | WAL372405              | WAL618844  |
|        |                 | 10                           | P-R 10 L/S | 0.39        | 10    | WAL372406              | WAL618845  |
|        | 400 (5801)      | 12                           | P-R 12 L/S | 0.45        | 9.5   | WAL372407              | WAL618846  |
|        |                 | 15                           | P-R 15 L   | 0.58        | 9.8   | WAL372408              | WAL618847  |
|        |                 | 18                           | P-R 18 L   | 0.73        | 9.8   | WAL372409              | WAL618848  |
|        |                 | 22                           | P-R 22 L   | 0.86        | 10.5  | WAL372410              | WAL618849  |
|        | 250 (3626)      | 28                           | P-R 28 L   | 1.17        | 11    | WAL372411              | WAL618850  |
|        |                 | 35                           | P-R 35 L   | 2.31        | 13    | WAL372412              | WAL618851  |
|        |                 | 42                           | P-R 42 L   | 2.83        | 13    | WAL372413              | WAL618852  |
| S      |                 | 800 (11603)                  | 6          | P-R 6 L/S   | 0.2   | 9.8                    | WAL372404  |
|        | 8               |                              | P-R 8 L/S  | 0.29        | 9.5   | WAL372405              | WAL618844  |
|        | 10              |                              | P-R 10 L/S | 0.39        | 10    | WAL372406              | WAL618845  |
|        | 630 (9137)      | 12                           | P-R 12 L/S | 0.45        | 9.5   | WAL372407              | WAL618846  |
|        |                 | 14                           | P-R 14 S   | 0.61        | 10    | WAL372414              | WAL618853  |
|        |                 | 16                           | P-R 16 S   | 0.74        | 10.3  | WAL372415              | WAL618854  |
|        |                 | 20                           | P-R 20 S   | 1.13        | 12    | WAL372416              | WAL618855  |
|        | 420 (6091)      | 25                           | P-R 25 S   | 1.53        | 12    | WAL372417              | WAL618856  |
|        |                 | 30                           | P-R 30 S   | 2.13        | 13    | WAL372418              | WAL618857  |
|        |                 | 38                           | P-R 38 S   | 2.55        | 13    | WAL372419              | WAL618858  |

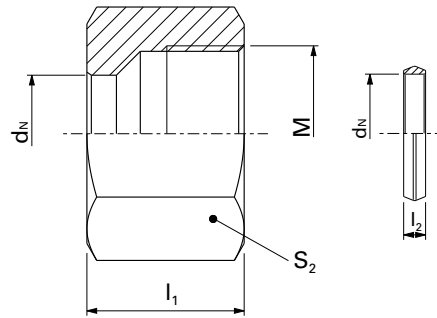
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

### WF-M ... VI

#### WF-M ... VI-1.4571

- Walform system nut
- Walform soft seal made from FPM (e.g. Viton)

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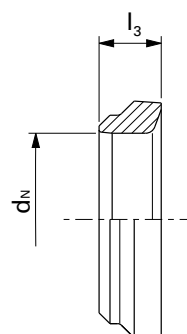


|        |                 |                                 |              |             |            |       |       |           |           | Walform<br>Stainless steel (1.4571)<br>WF-M ...<br>VI-1.4571 |
|--------|-----------------|---------------------------------|--------------|-------------|------------|-------|-------|-----------|-----------|--|
|        |                 |                                 |              |             |            |       |       |           |           | Walform<br>WF-M ... VI                                       |
| Series | PN<br>bar (psi) | Tube outer<br>diameter<br>$d_N$ | Model        | kg/ 100 pc. | M          | $I_1$ | $I_2$ | $S_2$     | Art. no.  | Art. no.   |
| L      | 500 (7252)      | 6                               | WF-M 6 L VI  | 0.9         | M 12 x 1.5 | 14.5  | 2.7   | 14        | WAL625940 | WAL625980  |
|        |                 | 8                               | WF-M 8 L VI  | 1.4         | M 14 x 1.5 | 14.5  | 2.7   | 17        | WAL625941 | WAL625981  |
|        |                 | 10                              | WF-M 10 L VI | 2.0         | M 16 x 1.5 | 15.5  | 2.95  | 19        | WAL625942 | WAL625982  |
|        | 400 (5801)      | 12                              | WF-M 12 L VI | 2.5         | M 18 x 1.5 | 15.5  | 2.95  | 22        | WAL625943 | WAL625983  |
|        |                 | 15                              | WF-M 15 L VI | 4.0         | M 22 x 1.5 | 17    | 2.95  | 27        | WAL625944 | WAL625984  |
|        |                 | 18                              | WF-M 18 L VI | 6.0         | M 26 x 1.5 | 18    | 2.95  | 32        | WAL625945 | WAL625985  |
|        | 250 (3626)      | 22                              | WF-M 22 L VI | 8.0         | M 30 x 2   | 20    | 2.95  | 36        | WAL625946 | WAL625986  |
|        |                 | 28                              | WF-M 28 L VI | 8.5         | M 36 x 2   | 21    | 2.95  | 41        | WAL625947 | WAL625987  |
|        |                 | 35                              | WF-M 35 L VI | 13.0        | M 45 x 2   | 24    | 3.5   | 50        | WAL625948 | WAL625988  |
| 42     |                 | WF-M 42 L VI                    | 21.0         | M 52 x 2    | 24         | 3.5   | 60    | WAL625949 | WAL625989 |  |
| S      | 800 (11603)     | 6                               | WF-M 6 S VI  | 1.5         | M 14 x 1.5 | 16.5  | 2.7   | 17        | WAL625950 | WAL625990  |
|        |                 | 8                               | WF-M 8 S VI  | 1.7         | M 16 x 1.5 | 16.5  | 2.7   | 19        | WAL625951 | WAL625991  |
|        |                 | 10                              | WF-M 10 S VI | 3.0         | M 18 x 1.5 | 17.5  | 2.95  | 22        | WAL625952 | WAL625992  |
|        | 630 (9137)      | 12                              | WF-M 12 S VI | 3.5         | M 20 x 1.5 | 17.5  | 2.95  | 24        | WAL625953 | WAL625993  |
|        |                 | 16                              | WF-M 16 S VI | 6.0         | M 24 x 1.5 | 20.5  | 2.95  | 30        | WAL625954 | WAL625994  |
|        |                 | 20                              | WF-M 20 S VI | 9.5         | M 30 x 2   | 24    | 3.7   | 36        | WAL625955 | WAL625995  |
|        | 420 (6091)      | 25                              | WF-M 25 S VI | 19.5        | M 36 x 2   | 27    | 3.7   | 46        | WAL625956 | WAL625996  |
|        |                 | 30                              | WF-M 30 S VI | 21.5        | M 42 x 2   | 29    | 3.85  | 50        | WAL625957 | WAL625997  |
|        |                 | 38                              | WF-M 38 S VI | 31.0        | M 52 x 2   | 32.5  | 3.5   | 60        | WAL625958 | WAL625998  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

### Support rings for WalformPlus-SR

| Dimensions | Tube outer<br>diameter<br>$d_N$ | Model             | Art. no.  | $I_3$ |
|------------|---------------------------------|-------------------|-----------|-------|
| 6 x 1.0    | 6                               | WF-PLUS-SR 6 L/S  | WAL625132 | 5.3   |
| 8 x 1.0    | 8                               | WF-PLUS-SR 8 L/S  | WAL625133 | 5.6   |
| 10 x 1.0   | 10                              | WF-PLUS-SR 10 L/S | WAL625134 | 5.8   |
| 12 x 1.0   | 12                              | WF-PLUS-SR 12 L/S | WAL625135 | 5.8   |
| 15 x 1.0   | 15                              | WF-PLUS-SR 15 L   | WAL625136 | 5.7   |
| 16 x 1.5   | 16                              | WF-PLUS-SR 16 S   | WAL625137 | 5.7   |
| 18 x 1.5   | 18                              | WF-PLUS-SR 18 L   | WAL625138 | 6.0   |
| 22 x 1.5   | 22                              | WF-PLUS-SR 22 L   | WAL625139 | 6.6   |
| 30 x 2.0   | 30                              | WF-PLUS-SR 30 S   | WAL625140 | 7.6   |
| 35 x 2.0   | 35                              | WF-PLUS-SR 35 L   | WAL625141 | 7.6   |

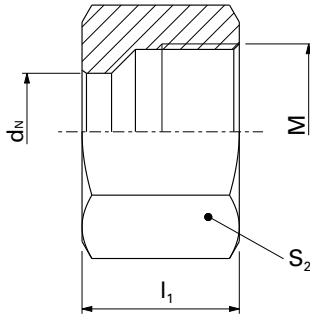




**M ...**

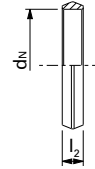
**M ... -1.4571**

- Union nut



**WF-WD ... VI**

- Walform soft seal made from FPM\*\* (e.g. Viton)
- Alternative option: Walform soft seal made from NBR (e.g. Perbunan)



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|        |                 | Union nut                                |        | Union nut<br>Stainless steel<br>(1.4571)<br>M ...<br>-1.4571* |           | Walform soft seal<br>WF-WD ... VI** |                 | Alternative option:<br>Replacement<br>soft seal made from NBR<br>WF-WD ... |           |           |
|--------|-----------------|--|--------|---|-----------|-------------------------------------|-----------------|--|-----------|-----------|
| Series | PN<br>bar (psi) | Tube outer<br>diameter<br>d <sub>N</sub> | Model  | kg/ 100 pc.   | Art. no.  | Art. no.                            | Model           | Art. no.   | Art. no.  |           |
| L      | 500 (7252)      | 6  | M 6 L  | 0.9   | WAL039842 | WAL027927                           | WF-WD 6 L/S VI  | WAL610871  | WAL612893 |           |
|        |                 | 8  | M 8 L  | 1.4   | WAL039843 | WAL027928                           | WF-WD 8 L/S VI  | WAL610872  | WAL612894 |           |
|        |                 | 10                                       | M 10 L | 2.0   | WAL039844 | WAL027929                           | WF-WD 10 L/S VI | WAL610873  | WAL612840 |           |
|        |                 | 12                                       | M 12 L | 2.5   | WAL039845 | WAL027930                           | WF-WD 12 L/S VI | WAL610874  | WAL612790 |           |
|        |                 | 15                                       | M 15 L | 4.0   | WAL039846 | WAL027931                           | WF-WD 15 L VI   | WAL610875  | WAL612479 |           |
|        | 400 (5801)      | 18                                       | M 18 L | 6.0   | WAL039847 | WAL027932                           | WF-WD 18 L VI   | WAL610877  | WAL612896 |           |
|        |                 | 22                                       | M 22 L | 8.0   | WAL039848 | WAL027933                           | WF-WD 22 L VI   | WAL610879  | WAL612897 |           |
|        |                 | 250 (3626)                               | 28     | M 28 L  | 8.5       | WAL039849                           | WAL027934       | WF-WD 28 L VI  | WAL610881 | WAL612898 |
|        |                 |  | 35     | M 35 L  | 13.0      | WAL039850                           | WAL027935       | WF-WD 35 L VI  | WAL610883 | WAL612899 |
|        |                 |  | 42     | M 42 L  | 21.0      | WAL039851                           | WAL027936       | WF-WD 42 L VI  | WAL610885 | WAL612900 |
| S      | 800 (11603)     | 6  | M 6 S  | 1.5   | WAL039852 | WAL028649                           | WF-WD 6 L/S VI  | WAL610871  | WAL612893 |           |
|        |                 | 8  | M 8 S  | 1.7   | WAL039853 | WAL027937                           | WF-WD 8 L/S VI  | WAL610872  | WAL612894 |           |
|        |                 | 10                                       | M 10 S | 3.0   | WAL039854 | WAL027938                           | WF-WD 10 L/S VI | WAL610873  | WAL612840 |           |
|        | 630 (9137)      | 12                                       | M 12 S | 3.5   | WAL039855 | WAL027939                           | WF-WD 12 L/S VI | WAL610874  | WAL612790 |           |
|        |                 | 16                                       | M 16 S | 6.0   | WAL039857 | WAL027941                           | WF-WD 16 S VI   | WAL610876  | WAL612895 |           |
|        |                 | 20                                       | M 20 S | 9.5   | WAL039858 | WAL027942                           | WF-WD 20 S VI   | WAL610878  | WAL612480 |           |
|        | 420 (6091)      | 25                                       | M 25 S | 19.5  | WAL039859 | WAL027943                           | WF-WD 25 S VI   | WAL610880  | WAL612791 |           |
|        |                 | 30                                       | M 30 S | 21.5  | WAL039860 | WAL027944                           | WF-WD 30 S VI   | WAL610882  | WAL612481 |           |
|        |                 | 38                                       | M 38 S | 31.0  | WAL039861 | WAL027945                           | WF-WD 38 S VI   | WAL610884  | WAL612837 |           |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Silver-plated stainless steel nut (AG/AGP), see price list

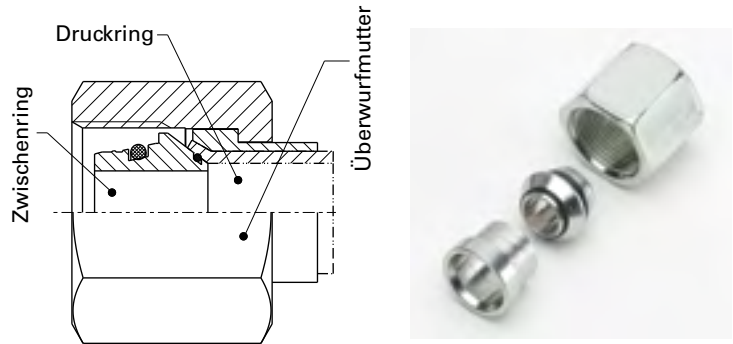
\*\*EPDM available on request

## Flare connecting parts for flare tube fittings

### BO-A ...

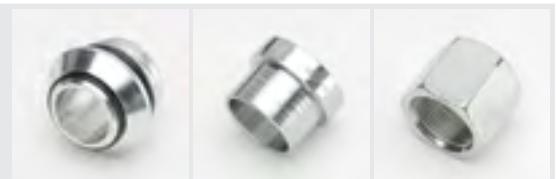
#### BO-A ...-1.4571

- Flare connecting parts for flare tube fittings, consisting of



Flare connecting parts  
BO-A ...

Flare connecting parts  
Stainless steel  
(1.4571)  
BO-A ...  
VI-1.4571



| Series     | PN bar (psi) | Tube outer diameter d <sub>N</sub> | Model            | kg/ 100 pc.      | Art. no.*        | Art. no.          | Intermediate ring with O-rings | Sleeve              | Union nut             |
|------------|--------------|------------------------------------|------------------|------------------|------------------|-------------------|--------------------------------|---------------------|-----------------------|
| L          | 500 (7252)   | 6                                  | <b>BO-A 6 L</b>  | 1.6              | <b>WAL374800</b> | <b>WAL603919</b>  | <b>BO-ZR 6 L/S</b>             | <b>BO-DR 6 L/S</b>  | <b>BO-M 6 L</b>       |
|            |              | 8                                  | <b>BO-A 8 L</b>  | 2.4              | <b>WAL374801</b> | <b>WAL603920</b>  | <b>BO-ZR 8 L/S</b>             | <b>BO-DR 8 L/S</b>  | <b>BO-M 8 L</b>       |
|            |              | 10                                 | <b>BO-A 10 L</b> | 3.2              | <b>WAL374802</b> | <b>WAL603921</b>  | <b>BO-ZR 10 L/S</b>            | <b>BO-DR 10 L/S</b> | <b>BO-M 10 L</b>      |
|            |              | 12                                 | <b>BO-A 12 L</b> | 4.4              | <b>WAL374803</b> | <b>WAL603922</b>  | <b>BO-ZR 12 L/S</b>            | <b>BO-DR 12 L/S</b> | <b>BO-M 12 L</b>      |
|            | 400 (5801)   | 15                                 | <b>BO-A 15 L</b> | 7.2              | <b>WAL374804</b> | <b>WAL603923</b>  | <b>BO-ZR 15 L</b>              | <b>BO-DR 15 L</b>   | <b>BO-M 14 S/15 L</b> |
|            |              | 18                                 | <b>BO-A 18 L</b> | 10.1             | <b>WAL374805</b> | <b>WAL603924</b>  | <b>BO-ZR 18 L</b>              | <b>BO-DR 18 L</b>   | <b>BO-M 18 L</b>      |
|            |              | 22                                 | <b>BO-A 22 L</b> | 14.2             | <b>WAL374806</b> | <b>WAL603925</b>  | <b>BO-ZR 22 L</b>              | <b>BO-DR 22 L</b>   | <b>BO-M 20 S/22 L</b> |
|            |              | 28                                 | <b>BO-A 28 L</b> | 15.9             | <b>WAL374807</b> | <b>WAL603926</b>  | <b>BO-ZR 28 L</b>              | <b>BO-DR 28 L</b>   | <b>BO-M 28 L</b>      |
| 250 (3626) | 35           | <b>BO-A 35 L</b>                   | 25.5             | <b>WAL374808</b> | <b>WAL603927</b> | <b>BO-ZR 35 L</b> | <b>BO-DR 35 L</b>              | <b>BO-M 35 L</b>    |                       |
|            | 42           | <b>BO-A 42 L</b>                   | 42.2             | <b>WAL374809</b> | <b>WAL603928</b> | <b>BO-ZR 42 L</b> | <b>BO-DR 42 L</b>              | <b>BO-M 42 L</b>    |                       |
| S          | 630 (9137)   | 6                                  | <b>BO-A 6 S</b>  | 2.4              | <b>WAL374810</b> | <b>WAL603929</b>  | <b>BO-ZR 6 L/S</b>             | <b>BO-DR 6 L/S</b>  | <b>BO-M 6 S</b>       |
|            |              | 8                                  | <b>BO-A 8 S</b>  | 3.1              | <b>WAL374811</b> | <b>WAL603930</b>  | <b>BO-ZR 8 L/S</b>             | <b>BO-DR 8 L/S</b>  | <b>BO-M 8 S</b>       |
|            |              | 10                                 | <b>BO-A 10 S</b> | 4.5              | <b>WAL374812</b> | <b>WAL603931</b>  | <b>BO-ZR 10 L/S</b>            | <b>BO-DR 10 L/S</b> | <b>BO-M 10 S</b>      |
|            |              | 12                                 | <b>BO-A 12 S</b> | 5.4              | <b>WAL374813</b> | <b>WAL603932</b>  | <b>BO-ZR 12 L/S</b>            | <b>BO-DR 12 L/S</b> | <b>BO-M 12 S</b>      |
|            | 400 (5801)   | 14                                 | <b>BO-A 14 S</b> | 7.6              | <b>WAL374814</b> | <b>WAL603933</b>  | <b>BO-ZR 14 S</b>              | <b>BO-DR 14 S</b>   | <b>BO-M 14 S/15 L</b> |
|            |              | 16                                 | <b>BO-A 16 S</b> | 10.8             | <b>WAL374815</b> | <b>WAL603934</b>  | <b>BO-ZR 16 S</b>              | <b>BO-DR 16 S</b>   | <b>BO-M 16 S</b>      |
|            |              | 20                                 | <b>BO-A 20 S</b> | 15.5             | <b>WAL374816</b> | <b>WAL603935</b>  | <b>BO-ZR 20 S</b>              | <b>BO-DR 20 S</b>   | <b>BO-M 20 S/22 L</b> |
|            |              | 25                                 | <b>BO-A 25 S</b> | 26.7             | <b>WAL374817</b> | <b>WAL603936</b>  | <b>BO-ZR 25 S</b>              | <b>BO-DR 25 S</b>   | <b>BO-M 25 S</b>      |
| 400 (5801) | 30           | <b>BO-A 30 S</b>                   | 33.0             | <b>WAL374818</b> | <b>WAL603937</b> | <b>BO-ZR 30 S</b> | <b>BO-DR 30 S</b>              | <b>BO-M 30 S</b>    |                       |
|            | 38           | <b>BO-A 38 S</b>                   | 51.5             | <b>WAL374819</b> | <b>WAL603938</b> | <b>BO-ZR 38 S</b> | <b>BO-DR 38 S</b>              | <b>BO-M 38 S</b>    |                       |

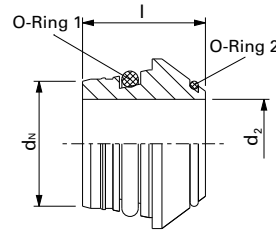
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Flare connecting parts with O-rings made from Viton, see price list

**BO-ZR ...**

**BO-ZR ... VI-1.4571**

- Intermediate ring with O-rings made from NBR\* (e.g. Perbunan) for steel
- Intermediate ring with O-rings made from FKM (e.g. Viton) for stainless steel (1.4571)



D

|        |              |                                    |                     |             |                |      |            |            |                  | Intermediate ring with O-rings stainless steel (1.4571)<br>BO-ZR ... VI-1.4571 |
|--------|--------------|------------------------------------|---------------------|-------------|----------------|------|------------|------------|------------------|--|
|        |              |                                    |                     |             |                |      |            |            |                  | Intermediate ring with O-rings BO-ZR ...                                       |
| Series | PN bar (psi) | Tube outer diameter d <sub>N</sub> | Model               | kg/ 100 pc. | d <sub>2</sub> | l    | O-ring 1   | O-ring 2   | Art. no.*        | Art. no.   |
| L      | 500 (7252)   | 6                                  | <b>BO-ZR 6 L/S</b>  | 0.3         | 3              | 11.5 | 4.5 x 1.5  | 4.4 x 0.8  | <b>WAL374408</b> | <b>WAL602957</b>   |
|        |              | 8                                  | <b>BO-ZR 8 L/S</b>  | 0.4         | 5              | 12   | 6 x 1.5    | 6 x 0.8    | <b>WAL374409</b> | <b>WAL602958</b>   |
|        |              | 10                                 | <b>BO-ZR 10 L/S</b> | 0.6         | 6              | 12.5 | 8.5 x 1.5  | 7.5 x 0.8  | <b>WAL374410</b> | <b>WAL602959</b>   |
|        |              | 12                                 | <b>BO-ZR 12 L/S</b> | 0.8         | 8              | 12.5 | 10 x 1.5   | 9.5 x 0.8  | <b>WAL374411</b> | <b>WAL602960</b>   |
|        | 400 (5801)   | 15                                 | <b>BO-ZR 15 L</b>   | 1.0         | 11             | 12.5 | 13 x 1.5   | 12.5 x 0.8 | <b>WAL374412</b> | <b>WAL602961</b>   |
|        |              | 18                                 | <b>BO-ZR 18 L</b>   | 1.3         | 14             | 13   | 16 x 1.5   | 15 x 1     | <b>WAL374413</b> | <b>WAL602962</b>   |
|        |              | 22                                 | <b>BO-ZR 22 L</b>   | 2.1         | 17             | 14.2 | 20 x 2     | 18 x 1     | <b>WAL374414</b> | <b>WAL602963</b>   |
|        | 250 (3626)   | 28                                 | <b>BO-ZR 28 L</b>   | 2.7         | 23             | 14.7 | 26 x 2     | 23 x 1     | <b>WAL374415</b> | <b>WAL602964</b>   |
|        |              | 35                                 | <b>BO-ZR 35 L</b>   | 5.4         | 28             | 18.5 | 32 x 2.5   | 30 x 1     | <b>WAL374416</b> | <b>WAL602965</b>   |
|        |              | 42                                 | <b>BO-ZR 42 L</b>   | 7.3         | 35             | 20.5 | 38 x 2.5   | 37 x 1     | <b>WAL374417</b> | <b>WAL602966</b>   |
| S      | 630 (9137)   | 6                                  | <b>BO-ZR 6 L/S</b>  | 0.3         | 3              | 11.5 | 4.5 x 1.5  | 4.4 x 0.8  | <b>WAL374408</b> | <b>WAL602957</b>   |
|        |              | 8                                  | <b>BO-ZR 8 L/S</b>  | 0.4         | 5              | 12   | 6 x 1.5    | 6 x 0.8    | <b>WAL374409</b> | <b>WAL602958</b>   |
|        |              | 10                                 | <b>BO-ZR 10 L/S</b> | 0.6         | 6              | 12.5 | 8.5 x 1.5  | 7.5 x 0.8  | <b>WAL374410</b> | <b>WAL602959</b>   |
|        |              | 12                                 | <b>BO-ZR 12 L/S</b> | 0.8         | 8              | 12.5 | 10 x 1.5   | 9.5 x 0.8  | <b>WAL374411</b> | <b>WAL602960</b>   |
|        | 400 (5801)   | 14                                 | <b>BO-ZR 14 S</b>   | 1.1         | 9              | 14   | 12 x 2     | 11 x 1     | <b>WAL374418</b> | <b>WAL602967</b>   |
|        |              | 16                                 | <b>BO-ZR 16 S</b>   | 1.5         | 11             | 15   | 14 x 2     | 12.5 x 1   | <b>WAL374419</b> | <b>WAL602968</b>   |
|        |              | 20                                 | <b>BO-ZR 20 S</b>   | 2.6         | 14             | 18.5 | 17.3 x 2.4 | 16 x 1     | <b>WAL374420</b> | <b>WAL602969</b>   |
|        | 400 (5801)   | 25                                 | <b>BO-ZR 25 S</b>   | 3.7         | 19             | 20   | 22.3 x 2.4 | 20 x 1     | <b>WAL374421</b> | <b>WAL602970</b>   |
|        |              | 30                                 | <b>BO-ZR 30 S</b>   | 5.7         | 23             | 22   | 27.3 x 2.4 | 25 x 1     | <b>WAL374422</b> | <b>WAL602971</b>   |
|        |              | 38                                 | <b>BO-ZR 38 S</b>   | 8.8         | 30             | 26   | 35 x 2.5   | 32 x 1.78  | <b>WAL374423</b> | <b>WAL602972</b>   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

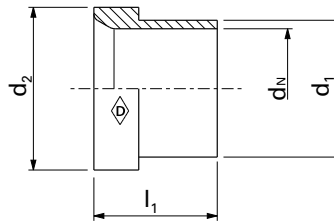
\*Intermediate rings with O-rings made from Viton, see price list

**BO-DR ...**

**BO-DR ... 1.4571**

- Sleeve

D

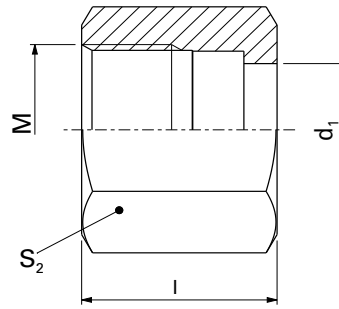


|        |                 |  |                     |             |                |                |                  | Sleeve<br>BO-DR ... | Sleeve<br>stainless steel (1.4571)<br>BO-DR ...<br>-1.4571 |
|--------|-----------------|--|---------------------|-------------|----------------|----------------|------------------|---------------------|--|
| Series | PN<br>bar (psi) | Tube outer<br>diameter<br>d <sub>N</sub> | Model               | kg/ 100 pc. | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub>   | Art. no.            | Art. no.   |
| L      | 500 (7252)      | 6  | <b>BO-DR 6 L/S</b>  | 0.2         | 7.6            | 10.2           | 10.5             | <b>WAL374376</b>    | <b>WAL602973</b>   |
|        |                 | 8  | <b>BO-DR 8 L/S</b>  | 0.3         | 9.3            | 12.2           | 11.0             | <b>WAL374377</b>    | <b>WAL602974</b>   |
|        |                 | 10                                       | <b>BO-DR 10 L/S</b> | 0.4         | 11.5           | 14.2           | 12.5             | <b>WAL374378</b>    | <b>WAL602975</b>   |
|        |                 | 12                                       | <b>BO-DR 12 L/S</b> | 0.5         | 13.6           | 16.2           | 13.0             | <b>WAL374379</b>    | <b>WAL602976</b>   |
|        | 400 (5801)      | 15                                       | <b>BO-DR 15 L</b>   | 0.9         | 17.5           | 20.2           | 14.0             | <b>WAL374380</b>    | <b>WAL602977</b>   |
|        |                 | 18                                       | <b>BO-DR 18 L</b>   | 1.4         | 21             | 24.2           | 14.5             | <b>WAL374381</b>    | <b>WAL602978</b>   |
|        |                 | 22                                       | <b>BO-DR 22 L</b>   | 1.6         | 24.2           | 27.8           | 18.0             | <b>WAL374382</b>    | <b>WAL602979</b>   |
|        | 250 (3626)      | 28                                       | <b>BO-DR 28 L</b>   | 2.0         | 30.2           | 33.8           | 17.0             | <b>WAL374383</b>    | <b>WAL602980</b>   |
|        |                 | 35                                       | <b>BO-DR 35 L</b>   | 3.7         | 38             | 42.7           | 19.0             | <b>WAL374384</b>    | <b>WAL602981</b>   |
|        |                 | 42                                       | <b>BO-DR 42 L</b>   | 5.0         | 45             | 49.7           | 21.0             | <b>WAL374385</b>    | <b>WAL602982</b>   |
| 6      |                 | <b>BO-DR 6 L/S</b>                       | 0.2                 | 7.6         | 10.2           | 10.5           | <b>WAL374376</b> | <b>WAL602973</b>    |  |
| S      | 630 (9137)      | 8  | <b>BO-DR 8 L/S</b>  | 0.3         | 9.3            | 12.2           | 11.0             | <b>WAL374377</b>    | <b>WAL602974</b>   |
|        |                 | 10                                       | <b>BO-DR 10 L/S</b> | 0.4         | 11.5           | 14.2           | 12.5             | <b>WAL374378</b>    | <b>WAL602975</b>   |
|        |                 | 12                                       | <b>BO-DR 12 L/S</b> | 0.5         | 13.6           | 16.2           | 13.0             | <b>WAL374379</b>    | <b>WAL602976</b>   |
|        |                 | 14                                       | <b>BO-DR 14 S</b>   | 1.2         | 17.5           | 20.2           | 14.5             | <b>WAL374386</b>    | <b>WAL602983</b>   |
|        | 400 (5801)      | 16                                       | <b>BO-DR 16 S</b>   | 1.3         | 18.5           | 22.0           | 17.0             | <b>WAL374387</b>    | <b>WAL602984</b>   |
|        |                 | 20                                       | <b>BO-DR 20 S</b>   | 2.4         | 24.2           | 27.8           | 17.5             | <b>WAL374388</b>    | <b>WAL602985</b>   |
|        |                 | 25                                       | <b>BO-DR 25 S</b>   | 3.1         | 28.5           | 32.8           | 20.0             | <b>WAL374389</b>    | <b>WAL602986</b>   |
|        |                 | 30                                       | <b>BO-DR 30 S</b>   | 4.5         | 34             | 39.0           | 21.5             | <b>WAL374390</b>    | <b>WAL602987</b>   |
|        |                 | 38                                       | <b>BO-DR 38 S</b>   | 7.5         | 42             | 48.5           | 26.5             | <b>WAL374391</b>    | <b>WAL602988</b>   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**BO-M ...**  
**BO-M ... 1.4571**

• Union nut

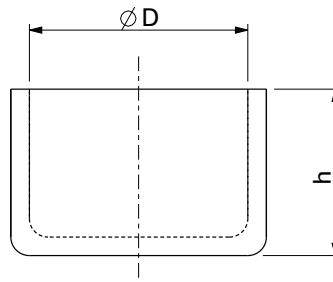

**D**

|        |                 |  |                       |             |            |      |                |                  |                  | Union nut stainless steel (1.4571)<br>BO-M ...<br>-1.4571 |
|--------|-----------------|--|-----------------------|-------------|------------|------|----------------|------------------|------------------|---|
|        |                 |  |                       |             |            |      |                |                  |                  | Union nut<br>BO-M ...                                     |
| Series | PN<br>bar (psi) | Tube outer<br>diameter<br>d <sub>n</sub> | Model                 | kg/ 100 pc. | M          | l    | d <sub>1</sub> | S <sub>2</sub>   | Art. no.         | Art. no.  |
| L      | 500 (7252)      | 6  | <b>BO-M 6 L</b>       | 1.1         | M 12 x 1.5 | 17   | 7.8            | 14               | <b>WAL374510</b> | <b>WAL603901</b>  |
|        |                 | 8  | <b>BO-M 8 L</b>       | 1.7         | M 14 x 1.5 | 18   | 9.5            | 17               | <b>WAL374511</b> | <b>WAL603902</b>  |
|        |                 | 10                                       | <b>BO-M 10 L</b>      | 2.2         | M 16 x 1.5 | 19.5 | 11.7           | 19               | <b>WAL374512</b> | <b>WAL603903</b>  |
|        | 400 (5801)      | 12                                       | <b>BO-M 12 L</b>      | 3.1         | M 18 x 1.5 | 20.5 | 13.8           | 22               | <b>WAL374513</b> | <b>WAL603904</b>  |
|        |                 | 15                                       | <b>BO-M 14 S/15 L</b> | 5.3         | M 22 x 1.5 | 23   | 17.7           | 27               | <b>WAL374522</b> | <b>WAL603905</b>  |
|        |                 | 18                                       | <b>BO-M 18 L</b>      | 7.4         | M 26 x 1.5 | 23   | 21.2           | 32               | <b>WAL374514</b> | <b>WAL603906</b>  |
|        | 250 (3626)      | 22                                       | <b>BO-M 20 S/22 L</b> | 10.5        | M 30 x 2   | 27.5 | 24.4           | 36               | <b>WAL374524</b> | <b>WAL603907</b>  |
|        |                 | 28                                       | <b>BO-M 28 L</b>      | 11.2        | M 36 x 2   | 27.5 | 30.4           | 41               | <b>WAL374515</b> | <b>WAL603908</b>  |
|        |                 | 35                                       | <b>BO-M 35 L</b>      | 16.4        | M 45 x 2   | 30   | 38.3           | 50               | <b>WAL374516</b> | <b>WAL603909</b>  |
| 42     |                 | <b>BO-M 42 L</b>                         | 29.9                  | M 52 x 2    | 34         | 45.3 | 60             | <b>WAL374517</b> | <b>WAL603910</b> |   |
| S      | 630 (9137)      | 6  | <b>BO-M 6 S</b>       | 1.9         | M 14 x 1.5 | 18   | 7.8            | 17               | <b>WAL374518</b> | <b>WAL603911</b>  |
|        |                 | 8  | <b>BO-M 8 S</b>       | 2.5         | M 16 x 1.5 | 19   | 9.5            | 19               | <b>WAL374519</b> | <b>WAL603912</b>  |
|        |                 | 10                                       | <b>BO-M 10 S</b>      | 3.5         | M 18 x 1.5 | 20.5 | 11.7           | 22               | <b>WAL374520</b> | <b>WAL603913</b>  |
|        | 400 (5801)      | 12                                       | <b>BO-M 12 S</b>      | 4.1         | M 20 x 1.5 | 21   | 13.8           | 24               | <b>WAL374521</b> | <b>WAL603914</b>  |
|        |                 | 14                                       | <b>BO-M 14 S/15 L</b> | 5.3         | M 22 x 1.5 | 23   | 17.7           | 27               | <b>WAL374522</b> | <b>WAL603905</b>  |
|        |                 | 16                                       | <b>BO-M 16 S</b>      | 8.0         | M 24 x 1.5 | 26.5 | 18.7           | 30               | <b>WAL374523</b> | <b>WAL603915</b>  |
|        | 400 (5801)      | 20                                       | <b>BO-M 20 S/22 L</b> | 10.5        | M 30 x 2   | 27.5 | 24.4           | 36               | <b>WAL374524</b> | <b>WAL603907</b>  |
|        |                 | 25                                       | <b>BO-M 25 S</b>      | 19.9        | M 36 x 2   | 30.5 | 28.7           | 46               | <b>WAL374525</b> | <b>WAL603916</b>  |
|        |                 | 30                                       | <b>BO-M 30 S</b>      | 22.8        | M 42 x 2   | 32   | 34.2           | 50               | <b>WAL374526</b> | <b>WAL603917</b>  |
|        |                 | 38                                       | <b>BO-M 38</b>        | 35.2        | M 52 x 2   | 38   | 42.3           | 60               | <b>WAL374527</b> | <b>WAL603918</b>  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

## Cap M ...

- Protective cap for intermediate rings (tube end)
- Material: HD polyethylene



D

|        |                                 |                 |            |                 |      | Cap<br>M ... |
|--------|---------------------------------|-----------------|------------|-----------------|------|--------------|
| Series | Tube outer<br>diameter<br>$d_n$ | Model           | M          | $\varnothing D$ | h    | Art. no.     |
| L      | 6                               | Cap M 12        | M 12 x 1.5 | 11.5            | 12   | WAL050120    |
|        | 8                               | Cap M 14        | M 14 x 1.5 | 13.5            | 13.5 | WAL050135    |
|        | 10                              | Cap M 16        | M 16 x 1.5 | 15.7            | 15   | WAL050160    |
|        | 12                              | Cap M 18        | M 18 x 1.5 | 17.7            | 15   | WAL050180    |
|        | 15                              | Cap M 22        | M 22 x 1.5 | 21.3            | 15.5 | WAL050213    |
|        | 18                              | Cap M 26        | M 26 x 1.5 | 25.4            | 17.5 | WAL064030    |
|        | 22                              | Cap M 30        | M 30 x 2   | 29.3            | 18   | WAL050300    |
|        | 28                              | Cap M 36 / H=25 | M 36 x 2   | 34.8            | 25   | WAL374826    |
|        | 35                              | Cap M 45        | M 45 x 2   | 44.5            | 35   | WAL064031    |
|        | 42                              | Cap M 52 / H=29 | M 52 x 2   | 50.6            | 29   | WAL374827    |
| S      | 6                               | Cap M 14        | M 14 x 1.5 | 13.5            | 13.5 | WAL050135    |
|        | 8                               | Cap M 16        | M 16 x 1.5 | 15.7            | 15   | WAL050160    |
|        | 10                              | Cap M 18        | M 18 x 1.5 | 17.7            | 15   | WAL050180    |
|        | 12                              | Cap M 20        | M 20 x 1.5 | 19.7            | 14   | WAL050200    |
|        | 14                              | Cap M 22        | M 22 x 1.5 | 21.3            | 15.5 | WAL050213    |
|        | 16                              | Cap M 24        | M 24 x 1.5 | 23.5            | 18.5 | WAL050240    |
|        | 20                              | Cap M 30        | M 30 x 2   | 29.3            | 18   | WAL050300    |
|        | 25                              | Cap M 36 / H=25 | M 36 x 2   | 34.8            | 25   | WAL374826    |
|        | 30                              | Cap M 42        | M 42 x 2   | 41.9            | 28   | WAL050421    |
|        | 38                              | Cap M 52 / H=29 | M 52 x 2   | 50.6            | 29   | WAL374827    |



**E**

**Male studs, connecting studs,  
bulkhead studs, weldable studs**





|  | Figure Fitting | Figure Stud | Model                             | Page      |
|--|----------------|-------------|-----------------------------------|-----------|
| Straight male fittings / straight male studs         |                |             | P-GEV / GES ... RK                | E3 / E4   |
|  |                |             | P-GEV / GES ... MK                | E3 / E4   |
|  |                |             | P-GEV / GES ... NPT               | E5 / E6   |
|  |                |             | P-GEV / GES ... R                 | E6 - E10  |
|  |                |             | P-GEV / GES ... M                 | E11 / E12 |
|  |                |             | P-GEV / GES ... R-WD              | E13 / E14 |
|  |                |             | P-GEV / GES ... M-WD              | E15 / E16 |
|  |                |             | P-GEV / GES ... UNF / UN          | E17 / E18 |
| Male elbow fittings / male elbow studs               |                |             | P-WEV / WES ... RK                | E21 / E22 |
|  |                |             | P-WEV / WES ... MK                | E23 / E24 |
|  |                |             | P-WEV / WES ... NPT               | E25 / E26 |
| Straight fittings / straight studs                   |                |             | P-GV ... / GS ...                 | E27 / E28 |
| Straight reducer fittings / straight reducer studs   |                |             | P-GV.../... / GS.../....          | E29 / E30 |
| Elbow fittings / elbow studs                         |                |             | P-WV ... / WS ...                 | E31 / E32 |
| T fittings / T studs                                 |                |             | P-TV ... / TS ...                 | E33 / E34 |
| T reducer fittings / T reducer studs                 |                |             | P-TV .../.../... / TS .../.../... | E35 - E38 |
| Cross fittings / cross studs                         |                |             | P-KV ... / KS ...                 | E39 / E40 |
| Straight bulkhead fittings / straight bulkhead studs |                |             | P-GSV ... / GSS ...               | E41 / E42 |
| Bulkhead elbow fittings / bulkhead elbow studs       |                |             | P-WSV ... / WSS ...               | E43 / E44 |
| Weld-on fittings / weld-on studs                     |                |             | P-ASV ... / ASS ...               | E45 / E46 |
| Weld-in bulkhead fittings / weld-in bulkhead studs   |                |             | P-ESV ... / ESS ...               | E47 / E48 |

**E**

## Straight male fittings

### P-GEV ... RK

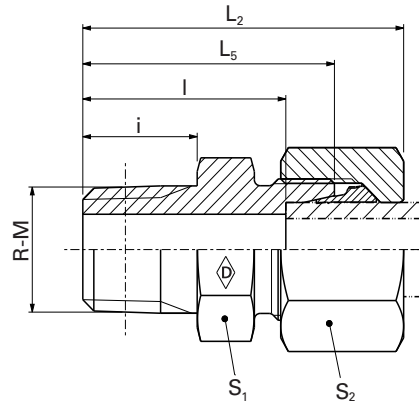
#### P-GEV ... RK-1.4571

### P-GEV ... MK

#### P-GEV ... MK-1.4571

E

- Tapered studs, type C according to DIN 3852-2, with Whitworth thread
- Tapered studs, type C according to DIN 3852-1, with metric thread



| Series | PN bar (psi) | Tube outer diameter | Model                   | kg/100 pc. | R-M              | L <sub>2</sub> | L <sub>5</sub> | l    | i  | S <sub>1</sub> | S <sub>2</sub> | Art. no.         | Art. no.                                 |
|--------|--------------|---------------------|-------------------------|------------|------------------|----------------|----------------|------|----|----------------|----------------|------------------|--|
|        |              |                     |                         |            |                  |                |                |      |    |                |                | Walpro P-GEV ... | Walpro stainless steel P-GEV ...-1.4571* |
| LL     | 100 (1450)   | 4                   | S-GEV 4 LLRK            | 1.4        | R 1/8 taper      | 25.5           | 20             | 16   | 8  | 10             | 10             | WAL038218        | WAL604569                                |
|        |              | 6                   | S-GEV 6 LLRK            | 1.6        | R 1/8 taper      | 26.0           | 20             | 14.5 | 8  | 11             | 12             | WAL038220        | WAL060989                                |
|        |              | 8                   | S-GEV 8 LLRK            | 1.8        | R 1/8 taper      | 28.0           | 22             | 16.5 | 8  | 12             | 14             | WAL038221        | WAL370813                                |
| L      | 250 (3626)   | 6                   | P-GEV 6 L/R 1/4 K       | 3.4        | R 1/4 taper      | 34.5           | 27             | 20   | 12 | 14             | 14             | WAL373003        | WAL620527                                |
|        |              | 8                   | P-GEV 8 LRK             | 3.7        | R 1/4 taper      | 34.5           | 27             | 20   | 12 | 14             | 17             | WAL373004        | WAL620492                                |
|        |              | 8                   | P-GEV 8 L/R 3/8 K       | 4.9        | R 3/8 taper      | 34.5           | 27             | 20   | 12 | 17             | 17             | WAL373005        | WAL620539                                |
|        |              | 10                  | P-GEV 10 LRK            | 4.8        | R 1/4 taper      | 35.5           | 28             | 21   | 12 | 17             | 19             | WAL373006        | WAL620131                                |
|        |              | 10                  | P-GEV 10 L/R 3/8 K      | 5.4        | R 3/8 taper      | 35.5           | 28             | 21   | 12 | 17             | 19             | WAL373007        | WAL620132                                |
|        |              | 12                  | P-GEV 12 L/R 1/4 K      | 5.7        | R 1/4 taper      | 36.5           | 29             | 22   | 12 | 19             | 22             | WAL373008        | WAL620350                                |
|        |              | 12                  | P-GEV 12 LRK            | 6.1        | R 3/8 taper      | 36.5           | 29             | 22   | 12 | 19             | 22             | WAL373009        | WAL620354                                |
|        |              | 12                  | P-GEV 12 L/R 1/2 K      | 7.8        | R 1/2 taper      | 38.5           | 31             | 24   | 14 | 22             | 22             | WAL373010        | WAL620553                                |
|        |              | 15                  | P-GEV 15 LRK            | 10.2       | R 1/2 taper      | 40.0           | 32             | 25   | 14 | 24             | 27             | WAL373011        | WAL620357                                |
| LL     | 100 (1450)   | 4                   | S-GEV 4 LLMK            | 1.4        | M 8 x 1 taper    | 25.5           | 20             | 16   | 8  | 10             | 10             | WAL038230        | WAL617077                                |
|        |              | 6                   | S-GEV 6 LLMK            | 1.6        | M 10 x 1 taper   | 26.0           | 20             | 14.5 | 8  | 11             | 12             | WAL038232        | WAL616303                                |
|        |              | 8                   | S-GEV 8 LLMK            | 1.8        | M 10 x 1 taper   | 28.0           | 22             | 16.5 | 8  | 12             | 14             | WAL038233        | WAL616304                                |
| L      | 250 (3626)   | 8                   | P-GEV 8 LMK             | 3.5        | M 12 x 1.5 taper | 34.5           | 27             | 20   | 12 | 14             | 17             | WAL373016        | WAL620514                                |
|        |              | 10                  | P-GEV 10 LMK            | 4.7        | M 14 x 1.5 taper | 35.5           | 28             | 21   | 12 | 17             | 19             | WAL373018        | WAL621151                                |
|        |              | 10                  | P-GEV 10 L/M 16 x 1.5 K | 5.1        | M 16 x 1.5 taper | 35.5           | 28             | 21   | 12 | 17             | 19             | WAL373019        | WAL620859                                |
|        |              | 12                  | P-GEV 12 LMK            | 5.9        | M 16 x 1.5 taper | 36.5           | 29             | 22   | 12 | 19             | 22             | WAL373020        | WAL620916                                |
|        |              | 12                  | P-GEV 12 L/M 18 x 1.5 K | 6.5        | M 18 x 1.5 taper | 36.5           | 29             | 22   | 12 | 19             | 22             | WAL373021        | WAL620917                                |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

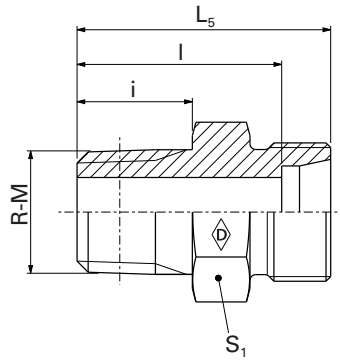
L<sub>2</sub>= approximate dimension if the union nut is tightened

**GES ... RK**

**GES ... RK-1.4571**

**GES ... MK**

**GES ... MK-1.4571**



E

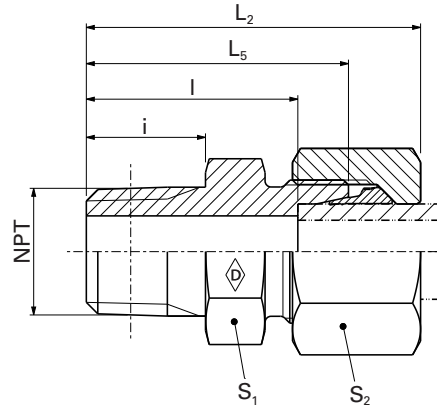
| Series | PN bar (psi) | Tube outer diameter (Ø ext.) | Model                 | kg/100 pc. | R-M              | Art. no.  | Stud Stainless steel GES ... -1.4571* | System nuts for supplementing the stud (for technical data, see part D of this catalog) |                     |   |
|--------|--------------|------------------------------|-----------------------|------------|------------------|-----------|---------------------------------------|---|---------------------|---|
|        |              |                              |                       |            |                  |           |                                       | Walring W-R ... VI  | Walform WF-M ... VI | Walform stainless steel WF-M ... VI-1.4571* |
| LL     | 100 (1450)   | 4                            | GES 4 LLRK            | 0.8        | R 1/8 taper      | WAL037505 | WAL604568                             |   |                     |   |
|        |              | 6                            | GES 6 LLRK            | 1.0        | R 1/8 taper      | WAL037507 | WAL060990                             |   |                     |   |
|        |              | 8                            | GES 8 LLRK            | 1.0        | R 1/8 taper      | WAL037508 | WAL061563                             |   |                     |   |
| L      | 250 (3626)   | 6                            | GES 6 L/R 1/4 K       | 2.0        | R 1/4 taper      | WAL037509 | WAL372345                             | WAL624607   | WAL625940           | WAL625980                                   |
|        |              | 8                            | GES 8 LRK             | 2.0        | R 1/4 taper      | WAL037510 | WAL604014                             | WAL624608   | WAL625941           | WAL625981                                   |
|        |              | 8                            | GES 8 L/R 3/8 K       | 3.0        | R 3/8 taper      | WAL037511 | WAL605046                             | WAL624608   | WAL625941           | WAL625981                                   |
|        |              | 10                           | GES 10 LRK            | 2.4        | R 1/4 taper      | WAL037512 | WAL060086                             | WAL624609   | WAL625942           | WAL625982                                   |
|        |              | 10                           | GES 10 L/R 3/8 K      | 2.9        | R 3/8 taper      | WAL037513 | WAL060988                             | WAL624609   | WAL625942           | WAL625982                                   |
|        |              | 12                           | GES 12 L/R 1/4 K      | 3.0        | R 1/4 taper      | WAL037514 | WAL372151                             | WAL624610   | WAL625943           | WAL625983                                   |
|        |              | 12                           | GES 12 LRK            | 3.4        | R 3/8 taper      | WAL037515 | WAL372295                             | WAL624610   | WAL625943           | WAL625983                                   |
|        |              | 12                           | GES 12 L/R 1/2 K      | 4.9        | R 1/2 taper      | WAL037516 | WAL374441                             | WAL624610   | WAL625943           | WAL625983                                   |
| LL     | 100 (1450)   | 4                            | GES 4 LLMK            | 0.6        | M 8 x 1 taper    | WAL037517 | WAL617315                             |   |                     |   |
|        |              | 6                            | GES 6 LLMK            | 0.8        | M 10 x 1 taper   | WAL037519 | WAL617316                             |   |                     |   |
|        |              | 8                            | GES 8 LLMK            | 1.0        | M 10 x 1 taper   | WAL037520 | WAL061370                             |   |                     |   |
| L      | 250 (3626)   | 8                            | GES 8 LMK             | 1.7        | M 12 x 1.5 taper | WAL037522 | WAL604888                             | WAL624608   | WAL625941           | WAL625981                                   |
|        |              | 10                           | GES 10 LMK            | 2.3        | M 14 x 1.5 taper | WAL037524 | WAL617319                             | WAL624609   | WAL625942           | WAL625982                                   |
|        |              | 10                           | GES 10 L/M 16 x 1.5 K | 2.7        | M 16 x 1.5 taper | WAL037525 | WAL617320                             | WAL624609   | WAL625942           | WAL625982                                   |
|        |              | 12                           | GES 12 LMK            | 2.9        | M 16 x 1.5 taper | WAL037526 | WAL617321                             | WAL624610   | WAL625943           | WAL625983                                   |
|        |              | 12                           | GES 12 L/M 18 x 1.5 K | 4.7        | M 18 x 1.5 taper | WAL037527 | WAL617322                             | WAL624610   | WAL625943           | WAL625983                                   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-GEV ... NPT**

**P-GEV ... NPT-1.4571**

- Stud with NPT thread to ANSI/ASME B1.20.1-1983



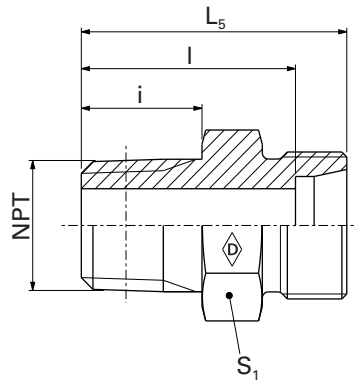
E

| Series | PN bar (psi)         | Tube outer diameter | Model                | kg/100 pc. | NPT              | L <sub>2</sub> | L <sub>5</sub> | L    | i  | S <sub>1</sub> | S <sub>2</sub> | Walpro P-GEV ...<br>Art. no. | Walpro stainless steel P-GEV ...-1.4571*<br>Art. no. |
|--------|----------------------|---------------------|----------------------|------------|------------------|----------------|----------------|------|----|----------------|----------------|------------------------------|--|
| LL     | 100 (1450)           | 4                   | S-GEV 4 LL/1/8 NPT   | 1.5        | 1/8 NPT          | 28             | 22             | 18   | 10 | 11             | 10             | WAL038241                    | WAL616310  |
|        |                      | 6                   | S-GEV 6 LL/1/8 NPT   | 1.5        | 1/8 NPT          | 28             | 22             | 16.5 | 10 | 11             | 12             | WAL038243                    | WAL602723  |
|        |                      | 8                   | S-GEV 8 LL/1/8 NPT   | 2.0        | 1/8 NPT          | 30             | 24             | 18.5 | 10 | 12             | 14             | WAL038244                    | WAL371302  |
| L      | 315 (4569)           | 6                   | P-GEV 6 L/1/8 NPT    | 2.6        | 1/8 NPT          | 32             | 24             | 17   | 10 | 12             | 14             | WAL373026                    | WAL620123  |
|        |                      | 6                   | P-GEV 6 L/1/4 NPT    | 3.9        | 1/4 NPT          | 38             | 30             | 23   | 15 | 17             | 14             | WAL373027                    | WAL620124  |
|        |                      | 8                   | P-GEV 8 L/1/4 NPT    | 4.0        | 1/4 NPT          | 38             | 30             | 23   | 15 | 17             | 17             | WAL373028                    | WAL620128  |
|        |                      | 10                  | P-GEV 10 L/1/4 NPT   | 4.8        | 1/4 NPT          | 39             | 31             | 24   | 15 | 17             | 19             | WAL373029                    | WAL620147  |
|        |                      | 10                  | P-GEV 10 L/3/8 NPT   | 6.0        | 3/8 NPT          | 40             | 32             | 25   | 15 | 19             | 19             | WAL373030                    | WAL620213  |
|        |                      | 12                  | P-GEV 12 L/1/4 NPT   | 6.0        | 1/4 NPT          | 40             | 32             | 25   | 15 | 19             | 22             | WAL373031                    | WAL620203  |
|        |                      | 12                  | P-GEV 12 L/3/8 NPT   | 6.5        | 3/8 NPT          | 40             | 32             | 25   | 15 | 19             | 22             | WAL373032                    | WAL620210  |
|        |                      | 12                  | P-GEV 12 L/1/2 NPT   | 8.5        | 1/2 NPT          | 45             | 37             | 30   | 20 | 24             | 22             | WAL373033                    | WAL620157  |
|        |                      | 15                  | P-GEV 15 L/1/2 NPT   | 11.0       | 1/2 NPT          | 46             | 38             | 31   | 20 | 24             | 27             | WAL373034                    | WAL620211  |
|        |                      | 18                  | P-GEV 18 L/1/2 NPT   | 13.5       | 1/2 NPT          | 48             | 39             | 31.5 | 20 | 27             | 32             | WAL373035                    | WAL620161  |
|        |                      | 22                  | P-GEV 22 L/3/4 NPT   | 19.0       | 3/4 NPT          | 50             | 41             | 33.5 | 20 | 32             | 36             | WAL373036                    | WAL620260  |
|        |                      | S                   | 160 (2321)           | 28         | P-GEV 28 L/1 NPT | 27.5           | 1 NPT          | 56   | 47 | 39.5           | 25             | 41                           | 41   |
| 35     | P-GEV 35 L/1 1/4 NPT |                     |                      | 40.5       | 1 1/4 NPT        | 62             | 51             | 40.5 | 26 | 46             | 50             | WAL373038                    | WAL620262  |
| 42     | P-GEV 42 L/1 1/2 NPT |                     |                      | 57.0       | 1 1/2 NPT        | 65             | 53             | 42   | 26 | 55             | 60             | WAL373039                    | WAL620422  |
| S      | 630 (9137)           | 6                   | P-GEV 6 S/1/4 NPT    | 5.0        | 1/4 NPT          | 43             | 35             | 28   | 15 | 17             | 17             | WAL373040                    | WAL620189  |
|        |                      | 8                   | P-GEV 8 S/1/4 NPT    | 5.5        | 1/4 NPT          | 43             | 35             | 28   | 15 | 17             | 19             | WAL373041                    | WAL620523  |
|        |                      | 10                  | P-GEV 10 S/1/4 NPT   | 8.5        | 1/4 NPT          | 44             | 35             | 27.5 | 15 | 19             | 22             | WAL373042                    | WAL620659  |
|        |                      | 10                  | P-GEV 10 S/3/8 NPT   | 8.0        | 3/8 NPT          | 44             | 35             | 27.5 | 15 | 19             | 22             | WAL373043                    | WAL620370  |
|        |                      | 12                  | P-GEV 12 S/1/4 NPT   | 9.5        | 1/4 NPT          | 46             | 37             | 29.5 | 15 | 22             | 24             | WAL373044                    | WAL620660  |
|        |                      | 12                  | P-GEV 12 S/3/8 NPT   | 10.0       | 3/8 NPT          | 46             | 37             | 29.5 | 15 | 22             | 24             | WAL373045                    | WAL620491  |
| S      | 400 (5801)           | 12                  | P-GEV 12 S/1/2 NPT   | 12.5       | 1/2 NPT          | 51             | 42             | 34.5 | 20 | 22             | 24             | WAL373046                    | WAL620294  |
|        |                      | 14                  | P-GEV 14 S/1/2 NPT   | 15.5       | 1/2 NPT          | 54             | 44             | 36   | 20 | 24             | 27             | WAL373047                    | WAL621499  |
|        |                      | 16                  | P-GEV 16 S/1/2 NPT   | 16.0       | 1/2 NPT          | 54             | 44             | 35.5 | 20 | 27             | 30             | WAL373048                    | WAL620214  |
|        |                      | 20                  | P-GEV 20 S/3/4 NPT   | 25.0       | 3/4 NPT          | 59             | 48             | 37.5 | 20 | 32             | 36             | WAL373049                    | WAL620212  |
|        |                      | 25                  | P-GEV 25 S/1 NPT     | 47.5       | 1 NPT            | 69             | 57             | 45   | 25 | 41             | 46             | WAL373050                    | WAL620482  |
| S      | 315 (4569)           | 30                  | P-GEV 30 S/1 1/4 NPT | 62.0       | 1 1/4 NPT        | 73             | 60             | 46.5 | 26 | 46             | 50             | WAL373051                    | WAL620497  |
|        |                      | 38                  | P-GEV 38 S/1 1/2 NPT | 89.0       | 1 1/2 NPT        | 80             | 65             | 49   | 26 | 55             | 60             | WAL373052                    | WAL620948  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened

**GES ... NPT**
**GES ... NPT-1.4571**

**E**

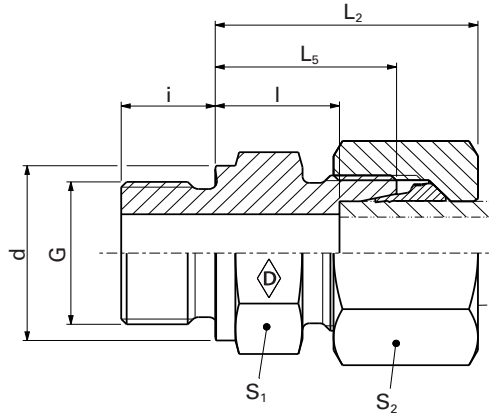
|            |                    |                           |                    |                |                |           |           | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |  |                       |                        |   |
|------------|--------------------|---------------------------|--------------------|----------------|----------------|-----------|-----------|--|--|-----------------------|------------------------|---|
|            |                    |                           |                    |                |                |           |           | Stud<br>GES ...  | Stud<br>Stainless steel<br>GES ...<br>-1.4571* | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless<br>steel<br>WF-M ... VI-1.4571* |
| Series     | PN<br>bar (psi)    | Tube<br>outer<br>diameter | Model              | kg/<br>100 pc. | NPT            | Art. no.  | Art. no.  | Art. no.   | Art. no.                                       | Art. no.              |                        |   |
| LL         | 100<br>(1450)      | 4                         | GES 4 LL/1/8 NPT   | 1.0            | 1/8 NPT        | WAL037528 | WAL617323 |  |  |                       |                        |   |
|            |                    | 6                         | GES 6 LL/1/8 NPT   | 1.0            | 1/8 NPT        | WAL037530 | WAL602722 |  |  |                       |                        |   |
|            |                    | 8                         | GES 8 LL/1/8 NPT   | 1.0            | 1/8 NPT        | WAL037531 | WAL371296 |  |  |                       |                        |   |
| L          | 315<br>(4569)      | 6                         | GES 6 L/1/8 NPT    | 1.2            | 1/8 NPT        | WAL037532 | WAL060038 | WAL624607  | WAL625940                                      | WAL625980             |                        |   |
|            |                    | 6                         | GES 6 L/1/4 NPT    | 2.6            | 1/4 NPT        | WAL037533 | WAL060040 | WAL624607  | WAL625940                                      | WAL625980             |                        |   |
|            |                    | 8                         | GES 8 L/1/4 NPT    | 2.6            | 1/4 NPT        | WAL037534 | WAL060234 | WAL624608  | WAL625941                                      | WAL625981             |                        |   |
|            |                    | 10                        | GES 10 L/1/4 NPT   | 2.7            | 1/4 NPT        | WAL037535 | WAL061105 | WAL624609  | WAL625942                                      | WAL625982             |                        |   |
|            |                    | 10                        | GES 10 L/3/8 NPT   | 3.7            | 3/8 NPT        | WAL037536 | WAL066871 | WAL624609  | WAL625942                                      | WAL625982             |                        |   |
|            |                    | 12                        | GES 12 L/1/4 NPT   | 3.3            | 1/4 NPT        | WAL037537 | WAL061401 | WAL624610  | WAL625943                                      | WAL625983             |                        |   |
|            |                    | 12                        | GES 12 L/3/8 NPT   | 3.6            | 3/8 NPT        | WAL037538 | WAL060294 | WAL624610  | WAL625943                                      | WAL625983             |                        |   |
|            |                    | 12                        | GES 12 L/1/2 NPT   | 6.4            | 1/2 NPT        | WAL037539 | WAL061636 | WAL624610  | WAL625943                                      | WAL625983             |                        |   |
|            |                    | 15                        | GES 15 L/1/2 NPT   | 6.3            | 1/2 NPT        | WAL037540 | WAL066642 | WAL624611  | WAL625944                                      | WAL625984             |                        |   |
|            |                    | 18                        | GES 18 L/1/2 NPT   | 7.3            | 1/2 NPT        | WAL037541 | WAL027537 | WAL624612  | WAL625945                                      | WAL625985             |                        |   |
|            |                    | 22                        | GES 22 L/3/4 NPT   | 10.1           | 3/4 NPT        | WAL037542 | WAL027539 | WAL624613  | WAL625946                                      | WAL625986             |                        |   |
|            |                    | L                         | 160<br>(2321)      | 28             | GES 28 L/1 NPT | 17.9      | 1 NPT     | WAL037543  | WAL067862                                      | WAL624614             | WAL625947              | WAL625987   |
| 35         | GES 35 L/1 1/4 NPT |                           |                    | 25.7           | 1 1/4 NPT      | WAL037544 | WAL067863 | WAL624615  | WAL625948                                      | WAL625988             |                        |   |
| 42         | GES 42 L/1 1/2 NPT |                           |                    | 35.1           | 1 1/2 NPT      | WAL037545 | WAL604136 | WAL624616  | WAL625949                                      | WAL625989             |                        |   |
| S          | 630<br>(9137)      | 6                         | GES 6 S/1/4 NPT    | 3.6            | 1/4 NPT        | WAL037546 | WAL066587 | WAL624617  | WAL625950                                      | WAL625990             |                        |   |
|            |                    | 8                         | GES 8 S/1/4 NPT    | 3.8            | 1/4 NPT        | WAL037547 | WAL370917 | WAL624618  | WAL625951                                      | WAL625991             |                        |   |
|            |                    | 10                        | GES 10 S/1/4 NPT   | 4.2            | 1/4 NPT        | WAL037548 | WAL604274 | WAL624619  | WAL625952                                      | WAL625992             |                        |   |
|            |                    | 10                        | GES 10 S/3/8 NPT   | 4.9            | 3/8 NPT        | WAL037549 | WAL372983 | WAL624619  | WAL625952                                      | WAL625992             |                        |   |
|            |                    | 12                        | GES 12 S/1/4 NPT   | 5.8            | 1/4 NPT        | WAL037550 | WAL372802 | WAL624620  | WAL625953                                      | WAL625993             |                        |   |
|            |                    | 12                        | GES 12 S/3/8 NPT   | 6.1            | 3/8 NPT        | WAL037551 | WAL372822 | WAL624620  | WAL625953                                      | WAL625993             |                        |   |
|            |                    | 12                        | GES 12 S/1/2 NPT   | 8.4            | 1/2 NPT        | WAL037552 | WAL371154 | WAL624620  | WAL625953                                      | WAL625993             |                        |   |
|            |                    | 14                        | GES 14 S/1/2 NPT   | 9.0            | 1/2 NPT        | WAL037553 | WAL060715 |  |  |                       |                        |   |
|            |                    | 16                        | GES 16 S/1/2 NPT   | 9.3            | 1/2 NPT        | WAL037554 | WAL067067 | WAL624621  | WAL625954                                      | WAL625994             |                        |   |
|            |                    | 20                        | GES 20 S/3/4 NPT   | 14.9           | 3/4 NPT        | WAL037555 | WAL061817 | WAL624622  | WAL625955                                      | WAL625995             |                        |   |
|            |                    | 25                        | GES 25 S/1 NPT     | 27.6           | 1 NPT          | WAL037556 | WAL604630 | WAL624623  | WAL625956                                      | WAL625996             |                        |   |
|            |                    | 30                        | GES 30 S/1 1/4 NPT | 40.0           | 1 1/4 NPT      | WAL037557 | WAL604724 | WAL624624  | WAL625957                                      | WAL625997             |                        |   |
| 315 (4569) | 38                 | GES 38 S/1 1/2 NPT        | 57.4               | 1 1/2 NPT      | WAL037558      | WAL617363 | WAL624625 | WAL625958  | WAL625998                                      |                       |                        |   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-GEV ... R**

**P-GEV ... R-1.4571**

- Inch studs type B to DIN EN ISO 1179-4



E

| Series | PN bar (psi) | Tube outer diameter | Model            | kg/100 pc. | DIN-ISO 228 (R ..., DIN 259) G | L <sub>2</sub> | L <sub>5</sub> | l    | i  | d  | S <sub>1</sub> | S <sub>2</sub> | Walpro P-GEV ... | Walpro stainless steel P-GEV ...-1.4571* |           |
|--------|--------------|---------------------|------------------|------------|--------------------------------|----------------|----------------|------|----|----|----------------|----------------|------------------|--|-----------|
|        |              |                     |                  |            |                                |                |                |      |    |    |                |                | Art. no.         | Art. no.                                 |           |
| LL     | 100 (1450)   | 4                   | S-GEV 4 LLR      | 1.8        | G 1/8 A                        | 19             | 13.5           | 9.5  | 8  | 14 | 14             | 10             | WAL038272        | WAL604717                                |           |
|        |              | 6                   | S-GEV 6 LLR      | 1.9        | G 1/8 A                        | 19.5           | 13.5           | 8    | 8  | 14 | 14             | 12             | WAL038274        | WAL061402                                |           |
|        |              | 8                   | S-GEV 8 LLR      | 2.3        | G 1/8 A                        | 20.5           | 14.5           | 9    | 8  | 14 | 14             | 14             | WAL038275        | WAL068993                                |           |
| L      | 400 (5801)   | 6                   | P-GEV 6 LR       | 2.5        | G 1/8 A                        | 23             | 15.5           | 8.5  | 14 | 14 | 14             | 14             | WAL373056        | WAL620004                                |           |
|        |              | 6                   | P-GEV 6 L/R 1/4  | 4.1        | G 1/4 A                        | 24.5           | 17             | 10   | 12 | 18 | 19             | 14             | WAL373057        | WAL620140                                |           |
|        |              | 6                   | P-GEV 6 L/R 3/8  | 6.0        | G 3/8 A                        | 26             | 18.5           | 11.5 | 12 | 22 | 22             | 14             | WAL602638        | WAL620269                                |           |
|        |              | 8                   | P-GEV 8 LR       | 4.5        | G 1/4 A                        | 25             | 17             | 10   | 12 | 18 | 19             | 17             | WAL373058        | WAL620005                                |           |
|        |              | 8                   | P-GEV 8 L/R 1/8  | 3.3        | G 1/8 A                        | 24             | 16.5           | 9.5  | 8  | 14 | 14             | 17             | WAL604871        | WAL620633                                |           |
|        |              | 8                   | P-GEV 8 L/R 3/8  | 6.0        | G 3/8 A                        | 26             | 18.5           | 11.5 | 12 | 22 | 22             | 17             | WAL373059        | WAL620174                                |           |
|        |              | 8                   | P-GEV 8 L/R 1/2  | 7.1        | G 1/2 A                        | 16.5           | 19             | 12   | 14 | 26 | 27             | 17             | WAL374844        | WAL620312                                |           |
|        |              | 10                  | P-GEV 10 L/R     | 4.7        | G 1/4 A                        | 26             | 18             | 11   | 12 | 18 | 19             | 19             | 19               | WAL373060                                | WAL620006 |
|        |              | 10                  | P-GEV 10 L/R 3/8 | 6.0        | G 3/8 A                        | 27             | 19.5           | 12.5 | 12 | 22 | 22             | 19             | 19               | WAL373061                                | WAL620003 |
|        |              | 10                  | P-GEV 10 L/R 1/2 | 7.6        | G 1/2 A                        | 27.5           | 20             | 13   | 14 | 26 | 27             | 19             | 19               | WAL373062                                | WAL620230 |
|        |              | 12                  | P-GEV 12 L/R 1/4 | 6.0        | G 1/4 A                        | 27             | 19             | 12   | 12 | 18 | 19             | 22             | 22               | WAL373063                                | WAL620198 |
|        |              | 12                  | P-GEV 12 LR      | 6.3        | G 3/8 A                        | 27             | 19.5           | 12.5 | 12 | 22 | 22             | 22             | 22               | WAL373064                                | WAL620007 |
|        |              | 12                  | P-GEV 12 L/R 1/2 | 9.5        | G 1/2 A                        | 28             | 20             | 13   | 14 | 26 | 27             | 22             | 22               | WAL373065                                | WAL620148 |
|        |              | 15                  | P-GEV 15 L/R 3/8 | 9.3        | G 3/8 A                        | 28.5           | 20.5           | 13.5 | 12 | 22 | 24             | 27             | 27               | WAL373066                                | WAL620191 |
|        |              | 15                  | P-GEV 15 LR      | 16.5       | G 1/2 A                        | 29             | 21             | 14   | 14 | 26 | 27             | 27             | 27               | WAL373067                                | WAL620008 |
|        |              | 15                  | P-GEV 15 L/R 3/4 | 9.3        | G 3/4 A                        | 30             | 22             | 15   | 16 | 32 | 32             | 27             | 27               | WAL602629                                | WAL620861 |
|        |              | 18                  | P-GEV 18 LR      | 12.9       | G 1/2 A                        | 31             | 22             | 14.5 | 14 | 26 | 27             | 32             | 32               | WAL373068                                | WAL620009 |
|        |              | 18                  | P-GEV 18 LR 3/4  | 18.0       | G 3/4 A                        | 31             | 22             | 14.5 | 16 | 32 | 32             | 32             | 32               | WAL374919                                | WAL620471 |
| L      | 250 (3626)   | 22                  | P-GEV 22 LR      | 17.6       | G 3/4 A                        | 33             | 24             | 16.5 | 16 | 32 | 32             | 36             | WAL373069        | WAL620010                                |           |
|        |              | 22                  | P-GEV 22 LR 1/2  | 17.5       | G 1/2 A                        | 33             | 24             | 16.5 | 14 | 26 | 32             | 36             | WAL373845        | WAL620469                                |           |
|        |              | 28                  | P-GEV 28 LR      | 24.7       | G 1 A                          | 34             | 25             | 17.5 | 18 | 39 | 41             | 41             | WAL373070        | WAL620011                                |           |
|        |              | 28                  | P-GEV 28 LR 3/4  | 25.0       | G 3/4 A                        | 34             | 25             | 17.5 | 16 | 32 | 41             | 41             | WAL374846        | WAL620788                                |           |
|        |              | 35                  | P-GEV 35 LR      | 40.7       | G 1 1/4 A                      | 39             | 28             | 17.5 | 20 | 49 | 50             | 50             | 50               | WAL373071                                | WAL620012 |
|        |              | 42                  | P-GEV 42 LR      | 45.6       | G 1 1/2 A                      | 42             | 30             | 19   | 22 | 55 | 55             | 60             | 60               | WAL373072                                | WAL620013 |

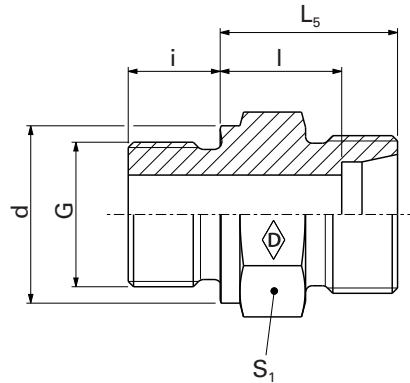
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened

**GES ... R**

**GES ... R-1.4571**



E

| Series     | PN bar (psi) | Tube outer diameter | Model          | kg/100 pc. | DIN-ISO 228 (R ..., DIN 259) G | Stud GES ... Art. no. | Stud Stainless steel GES ... -1.4571* Art. no. | System nuts for supplementing the stud (for technical data, see part D of this catalog) |                              |  |
|------------|--------------|---------------------|----------------|------------|--------------------------------|-----------------------|--|---|------------------------------|--|
|            |              |                     |                |            |                                |                       |  | Walring W-R ... VI Art. no.   | Walform WF-M ... VI Art. no. | Walform stainless steel WF-M ... VI-1.4571* Art. no. |
| LL         | 100 (1450)   | 4                   | GES 4 LLR      | 1.1        | G 1/8 A                        | WAL037559             | WAL604716                                      |   |                              |  |
|            |              | 6                   | GES 6 LLR      | 1.1        | G 1/8 A                        | WAL037561             | WAL061403                                      |   |                              |  |
|            |              | 8                   | GES 8 LLR      | 1.2        | G 1/8 A                        | WAL037562             | WAL024261                                      |   |                              |  |
| L          | 400 (5801)   | 6                   | GES 6 LR       | 1.4        | G 1/8 A                        | WAL037563             | WAL025478                                      | WAL624607   | WAL625940                    | WAL625980  |
|            |              | 6                   | GES 6 L/R 1/4  | 2.9        | G 1/4 A                        | WAL037564             | WAL061091                                      | WAL624607   | WAL625940                    | WAL625980  |
|            |              | 6                   | GES 6 L/R 3/8  | 9.1        | G 3/8 A                        | WAL027584             | WAL617364                                      | WAL624607   | WAL625940                    | WAL625980  |
|            |              | 8                   | GES 8 LR       | 2.7        | G 1/4 A                        | WAL037565             | WAL025479                                      | WAL624608   | WAL625941                    | WAL625981  |
|            |              | 8                   | GES 8 L/R 1/8  | 1.7        | G 1/8 A                        | WAL604870             | WAL024537                                      | WAL624608   | WAL625941                    | WAL625981  |
|            |              | 8                   | GES 8 L/R 3/8  | 4.4        | G 3/8 A                        | WAL037566             | WAL024175                                      | WAL624608   | WAL625941                    | WAL625981  |
|            |              | 8                   | GES 8 L/R 1/2  | 7.3        | G 1/2 A                        | WAL062578             | WAL066137                                      | WAL624608   | WAL625941                    | WAL625981  |
|            |              | 10                  | GES 10 L/R     | 2.9        | G 1/4 A                        | WAL037567             | WAL025480                                      | WAL624609   | WAL625942                    | WAL625982  |
|            |              | 10                  | GES 10 L/R 3/8 | 4.4        | G 3/8 A                        | WAL037568             | WAL024995                                      | WAL624609   | WAL625942                    | WAL625982  |
|            | 10           | GES 10 L/R 1/2      | 7.1            | G 1/2 A    | WAL028087                      | WAL066688             | WAL624609                                      | WAL625942   | WAL625982                    |  |
|            | 12           | GES 12 L/R 1/4      | 3.3            | G 1/4 A    | WAL037569                      | WAL024611             | WAL624610                                      | WAL625943   | WAL625983                    |  |
|            | 12           | GES 12 LR           | 4.3            | G 3/8 A    | WAL037570                      | WAL025481             | WAL624610                                      | WAL625943   | WAL625983                    |  |
|            | 12           | GES 12 L/R 1/2      | 6.7            | G 1/2 A    | WAL037571                      | WAL024613             | WAL624610                                      | WAL625943   | WAL625983                    |  |
|            | 15           | GES 15 L/R 3/8      | 5.1            | G 3/8 A    | WAL028669                      | WAL066617             | WAL624611                                      | WAL625944   | WAL625984                    |  |
|            | 15           | GES 15 LR           | 6.7            | G 1/2 A    | WAL037572                      | WAL025482             | WAL624611                                      | WAL625944   | WAL625984                    |  |
|            | 15           | GES 15 L/R 3/4      | 11.6           | G 3/4 A    | WAL028698                      | WAL613153             | WAL624611                                      | WAL625944   | WAL625984                    |  |
|            | 18           | GES 18 LR           | 7.1            | G 1/2 A    | WAL037573                      | WAL025483             | WAL624612                                      | WAL625945   | WAL625985                    |  |
|            | 18           | GES 18 L/R 3/4      | 11.1           | G 3/4 A    | WAL028701                      | WAL604521             | WAL624612                                      | WAL625945   | WAL625985                    |  |
| 250 (3626) | 22           | GES 22 LR           | 10.2           | G 3/4 A    | WAL037574                      | WAL025484             | WAL624613                                      | WAL625946   | WAL625986                    |  |
|            | 22           | GES 22 L/R 1/2      | 8.7            | G 1/2 A    | WAL025257                      | WAL604504             | WAL624613                                      | WAL625946   | WAL625986                    |  |
|            | 28           | GES 28 LR           | 16.8           | G 1 A      | WAL037575                      | WAL025485             | WAL624614                                      | WAL625947   | WAL625987                    |  |
|            | 28           | GES 28 L/R 3/4      | 14.3           | G 3/4 A    | WAL060071                      | WAL615377             | WAL624614                                      | WAL625947   | WAL625987                    |  |
|            | 35           | GES 35 LR           | 27.6           | G 1 1/4 A  | WAL037576                      | WAL025486             | WAL624615                                      | WAL625948   | WAL625988                    |  |
|            | 42           | GES 42 LR           | 35.2           | G 1 1/2 A  | WAL037577                      | WAL025487             | WAL624616                                      | WAL625949   | WAL625989                    |  |

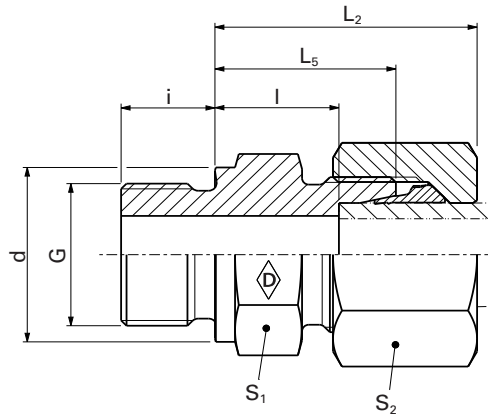
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

## Straight male fittings

### P-GEV ... R

#### P-GEV ... R-1.4571

- Inch studs type B to DIN EN ISO 1179-4



L<sub>5</sub>

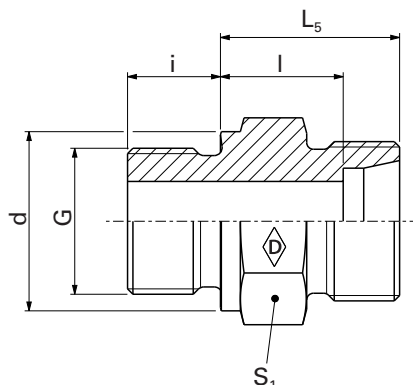
| Series     | PN bar (psi)     | Tube outer diameter | Model            | kg/100 pc.       | DIN-ISO 228 (R..., DIN 259) G | L <sub>2</sub> | L <sub>5</sub> | l    | i    | d  | S <sub>1</sub> | S <sub>2</sub> | Walpro P-GEV ... | Walpro stainless steel P-GEV ...-1.4571* |           |
|------------|------------------|---------------------|------------------|------------------|-------------------------------|----------------|----------------|------|------|----|----------------|----------------|------------------|--|-----------|
| S          | 630 (9137)       | 6                   | P-GEV 6 SR       | 5                | G 1/4 A                       | 20             | 28             | 13   | 12   | 18 | 19             | 17             | WAL373073        | WAL620014                                |           |
|            |                  | 8                   | P-GEV 8 SR       | 5.5              | G 1/4 A                       | 22             | 30             | 15   | 12   | 18 | 19             | 19             | WAL373074        | WAL620015                                |           |
|            |                  | 8                   | P-GEV 8 SR 3/8   | 8.0              | G 3/8 A                       | 22.5           | 30.5           | 15.5 | 12   | 22 | 22             | 19             | WAL374849        | WAL620811                                |           |
|            |                  | 10                  | P-GEV 10 SR      | 8.2              | G 3/8 A                       | 22.5           | 31             | 15   | 12   | 22 | 22             | 22             | WAL373075        | WAL620016                                |           |
|            |                  | 10                  | P-GEV 10 SR 1/4  | 7.5              | G 1/4 A                       | 22             | 30.5           | 14.5 | 12   | 18 | 19             | 22             | WAL602938        | WAL620295                                |           |
|            |                  | 10                  | P-GEV 10 SR 1/2  | 13.0             | G 1/2 A                       | 25             | 33.5           | 17.5 | 14   | 26 | 27             | 22             | WAL374850        | WAL620224                                |           |
|            |                  | 12                  | P-GEV 12 SR      | 9.5              | G 3/8 A                       | 24             | 33             | 17   | 12   | 22 | 22             | 24             | WAL373076        | WAL620017                                |           |
|            |                  | 12                  | P-GEV 12 SR 1/4  | 9.5              | G 1/4 A                       | 24             | 32.5           | 16.5 | 12   | 18 | 22             | 24             | WAL602939        | WAL620353                                |           |
|            |                  | 12                  | P-GEV 12 S/R 1/2 | 13.5             | G 1/2 A                       | 25             | 34             | 17.5 | 14   | 26 | 27             | 24             | WAL373077        | WAL620120                                |           |
|            |                  | 14                  | P-GEV 14 SR      | 14.8             | G 1/2 A                       | 27             | 37             | 19   | 14   | 26 | 27             | 27             | WAL373078        | WAL621512                                |           |
|            |                  | 16                  | P-GEV 16 SR      | 15.4             | G 1/2 A                       | 27             | 37             | 18.5 | 14   | 26 | 27             | 30             | WAL373079        | WAL620018                                |           |
|            |                  | 16                  | P-GEV 16 SR 3/8  | 16.0             | G 3/8 A                       | 26.5           | 36.5           | 18   | 12   | 22 | 27             | 30             | WAL374852        | WAL620352                                |           |
|            |                  | 16                  | P-GEV 16 SR 3/4  | 23.0             | G 3/4 A                       | 29             | 40             | 21.5 | 16   | 32 | 32             | 30             | WAL604264        | WAL620789                                |           |
|            |                  | 20                  | P-GEV 20 SR      | 25.3             | G 3/4 A                       | 31             | 42             | 20.5 | 16   | 32 | 32             | 36             | WAL373080        | WAL620019                                |           |
|            |                  | 400 (5801)          | 20               | P-GEV 20 S/R 1/2 | 24.5                          | G 1/2 A        | 31             | 40   | 18.5 | 14 | 26             | 32             | 36               | WAL602651                                | WAL620202 |
|            |                  |                     | 25               | P-GEV 25 SR      | 46.5                          | G 1 A          | 35             | 47   | 23   | 18 | 39             | 41             | 46               | WAL373081                                | WAL620020 |
| 25         | P-GEV 25 S/R 3/4 |                     | 45.5             | G 3/4 A          | 35                            | 47             | 23             | 16   | 32   | 41 | 46             | WAL374854      | WAL620606        |  |           |
| 250 (3626) | 30               | P-GEV 30 SR         | 64.4             | G 1 1/4 A        | 37                            | 50             | 23.5           | 20   | 49   | 50 | 50             | WAL373082      | WAL620021        |  |           |
|            | 38               | P-GEV 38 SR         | 88.9             | G 1 1/2 A        | 42                            | 57             | 26             | 22   | 55   | 55 | 60             | WAL373083      | WAL620022        |  |           |
|            | 38               | P-GEV 38 S/R 1 1/4  | 89.6             | G 1 1/4 A        | 42                            | 57             | 26             | 20   | 49   | 55 | 60             | WAL603977      | WAL620630        |  |           |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened



**GES ... R**
**GES ... R-1.4571**

**E**

 System nuts for supplementing the stud  
 (for technical data, see part D of this catalog)

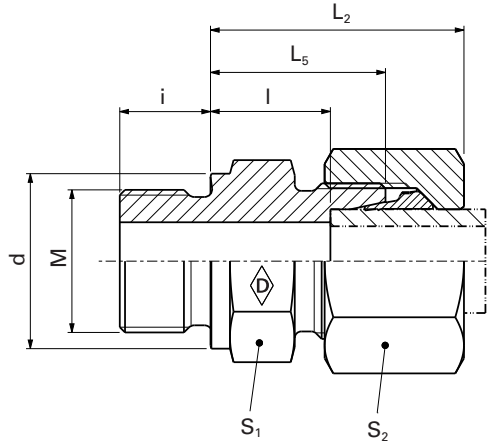
| Series        | PN<br>bar (psi) | Tube<br>outer<br>diameter | DIN-ISO 228<br>(R ..., DIN 259)<br>G | kg/<br>100 pc. | DIN-ISO 228<br>(R ..., DIN 259)<br>G | Art. no.  | Stud<br>Stainless steel<br>GES ...<br>-1.4571* | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                        |  |           |
|---------------|-----------------|---------------------------|--------------------------------------|----------------|--------------------------------------|-----------|--|--|------------------------|--|-----------|
|               |                 |                           |                                      |                |                                      |           |  | Walring<br>W-R ... VI  | Walform<br>WF-M ... VI | Walform stainless steel<br>WF-M ... VI-1.4571* |           |
| S             | 630<br>(9137)   | 6                         | GES 6 SR                             | 3.6            | G 1/4 A                              | WAL037578 | WAL025488                                      | WAL624617  | WAL625950              | WAL625990                                      |           |
|               |                 | 8                         | GES 8 SR                             | 4.1            | G 1/4 A                              | WAL037579 | WAL025489                                      | WAL624618  | WAL625951              | WAL625991                                      |           |
|               |                 | 8                         | GES 8 S/R 3/8                        | 5.8            | G 3/8 A                              | WAL370740 | WAL617381                                      | WAL624618  | WAL625951              | WAL625991                                      |           |
|               |                 | 10                        | GES 10 SR                            | 5.7            | G 3/8 A                              | WAL037580 | WAL025490                                      | WAL624619  | WAL625952              | WAL625992                                      |           |
|               |                 | 10                        | GES 10 S/R 1/4                       | 4.0            | G 1/4 A                              | WAL067917 | WAL067084                                      | WAL624619  | WAL625952              | WAL625992                                      |           |
|               |                 | 10                        | GES 10 S/R 1/2                       | 9.7            | G 1/2 A                              | WAL060170 | WAL066872                                      | WAL624619  | WAL625952              | WAL625992                                      |           |
|               |                 | 12                        | GES 12 SR                            | 6.3            | G 3/8 A                              | WAL037581 | WAL025491                                      | WAL624620  | WAL625953              | WAL625993                                      |           |
|               |                 | 12                        | GES 12 S/R 1/4                       | 5.7            | G 1/4 A                              | WAL371817 | WAL617383                                      | WAL624620  | WAL625953              | WAL625993                                      |           |
|               |                 | 12                        | GES 12 S/R 1/2                       | 9.7            | G 1/2 A                              | WAL037582 | WAL060015                                      | WAL624620  | WAL625953              | WAL625993                                      |           |
|               |                 | 14                        | GES 14 SR                            | 9.6            | G 1/2 A                              | WAL037583 | WAL025492                                      |  |                        |  |           |
|               |                 | 16                        | GES 16 SR                            | 9.1            | G 1/2 A                              | WAL037584 | WAL025493                                      | WAL624621  | WAL625954              | WAL625994                                      |           |
|               |                 | 16                        | GES 16 S/R 3/8                       | 8.6            | G 3/8 A                              | WAL024062 | WAL372245                                      | WAL624621  | WAL625954              | WAL625994                                      |           |
|               |                 | 16                        | GES 16 S/R 3/4                       | 15.5           | G 3/4 A                              | WAL025474 | WAL617388                                      | WAL624621  | WAL625954              | WAL625994                                      |           |
|               |                 | 20                        | GES 20 SR                            | 14.9           | G 3/4 A                              | WAL037585 | WAL025494                                      | WAL624622  | WAL625955              | WAL625995                                      |           |
|               |                 | 400<br>(5801)             | 20                                   | GES 20 S/R 1/2 | 13.6                                 | G 1/2 A   | WAL028704                                      | WAL066306  | WAL624622              | WAL625955                                      | WAL625995 |
|               |                 |                           | 25                                   | GES 25 SR      | 26.9                                 | G 1 A     | WAL037586                                      | WAL025495  | WAL624623              | WAL625956                                      | WAL625996 |
| 250<br>(3626) | 25              | GES 25 S/R 3/4            | 24.3                                 | G 3/4 A        | WAL028789                            | WAL605636 | WAL624623                                      | WAL625956  | WAL625996              |  |           |
|               | 30              | GES 30 SR                 | 41.8                                 | G 1 1/4 A      | WAL037587                            | WAL025496 | WAL624624                                      | WAL625957  | WAL625997              |  |           |
|               | 38              | GES 38 SR                 | 56.8                                 | G 1 1/2 A      | WAL037588                            | WAL025497 | WAL624625                                      | WAL625958  | WAL625998              |  |           |
|               |                 | 38                        | GES 38 S/R 1 1/4                     | 56.7           | G 1 1/4 A                            | WAL025223 | WAL606647                                      | WAL624625  | WAL625958              | WAL625998                                      |           |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-GEV ... M**

**P-GEV ... M-1.4571**

- Metric stud type B to DIN EN ISO 9974-3



E

| Series | PN bar (psi) | Tube outer diameter | Model                 | kg/100 pc. | M          | L <sub>2</sub> | L <sub>5</sub> | l    | i  | d  | S <sub>1</sub> | S <sub>2</sub> | Walpro P-GEV ...<br>Art. no. | Walpro stainless steel P-GEV ...-1.4571*<br>Art. no. |           |
|--------|--------------|---------------------|-----------------------|------------|------------|----------------|----------------|------|----|----|----------------|----------------|------------------------------|--|-----------|
| LL     | 100 (1450)   | 4                   | S-GEV 4 LLM           | 1.8        | M 8 x 1    | 19             | 13.5           | 9.5  | 8  | 12 | 12             | 10             | WAL038302                    | WAL623050  |           |
|        |              | 6                   | S-GEV 6 LLM           | 1.9        | M 10 x 1   | 19.5           | 13.5           | 8    | 8  | 14 | 14             | 12             | WAL038304                    | WAL623052  |           |
|        |              | 8                   | S-GEV 8 LLM           | 2.3        | M 10 x 1   | 20.5           | 14.5           | 9    | 8  | 14 | 14             | 14             | WAL038305                    | WAL371486  |           |
| L      | 400 (5801)   | 6                   | P-GEV 6 LM            | 2.5        | M 10 x 1   | 23             | 15.5           | 8.5  | 8  | 14 | 14             | 14             | WAL373087                    | WAL620023  |           |
|        |              | 6                   | P-GEV 6 L/M 12 x 1.5  | 4.0        | M 12 x 1.5 | 24.5           | 17             | 10   | 12 | 17 | 17             | 14             | WAL373088                    | WAL623054  |           |
|        |              | 8                   | P-GEV 8 LM            | 4.0        | M 12 x 1.5 | 25             | 17             | 10   | 12 | 17 | 17             | 17             | WAL373089                    | WAL620024  |           |
|        |              | 8                   | P-GEV 8 L/M 18 x 1.5  | 6.8        | M 18 x 1.5 | 26             | 18.5           | 11.5 | 12 | 23 | 24             | 17             | WAL373090                    | WAL623056  |           |
|        |              | 10                  | P-GEV 10 LM           | 4.7        | M 14 x 1.5 | 26             | 18             | 11   | 12 | 19 | 19             | 19             | WAL373091                    | WAL620025  |           |
|        |              | 10                  | P-GEV 10 L/M 16 x 1.5 | 6.2        | M 16 x 1.5 | 27             | 19.5           | 12.5 | 12 | 21 | 22             | 19             | WAL602652                    | WAL623057  |           |
|        |              | 10                  | P-GEV 10 L/M 18 x 1.5 | 7.6        | M 18 x 1.5 | 27             | 19.5           | 12.5 | 12 | 23 | 24             | 19             | WAL373092                    | WAL623059  |           |
|        |              | 10                  | P-GEV 10 L/M 22 x 1.5 | 8.3        | M 22 x 1.5 | 27.5           | 20             | 13   | 14 | 27 | 27             | 19             | WAL373093                    | WAL623060  |           |
|        |              | 12                  | P-GEV 12 LM           | 6.3        | M 16 x 1.5 | 27             | 19.5           | 12.5 | 12 | 21 | 22             | 22             | 22                           | WAL373094  | WAL620026 |
|        |              | 12                  | P-GEV 12 L/M 18 x 1.5 | 7.8        | M 18 x 1.5 | 27             | 19.5           | 12.5 | 12 | 23 | 24             | 22             | 22                           | WAL373095  | WAL623062 |
|        |              | 12                  | P-GEV 12 L/M 22 x 1.5 | 9.5        | M 22 x 1.5 | 27.5           | 20             | 13   | 14 | 27 | 27             | 22             | 22                           | WAL373096  | WAL623063 |
|        |              | 15                  | P-GEV 15 LM           | 9.5        | M 18 x 1.5 | 29             | 20.5           | 13.5 | 12 | 23 | 24             | 27             | 27                           | WAL373097  | WAL620027 |
|        |              | 15                  | P-GEV 15 L/M 22 x 1.5 | 11.5       | M 22 x 1.5 | 29             | 21             | 14   | 14 | 27 | 27             | 27             | 27                           | WAL373098  | WAL620816 |
|        |              | 18                  | P-GEV 18 L/M 18 x 1.5 | 12.2       | M 18 x 1.5 | 30             | 21.5           | 14   | 12 | 23 | 27             | 32             | 32                           | WAL373099  | WAL623065 |
|        |              | 18                  | P-GEV 18 LM           | 12.9       | M 22 x 1.5 | 31             | 22             | 14.5 | 14 | 27 | 27             | 32             | 32                           | WAL373100  | WAL620028 |
| S      | 250 (3626)   | 22                  | P-GEV 22 LM           | 17.6       | M 26 x 1.5 | 33             | 24             | 16.5 | 16 | 31 | 32             | 36             | WAL373101                    | WAL620424  |           |
|        |              | 28                  | P-GEV 28 LM           | 24.7       | M 33 x 2   | 34             | 25             | 17.5 | 18 | 39 | 41             | 41             | WAL373102                    | WAL620029  |           |
|        |              | 35                  | P-GEV 35 LM           | 40.7       | M 42 x 2   | 39             | 28             | 17.5 | 20 | 49 | 50             | 50             | WAL373103                    | WAL620452  |           |
|        |              | 42                  | P-GEV 42 LM           | 45.6       | M 48 x 2   | 42             | 30             | 19   | 22 | 55 | 55             | 60             | WAL373104                    | WAL620995  |           |
| S      | 630 (9137)   | 6                   | P-GEV 6 SM            | 4.5        | M 12 x 1.5 | 28             | 20             | 13   | 12 | 17 | 17             | 17             | WAL373105                    | WAL620030  |           |
|        |              | 8                   | P-GEV 8 SM            | 5.5        | M 14 x 1.5 | 30             | 22             | 15   | 12 | 19 | 19             | 19             | WAL373106                    | WAL620031  |           |
|        |              | 10                  | P-GEV 10 SM           | 8.2        | M 16 x 1.5 | 31             | 22.5           | 15   | 12 | 21 | 22             | 22             | WAL373107                    | WAL620032  |           |
|        |              | 12                  | P-GEV 12 SM           | 10.5       | M 18 x 1.5 | 33             | 24.5           | 17   | 12 | 23 | 24             | 24             | WAL373108                    | WAL620033  |           |
|        |              | 14                  | P-GEV 14 SM           | 14.8       | M 20 x 1.5 | 37             | 27             | 19   | 14 | 25 | 27             | 27             | WAL373109                    | WAL621510  |           |
|        |              | 16                  | P-GEV 16 SM           | 15.4       | M 22 x 1.5 | 37             | 27             | 18.5 | 14 | 27 | 27             | 30             | WAL373110                    | WAL620661  |           |
| S      | 400 (5801)   | 20                  | P-GEV 20 SM           | 25.3       | M 27 x 2   | 42             | 31             | 20.5 | 16 | 32 | 32             | 36             | WAL373111                    | WAL620503  |           |
|        |              | 25                  | P-GEV 25 SM           | 46.5       | M 33 x 2   | 47             | 35             | 23   | 18 | 39 | 41             | 46             | WAL373112                    | WAL620887  |           |
| S      | 250 (3626)   | 30                  | P-GEV 30 SM           | 64.4       | M 42 x 2   | 50             | 37             | 23.5 | 20 | 49 | 50             | 50             | WAL373113                    | WAL621150  |           |
|        |              | 38                  | P-GEV 38 SM           | 88.9       | M 48 x 2   | 57             | 42             | 26   | 22 | 55 | 55             | 60             | WAL373114                    | WAL620662  |           |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

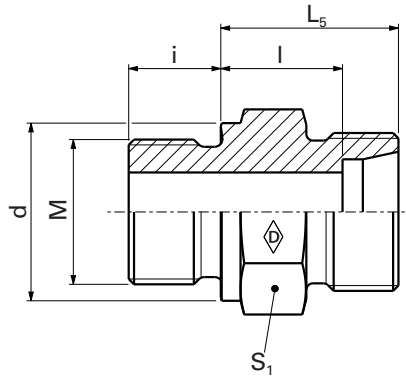
\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened

Special parts are available on request.

**GES ... M**

**GES ... M-1.4571**



E

| Series     | PN bar (psi) | Tube outer diameter | Model               | kg/100 pc. | M          | Art. no.  | Art. no.  | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                                       |                    |
|------------|--------------|---------------------|---------------------|------------|------------|-----------|-----------|--|---------------------------------------|--------------------|
|            |              |                     |                     |            |            |           |           | Stud GES ...   | Stud Stainless steel GES ... -1.4571* | Walring W-R ... VI |
| LL         | 100 (1450)   | 4                   | GES 4 LLM           | 0.9        | M 8 x 1    | WAL037589 | WAL623051 |  |                                       |                    |
|            |              | 6                   | GES 6 LLM           | 1.1        | M 10 x 1   | WAL037591 | WAL623053 |  |                                       |                    |
|            |              | 8                   | GES 8 LLM           | 1.2        | M 10 x 1   | WAL037592 | WAL371485 |  |                                       |                    |
| L          | 400 (5801)   | 6                   | GES 6 LM            | 1.4        | M 10 x 1   | WAL037593 | WAL025498 | WAL624607  | WAL625940                             | WAL625980          |
|            |              | 6                   | GES 6 L/M 12 x 1.5  | 2.6        | M 12 x 1.5 | WAL037594 | WAL623055 | WAL624607  | WAL625940                             | WAL625980          |
|            |              | 8                   | GES 8 LM            | 2.3        | M 12 x 1.5 | WAL037595 | WAL025499 | WAL624608  | WAL625941                             | WAL625981          |
|            |              | 8                   | GES 8 L/M 18 x 1.5  | 5.1        | M 18 x 1.5 | WAL024882 | WAL372571 | WAL624608  | WAL625941                             | WAL625981          |
|            |              | 10                  | GES 10 LM           | 2.9        | M 14 x 1.5 | WAL037596 | WAL025500 | WAL624609  | WAL625942                             | WAL625982          |
|            |              | 10                  | GES 10 L/M 16 x 1.5 | 4.0        | M 16 x 1.5 | WAL063190 | WAL623058 | WAL624609  | WAL625942                             | WAL625982          |
|            | 10           | GES 10 L/M 18 x 1.5 | 5.0                 | M 18 x 1.5 | WAL025287  | WAL372883 | WAL624609 | WAL625942  | WAL625982                             |                    |
|            | 10           | GES 10 L/M 22 x 1.5 | 7.6                 | M 22 x 1.5 | WAL028692  | WAL623061 | WAL624609 | WAL625942  | WAL625982                             |                    |
|            | 12           | GES 12 LM           | 4.0                 | M 16 x 1.5 | WAL037597  | WAL025501 | WAL624610 | WAL625943  | WAL625983                             |                    |
|            | 12           | GES 12 L/M 18 x 1.5 | 4.7                 | M 18 x 1.5 | WAL037598  | WAL602783 | WAL624610 | WAL625943  | WAL625983                             |                    |
|            | 12           | GES 12 L/M 22 x 1.5 | 7.3                 | M 22 x 1.5 | WAL028695  | WAL623064 | WAL624610 | WAL625943  | WAL625983                             |                    |
|            | 15           | GES 15 LM           | 5.2                 | M 18 x 1.5 | WAL037599  | WAL025502 | WAL624611 | WAL625944  | WAL625984                             |                    |
|            | 15           | GES 15 L/M 22 x 1.5 | 7.4                 | M 22 x 1.5 | WAL028117  | WAL604968 | WAL624611 | WAL625944  | WAL625984                             |                    |
|            | 18           | GES 18 L/M 18 x 1.5 | 6.4                 | M 18 x 1.5 | WAL029643  | WAL623066 | WAL624612 | WAL625945  | WAL625985                             |                    |
|            | 18           | GES 18 LM           | 7.6                 | M 22 x 1.5 | WAL037600  | WAL025503 | WAL624612 | WAL625945  | WAL625985                             |                    |
|            | 22           | GES 22 LM           | 10.1                | M 26 x 1.5 | WAL037601  | WAL604218 | WAL624613 | WAL625946  | WAL625986                             |                    |
|            | 250 (3626)   | 28                  | GES 28 LM           | 16.7       | M 33 x 2   | WAL037602 | WAL025505 | WAL624614  | WAL625947                             | WAL625987          |
|            |              | 35                  | GES 35 LM           | 28.2       | M 42 x 2   | WAL037603 | WAL025506 | WAL624615  | WAL625948                             | WAL625988          |
| 42         |              | GES 42 LM           | 35.8                | M 48 x 2   | WAL037604  | WAL617435 | WAL624616 | WAL625949  | WAL625989                             |                    |
| S          | 630 (9137)   | 6                   | GES 6 SM            | 3.0        | M 12 x 1.5 | WAL037605 | WAL028656 | WAL624617  | WAL625950                             | WAL625990          |
|            |              | 8                   | GES 8 SM            | 4.3        | M 14 x 1.5 | WAL037606 | WAL025508 | WAL624618  | WAL625951                             | WAL625991          |
|            |              | 10                  | GES 10 SM           | 5.5        | M 16 x 1.5 | WAL037607 | WAL025509 | WAL624619  | WAL625952                             | WAL625992          |
|            | 12           | GES 12 SM           | 7.2                 | M 18 x 1.5 | WAL037608  | WAL025510 | WAL624620 | WAL625953  | WAL625993                             |                    |
|            | 14           | GES 14 SM           | 9.4                 | M 20 x 1.5 | WAL037609  | WAL025511 |           |  |                                       |                    |
|            | 16           | GES 16 SM           | 9.8                 | M 22 x 1.5 | WAL037610  | WAL025512 | WAL624621 | WAL625954  | WAL625994                             |                    |
| 400 (5801) | 20           | GES 20 SM           | 15.3                | M 27 x 2   | WAL037611  | WAL025513 | WAL624622 | WAL625955  | WAL625995                             |                    |
|            | 25           | GES 25 SM           | 26.9                | M 33 x 2   | WAL037612  | WAL025514 | WAL624623 | WAL625956  | WAL625996                             |                    |
| 250 (3626) | 30           | GES 30 SM           | 42.8                | M 42 x 2   | WAL037613  | WAL617436 | WAL624624 | WAL625957  | WAL625997                             |                    |
|            | 38           | GES 38 SM           | 57.5                | M 48 x 2   | WAL037614  | WAL025516 | WAL624625 | WAL625958  | WAL625998                             |                    |

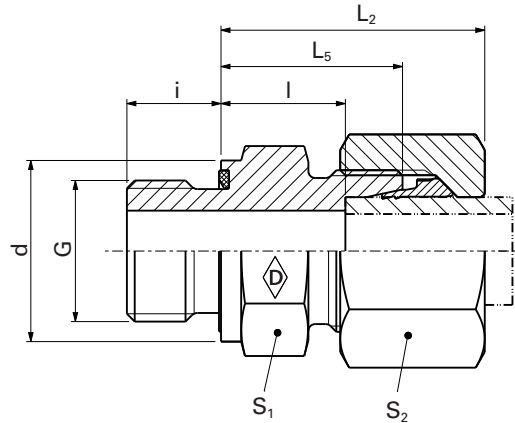
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

Special parts are available on request.

**P-GEV ... R-WD**

**P-GEV ... R-WD-1.4571**

- With soft seal made from NBR\*\* (e.g. Perbunan) for steel
- With soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)
- Inch studs type E to DIN EN ISO 1179-2



E

| Series     | PN bar (psi) | Tube outer diameter | Model               | kg/100 pc. | DIN-ISO 228 (R..., DIN 259) G | L <sub>2</sub> | L <sub>5</sub> | l    | i    | d    | S <sub>1</sub> | S <sub>2</sub> | Walpro    | Walpro stainless steel |
|------------|--------------|---------------------|---------------------|------------|-------------------------------|----------------|----------------|------|------|------|----------------|----------------|-----------|------------------------|
|            |              |                     |                     |            |                               |                |                |      |      |      |                |                | P-GEV ... | P-GEV ... -VI-1.4571   |
|            |              |                     |                     |            |                               |                |                |      |      |      |                |                | Art. no.  | Art. no.               |
| L          | 500 (7252)   | 6                   | P-GEV 6 LR-WD       | 2.5        | G 1/8 A                       | 23             | 15.5           | 8.5  | 8    | 13.9 | 14             | 14             | WAL373115 | WAL620444              |
|            |              | 6                   | P-GEV 6 L/R 1/4-WD  | 4.1        | G 1/4 A                       | 24.5           | 17             | 10   | 12   | 18.9 | 19             | 14             | WAL605925 | WAL620754              |
|            |              | 8                   | P-GEV 8 LR-WD       | 4.5        | G 1/4 A                       | 25             | 17             | 10   | 12   | 18.9 | 19             | 17             | WAL373116 | WAL620509              |
|            |              | 8                   | P-GEV 8 L/R 1/8-WD  | 3.8        | G 1/8 A                       | 24             | 16.5           | 9.5  | 8    | 13.9 | 14             | 17             | WAL605926 | WAL620971              |
|            | 400 (5801)   | 8                   | P-GEV 8 L/R 3/8-WD  | 6.0        | G 3/8 A                       | 26             | 18.5           | 11.5 | 12   | 21.9 | 22             | 17             | WAL605927 | WAL620907              |
|            | 500 (7252)   | 10                  | P-GEV 10 LR-WD      | 4.7        | G 1/4 A                       | 26             | 18             | 11   | 12   | 18.9 | 19             | 19             | WAL373117 | WAL620437              |
|            |              | 10                  | P-GEV 10 L/R 3/8-WD | 6.5        | G 3/8 A                       | 27             | 19.5           | 12.5 | 12   | 21.9 | 22             | 19             | WAL602560 | WAL620752              |
|            |              | 10                  | P-GEV 10 L/R 1/2-WD | 7.6        | G 1/2 A                       | 27.5           | 21             | 13   | 14   | 26.9 | 27             | 19             | WAL605928 | WAL620753              |
|            |              | 12                  | P-GEV 12 L/R 1/4-WD | 6.0        | G 1/4 A                       | 27             | 19             | 12   | 12   | 18.9 | 19             | 22             | WAL373118 | WAL620592              |
|            | 400 (5801)   | 12                  | P-GEV 12 LR-WD      | 6.3        | G 3/8 A                       | 27             | 19.5           | 12.5 | 12   | 21.9 | 22             | 22             | WAL373119 | WAL620561              |
|            |              | 12                  | P-GEV 12 L/R 1/2-WD | 10.0       | G 1/2 A                       | 28             | 20             | 13   | 14   | 26.9 | 27             | 22             | WAL602513 | WAL620761              |
|            |              | 15                  | P-GEV 15 L/R 3/8-WD | 9.3        | G 1/2 A                       | 28             | 20             | 13.5 | 14   | 26.9 | 27             | 27             | WAL373120 | WAL620852              |
|            |              | 15                  | P-GEV 15 LR-WD      | 11.5       | G 3/8 A                       | 28.5           | 21             | 14   | 12   | 21.9 | 27             | 27             | WAL605443 | WAL620460              |
|            |              | 18                  | P-GEV 18 LR-WD      | 12.9       | G 1/2 A                       | 31             | 22             | 14.5 | 14   | 26.9 | 27             | 32             | WAL373121 | WAL620438              |
|            |              | 18                  | P-GEV 18 L/R 3/4-WD | 18.0       | G 3/4 A                       | 31             | 22             | 14.5 | 16   | 31.9 | 32             | 32             | WAL605215 | WAL620977              |
|            | 250 (3626)   | 22                  | P-GEV 22 LR-WD      | 17.6       | G 3/4 A                       | 33             | 24             | 16.5 | 14   | 26.9 | 32             | 36             | WAL373122 | WAL620439              |
| 28         |              | P-GEV 28 LR-WD      | 24.7                | G 1 A      | 34                            | 25             | 17.5           | 18   | 39.9 | 41   | 41             | WAL373123      | WAL620440 |                        |
| 35         |              | P-GEV 35 LR-WD      | 40.7                | G 1 1/4 A  | 39                            | 28             | 17.5           | 20   | 49.9 | 50   | 50             | WAL373124      | WAL620558 |                        |
| 42         |              | P-GEV 42 LR-WD      | 45.6                | G 1 1/2 A  | 42                            | 30             | 19             | 22   | 54.9 | 55   | 60             | WAL373125      | WAL620593 |                        |
| S          | 800 (11603)  | 6                   | P-GEV 6 SR-WD       | 5.0        | G 1/4 A                       | 28             | 20             | 13   | 12   | 18.9 | 19             | 17             | WAL373126 | WAL620445              |
|            |              | 8                   | P-GEV 8 SR-WD       | 5.5        | G 1/4 A                       | 30             | 22             | 15   | 12   | 18.9 | 19             | 19             | WAL373127 | WAL620763              |
|            |              | 8                   | P-GEV 8 S/R 3/8-WD  | 5.3        | G 3/8 A                       | 30.5           | 22.5           | 15.5 | 12   | 21.9 | 22             | 19             | WAL604229 | WAL620988              |
|            |              | 10                  | P-GEV 10 SR-WD      | 8.2        | G 3/8 A                       | 31             | 22.5           | 15   | 12   | 21.9 | 22             | 22             | WAL373128 | WAL620567              |
|            | 10           | P-GEV 10 S/R 1/4-WD | 7.5                 | G 1/4 A    | 30.5                          | 22             | 14.5           | 12   | 18.9 | 19   | 22             | WAL605114      | WAL620644 |                        |
|            | 10           | P-GEV 10 S/R 1/2-WD | 8.9                 | G 1/2 A    | 33.5                          | 25             | 17.5           | 14   | 26.9 | 27   | 22             | WAL605932      | WAL620822 |                        |
|            | 12           | P-GEV 12 SR-WD      | 9.5                 | G 3/8 A    | 33                            | 24.5           | 17             | 12   | 21.9 | 22   | 24             | WAL373129      | WAL620478 |                        |
|            | 12           | P-GEV 12 S/R 1/4-WD | 9.5                 | G 1/4 A    | 32.5                          | 24             | 16.5           | 12   | 18.9 | 22   | 24             | WAL605933      | WAL620645 |                        |
|            | 12           | P-GEV 12 S/R 1/2-WD | 13.5                | G 1/2 A    | 34                            | 25             | 17.5           | 14   | 26.9 | 27   | 24             | WAL604466      | WAL620828 |                        |
|            | 630 (9137)   | 14                  | P-GEV 14 SR-WD      | 14.8       | G 1/2 A                       | 37             | 27             | 19   | 14   | 26.9 | 27             | 27             | WAL373130 | WAL621513              |
| 420 (6091) | 16           | P-GEV 16 SR-WD      | 15.4                | G 1/2 A    | 37                            | 27             | 18.5           | 14   | 26.9 | 27   | 30             | WAL373131      | WAL620562 |                        |
|            | 16           | P-GEV 16 S/R 3/8-WD | 15.2                | G 3/8 A    | 36.5                          | 26             | 18             | 12   | 21.9 | 27   | 30             | WAL605222      | WAL620795 |                        |
|            | 16           | P-GEV 16 S/R 3/4-WD | 23.0                | G 3/4 A    | 39                            | 29             | 20.5           | 16   | 31.9 | 32   | 30             | WAL604561      | WAL620991 |                        |
|            | 20           | P-GEV 20 SR-WD      | 25.3                | G 3/4 A    | 42                            | 31             | 20.5           | 16   | 31.9 | 32   | 36             | WAL373132      | WAL620643 |                        |
|            | 25           | P-GEV 25 SR-WD      | 46.5                | G 1 A      | 47                            | 35             | 23             | 18   | 39.9 | 41   | 46             | WAL373133      | WAL620598 |                        |
|            | 25           | P-GEV 25 S/R 3/4-WD | 45.5                | G 3/4 A    | 47                            | 35             | 23             | 16   | 31.9 | 41   | 46             | WAL604562      | WAL620647 |                        |
|            | 30           | P-GEV 30 SR-WD      | 64.4                | G 1 1/4 A  | 50                            | 37             | 23.5           | 20   | 49.9 | 50   | 50             | WAL373134      | WAL620646 |                        |
|            | 38           | P-GEV 38 SR-WD      | 88.9                | G 1 1/2 A  | 57                            | 42             | 26             | 22   | 54.9 | 55   | 60             | WAL373135      | WAL620617 |                        |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

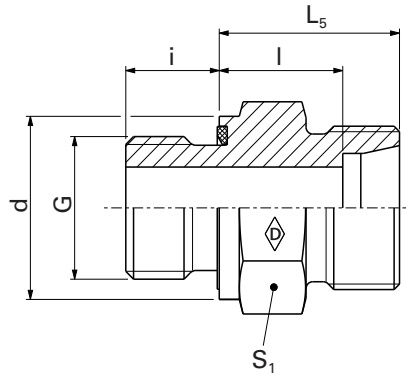
L<sub>2</sub> = approximate dimension if the union nut is tightened

\*\*FPM (e.g. Viton) see price list / available on request

Special parts are available on request.

**GES ... R-WD**

**GES ... R-WD-1.4571**



E

|               |                    |                                    |                   |                   |                                   | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |   |                       |                        |  |           |
|---------------|--------------------|------------------------------------|-------------------|-------------------|-----------------------------------|--|---|-----------------------|------------------------|--|-----------|
|               |                    |                                    |                   |                   |                                   | Stud<br>GES ...  | Stud<br>Stainless steel<br>GES ...<br>-VI-1.4571* | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless steel<br>WF-M ... VI-1.4571* |           |
| Series        | PN<br>bar<br>(psi) | Tube<br>outer diameter<br>(Ø ext.) | Model             | kg/<br>100<br>pc. | DIN-ISO 228<br>(R ..., DIN 259) G | Art. no.   | Art. no.  | Art. no.              | Art. no.               | Art. no.                                       |           |
| L             | 500<br>(7252)      | 6                                  | GES 6 LR-WD       | 1.5               | G 1/8 A                           | WAL037615  | WAL602810   | WAL624607             | WAL625940              | WAL625980                                      |           |
|               |                    | 6                                  | GES 6 L/R 1/4-WD  | 3.0               | G 1/4 A                           | WAL606456  | WAL617396   | WAL624607             | WAL625940              | WAL625980                                      |           |
|               |                    | 8                                  | GES 8 LR-WD       | 2.5               | G 1/4 A                           | WAL037616  | WAL602768   | WAL624608             | WAL625941              | WAL625981                                      |           |
|               |                    | 8                                  | GES 8 L/R 1/8-WD  | 1.7               | G 1/8 A                           | WAL606457  | WAL617399   | WAL624608             | WAL625941              | WAL625981                                      |           |
|               | 400<br>(5801)      | 8                                  | GES 8 L/R 3/8-WD  | 4.8               | G 3/8 A                           | WAL606458  | WAL617400   | WAL624608             | WAL625941              | WAL625981                                      |           |
|               | 500<br>(7252)      | 10                                 | GES 10 LR-WD      | 3.0               | G 1/4 A                           | WAL037617  | WAL371729   | WAL624609             | WAL625942              | WAL625982                                      |           |
|               |                    | 10                                 | GES 10 L/R 3/8-WD | 4.0               | G 3/8 A                           | WAL027596  | WAL617403   | WAL624609             | WAL625942              | WAL625982                                      |           |
|               |                    | 10                                 | GES 10 L/R 1/2-WD | 5.2               | G 1/2 A                           | WAL606414  | WAL617404   | WAL624609             | WAL625942              | WAL625982                                      |           |
|               |                    | 12                                 | GES 12 L/R 1/4-WD | 3.5               | G 1/4 A                           | WAL037618  | WAL605376   | WAL624610             | WAL625943              | WAL625983                                      |           |
|               | 400<br>(5801)      | 12                                 | GES 12 LR-WD      | 4.0               | G 3/8 A                           | WAL037619  | WAL371730   | WAL624610             | WAL625943              | WAL625983                                      |           |
|               |                    | 12                                 | GES 12 L/R 1/2-WD | 6.5               | G 1/2 A                           | WAL024957  | WAL615260   | WAL624610             | WAL625943              | WAL625983                                      |           |
|               |                    | 15                                 | GES 15 LR-WD      | 6.5               | G 1/2 A                           | WAL037620  | WAL371731   | WAL624611             | WAL625944              | WAL625984                                      |           |
|               |                    | 15                                 | GES 15 L/R 3/8-WD | 4.9               | G 3/8 A                           | WAL604985  | WAL610673   | WAL624611             | WAL625944              | WAL625984                                      |           |
|               |                    | 18                                 | GES 18 LR-WD      | 7.0               | G 1/2 A                           | WAL037621  | WAL371732   | WAL624612             | WAL625945              | WAL625985                                      |           |
|               |                    | 18                                 | GES 18 L/R 3/4-WD | 13.5              | G 3/4 A                           | WAL605124  | WAL613147   | WAL624612             | WAL625945              | WAL625985                                      |           |
|               |                    | 22                                 | GES 22 LR-WD      | 10.5              | G 3/4 A                           | WAL037622  | WAL371733   | WAL624613             | WAL625946              | WAL625986                                      |           |
|               |                    | 250<br>(3626)                      | 28                | GES 28 LR-WD      | 16.5                              | G 1 A  | WAL037623   | WAL371734             | WAL624614              | WAL625947                                      | WAL625987 |
|               | S                  | 800<br>(11603)                     | 35                | GES 35 LR-WD      | 27.0                              | G 1 1/4 A  | WAL037624   | WAL605252             | WAL624615              | WAL625948                                      | WAL625988 |
|               |                    |                                    | 42                | GES 42 LR-WD      | 34.5                              | G 1 1/2 A  | WAL037625   | WAL605379             | WAL624616              | WAL625949                                      | WAL625989 |
|               |                    |                                    | 6                 | GES 6 SR-WD       | 3.5                               | G 1/4 A  | WAL037626   | WAL605280             | WAL624617              | WAL625950                                      | WAL625990 |
| 8             |                    |                                    | GES 8 SR-WD       | 4.0               | G 1/4 A                           | WAL037627  | WAL604432   | WAL624618             | WAL625951              | WAL625991                                      |           |
| 630<br>(9137) |                    | 8                                  | GES 8 S/R 3/8-WD  | 6.2               | G 3/8 A                           | WAL371292  | WAL617419   | WAL624618             | WAL625951              | WAL625991                                      |           |
|               |                    | 10                                 | GES 10 SR-WD      | 5.5               | G 3/8 A                           | WAL037628  | WAL605325   | WAL624619             | WAL625952              | WAL625992                                      |           |
|               |                    | 10                                 | GES 10 S/R 1/4-WD | 4.7               | G 1/4 A                           | WAL602927  | WAL605271   | WAL624619             | WAL625952              | WAL625992                                      |           |
|               |                    | 10                                 | GES 10 S/R 1/2-WD | 13.9              | G 1/2 A                           | WAL606460  | WAL617421   | WAL624619             | WAL625952              | WAL625992                                      |           |
|               |                    | 12                                 | GES 12 SR-WD      | 9.5               | G 3/8 A                           | WAL037629  | WAL602918   | WAL624620             | WAL625953              | WAL625993                                      |           |
|               |                    | 12                                 | GES 12 S/R 1/4-WD | 5.8               | G 1/4 A                           | WAL606425  | WAL613333   | WAL624620             | WAL625953              | WAL625993                                      |           |
|               |                    | 12                                 | GES 12 S/R 1/2-WD | 9.5               | G 1/2 A                           | WAL027858  | WAL613283   | WAL624620             | WAL625953              | WAL625993                                      |           |
|               |                    | 14                                 | GES 14 SR-WD      | 9.5               | G 1/2 A                           | WAL037630  | WAL605299   |                       |                        |  |           |
| 420<br>(6091) |                    | 16                                 | GES 16 SR-WD      | 9.0               | G 1/2 A                           | WAL037631  | WAL604607   | WAL624621             | WAL625954              | WAL625994                                      |           |
|               |                    | 16                                 | GES 16 S/R 3/8-WD | 8.5               | G 3/8 A                           | WAL371285  | WAL613275   | WAL624621             | WAL625954              | WAL625994                                      |           |
|               |                    | 16                                 | GES 16 S/R 3/4-WD | 15.5              | G 3/4 A                           | WAL066454  | WAL605330   | WAL624621             | WAL625954              | WAL625994                                      |           |
|               |                    | 20                                 | GES 20 SR-WD      | 15.0              | G 3/4 A                           | WAL037632  | WAL605677   | WAL624622             | WAL625955              | WAL625995                                      |           |
|               |                    | 25                                 | GES 25 SR-WD      | 26.5              | G 1 A                             | WAL037633  | WAL606245   | WAL624623             | WAL625956              | WAL625996                                      |           |
|               |                    | 25                                 | GES 25 S/R 3/4-WD | 24.5              | G 3/4 A                           | WAL066516  | WAL617430   | WAL624623             | WAL625956              | WAL625996                                      |           |
|               |                    | 30                                 | GES 30 SR-WD      | 42.0              | G 1 1/4 A                         | WAL037634  | WAL605678   | WAL624624             | WAL625957              | WAL625997                                      |           |
|               |                    | 38                                 | GES 38 SR-WD      | 56.5              | G 1 1/2 A                         | WAL037635  | WAL604606   | WAL624625             | WAL625958              | WAL625998                                      |           |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

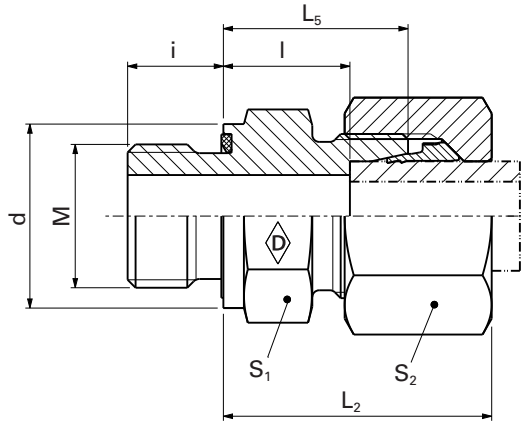
Special parts are available on request.

## Straight male fittings

### P-GEV ... M-WD

#### P-GEV ... M-WD-1.4571

- With soft seal made from NBR\*\* (e.g. Perbunan) for steel
- With soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)
- Metric stud type E to DIN EN ISO 9974-2



E

| Series              | PN bar (psi)       | Tube outer diameter | Model                           | M                               | kg/100 pc. | L <sub>2</sub> | L <sub>5</sub> | L    | i    | d    | S <sub>1</sub> | S <sub>2</sub> | Art. no.  | Art. no.  |           |
|---------------------|--------------------|---------------------|---------------------------------|---------------------------------|------------|----------------|----------------|------|------|------|----------------|----------------|-----------|-----------|-----------|
| 500<br>(7252)       |                    | 6                   | <b>P-GEV 6 LM-WD</b>            | M 10 x 1                        | 2.5        | 23             | 15.5           | 8.5  | 8    | 13.9 | 14             | 14             | WAL373136 | WAL620601 |           |
|                     |                    | 8                   | <b>P-GEV 8 LM-WD</b>            | M 12 x 1.5                      | 4.0        | 25             | 17             | 10   | 12   | 16.9 | 17             | 17             | WAL373137 | WAL620805 |           |
|                     |                    | 10                  | <b>P-GEV 10 LM-WD</b>           | M 14 x 1.5                      | 4.7        | 26             | 18             | 11   | 12   | 18.9 | 19             | 19             | WAL373138 | WAL620451 |           |
|                     |                    | 10                  | <b>P-GEV 10 L/M 18 x 1.5-WD</b> | M 18 x 1.5                      | 7.6        | 27             | 19.5           | 12.5 | 12   | 23.9 | 24             | 19             | WAL605930 | WAL623067 |           |
|                     |                    | 10                  | <b>P-GEV 10 L/M 22 x 1.5-WD</b> | M 22 x 1.5                      | 8.3        | 27.5           | 20             | 13   | 14   | 26.9 | 27             | 19             | WAL605931 | WAL623069 |           |
|                     | L<br>400<br>(5801) |                     | 12                              | <b>P-GEV 12 LM-WD</b>           | M 16 x 1.5 | 6.3            | 27             | 19.5 | 12.5 | 12   | 21.9           | 22             | 22        | WAL373139 | WAL620591 |
|                     |                    |                     | 12                              | <b>P-GEV 12 L/M 18 x 1.5-WD</b> | M 18 x 1.5 | 7.8            | 27             | 17   | 12.5 | 12   | 23.9           | 24             | 22        | WAL602562 | WAL623071 |
|                     |                    |                     | 12                              | <b>P-GEV 12 L/M 22 x 1.5-WD</b> | M 22 x 1.5 | 9.5            | 27.5           | 20   | 13   | 14   | 26.9           | 27             | 22        | WAL602563 | WAL620817 |
|                     |                    |                     | 15                              | <b>P-GEV 15 LM-WD</b>           | M 18 x 1.5 | 9.5            | 29             | 20.5 | 13.5 | 12   | 23.9           | 24             | 27        | WAL373140 | WAL620622 |
|                     |                    |                     | 15                              | <b>P-GEV 15 L/M 18 x 1.5-WD</b> | M 22 x 1.5 | 11.5           | 29             | 21   | 14   | 14   | 26.9           | 27             | 27        | WAL602564 | WAL620820 |
| 250<br>(3626)       |                    |                     | 18                              | <b>P-GEV 18 LM-WD</b>           | M 22 x 1.5 | 12.2           | 30             | 22   | 14   | 14   | 26.9           | 27             | 32        | WAL373141 | WAL620608 |
|                     |                    |                     | 18                              | <b>P-GEV 18 L/M 18 x 1.5-WD</b> | M 18 x 1.5 | 12.9           | 31             | 21.5 | 14.5 | 12   | 23.9           | 27             | 32        | WAL605934 | WAL621515 |
|                     |                    |                     | 22                              | <b>P-GEV 22 LM-WD</b>           | M 26 x 1.5 | 17.6           | 33             | 24   | 16.5 | 16   | 31.9           | 32             | 36        | WAL373142 | WAL620996 |
|                     |                    |                     | 28                              | <b>P-GEV 28 LM-WD</b>           | M 33 x 2   | 24.7           | 34             | 25   | 17.5 | 18   | 39.9           | 41             | 41        | WAL373143 | WAL620891 |
|                     |                    |                     | 35                              | <b>P-GEV 35 LM-WD</b>           | M 42 x 2   | 40.7           | 39             | 28   | 17.5 | 20   | 49.9           | 50             | 50        | WAL373144 | WAL620892 |
| S<br>800<br>(11603) |                    | 42                  | <b>P-GEV 42 LM-WD</b>           | M 48 x 2                        | 45.6       | 42             | 30             | 19   | 22   | 54.9 | 55             | 60             | WAL373145 | WAL620796 |           |
|                     |                    | 6                   | <b>P-GEV 6 SM-WD</b>            | M 12 x 1.5                      | 4.5        | 28             | 20             | 13   | 12   | 16.9 | 17             | 17             | WAL373146 | WAL620564 |           |
|                     |                    | 8                   | <b>P-GEV 8 SM-WD</b>            | M 14 x 1.5                      | 5.5        | 30             | 22             | 15   | 12   | 18.9 | 19             | 19             | WAL373147 | WAL620565 |           |
|                     |                    | 10                  | <b>P-GEV 10 SM-WD</b>           | M 16 x 1.5                      | 8.2        | 31             | 22.5           | 15   | 12   | 21.9 | 22             | 22             | WAL373148 | WAL620621 |           |
|                     |                    | 12                  | <b>P-GEV 12 SM-WD</b>           | M 18 x 1.5                      | 10.5       | 33             | 24.5           | 17   | 12   | 23.9 | 24             | 24             | WAL373149 | WAL620559 |           |
|                     | 630<br>(9137)      |                     | 14                              | <b>P-GEV 14 SM-WD</b>           | M 20 x 1.5 | 14.8           | 37             | 27   | 19   | 14   | 25.9           | 27             | 27        | WAL373150 | WAL621511 |
|                     |                    |                     | 16                              | <b>P-GEV 16 SM-WD</b>           | M 22 x 1.5 | 15.4           | 37             | 27   | 18.5 | 14   | 26.9           | 27             | 30        | WAL373151 | WAL620566 |
|                     |                    |                     | 20                              | <b>P-GEV 20 SM-WD</b>           | M 27 x 2   | 25.3           | 42             | 31   | 20.5 | 16   | 31.9           | 32             | 36        | WAL373152 | WAL620623 |
|                     |                    |                     | 25                              | <b>P-GEV 25 SM-WD</b>           | M 33 x 2   | 46.5           | 47             | 35   | 23   | 18   | 39.9           | 41             | 46        | WAL373153 | WAL620642 |
|                     |                    |                     | 30                              | <b>P-GEV 30 SM-WD</b>           | M 42 x 2   | 64.4           | 50             | 37   | 23.5 | 20   | 49.9           | 50             | 50        | WAL373154 | WAL620997 |
| 420<br>(6091)       |                    | 38                  | <b>P-GEV 38 SM-WD</b>           | M 48 x 2                        | 88.9       | 57             | 42             | 26   | 22   | 54.9 | 55             | 60             | WAL373155 | WAL620734 |           |

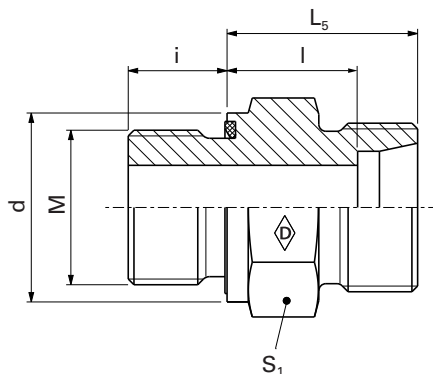
Walpro P-GEV ...  
Walpro stainless steel P-GEV ...-1.4571\*

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*\*FPM (e.g. Viton) see price list / available on request

**GES ... M-WD**
**GES ... M-WD-1.4571**

**E**

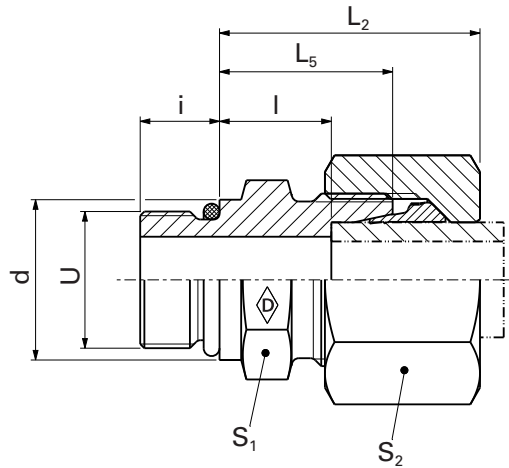
|               |                 |                           |                        |            |                   | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |  |                       |                        |   |
|---------------|-----------------|---------------------------|------------------------|------------|-------------------|--|--|-----------------------|------------------------|---|
|               |                 |                           |                        |            |                   | Stud<br>GES ...  | Stud<br>Stainless steel<br>GES ...<br>-1.4571* | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless<br>steel<br>WF-M ... VI-1.4571* |
| Series        | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model                  | M          | kg/<br>100<br>pc. | Art. no.   | Art. no.                                       | Art. no.              | Art. no.               | Art. no.  |
| L             | 500<br>(7252)   | 6                         | GES 6 LM-WD            | M 10 x 1   | 0.5               | WAL037638  | WAL602785                                      | WAL624607             | WAL625940              | WAL625980   |
|               |                 | 8                         | GES 8 LM-WD            | M 12 x 1.5 | 2                 | WAL037639  | WAL612439                                      | WAL624608             | WAL625941              | WAL625981   |
|               |                 | 10                        | GES 10 LM-WD           | M 14 x 1.5 | 3                 | WAL037640  | WAL610672                                      | WAL624609             | WAL625942              | WAL625982   |
|               |                 | 10                        | GES 10 L/M 18 x 1.5-WD | M 18 x 1.5 |                   | WAL606459  | WAL623068                                      | WAL624609             | WAL625942              | WAL625982   |
|               |                 | 10                        | GES 10 L/M 22 x 1.5-WD | M 22 x 1.5 | 7.5               | WAL604706  | WAL623070                                      | WAL624609             | WAL625942              | WAL625982   |
|               | 400<br>(5801)   | 12                        | GES 12 LM-WD           | M 16 x 1.5 | 4                 | WAL037641  | WAL602808                                      | WAL624610             | WAL625943              | WAL625983   |
|               |                 | 12                        | GES 12 L/M 18 x 1.5-WD | M 18 x 1.5 | 4.5               | WAL024966  | WAL613182                                      | WAL624610             | WAL625943              | WAL625983   |
|               |                 | 12                        | GES 12 L/M 22 x 1.5-WD | M 22 x 1.5 | 7                 | WAL604514  | WAL613122                                      | WAL624610             | WAL625943              | WAL625983   |
|               |                 | 15                        | GES 15 LM-WD           | M 18 x 1.5 | 5                 | WAL037642  | WAL606270                                      | WAL624611             | WAL625944              | WAL625984   |
|               |                 | 15                        | GES 15 L/M 22 x 1.5-WD | M 22 x 1.5 | 7                 | WAL604266  | WAL613123                                      | WAL624611             | WAL625944              | WAL625984   |
| 250<br>(3626) | 18              | GES 18 LM-WD              | M 22 x 1.5             | 7.5        | WAL037643         | WAL605670  | WAL624612                                      | WAL625945             | WAL625985              |   |
|               | 18              | GES 18 L/M 18 x 1.5-WD    | M 18 x 1.5             | 9.3        | WAL606294         | WAL618838  | WAL624612                                      | WAL625945             | WAL625985              |   |
|               | 22              | GES 22 LM-WD              | M 26 x 1.5             | 20         | WAL037644         | WAL612877  | WAL624613                                      | WAL625946             | WAL625986              |   |
|               | 28              | GES 28 LM-WD              | M 33 x 2               | 16.5       | WAL037645         | WAL605323  | WAL624614                                      | WAL625947             | WAL625987              |   |
|               | 35              | GES 35 LM-WD              | M 42 x 2               | 27.5       | WAL037646         | WAL605328  | WAL624615                                      | WAL625948             | WAL625988              |   |
| S             | 800<br>(11603)  | 42                        | GES 42 LM-WD           | M 48 x 2   | 35                | WAL037647  | WAL617437                                      | WAL624616             | WAL625949              | WAL625989   |
|               |                 | 6                         | GES 6 SM-WD            | M 12 x 1.5 | 3                 | WAL037648  | WAL605312                                      | WAL624617             | WAL625950              | WAL625990   |
|               |                 | 8                         | GES 8 SM-WD            | M 14 x 1.5 | 4                 | WAL037649  | WAL605316                                      | WAL624618             | WAL625951              | WAL625991   |
|               |                 | 10                        | GES 10 SM-WD           | M 16 x 1.5 | 5.5               | WAL037650  | WAL606269                                      | WAL624619             | WAL625952              | WAL625992   |
|               | 630<br>(9137)   | 12                        | GES 12 SM-WD           | M 18 x 1.5 | 7                 | WAL037651  | WAL605268                                      | WAL624620             | WAL625953              | WAL625993   |
|               |                 | 14                        | GES 14 SM-WD           | M 20 x 1.5 | 9.5               | WAL037652  | WAL613184                                      |                       |                        |   |
|               |                 | 16                        | GES 16 SM-WD           | M 22 x 1.5 | 9.5               | WAL037653  | WAL605274                                      | WAL624621             | WAL625954              | WAL625994   |
|               | 420<br>(6091)   | 20                        | GES 20 SM-WD           | M 27 x 2   | 15.5              | WAL037654  | WAL605517                                      | WAL624622             | WAL625955              | WAL625995   |
|               |                 | 25                        | GES 25 SM-WD           | M 33 x 2   | 26.5              | WAL037655  | WAL605276                                      | WAL624623             | WAL625956              | WAL625996   |
|               |                 | 30                        | GES 30 SM-WD           | M 42 x 2   | 42.5              | WAL037656  | WAL617438                                      | WAL624624             | WAL625957              | WAL625997   |
|               |                 | 38                        | GES 38 SM-WD           | M 48 x 2   | 58.5              | WAL037657  | WAL617439                                      | WAL624625             | WAL625958              | WAL625998   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

## Straight male fittings

### P-GEV ... UNF/UN

- with O-ring made from NBR\* (e.g. Perbunan)
- Stud to ISO 11926-2 and -3 (UNF/UN) / SAE J 514 (UST)



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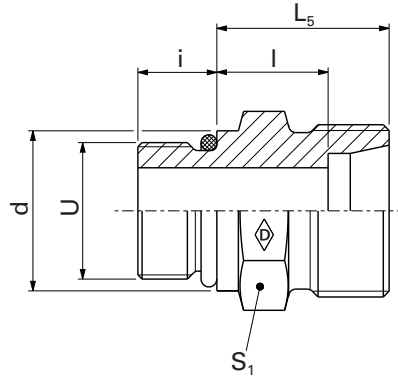
| Series | PN bar (psi)            | Tube outer diameter | Model                    | kg/100 pc.              | $L_2$ | $L_5$ | $l$  | $i$  | $d$  | $S_1$     | $S_2$     | *O-ring      | Art. no.  | Walpro P-GEV ... |  |
|--------|-------------------------|---------------------|--------------------------|-------------------------|-------|-------|------|------|------|-----------|-----------|--------------|-----------|------------------|--|
| L      | 400 (5801)              | 6                   | P-GEV 6 L/ 9/16-18 UNF   | 3.7                     | 25    | 17    | 10   | 10   | 17.6 | 19        | 14        | 11.9 x 1.98  | WAL373157 |                  |  |
|        |                         | 8                   | P-GEV 8 L/ 7/16-20 UNF   | 3.2                     | 25    | 17    | 10   | 9    | 14.4 | 17        | 17        | 8.92 x 1.83  | WAL373158 |                  |  |
|        |                         | 8                   | P-GEV 8 L/ 9/16-18 UNF   | 3.7                     | 25    | 17    | 10   | 10   | 17.6 | 19        | 17        | 11.9 x 1.98  | WAL373159 |                  |  |
|        |                         | 10                  | P-GEV 10 L/ 7/16-20 UNF  | 4.0                     | 26    | 18    | 11   | 9    | 14.4 | 17        | 19        | 8.92 x 1.83  | WAL373160 |                  |  |
|        |                         | 10                  | P-GEV 10 L/ 9/16-18 UNF  | 4.6                     | 26    | 18    | 11   | 10   | 17.6 | 19        | 19        | 11.9 x 1.98  | WAL373161 |                  |  |
|        |                         | 10                  | P-GEV 10 L/ 3/4-16 UNF   | 7.6                     | 28    | 20    | 13   | 11   | 22.3 | 24        | 19        | 16.36 x 2.20 | WAL373162 |                  |  |
|        |                         | 12                  | P-GEV 12 L/ 9/16-18 UNF  | 6.1                     | 26    | 18    | 11   | 10   | 17.6 | 19        | 22        | 11.9 x 1.98  | WAL373164 |                  |  |
|        |                         | 12                  | P-GEV 12 L/ 3/4-16 UNF   | 7.6                     | 28    | 20    | 13   | 11   | 22.3 | 24        | 22        | 16.36 x 2.20 | WAL373165 |                  |  |
|        |                         | 12                  | P-GEV 12 L/ 7/8-14 UNF   | 8.8                     | 29    | 21    | 14   | 12.7 | 25.5 | 27        | 22        | 19.18 x 2.46 | WAL373166 |                  |  |
|        | 250 (3626)              | 15                  | P-GEV 15 L/ 3/4-16 UNF   | 9.5                     | 29    | 21    | 14   | 11   | 22.3 | 24        | 27        | 16.36 x 2.20 | WAL373168 |                  |  |
|        |                         | 15                  | P-GEV 15 L/ 7/8-14 UNF   | 11.0                    | 30    | 22    | 15   | 12.7 | 25.5 | 27        | 27        | 19.18 x 2.46 | WAL373169 |                  |  |
|        |                         | 18                  | P-GEV 18 L/ 3/4-16 UNF   | 12.5                    | 31    | 22    | 14.5 | 11   | 22.3 | 27        | 32        | 16.36 x 2.20 | WAL373170 |                  |  |
|        |                         | 18                  | P-GEV 18 L/ 7/8-14 UNF   | 13.2                    | 31    | 22    | 14.5 | 12.7 | 25.5 | 27        | 32        | 19.18 x 2.46 | WAL373171 |                  |  |
|        |                         | 22                  | P-GEV 22 L/ 7/8-14 UNF   | 17.2                    | 33    | 24    | 16.5 | 12.7 | 25.5 | 32        | 36        | 19.18 x 2.46 | WAL373172 |                  |  |
|        |                         | 22                  | P-GEV 22 L/ 1 1/16-12 UN | 18.5                    | 33    | 24    | 16.5 | 15   | 31.9 | 32        | 36        | 23.47 x 2.95 | WAL373173 |                  |  |
|        |                         | 28                  | P-GEV 28 L/ 7/8-14 UNF   | 22.0                    | 34    | 25    | 17.5 | 12.7 | 25.5 | 41        | 41        | 19.18 x 2.46 | WAL373174 |                  |  |
|        |                         | 28                  | P-GEV 28 L/ 1 5/16-12 UN | 25.0                    | 34    | 25    | 17.5 | 15   | 38.2 | 41        | 41        | 29.74 x 2.95 | WAL373175 |                  |  |
|        |                         | 35                  | P-GEV 35 L/ 1 5/8-12 UN  | 40.0                    | 39    | 28    | 17.5 | 15   | 47.7 | 50        | 50        | 37.46 x 3    | WAL373177 |                  |  |
| 42     | P-GEV 42 L/ 1 5/8-12 UN | 46.2                | 42                       | 30                      | 19    | 15    | 47.7 | 55   | 55   | 37.46 x 3 | WAL374346 |              |           |                  |  |
| S      | 630 (9137)              | 12                  | P-GEV 12 S/ 3/4-16 UNF   | 10.0                    | 34    | 25    | 17.5 | 11   | 22.3 | 24        | 24        | 16.36 x 2.20 | WAL373180 |                  |  |
|        |                         | 16                  | P-GEV 16 S/ 3/4-16 UNF   | 13.0                    | 34    | 24    | 15.5 | 11   | 22.3 | 24        | 30        | 16.36 x 2.20 | WAL373182 |                  |  |
|        |                         | 16                  | P-GEV 16 S/ 7/8-14 UNF   | 15.0                    | 37    | 27    | 18.5 | 12.7 | 25.5 | 27        | 30        | 19.18 x 2.46 | WAL373183 |                  |  |
|        | 400 (5801)              | 20                  | P-GEV 20 S/ 3/4-16 UNF   | 22.0                    | 42    | 31    | 20.5 | 11   | 22.3 | 32        | 36        | 16.36 x 2.20 | WAL373184 |                  |  |
|        |                         | 20                  | P-GEV 20 S/ 7/8-14 UNF   | 23.0                    | 42    | 31    | 20.5 | 12.7 | 25.5 | 32        | 36        | 19.18 x 2.46 | WAL373185 |                  |  |
|        |                         | 20                  | P-GEV 20 S/ 1 1/16-12 UN | 25.0                    | 42    | 31    | 20.5 | 15   | 31.9 | 32        | 36        | 23.47 x 2.95 | WAL373186 |                  |  |
|        |                         | 25                  | P-GEV 25 S/ 1 5/16-12 UN | 46.0                    | 47    | 35    | 23   | 15   | 38.2 | 41        | 46        | 29.74 x 2.95 | WAL373189 |                  |  |
|        |                         | 315 (4569)          | 30                       | P-GEV 30 S/ 1 5/8-12 UN | 62.0  | 50    | 37   | 23.5 | 15   | 47.7      | 50        | 50           | 37.46 x 3 | WAL373191        |  |

$L_2$  = approximate dimension if the union nut is tightened

\*For FPM (e.g. Viton) see price list / available on request



GES ... UNF/UN



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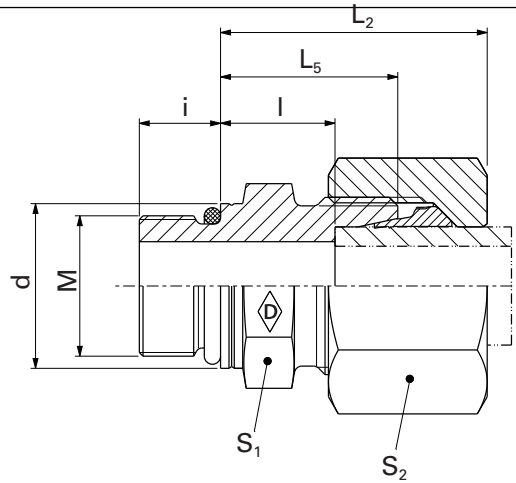
| Series     | PN bar (psi)          | Tube outer diameter  | Model                  | kg/100 pc.             | Stud GES ...<br>Art. no. | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                                 |           |
|------------|-----------------------|----------------------|------------------------|------------------------|--------------------------|--|---------------------------------|-----------|
|            |                       |                      |                        |                        |                          | Walring W-R ... VI<br>Art. no.   | Walform WF-M ... VI<br>Art. no. |           |
| L          | 400 (5801)            | 6                    | GES 6 L/ 9/16-18 UNF   | 2.8                    | WAL065356                | WAL624607  | WAL625940                       |           |
|            |                       | 8                    | GES 8 L/ 7/16-20 UNF   | 2.0                    | WAL065358                | WAL624608  | WAL625941                       |           |
|            |                       | 8                    | GES 8 L/ 9/16-18 UNF   | 2.0                    | WAL065359                | WAL624608  | WAL625941                       |           |
|            |                       | 10                   | GES 10 L/ 7/16-20 UNF  | 2.0                    | WAL065361                | WAL624609  | WAL625942                       |           |
|            |                       | 10                   | GES 10 L/ 9/16-18 UNF  | 2.8                    | WAL065362                | WAL624609  | WAL625942                       |           |
|            |                       | 10                   | GES 10 L/ 3/4-16 UNF   | 5.5                    | WAL065363                | WAL624609  | WAL625942                       |           |
|            |                       | 12                   | GES 12 L/ 9/16-18 UNF  | 3.3                    | WAL065365                | WAL624610  | WAL625943                       |           |
|            |                       | 12                   | GES 12 L/ 3/4-16 UNF   | 4.8                    | WAL065366                | WAL624610  | WAL625943                       |           |
|            |                       | 12                   | GES 12 L/ 7/8-14 UNF   | 5.9                    | WAL065367                | WAL624610  | WAL625943                       |           |
|            |                       | 15                   | GES 15 L/ 3/4-16 UNF   | 5.4                    | WAL065369                | WAL624611  | WAL625944                       |           |
|            |                       | 15                   | GES 15 L/ 7/8-14 UNF   | 9.8                    | WAL065370                | WAL624611  | WAL625944                       |           |
|            |                       | 18                   | GES 18 L/ 3/4-16 UNF   | 6.5                    | WAL065371                | WAL624612  | WAL625945                       |           |
|            |                       | 18                   | GES 18 L/ 7/8-14 UNF   | 7.0                    | WAL065372                | WAL624612  | WAL625945                       |           |
|            |                       | 22                   | GES 22 L/ 7/8-14 UNF   | 9.0                    | WAL065374                | WAL624613  | WAL625946                       |           |
|            |                       | 22                   | GES 22 L/ 1 1/16-12 UN | 16.5                   | WAL065377                | WAL624613  | WAL625946                       |           |
|            |                       | 250 (3626)           | 28                     | GES 28 L/ 7/8-14 UNF   | 20.6                     | WAL065378  | WAL624614                       | WAL625947 |
|            |                       |                      | 28                     | GES 28 L/ 1 5/16-12 UN | 15.5                     | WAL065382  | WAL624614                       | WAL625947 |
|            |                       |                      | 35                     | GES 35 L/ 1 5/8-12 UN  | 26.5                     | WAL065384  | WAL624615                       | WAL625948 |
| 42         | GES 42 L/ 1 5/8-12 UN |                      | 30.6                   | WAL065386              | WAL624616                | WAL625949  |                                 |           |
| 630 (9137) | 12                    |                      | GES 12 S/ 3/4-16 UNF   | 7.6                    | WAL065389                | WAL624620  | WAL625953                       |           |
|            | 16                    |                      | GES 16 S/ 3/4-16 UNF   | 6.5                    | WAL065391                | WAL624621  | WAL625954                       |           |
|            | 16                    | GES 16 S/ 7/8-14 UNF | 9.5                    | WAL065392              | WAL624621                | WAL625954  |                                 |           |
| S          | 400 (5801)            | 20                   | GES 20 S/ 3/4-16 UNF   | 13.1                   | WAL065393                | WAL624622  | WAL625955                       |           |
|            |                       | 20                   | GES 20 S/ 7/8-14 UNF   | 14.1                   | WAL065394                | WAL624622  | WAL625955                       |           |
|            |                       | 20                   | GES 20 S/ 1 1/16-12UN  | 15                     | WAL065395                | WAL624622  | WAL625955                       |           |
|            |                       | 25                   | GES 25 S/ 1 5/16-12 UN | 26                     | WAL065400                | WAL624623  | WAL625956                       |           |
|            |                       | 315 (4569)           | 30                     | GES 30 S/ 1 5/8-12 UN  | 39.4                     | WAL065402  | WAL624624                       | WAL625957 |

Special parts are available on request.

## Straight male fittings

### P-GEV ... M - OR (ISO 6149)

- with O-ring made from NBR\* (e.g. Perbunan)
- Straight metric stud with O-ring to DIN EN ISO 6149-2 and -3



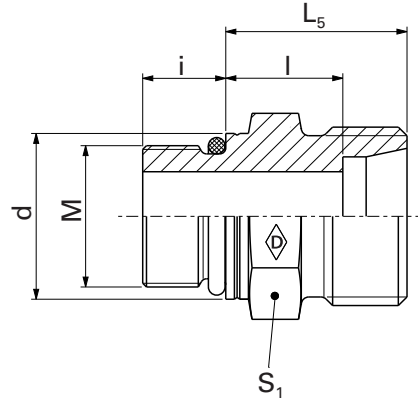
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|               |                 |                           |                       |                       |           |           |       |      |      |      |       |       |            | Walpro<br>P-GEV ... |                  |
|---------------|-----------------|---------------------------|-----------------------|-----------------------|-----------|-----------|-------|------|------|------|-------|-------|------------|---------------------|------------------|
| Series        | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model                 | kg/<br>100 pc.        | M         | $L_2$     | $L_5$ | $l$  | $i$  | $d$  | $S_1$ | $S_2$ | *O-ring    | Art. no.            |                  |
| L             | 400<br>(5801)   | 6                         | <b>P-GEV 6 LM-OR</b>  | 2.7                   | M10 x 1.5 | 24        | 16.5  | 9.5  | 8.5  | 13.8 | 14    | 14    | 8.1 x 1.6  | <b>WAL625528</b>    |                  |
|               |                 | 8                         | <b>P-GEV 8 LM-OR</b>  | 4.0                   | M12 x 1.5 | 25        | 17    | 10   | 11   | 16.8 | 17    | 17    | 9.3 x 2.2  | <b>WAL625529</b>    |                  |
|               |                 | 10                        | <b>P-GEV 10 LM-OR</b> | 5.2                   | M14 x 1.5 | 26        | 18    | 11   | 11   | 18.8 | 19    | 19    | 11.3 x 2.2 | <b>WAL625530</b>    |                  |
|               |                 | 12                        | <b>P-GEV 12 LM-OR</b> | 6.9                   | M16 x 1.5 | 27        | 19.5  | 12.5 | 11.5 | 21.8 | 22    | 22    | 13.3 x 2.2 | <b>WAL625531</b>    |                  |
|               | 315<br>(4569)   | 15                        | <b>P-GEV 15 LM-OR</b> | 10.2                  | M18 x 1.5 | 29        | 20.5  | 13.5 | 12.5 | 23.8 | 24    | 27    | 15.3 x 2.2 | <b>WAL625532</b>    |                  |
|               |                 | 18                        | <b>P-GEV 18 LM-OR</b> | 14.7                  | M22 x 1.5 | 30        | 22    | 14.5 | 13   | 26.8 | 27    | 32    | 17.3 x 2.2 | <b>WAL625533</b>    |                  |
|               |                 | 22                        | <b>P-GEV 22 LM-OR</b> | 19.3                  | M27 x 2   | 33        | 24    | 16.5 | 16   | 31.8 | 32    | 36    | 19.3 x 2.2 | <b>WAL625534</b>    |                  |
|               |                 | 200<br>(2900)             | 28                    | <b>P-GEV 28 LM-OR</b> | 26.8      | M33 x 2   | 34    | 25   | 17.5 | 16   | 40.8  | 41    | 41         | 23.6 x 2.9          | <b>WAL625535</b> |
|               |                 | 35                        | <b>P-GEV 35 LM-OR</b> | 43.1                  | M42 x 2   | 39        | 28    | 17.5 | 16   | 49.8 | 50    | 50    | 38.6 x 2.9 | <b>WAL625536</b>    |                  |
|               |                 | 42                        | <b>P-GEV 42 LM-OR</b> | 57.8                  | M48 x 2   | 42        | 30    | 19   | 17.5 | 54.8 | 55    | 60    | 44.6 x 2.9 | <b>WAL625537</b>    |                  |
|               | S               | 630<br>(9137)             | 6                     | <b>P-GEV 6 SM-OR</b>  | 4.6       | M12 x 1.5 | 28    | 20   | 13   | 11   | 16.8  | 17    | 17         | 9.3 x 2.2           | <b>WAL625538</b> |
|               |                 |                           | 8                     | <b>P-GEV 8 SM-OR</b>  | 6.1       | M14 x 1.5 | 30    | 22   | 15   | 11   | 18.8  | 19    | 19         | 11.3 x 2.2          | <b>WAL625539</b> |
| 10            |                 |                           | <b>P-GEV 10 SM-OR</b> | 8.9                   | M16 x 1.5 | 31        | 22.5  | 15   | 12.5 | 21.8 | 22    | 22    | 13.3 x 2.2 | <b>WAL625540</b>    |                  |
| 12            |                 |                           | <b>P-GEV 12 SM-OR</b> | 11.3                  | M18 x 1.5 | 33        | 24.5  | 17   | 14   | 23.8 | 24    | 24    | 15.3 x 2.2 | <b>WAL625541</b>    |                  |
| 400<br>(5801) |                 | 16                        | <b>P-GEV 16 SM-OR</b> | 16.9                  | M22 x 1.5 | 37        | 27    | 18.5 | 15   | 26.8 | 27    | 30    | 17.3 x 2.2 | <b>WAL625542</b>    |                  |
|               |                 | 20                        | <b>P-GEV 20 SM-OR</b> | 27.5                  | M27 x 2   | 42        | 31    | 20.5 | 18.5 | 31.8 | 32    | 36    | 19.3 x 2.2 | <b>WAL625543</b>    |                  |
| 250<br>(3626) |                 | 25                        | <b>P-GEV 25 SM-OR</b> | 48.4                  | M33 x 2   | 47        | 35    | 23   | 18.5 | 40.8 | 41    | 46    | 23.6 x 2.9 | <b>WAL625544</b>    |                  |
|               |                 | 30                        | <b>P-GEV 30 SM-OR</b> | 64.8                  | M42 x 2   | 50        | 37    | 23.5 | 19   | 49.8 | 50    | 50    | 38.6 x 2.9 | <b>WAL625545</b>    |                  |
|               |                 | 38                        | <b>P-GEV 38 SM-OR</b> | 91.5                  | M48 x 2   | 56.5      | 41.5  | 26   | 21.5 | 54.8 | 55    | 60    | 44.6 x 2.9 | <b>WAL625546</b>    |                  |

$L_2$  = approximate dimension if the union nut is tightened

\*For FPM (e.g. Viton) see price list / available on request

**GES ... M-OR (ISO 6149)**



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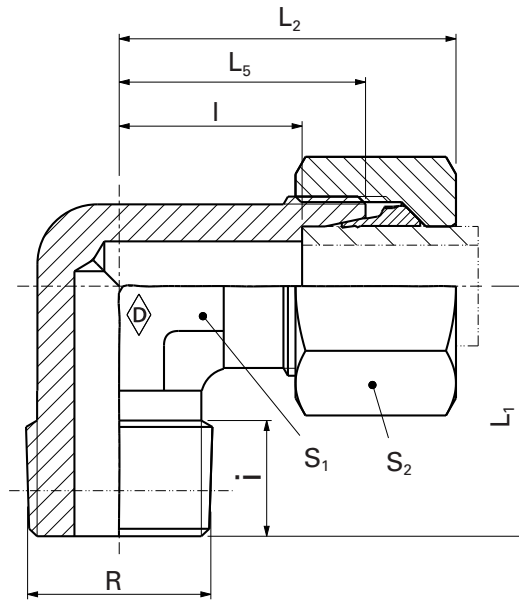
| Series | PN bar (psi) | Tube outer diameter | Model               | kg/100 pc. | M         | Art. no.         | System nuts for supplementing the stud (for technical data, see part D of this catalog) |                    |
|--------|--------------|---------------------|---------------------|------------|-----------|------------------|---|--------------------|
|        |              |                     |                     |            |           |                  | Stud GES ...  | Walring W-R ... VI |
| L      | 400 (5801)   | 6                   | <b>GES 6 LM-OR</b>  | 1.6        | M10 x 1.5 | <b>WAL625509</b> | <b>WAL624607</b>  | <b>WAL625940</b>   |
|        |              | 8                   | <b>GES 8 LM-OR</b>  | 2.3        | M12 x 1.5 | <b>WAL625510</b> | <b>WAL624608</b>  | <b>WAL625941</b>   |
|        |              | 10                  | <b>GES 10 LM-OR</b> | 2.8        | M14 x 1.5 | <b>WAL625511</b> | <b>WAL624609</b>  | <b>WAL625942</b>   |
|        | 315 (4569)   | 12                  | <b>GES 12 LM-OR</b> | 4.0        | M16 x 1.5 | <b>WAL625512</b> | <b>WAL624610</b>  | <b>WAL625943</b>   |
|        |              | 15                  | <b>GES 15 LM-OR</b> | 5.6        | M18 x 1.5 | <b>WAL625513</b> | <b>WAL624611</b>  | <b>WAL625944</b>   |
|        |              | 18                  | <b>GES 18 LM-OR</b> | 8.0        | M22 x 1.5 | <b>WAL625514</b> | <b>WAL624612</b>  | <b>WAL625945</b>   |
|        |              | 22                  | <b>GES 22 LM-OR</b> | 10.4       | M27 x 2   | <b>WAL625515</b> | <b>WAL624613</b>  | <b>WAL625946</b>   |
|        | 200 (2900)   | 28                  | <b>GES 28 LM-OR</b> | 17.1       | M33 x 2   | <b>WAL625516</b> | <b>WAL624614</b>  | <b>WAL625947</b>   |
|        |              | 35                  | <b>GES 35 LM-OR</b> | 27.8       | M42 x 2   | <b>WAL625517</b> | <b>WAL624615</b>  | <b>WAL625948</b>   |
|        |              | 42                  | <b>GES 42 LM-OR</b> | 34.0       | M48 x 2   | <b>WAL625518</b> | <b>WAL624616</b>  | <b>WAL625949</b>   |
| S      | 630 (9137)   | 6                   | <b>GES 6 SM-OR</b>  | 2.9        | M12 x 1.5 | <b>WAL625519</b> | <b>WAL624617</b>  | <b>WAL625950</b>   |
|        |              | 8                   | <b>GES 8 SM-OR</b>  | 4.1        | M14 x 1.5 | <b>WAL625520</b> | <b>WAL624618</b>  | <b>WAL625951</b>   |
|        |              | 10                  | <b>GES 10 SM-OR</b> | 5.5        | M16 x 1.5 | <b>WAL625521</b> | <b>WAL624619</b>  | <b>WAL625952</b>   |
|        |              | 12                  | <b>GES 12 SM-OR</b> | 7.3        | M18 x 1.5 | <b>WAL625522</b> | <b>WAL624620</b>  | <b>WAL625953</b>   |
|        | 400 (5801)   | 16                  | <b>GES 16 SM-OR</b> | 10.2       | M22 x 1.5 | <b>WAL625523</b> | <b>WAL624621</b>  | <b>WAL625954</b>   |
|        |              | 20                  | <b>GES 20 SM-OR</b> | 16.9       | M27 x 2   | <b>WAL625524</b> | <b>WAL624622</b>  | <b>WAL625955</b>   |
|        | 250 (3626)   | 25                  | <b>GES 25 SM-OR</b> | 27.4       | M33 x 2   | <b>WAL625525</b> | <b>WAL624623</b>  | <b>WAL625956</b>   |
|        |              | 30                  | <b>GES 30 SM-OR</b> | 41.2       | M42 x 2   | <b>WAL625526</b> | <b>WAL624624</b>  | <b>WAL625957</b>   |
|        |              | 38                  | <b>GES 38 SM-OR</b> | 58.0       | M48 x 2   | <b>WAL625527</b> | <b>WAL624625</b>  | <b>WAL625958</b>   |

Special parts are available on request.

**P-WEV ... RK**

**P-WEV ... RK-1.4571**

- Tapered studs type C to DIN 3852-2 with Whitworth thread



E

| Series     | PN bar (psi) | Tube outer diameter | Model              | kg/100 pc.  | R           | L <sub>1</sub> | L <sub>2</sub> | L <sub>5</sub> | I    | i  | S <sub>1</sub> | S <sub>2</sub> | Walpro P-WEV ... | Walpro stainless steel P-WEV ...-1.4571* |
|------------|--------------|---------------------|--------------------|-------------|-------------|----------------|----------------|----------------|------|----|----------------|----------------|------------------|--|
| LL         | 100 (1450)   | 4                   | S-WEV 4 LLRK       | 2.1         | R 1/8 taper | 17             | 21             | 15             | 11   | 8  | 11             | 10             | WAL038408        | WAL616401                                |
|            |              | 6                   | S-WEV 6 LLRK       | 2.4         | R 1/8 taper | 17             | 21             | 15             | 9.5  | 8  | 11             | 12             | WAL038410        | WAL061404                                |
|            |              | 8                   | S-WEV 8 LLRK       | 3.4         | R 1/8 taper | 20             | 23             | 17             | 11.5 | 8  | 12             | 14             | WAL038411        | WAL065330                                |
| L          | 250 (3626)   | 6                   | P-WEV 6 LRK        | 4.0         | R 1/8 taper | 20             | 27             | 19             | 12   | 8  | 12             | 14             | WAL373195        | WAL620034                                |
|            |              | 6                   | P-WEV 6 L/R 1/4 K  | 6.0         | R 1/4 taper | 26             | 29             | 21             | 14   | 12 | 14             | 14             | WAL373196        | WAL620169                                |
|            |              | 8                   | P-WEV 8 LRK        | 6.6         | R 1/4 taper | 26             | 29             | 21             | 14   | 12 | 14             | 17             | WAL373197        | WAL620035                                |
|            |              | 10                  | P-WEV 10 LRK       | 8.3         | R 1/4 taper | 27             | 30             | 22             | 15   | 12 | 17             | 19             | WAL373198        | WAL620036                                |
|            |              | 10                  | P-WEV 10 L/R 3/8 K | 9.0         | R 3/8 taper | 27             | 30             | 22             | 15   | 12 | 17             | 19             | WAL373199        | WAL620347                                |
|            |              | 12                  | P-WEV 12 L/R 1/4 K | 11.4        | R 1/4 taper | 28             | 32             | 24             | 17   | 12 | 19             | 22             | WAL373200        | WAL620170                                |
|            |              | 12                  | P-WEV 12 LRK       | 11.8        | R 3/8 taper | 28             | 32             | 24             | 17   | 12 | 19             | 22             | WAL373201        | WAL620037                                |
| 15         | P-WEV 15 LRK | 13.0                | R 1/2 taper        | 34          | 36          | 28             | 21             | 14             | 19   | 27 | WAL373202      | WAL620038      |                  |  |
| 160 (2321) | 18           | P-WEV 18 LRK        | 16.6               | R 1/2 taper | 36          | 40             | 31             | 23.5           | 14   | 24 | 32             | WAL373203      | WAL620039        |  |
| S          | 630** (9137) | 6                   | P-WEV 6 SRK        | 7.2         | R 1/4 taper | 26             | 31             | 23             | 16   | 12 | 14             | 17             | WAL373204        | WAL620040                                |
|            |              | 8                   | P-WEV 8 SRK        | 8.8         | R 1/4 taper | 27             | 32             | 24             | 17   | 12 | 17             | 19             | WAL373205        | WAL620041                                |
|            |              | 10                  | P-WEV 10 SRK       | 13.4        | R 3/8 taper | 28             | 34             | 25             | 17.5 | 12 | 19             | 22             | WAL373206        | WAL620042                                |
|            |              | 12                  | P-WEV 12 SRK       | 16.5        | R 3/8 taper | 28             | 38             | 29             | 21.5 | 12 | 22             | 24             | WAL373207        | WAL620043                                |
|            |              | 14                  | P-WEV 14 SRK       | 15.3        | R 1/2 taper | 32             | 40             | 30             | 22   | 14 | 19             | 27             | WAL373208        | WAL621648                                |
| 400 (5801) | 16           | P-WEV 16 SRK        | 17.9               | R 1/2 taper | 32          | 43             | 33             | 24.5           | 14   | 24 | 30             | WAL373209      | WAL620044        |  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

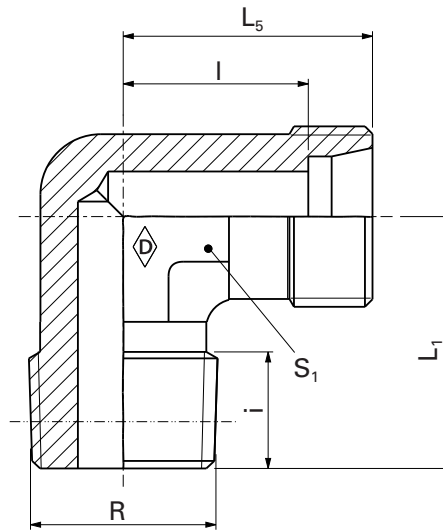
\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*\*The nominal pressure of 630 bar only applies to tapered ports; otherwise, the nominal pressure is 400 bar

**WES ... RK**

**WES ... RK-1.4571**



**E**

System nuts for supplementing the stud  
(for technical data, see part D of this catalog)

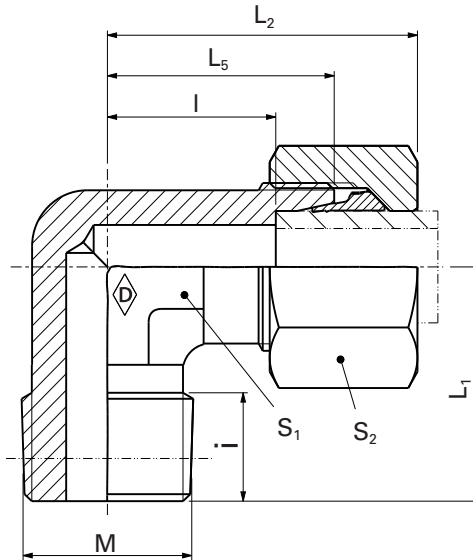
| Series | PN bar (psi)  | Tube outer diameter | Model            | kg/100 pc. | R           | Art. no.     | Art. no.                              | Art. no.           | Art. no.            | Art. no.                                    |
|--------|---------------|---------------------|------------------|------------|-------------|--------------|---------------------------------------|--------------------|---------------------|---|
|        |               |                     |                  |            |             | Stud WES ... | Stud Stainless steel WES ... -1.4571* | Walring W-R ... VI | Walform WF-M ... VI | Walform stainless steel WF-M ... VI-1.4571* |
| LL     | 100 (1450)    | 4                   | WES 4 LLRK       | 1.7        | R 1/8 taper | WAL037695    | WAL617440                             |                    |                     |   |
|        |               | 6                   | WES 6 LLRK       | 1.6        | R 1/8 taper | WAL037697    | WAL061405                             |                    |                     |   |
|        |               | 8                   | WES 8 LLRK       | 2.2        | R 1/8 taper | WAL037698    | WAL065331                             |                    |                     |   |
| L      | 250 (3626)    | 6                   | WES 6 LRK        | 2.8        | R 1/8 taper | WAL037699    | WAL025517                             | WAL624607          | WAL625940           | WAL625980                                   |
|        |               | 6                   | WES 6 L/R 1/4 K  | 5.0        | R 1/4 taper | WAL037700    | WAL065333                             | WAL624607          | WAL625940           | WAL625980                                   |
|        |               | 8                   | WES 8 LRK        | 4.6        | R 1/4 taper | WAL037701    | WAL025518                             | WAL624608          | WAL625941           | WAL625981                                   |
|        |               | 10                  | WES 10 LRK       | 8.9        | R 1/4 taper | WAL037702    | WAL025519                             | WAL624609          | WAL625942           | WAL625982                                   |
|        |               | 10                  | WES 10 L/R 3/8 K | 6.8        | R 3/8 taper | WAL037703    | WAL024259                             | WAL624609          | WAL625942           | WAL625982                                   |
|        |               | 12                  | WES 12 L/R 1/4 K | 8.4        | R 1/4 taper | WAL037704    | WAL065335                             | WAL624610          | WAL625943           | WAL625983                                   |
|        |               | 12                  | WES 12 LRK       | 8.9        | R 3/8 taper | WAL037705    | WAL025520                             | WAL624610          | WAL625943           | WAL625983                                   |
|        |               | 15                  | WES 15 LRK       | 8.9        | R 1/2 taper | WAL037706    | WAL025521                             | WAL624611          | WAL625944           | WAL625984                                   |
|        | 160 (2321)    | 18                  | WES 18 LRK       | 12.0       | R 1/2 taper | WAL037707    | WAL025522                             | WAL624612          | WAL625945           | WAL625985                                   |
| S      | 630 ** (9137) | 6                   | WES 6 SRK        | 5.4        | R 1/4 taper | WAL037708    | WAL025523                             | WAL624617          | WAL625950           | WAL625990                                   |
|        |               | 8                   | WES 8 SRK        | 7.7        | R 1/4 taper | WAL037709    | WAL025524                             | WAL624618          | WAL625951           | WAL625991                                   |
|        |               | 10                  | WES 10 SRK       | 10.1       | R 3/8 taper | WAL037710    | WAL025525                             | WAL624619          | WAL625952           | WAL625992                                   |
|        |               | 12                  | WES 12 SRK       | 12.7       | R 3/8 taper | WAL037711    | WAL025526                             | WAL624620          | WAL625953           | WAL625993                                   |
|        |               | 14                  | WES 14 SRK       | 10.6       | R 1/2 taper | WAL037712    | WAL025527                             |                    |                     |   |
|        |               | 400 (5801)          | 16               | WES 16 SRK | 13.6        | R 1/2 taper  | WAL037713                             | WAL025528          | WAL624621           | WAL625954                                   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-WEV ... MK**

**P-WEV ... MK-1.4571**

- Tapered studs type C to DIN 3852-1 with metric thread



E

| Series | PN bar (psi) | Tube outer diameter | Model               | M                | kg/100 pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>5</sub> | L    | i  | S <sub>1</sub> | S <sub>2</sub> | Walpro P-WEV ... | Walpro stainless steel P-WEV ...-1.4571* |
|--------|--------------|---------------------|---------------------|------------------|------------|----------------|----------------|----------------|------|----|----------------|----------------|------------------|--|
| LL     | 100 (1450)   | 4                   | <b>S-WEV 4 LLMK</b> | M 8 x 1 taper    | 2.1        | 17             | 21             | 15             | 11   | 8  | 11             | 10             | <b>WAL038427</b> | <b>WAL616402</b>                         |
|        |              | 6                   | <b>S-WEV 6 LLMK</b> | M 10 x 1 taper   | 2.4        | 17             | 21             | 15             | 9.5  | 8  | 11             | 12             | <b>WAL038429</b> | <b>WAL609041</b>                         |
|        |              | 8                   | <b>S-WEV 8 LLMK</b> | M 10 x 1 taper   | 3.4        | 20             | 23             | 17             | 11.5 | 8  | 12             | 14             | <b>WAL038430</b> | <b>WAL616403</b>                         |
| L      | 250 (3626)   | 6                   | <b>P-WEV 6 LMK</b>  | M 10 x 1 taper   | 4.0        | 20             | 27             | 19             | 12   | 8  | 12             | 14             | <b>WAL373213</b> | <b>WAL620050</b>                         |
|        |              | 8                   | <b>P-WEV 8 LMK</b>  | M 12 x 1.5 taper | 6.6        | 26             | 29             | 21             | 14   | 12 | 14             | 17             | <b>WAL373214</b> | <b>WAL620610</b>                         |
|        |              | 10                  | <b>P-WEV 10 LMK</b> | M 14 x 1.5 taper | 8.3        | 27             | 30             | 22             | 15   | 12 | 17             | 19             | <b>WAL373215</b> | <b>WAL620999</b>                         |
|        |              | 12                  | <b>P-WEV 12 LMK</b> | M 16 x 1.5 taper | 11.8       | 28             | 32             | 24             | 17   | 12 | 19             | 22             | <b>WAL373216</b> | <b>WAL620051</b>                         |
|        |              | 15                  | <b>P-WEV 15 LMK</b> | M 18 x 1.5 taper | 12.0       | 32             | 36             | 28             | 21   | 12 | 19             | 17             | <b>WAL373217</b> | <b>WAL620052</b>                         |
|        | 160 (2321)   | 18                  | <b>P-WEV 18 LMK</b> | M 22 x 1.5 taper | 16.6       | 36             | 40             | 31             | 23.5 | 14 | 24             | 32             | <b>WAL373218</b> | <b>WAL620053</b>                         |
| S      | 630** (9137) | 6                   | <b>P-WEV 6 SMK</b>  | M 12 x 1.5 taper | 7.2        | 26             | 31             | 23             | 16   | 12 | 14             | 17             | <b>WAL373219</b> | <b>WAL621000</b>                         |
|        |              | 8                   | <b>P-WEV 8 SMK</b>  | M 14 x 1.5 taper | 8.8        | 27             | 32             | 24             | 17   | 12 | 17             | 19             | <b>WAL373220</b> | <b>WAL620665</b>                         |
|        |              | 10                  | <b>P-WEV 10 SMK</b> | M 16 x 1.5 taper | 13.4       | 28             | 34             | 25             | 17.5 | 12 | 19             | 22             | <b>WAL373221</b> | <b>WAL620666</b>                         |
|        |              | 12                  | <b>P-WEV 12 SMK</b> | M 18 x 1.5 taper | 16.5       | 28             | 38             | 29             | 21.5 | 12 | 22             | 24             | <b>WAL373222</b> | <b>WAL620667</b>                         |
|        |              | 14                  | <b>P-WEV 14 SMK</b> | M 20 x 1.5 taper | 15.3       | 32             | 40             | 30             | 22   | 14 | 19             | 27             | <b>WAL373223</b> | <b>WAL621647</b>                         |
|        | 400 (5801)   | 16                  | <b>P-WEV 16 SMK</b> | M 22 x 1.5 taper | 17.9       | 32             | 43             | 33             | 24.5 | 14 | 24             | 30             | <b>WAL373224</b> | <b>WAL621001</b>                         |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

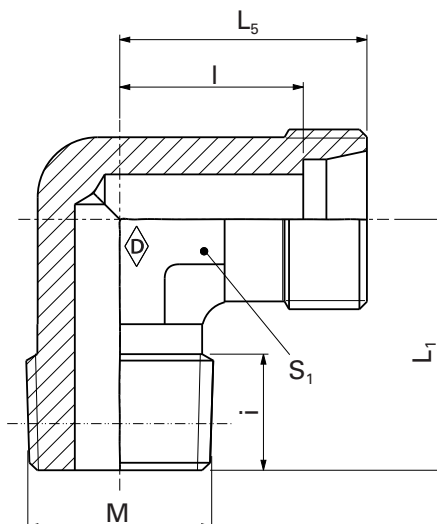
\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*\*The nominal pressure of 630 bar only applies to tapered ports; otherwise, the nominal pressure is 400 bar

**WES ... MK**

**WES ... MK-1.4571**



E

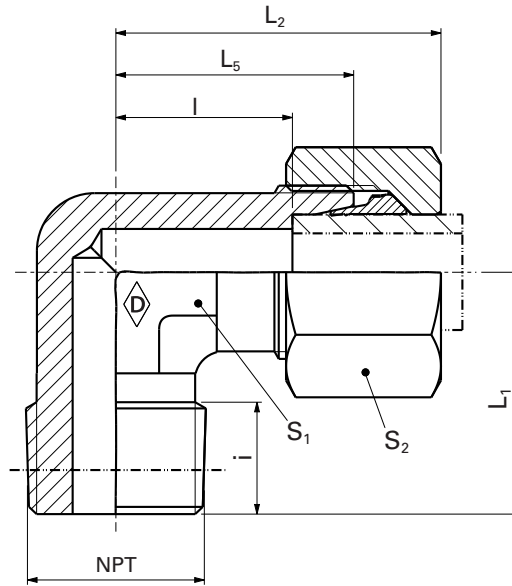
|        |                 |                           |            |                  |                   | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |  |                       |                        |  |
|--------|-----------------|---------------------------|------------|------------------|-------------------|--|--|-----------------------|------------------------|--|
|        |                 |                           |            |                  |                   | Stud<br>WES ...  | Stud<br>Stainless steel<br>WES ...<br>-1.4571* | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless steel<br>WF-M ... VI-1.4571* |
| Series | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model      | M                | kg/<br>100<br>pc. | Art. no.   | Art. no.                                       | Art. no.              | Art. no.               | Art. no.                                       |
| LL     | 100<br>(1450)   | 4                         | WES 4 LLMK | M 8 x 1 taper    | 1.5               | WAL037714  | WAL067181                                      |                       |                        |  |
|        |                 | 6                         | WES 6 LLMK | M 10 x 1 taper   | 1.6               | WAL037716  | WAL606649                                      |                       |                        |  |
|        |                 | 8                         | WES 8 LLMK | M 10 x 1 taper   | 2.3               | WAL037717  | WAL617441                                      |                       |                        |  |
| L      | 250<br>(3626)   | 6                         | WES 6 LMK  | M 10 x 1 taper   | 2.9               | WAL037718  | WAL025537                                      | WAL624607             | WAL625940              | WAL625980                                      |
|        |                 | 8                         | WES 8 LMK  | M 12 x 1.5 taper | 4.4               | WAL037719  | WAL025538                                      | WAL624608             | WAL625941              | WAL625981                                      |
|        |                 | 10                        | WES 10 LMK | M 14 x 1.5 taper | 6.1               | WAL037720  | WAL025539                                      | WAL624609             | WAL625942              | WAL625982                                      |
|        |                 | 12                        | WES 12 LMK | M 16 x 1.5 taper | 8.7               | WAL037721  | WAL025540                                      | WAL624610             | WAL625943              | WAL625983                                      |
|        |                 | 15                        | WES 15 LMK | M 18 x 1.5 taper | 8.1               | WAL037722  | WAL025541                                      | WAL624611             | WAL625944              | WAL625984                                      |
|        | 160 (2321)      | 18                        | WES 18 LMK | M 22 x 1.5 taper | 12.2              | WAL037723  | WAL025542                                      | WAL624612             | WAL625945              | WAL625985                                      |
| S      | 630**<br>(9137) | 6                         | WES 6 SMK  | M 12 x 1.5 taper | 5.3               | WAL037724  | WAL025543                                      | WAL624617             | WAL625950              | WAL625990                                      |
|        |                 | 8                         | WES 8 SMK  | M 14 x 1.5 taper | 7.8               | WAL037725  | WAL025544                                      | WAL624618             | WAL625951              | WAL625991                                      |
|        |                 | 10                        | WES 10 SMK | M 16 x 1.5 taper | 10.3              | WAL037726  | WAL025545                                      | WAL624619             | WAL625952              | WAL625992                                      |
|        |                 | 12                        | WES 12 SMK | M 18 x 1.5 taper | 12.9              | WAL037727  | WAL025546                                      | WAL624620             | WAL625953              | WAL625993                                      |
|        |                 | 14                        | WES 14 SMK | M 20 x 1.5 taper | 10.3              | WAL037728  | WAL025547                                      |                       |                        |  |
|        |                 | 400 (5801)                | 16         | WES 16 SMK       | M 22 x 1.5 taper  | 11.4   | WAL037729                                      | WAL025548             | WAL624621              | WAL625954                                      |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-WEV ... NPT**

**P-WEV ... NPT-1.4571**

- Stud with NPT thread to ANSI/ASME B1.20.1-1983



E

| Series | PN bar (psi) | Tube outer diameter | Model               | NPT     | kg/100 pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>5</sub> | I    | i  | S <sub>1</sub> | S <sub>2</sub> | Walpro P-WEV ...<br>Art. no. | Walpro stainless steel<br>P-WEV ...-1.4571*<br>Art. no. |
|--------|--------------|---------------------|---------------------|---------|------------|----------------|----------------|----------------|------|----|----------------|----------------|------------------------------|---|
| LL     | 100 (1450)   | 4                   | S-WEV 4LL/ 1/8 NPT  | 1/8 NPT | 2.0        | 17             | 21             | 15             | 11   | 10 | 10             | 10             | WAL038383                    | WAL616408   |
|        |              | 6                   | S-WEV 6 LL/ 1/8 NPT | 1/8 NPT | 2.3        | 17             | 21             | 15             | 9.5  | 10 | 10             | 12             | WAL038385                    | WAL608456   |
|        |              | 8                   | S-WEV 8 LL/ 1/8 NPT | 1/8 NPT | 3.3        | 20             | 23             | 17             | 11.5 | 10 | 12             | 14             | WAL038386                    | WAL607142   |
| L      | 250 (3626)   | 6                   | P-WEV 6 L/ 1/8 NPT  | 1/8 NPT | 4.0        | 20             | 27             | 19             | 12   | 10 | 12             | 14             | WAL373228                    | WAL620499   |
|        |              | 8                   | P-WEV 8 L/ 1/4 NPT  | 1/4 NPT | 6.3        | 26             | 29             | 21             | 14   | 15 | 14             | 17             | WAL373229                    | WAL620187   |
|        | 10           | P-WEV 10 L/ 1/4 NPT | 1/4 NPT             | 8.2     | 27         | 30             | 22             | 15             | 15   | 17 | 19             | WAL373230      | WAL620188                    |   |
|        | 12           | P-WEV 12 L/ 1/4 NPT | 1/4 NPT             | 11.4    | 28         | 32             | 24             | 17             | 15   | 19 | 22             | WAL373231      | WAL620215                    |   |
|        | 12           | P-WEV 12 L/ 3/8 NPT | 3/8 NPT             | 11.6    | 28         | 32             | 24             | 17             | 15   | 19 | 22             | WAL373232      | WAL620257                    |   |
|        | 15           | P-WEV 15 L/ 1/2 NPT | 1/2 NPT             | 14.0    | 34         | 36             | 28             | 21             | 14   | 19 | 27             | WAL373233      | WAL620258                    |   |
| S      | 160 (2321)   | 18                  | P-WEV 18 L/ 1/2 NPT | 1/2 NPT | 16.5       | 36             | 40             | 31             | 23.5 | 20 | 24             | 32             | WAL373234                    | WAL620134   |
|        |              | 22                  | P-WEV 22 L/ 3/4 NPT | 3/8 NPT | 23.5       | 42             | 44             | 35             | 27.5 | 20 | 27             | 36             | WAL373235                    | WAL621002   |
| S      | 100 (1450)   | 28                  | P-WEV 28 L/1 NPT    | 1 NPT   | 37.5       | 48             | 47             | 38             | 30.5 | 23 | 36             | 41             | WAL373236                    | WAL621003   |
|        |              | 6                   | P-WEV 6 S/ 1/4 NPT  | 1/4 NPT | 6.9        | 26             | 31             | 23             | 16   | 15 | 14             | 17             | WAL373239                    | WAL620484   |
|        | 8            | P-WEV 8 S/ 1/4 NPT  | 1/4 NPT             | 9.5     | 27         | 32             | 24             | 17             | 15   | 17 | 19             | WAL373240      | WAL620501                    |   |
|        | 10           | P-WEV 10 S/ 3/8 NPT | 3/8 NPT             | 13.3    | 28         | 34             | 25             | 17.5           | 15   | 19 | 22             | WAL373241      | WAL620750                    |   |
|        | 12           | P-WEV 12 S/ 3/8 NPT | 3/8 NPT             | 16.8    | 28         | 38             | 29             | 21.5           | 15   | 22 | 24             | WAL373242      | WAL620366                    |   |
|        | 14           | P-WEV 14 S/ 1/2 NPT | 1/2 NPT             | 16.6    | 33         | 40             | 30             | 22             | 15   | 19 | 27             | WAL373243      | WAL621646                    |   |
|        | 16           | P-WEV 16 S/ 1/2 NPT | 1/2 NPT             | 18.4    | 33         | 43             | 33             | 24.5           | 17   | 24 | 30             | WAL373244      | WAL620663                    |   |
|        | 20           | P-WEV 20 S/ 3/4 NPT | 3/4 NPT             | 30.0    | 42         | 48             | 37             | 26.5           | 20   | 27 | 36             | WAL373245      | WAL620216                    |   |
|        | 25           | P-WEV 25 S/1 NPT    | 1 NPT               | 56.5    | 48         | 54             | 42             | 30             | 23   | 36 | 46             | WAL373246      | WAL621004                    |   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

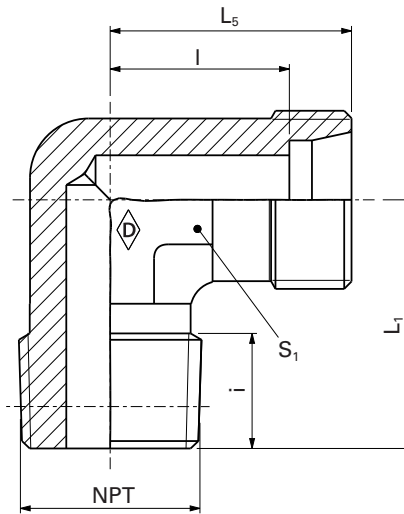
\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened



**WES ... NPT**

**WES ... NPT-1.4571**



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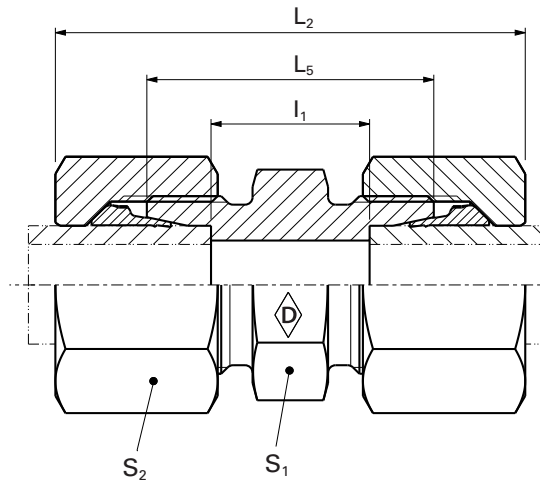
| Series | PN bar (psi) | Tube outer diameter | Model             | NPT     | kg/100 pc. | Stud WES ... Art. no. | Stud Stainless steel WES ... -1.4571* Art. no. | System nuts for supplementing the stud (for technical data, see part D of this catalog) |                              |  |
|--------|--------------|---------------------|-------------------|---------|------------|-----------------------|--|---|------------------------------|--|
|        |              |                     |                   |         |            |                       |  | Walring W-R ... VI Art. no.   | Walform WF-M ... VI Art. no. | Walform stainless steel WF-M ... VI-1.4571* Art. no. |
| LL     | 100 (1450)   | 4                   | WES 4LL/ 1/8 NPT  | 1/8 NPT | 1.4        | WAL037670             | WAL617442                                      |   |                              |  |
|        |              | 6                   | WES 6 LL/ 1/8 NPT | 1/8 NPT | 1.7        | WAL037672             | WAL024144                                      |   |                              |  |
|        |              | 8                   | WES 8 LL/ 1/8 NPT | 1/8 NPT | 2.3        | WAL037673             | WAL617443                                      |   |                              |  |
| L      | 250 (3626)   | 6                   | WES 6 L/ 1/8 NPT  | 1/8 NPT | 2.8        | WAL037674             | WAL604782                                      | WAL624607   | WAL625940                    | WAL625980  |
|        |              | 8                   | WES 8 L/ 1/4 NPT  | 1/4 NPT | 4.5        | WAL037675             | WAL066342                                      | WAL624608   | WAL625941                    | WAL625981  |
|        |              | 10                  | WES 10 L/ 1/4 NPT | 1/4 NPT | 6          | WAL037676             | WAL060075                                      | WAL624609   | WAL625942                    | WAL625982  |
|        |              | 12                  | WES 12 L/ 1/4 NPT | 1/4 NPT | 8.1        | WAL037677             | WAL067069                                      | WAL624610   | WAL625943                    | WAL625983  |
|        |              | 12                  | WES 12 L/ 3/8 NPT | 3/8 NPT | 8.6        | WAL037678             | WAL067678                                      | WAL624610   | WAL625943                    | WAL625983  |
|        |              | 15                  | WES 15 L/ 1/2 NPT | 1/2 NPT | 8.8        | WAL037679             | WAL067682                                      | WAL624611   | WAL625944                    | WAL625984  |
|        | 160 (2321)   | 18                  | WES 18 L/ 1/2 NPT | 1/2 NPT | 13.1       | WAL037680             | WAL027535                                      | WAL624612   | WAL625945                    | WAL625985  |
|        | 22           | WES 22 L/ 3/4 NPT   | 3/8 NPT           | 14.9    | WAL037681  | WAL069030             | WAL624613                                      | WAL625946   | WAL625986                    |  |
|        | 100 (1450)   | 28                  | WES 28 L/1 NPT    | 1 NPT   | 28.3       | WAL037682             | WAL604436                                      | WAL624612   | WAL625945                    | WAL625985  |
| S      | 630 (9137)   | 6                   | WES 6 S/ 1/4 NPT  | 1/4 NPT | 5.3        | WAL037685             | WAL604307                                      | WAL624617   | WAL625950                    | WAL625990  |
|        |              | 8                   | WES 8 S/ 1/4 NPT  | 1/4 NPT | 7.3        | WAL037686             | WAL604712                                      | WAL624618   | WAL625951                    | WAL625991  |
|        |              | 10                  | WES 10 S/ 3/8 NPT | 3/8 NPT | 9.7        | WAL037687             | WAL605048                                      | WAL624619   | WAL625952                    | WAL625992  |
|        |              | 12                  | WES 12 S/ 3/8 NPT | 3/8 NPT | 12.1       | WAL037688             | WAL372649                                      | WAL624620   | WAL625953                    | WAL625993  |
|        | 14           | WES 14 S/ 1/2 NPT   | 1/2 NPT           | 10.3    | WAL037689  | WAL067071             |  |   |                              |  |
|        | 16           | WES 16 S/ 1/2 NPT   | 1/2 NPT           | 13.8    | WAL037690  | WAL605049             | WAL624621                                      | WAL625954   | WAL625994                    |  |
|        | 400 (5801)   | 20                  | WES 20 S/ 3/4 NPT | 3/4 NPT | 19.7       | WAL037691             | WAL067073                                      | WAL624622   | WAL625955                    | WAL625995  |
|        | 25           | WES 25 S/1 NPT      | 1 NPT             | 36      | WAL037692  | WAL617444             | WAL624623                                      | WAL625956   | WAL625996                    |  |

**Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

## Straight fittings

### P-GV ...

P-GV ...-1.4571



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| Series | PN bar (psi) | Tube outer diameter | Model     | kg/100 pc. | $L_2$ | $L_5$ | $L_1$ | $S_1$ | $S_2$ | Walpro P-GV ...<br>Art. no. | Walpro stainless steel P-GV ...-1.4571*<br>Art. no. |           |
|--------|--------------|---------------------|-----------|------------|-------|-------|-------|-------|-------|-----------------------------|---|-----------|
| LL     | 100 (1450)   | 4                   | S-GV 4 LL | 1.4        | 31    | 20    | 12    | 9     | 10    | WAL038557                   | WAL069960   |           |
|        |              | 6                   | S-GV 6 LL | 2.1        | 32    | 20    | 9     | 11    | 12    | WAL038559                   | WAL066887   |           |
|        |              | 8                   | S-GV 8 LL | 2.6        | 35    | 23    | 12    | 12    | 14    | WAL038560                   | WAL604827   |           |
| L      | 500 (7252)   | 6                   | P-GV 6 L  | 3.5        | 39    | 24    | 10    | 12    | 14    | WAL373362                   | WAL620055   |           |
|        |              | 8                   | P-GV 8 L  | 4.9        | 40    | 25    | 11    | 14    | 17    | WAL373363                   | WAL620056   |           |
|        |              | 10                  | P-GV 10 L | 6.9        | 42    | 27    | 13    | 17    | 19    | WAL373364                   | WAL620057   |           |
|        | 400 (5801)   | 12                  | P-GV 12 L | 8.5        | 43    | 28    | 14    | 19    | 22    | WAL373365                   | WAL620058   |           |
|        |              | 15                  | P-GV 15 L | 13.8       | 46    | 30    | 16    | 24    | 27    | WAL373366                   | WAL620059   |           |
|        |              | 18                  | P-GV 18 L | 19.5       | 48    | 31    | 16    | 27    | 32    | WAL373367                   | WAL620060   |           |
| S      | 250 (3626)   | 22                  | P-GV 22 L | 26.2       | 52    | 35    | 20    | 32    | 36    | WAL373368                   | WAL620061   |           |
|        |              | 28                  | P-GV 28 L | 31.5       | 54    | 36    | 21    | 41    | 41    | WAL373369                   | WAL620062   |           |
|        | 800 (11603)  | 35                  | P-GV 35 L | 49.4       | 63    | 41    | 20    | 46    | 50    | WAL373370                   | WAL620063   |           |
|        |              | 42                  | P-GV 42 L | 49.4       | 66    | 43    | 20    | 46    | 50    | WAL373371                   | WAL620064   |           |
| S      | 630 (9137)   | 6                   | P-GV 6 S  | 5.9        | 45    | 30    | 16    | 14    | 17    | WAL373372                   | WAL620065   |           |
|        |              | 8                   | P-GV 8 S  | 7.8        | 47    | 32    | 18    | 17    | 19    | WAL373373                   | WAL620066   |           |
|        |              | 10                  | P-GV 10 S | 11.0       | 49    | 32    | 17    | 19    | 22    | WAL373374                   | WAL620067   |           |
|        | 420 (6091)   | 12                  | P-GV 12 S | 13.6       | 51    | 34    | 19    | 22    | 24    | WAL373375                   | WAL620068   |           |
|        |              | 14                  | P-GV 14 S | 18.2       | 57    | 38    | 22    | 24    | 27    | WAL373376                   | WAL621531   |           |
|        |              | 16                  | P-GV 16 S | 22.3       | 57    | 38    | 21    | 27    | 30    | WAL373377                   | WAL620069   |           |
|        | S            | 630 (9137)          | 20        | P-GV 20 S  | 34.7  | 66    | 44    | 23    | 32    | 36                          | WAL373378   | WAL620070 |
|        |              |                     | 25        | P-GV 25 S  | 66.9  | 74    | 50    | 26    | 41    | 46                          | WAL373379   | WAL620071 |
|        |              | 420 (6091)          | 30        | P-GV 30 S  | 80.9  | 80    | 54    | 27    | 46    | 50                          | WAL373380   | WAL620072 |
|        |              |                     | 38        | P-GV 38 S  | 119.4 | 90    | 61    | 29    | 55    | 60                          | WAL373381   | WAL620073 |

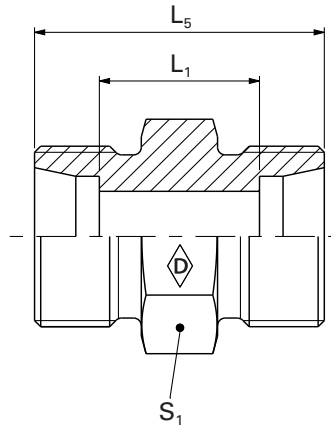
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

$L_2$  = approximate dimension if the union nut is tightened

**GS ...**

**GS ... -1.4571**



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|               |                 |                        |         |                |           | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                       |                        |  |           |
|---------------|-----------------|------------------------|---------|----------------|-----------|--|-----------------------|------------------------|--|-----------|
|               |                 |                        |         |                |           | Stud<br>GS ...   | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless steel<br>WF-M ... VI-1.4571* |           |
| Series        | PN<br>bar (psi) | Tube outer<br>diameter | Model   | kg/<br>100 pc. | Art. no.  | Stud<br>Stainless steel<br>GS ...<br>-1.4571*  | Art. no.              | Art. no.               | Art. no.                                       |           |
| LL            | 100<br>(1450)   | 4                      | GS 4 LL | 0.6            | WAL037844 |  | WAL069017             |                        |  |           |
|               |                 | 6                      | GS 6 LL | 0.7            | WAL037846 |  | WAL065349             |                        |  |           |
|               |                 | 8                      | GS 8 LL | 1.1            | WAL037847 |  | WAL061565             |                        |  |           |
| L             | 500<br>(7252)   | 6                      | GS 6 L  | 1.3            | WAL037848 |  | WAL025557             | WAL624607              | WAL625940                                      | WAL625980 |
|               |                 | 8                      | GS 8 L  | 1.7            | WAL037849 |  | WAL025558             | WAL624608              | WAL625941                                      | WAL625981 |
|               |                 | 10                     | GS 10 L | 2.5            | WAL037850 |  | WAL025559             | WAL624609              | WAL625942                                      | WAL625982 |
|               | 400<br>(5801)   | 12                     | GS 12 L | 2.8            | WAL037851 |  | WAL025560             | WAL624610              | WAL625943                                      | WAL625983 |
|               |                 | 15                     | GS 15 L | 4.8            | WAL037852 |  | WAL025561             | WAL624611              | WAL625944                                      | WAL625984 |
|               |                 | 18                     | GS 18 L | 6.6            | WAL028736 |  | WAL025562             | WAL624612              | WAL625945                                      | WAL625985 |
|               |                 | 22                     | GS 22 L | 8.9            | WAL028737 |  | WAL025563             | WAL624613              | WAL625946                                      | WAL625986 |
|               | 250<br>(3626)   | 28                     | GS 28 L | 13.5           | WAL028738 |  | WAL025564             | WAL624614              | WAL625947                                      | WAL625987 |
|               |                 | 35                     | GS 35 L | 21.2           | WAL028739 |  | WAL025565             | WAL624615              | WAL625948                                      | WAL625988 |
|               |                 | 42                     | GS 42 L | 29.2           | WAL028740 |  | WAL025566             | WAL624616              | WAL625949                                      | WAL625989 |
| S             |                 | 800<br>(11603)         | 6       | GS 6 S         | 2.5       | WAL037853  |                       | WAL029716              | WAL624617                                      | WAL625950 |
|               | 8               |                        | GS 8 S  | 2.9            | WAL037854 |  | WAL025567             | WAL624618              | WAL625951                                      | WAL625991 |
|               | 10              |                        | GS 10 S | 4.3            | WAL037855 |  | WAL025568             | WAL624619              | WAL625952                                      | WAL625992 |
|               | 630<br>(9137)   | 12                     | GS 12 S | 6.0            | WAL037856 |  | WAL025569             | WAL624620              | WAL625953                                      | WAL625993 |
|               |                 | 14                     | GS 14 S | 7.5            | WAL037857 |  | WAL025570             |                        |  |           |
|               |                 | 16                     | GS 16 S | 8.7            | WAL037858 |  | WAL025571             | WAL624621              | WAL625954                                      | WAL625994 |
| 420<br>(6091) | 20              | GS 20 S                | 14.2    | WAL037859      |           | WAL025572  | WAL624622             | WAL625955              | WAL625995                                      |           |
|               | 25              | GS 25 S                | 24.9    | WAL037860      |           | WAL025573  | WAL624623             | WAL625956              | WAL625996                                      |           |
|               | 30              | GS 30 S                | 32.8    | WAL037861      |           | WAL025574  | WAL624624             | WAL625957              | WAL625997                                      |           |
|               |                 | 38                     | GS 38 S | 54.0           | WAL037862 |  | WAL025575             | WAL624625              | WAL625958                                      | WAL625998 |

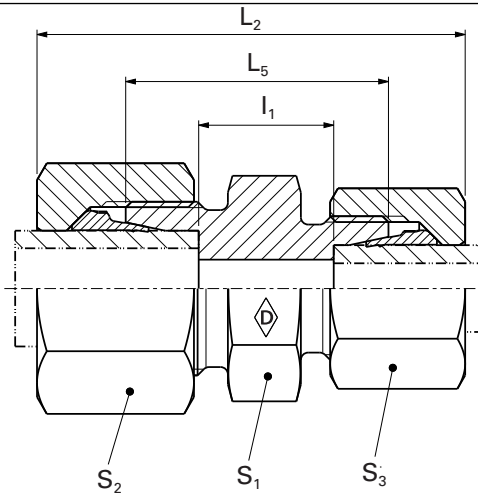
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

Special parts are available on request.

## Straight reducer fittings

**P-GV ... / ...**

**P-GV ... / ... -1.4571**



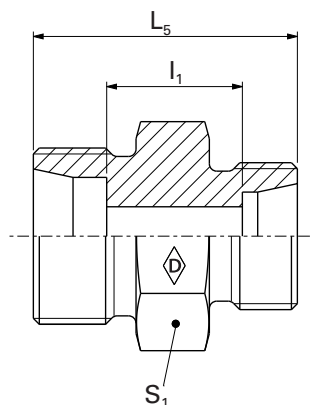
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| Series     | PN bar (psi) | Tube outer diameter 1 | Tube outer diameter 2 | Model                | kg/100 pc. | L <sub>2</sub> | L <sub>5</sub> | l <sub>1</sub> | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub>   | Walpro           | Walpro stainless steel  |          |
|------------|--------------|-----------------------|-----------------------|----------------------|------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|-------------------------|----------|
|            |              |                       |                       |                      |            |                |                |                |                |                |                  | P-GV ... / ...   | P-GV ... / ... -1.4571* |          |
|            |              |                       |                       |                      |            |                |                |                |                |                |                  |                  | Art. no.                | Art. no. |
| LL         | 100 (1450)   | 6                     | 4                     | <b>S-GV 6/ 4 LL</b>  | 1.8        | 32.5           | 20             | 10.5           | 11             | 12             | 10               | <b>WAL060065</b> | <b>WAL623072</b>        |          |
|            |              | 8                     | 4                     | <b>S-GV 8/ 4 LL</b>  | 2.1        | 34             | 22             | 12.5           | 12             | 14             | 10               | <b>WAL024214</b> | <b>WAL623074</b>        |          |
| L          | 500 (7252)   | 8                     | 6                     | <b>P-GV 8/ 6 L</b>   | 4.4        | 40             | 25             | 11             | 14             | 17             | 14               | <b>WAL374530</b> | <b>WAL620872</b>        |          |
|            |              | 10                    | 6                     | <b>P-GV 10/ 6 L</b>  | 5.4        | 41             | 26             | 12             | 17             | 19             | 14               | <b>WAL374531</b> | <b>WAL620857</b>        |          |
|            |              | 10                    | 8                     | <b>P-GV 10/ 8 L</b>  | 5.6        | 41             | 26             | 12             | 17             | 19             | 17               | <b>WAL602920</b> | <b>WAL620156</b>        |          |
|            |              | 12                    | 6                     | <b>P-GV 12/ 6 L</b>  | 6.4        | 42             | 27             | 13             | 19             | 22             | 14               | <b>WAL602654</b> | <b>WAL621005</b>        |          |
|            |              | 12                    | 8                     | <b>P-GV 12/ 8 L</b>  | 7.2        | 42             | 27             | 13             | 19             | 22             | 17               | <b>WAL374532</b> | <b>WAL620190</b>        |          |
|            | 12           | 10                    | <b>P-GV 12/ 10 L</b>  | 8.0                  | 43         | 28             | 14             | 19             | 22             | 19             | <b>WAL374533</b> | <b>WAL620548</b> |                         |          |
|            | 400 (5801)   | 15                    | 10                    | <b>P-GV 15/ 10 L</b> | 11.4       | 44.5           | 29             | 15             | 24             | 27             | 19               | <b>WAL374534</b> | <b>WAL620841</b>        |          |
|            | 15           | 12                    | <b>P-GV 15/ 12 L</b>  | 11.8                 | 44.5       | 29             | 15             | 24             | 27             | 22             | <b>WAL374535</b> | <b>WAL620616</b> |                         |          |
|            | 18           | 10                    | <b>P-GV 18/ 10 L</b>  | 14.1                 | 46         | 30             | 15.5           | 27             | 32             | 19             | <b>WAL602655</b> | <b>WAL620575</b> |                         |          |
|            | 18           | 12                    | <b>P-GV 18/ 12 L</b>  | 15.7                 | 46         | 30             | 15.5           | 27             | 32             | 22             | <b>WAL374536</b> | <b>WAL620574</b> |                         |          |
| S          | 250 (3626)   | 18                    | 15                    | <b>P-GV 18/ 15 L</b> | 17.5       | 47.5           | 31             | 16.5           | 27             | 32             | 27               | <b>WAL374537</b> | <b>WAL620615</b>        |          |
|            |              | 22                    | 15                    | <b>P-GV 22/ 15 L</b> | 21.4       | 49.5           | 33             | 18.5           | 32             | 36             | 27               | <b>WAL374538</b> | <b>WAL621009</b>        |          |
|            |              | 22                    | 18                    | <b>P-GV 22/ 18 L</b> | 23.8       | 50             | 33             | 18.21          | 32             | 36             | 32               | <b>WAL374762</b> | <b>WAL620833</b>        |          |
|            | 28           | 22                    | <b>P-GV 28/ 22 L</b>  | 32.6                 | 54         | 36             | 21             | 41             | 41             | 36             | <b>WAL604368</b> | <b>WAL620900</b> |                         |          |
|            | 630 (9137)   | 16                    | 12                    | <b>P-GV 16/ 12 S</b> | 22.3       | 54             | 36             | 20             | 27             | 30             | 24               | <b>WAL374539</b> | <b>WAL620573</b>        |          |
| 420 (6091) | 20           | 16                    | <b>P-GV 20/ 16 S</b>  | 30.0                 | 62.5       | 42             | 23             | 32             | 36             | 30             | <b>WAL374540</b> | <b>WAL621024</b> |                         |          |
|            | 25           | 16                    | <b>P-GV 25/ 16 S</b>  | 52.6                 | 68         | 46             | 25.5           | 41             | 46             | 30             | <b>WAL604471</b> | <b>WAL621025</b> |                         |          |
|            | 25           | 20                    | <b>P-GV 25/ 20 S</b>  | 55.2                 | 71         | 48             | 25.5           | 41             | 46             | 36             | <b>WAL374541</b> | <b>WAL621026</b> |                         |          |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened

**GS ... / ...**
**GS ... / ... -1.4571**

**E**

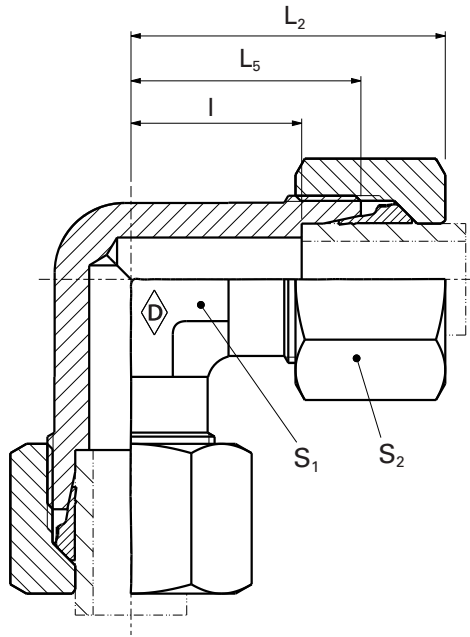
|        |                 |                             |                             |             |                | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |   |                       |                        |   |           |
|--------|-----------------|-----------------------------|-----------------------------|-------------|----------------|--|---|-----------------------|------------------------|---|-----------|
|        |                 |                             |                             |             |                | Stud<br>GS ... / ...   | Stud<br>Stainless steel<br>GS ... / ...<br>-1.4571* | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless<br>steel<br>WF-M ... VI-1.4571* |           |
| Series | PN<br>bar (psi) | Tube<br>outer<br>diameter 1 | Tube<br>outer<br>diameter 2 | Model       | kg/<br>100 pc. | Art. no.   | Art. no.  | Art. no.              | Art. no.               | Art. no.  |           |
| LL     | 100<br>(1450)   | 6                           | 4                           | GS 6/ 4 LL  | 0.7            | WAL060066  | WAL623073   |                       |                        |   |           |
|        |                 | 8                           | 4                           | GS 8/ 4 LL  | 0.8            | WAL025120  | WAL623075   |                       |                        |   |           |
|        | 500<br>(7252)   | 8                           | 6                           | GS 8/ 6 L   | 1.6            | WAL029475  | WAL061625   | WAL624608             | WAL625941              | WAL625981   |           |
|        |                 | 10                          | 6                           | GS 10/ 6 L  | 2.0            | WAL029476  | WAL617445   | WAL624609             | WAL625942              | WAL625982   |           |
|        |                 | 10                          | 8                           | GS 10/ 8 L  | 2.1            | WAL029477  | WAL061627   | WAL624609             | WAL625942              | WAL625982   |           |
|        |                 | 12                          | 6                           | GS 12/ 6 L  | 2.3            | WAL063441  | WAL066615   | WAL624610             | WAL625943              | WAL625983   |           |
| 12     |                 | 8                           | GS 12/ 8 L                  | 2.3         | WAL029478      | WAL066613  | WAL624610   | WAL625943             | WAL625983              |   |           |
| 12     |                 | 10                          | GS 12/ 10 L                 | 2.5         | WAL029479      | WAL605070  | WAL624610   | WAL625943             | WAL625983              |   |           |
| L      | 400<br>(5801)   | 15                          | 10                          | GS 15/ 10 L | 4.4            | WAL060223  | WAL617448   | WAL624611             | WAL625944              | WAL625984   |           |
|        |                 | 15                          | 12                          | GS 15/ 12 L | 4.2            | WAL029480  | WAL604558   | WAL624611             | WAL625944              | WAL625984   |           |
|        |                 | 18                          | 10                          | GS 18/ 10 L | 6.0            | WAL024917  | WAL605347   | WAL624612             | WAL625945              | WAL625985   |           |
|        |                 | 18                          | 12                          | GS 18/ 12 L | 5.9            | WAL029663  | WAL605346   | WAL624612             | WAL625945              | WAL625985   |           |
|        |                 | 18                          | 15                          | GS 18/ 15 L | 6.1            | WAL029482  | WAL605919   | WAL624612             | WAL625945              | WAL625985   |           |
|        |                 | 22                          | 15                          | GS 22/ 15 L | 7.9            | WAL024355  | WAL617451   | WAL624613             | WAL625946              | WAL625986   |           |
|        | 250<br>(3626)   | 22                          | 18                          | GS 22/ 18 L | 8.3            | WAL061992  | WAL617452   | WAL624613             | WAL625946              | WAL625986   |           |
|        |                 | 28                          | 22                          | GS 28/ 22 L | 13.0           | WAL024889  | WAL615418   | WAL624614             | WAL625947              | WAL625987   |           |
|        |                 | 630 (9137)                  | 16                          | 12          | GS 16/ 12 S    | 8.2  | WAL029481   | WAL371138             | WAL624621              | WAL625954   | WAL625994 |
|        |                 |                             | 20                          | 16          | GS 20/ 16 S    | 13.1   | WAL025197   | WAL612801             | WAL624622              | WAL625955   | WAL625995 |
| 25     | 16              |                             | GS 25/ 16 S                 | 22.3        | WAL060853      | WAL615211  | WAL624623   | WAL625956             | WAL625996              |   |           |
| S      | 420<br>(6091)   | 25                          | 20                          | GS 25/ 20 S | 23.4           | WAL063230  | WAL617469   | WAL624623             | WAL625956              | WAL625996   |           |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

Elbow fittings

P-WV ...

P-WV ... -1.4571



E

| Series     | PN bar (psi) | Tube outer diameter | Model     | kg/100 pc. | L <sub>2</sub> | L <sub>5</sub> | I    | S <sub>1</sub> | S <sub>2</sub> | Walpro P-WV ...<br>Art. no. | Walpro stainless steel P-WV ...-1.4571*<br>Art. no. |
|------------|--------------|---------------------|-----------|------------|----------------|----------------|------|----------------|----------------|-----------------------------|---|
| LL         | 100 (1450)   | 4                   | S-WV 4 LL | 2.5        | 21             | 15             | 11   | 9              | 10             | WAL038576                   | WAL604071   |
|            |              | 6                   | S-WV 6 LL | 2.7        | 21             | 15             | 9.5  | 9              | 12             | WAL038578                   | WAL061566   |
|            |              | 8                   | S-WV 8 LL | 3.8        | 23             | 17             | 11.5 | 12             | 14             | WAL038579                   | WAL065336   |
| L          | 500 (7252)   | 6                   | P-WV 6 L  | 4.9        | 27             | 19             | 12   | 12             | 14             | WAL373385                   | WAL620074   |
|            |              | 8                   | P-WV 8 L  | 7.6        | 29             | 21             | 14   | 12             | 17             | WAL373386                   | WAL620075   |
|            |              | 10                  | P-WV 10 L | 9.6        | 30             | 22             | 15   | 14             | 19             | WAL373387                   | WAL620076   |
|            |              | 12                  | P-WV 12 L | 13.5       | 32             | 24             | 17   | 17             | 22             | WAL373388                   | WAL620077   |
|            | 400 (5801)   | 15                  | P-WV 15 L | 15.8       | 36             | 28             | 21   | 19             | 27             | WAL373389                   | WAL620078   |
|            |              | 18                  | P-WV 18 L | 23.9       | 40             | 31             | 23.5 | 24             | 32             | WAL373390                   | WAL620079   |
|            |              | 22                  | P-WV 22 L | 31.7       | 44             | 35             | 27.5 | 27             | 36             | WAL373391                   | WAL620080   |
|            |              | 28                  | P-WV 28 L | 42.0       | 47             | 38             | 30.5 | 36             | 41             | WAL373392                   | WAL620081   |
| 250 (3626) | 35           | P-WV 35 L           | 75.9      | 56         | 45             | 34.5           | 41   | 50             | WAL373393      | WAL620082                   |   |
|            | 42           | P-WV 42 L           | 107.8     | 63         | 51             | 40             | 50   | 60             | WAL373394      | WAL620083                   |   |
| S          | 800 (11603)  | 6                   | P-WV 6 S  | 8.5        | 31             | 23             | 16   | 12             | 17             | WAL373395                   | WAL620084   |
|            |              | 8                   | P-WV 8 S  | 11.7       | 32             | 24             | 17   | 14             | 19             | WAL373396                   | WAL620085   |
|            |              | 10                  | P-WV 10 S | 16.1       | 34             | 25             | 17.5 | 17             | 22             | WAL373397                   | WAL620086   |
|            | 630 (9137)   | 12                  | P-WV 12 S | 20.5       | 38             | 29             | 21.5 | 17             | 24             | WAL373398                   | WAL620087   |
|            |              | 14                  | P-WV 14 S | 20.7       | 40             | 30             | 22   | 19             | 27             | WAL373399                   | WAL621652   |
|            |              | 16                  | P-WV 16 S | 25.0       | 43             | 33             | 24.5 | 24             | 30             | WAL373400                   | WAL620088   |
|            | 420 (6091)   | 20                  | P-WV 20 S | 40.7       | 48             | 37             | 26.5 | 27             | 36             | WAL373401                   | WAL620089   |
|            |              | 25                  | P-WV 25 S | 77.6       | 54             | 42             | 30   | 36             | 46             | WAL373402                   | WAL620090   |
|            |              | 30                  | P-WV 30 S | 97.4       | 62             | 49             | 35.5 | 41             | 50             | WAL373403                   | WAL620091   |
|            |              | 38                  | P-WV 38 S | 131.8      | 72             | 57             | 41   | 50             | 60             | WAL373404                   | WAL620092   |

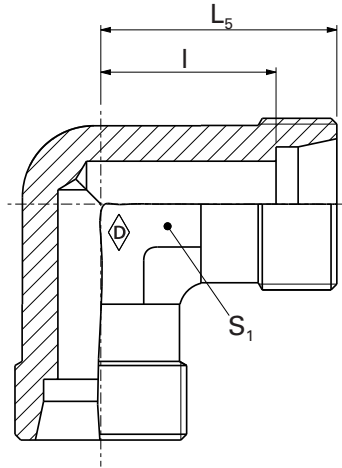
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

**WS ...**

**WS ... -1.4571**



E

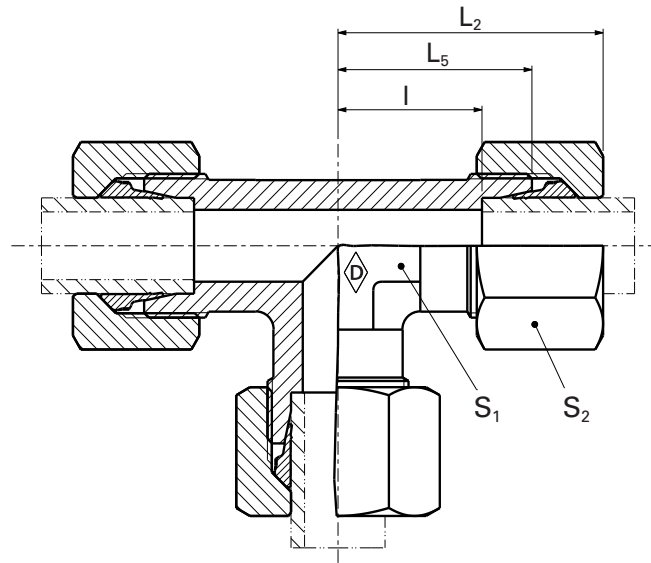
|        |              |                     |         |            |             | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                    |                     |   |
|--------|--------------|---------------------|---------|------------|-------------|--|--------------------|---------------------|---|
| Series | PN bar (psi) | Tube outer diameter | Model   | kg/100 pc. | Stud WS ... | Stud Stainless steel WS ... -1.4571*   | Walring W-R ... VI | Walform WF-M ... VI | Walform stainless steel WF-M ... VI-1.4571* |
|        |              |                     |         |            | Art. no.    | Art. no.   | Art. no.           | Art. no.            | Art. no.                                    |
| LL     | 100 (1450)   | 4                   | WS 4 LL | 1.2        | WAL037863   | WAL604070  |                    |                     |   |
|        |              | 6                   | WS 6 LL | 1.4        | WAL037865   | WAL061567  |                    |                     |   |
|        |              | 8                   | WS 8 LL | 2.2        | WAL037866   | WAL065337  |                    |                     |   |
| L      | 500 (7252)   | 6                   | WS 6 L  | 2.8        | WAL037867   | WAL025576  | WAL624607          | WAL625940           | WAL625980                                   |
|        |              | 8                   | WS 8 L  | 4.1        | WAL037868   | WAL025577  | WAL624608          | WAL625941           | WAL625981                                   |
|        |              | 10                  | WS 10 L | 5.7        | WAL037869   | WAL025578  | WAL624609          | WAL625942           | WAL625982                                   |
|        | 400 (5801)   | 12                  | WS 12 L | 8          | WAL037870   | WAL025579  | WAL624610          | WAL625943           | WAL625983                                   |
|        |              | 15                  | WS 15 L | 7.5        | WAL037871   | WAL025580  | WAL624611          | WAL625944           | WAL625984                                   |
|        |              | 18                  | WS 18 L | 11.2       | WAL037872   | WAL025581  | WAL624612          | WAL625945           | WAL625985                                   |
|        |              | 22                  | WS 22 L | 14.9       | WAL037873   | WAL025582  | WAL624613          | WAL625946           | WAL625986                                   |
|        | 250 (3626)   | 28                  | WS 28 L | 25.2       | WAL037874   | WAL025583  | WAL624614          | WAL625947           | WAL625987                                   |
|        |              | 35                  | WS 35 L | 46.5       | WAL037875   | WAL025584  | WAL624615          | WAL625948           | WAL625988                                   |
|        |              | 42                  | WS 42 L | 61.6       | WAL037876   | WAL025585  | WAL624616          | WAL625949           | WAL625989                                   |
| S      |              | 800 (11603)         | 6       | WS 6 S     | 9.4         | WAL037877  | WAL025586          | WAL624617           | WAL625950                                   |
|        | 8            |                     | WS 8 S  | 7.2        | WAL037878   | WAL025587  | WAL624618          | WAL625951           | WAL625991                                   |
|        | 10           |                     | WS 10 S | 9.7        | WAL037879   | WAL025588  | WAL624619          | WAL625952           | WAL625992                                   |
|        | 630 (9137)   | 12                  | WS 12 S | 13.6       | WAL037880   | WAL025589  | WAL624620          | WAL625953           | WAL625993                                   |
|        |              | 14                  | WS 14 S | 9.8        | WAL037881   | WAL025590  |                    |                     |   |
|        |              | 16                  | WS 16 S | 14.4       | WAL037882   | WAL025591  | WAL624621          | WAL625954           | WAL625994                                   |
|        |              | 20                  | WS 20 S | 20         | WAL037883   | WAL025592  | WAL624622          | WAL625955           | WAL625995                                   |
|        | 420 (6091)   | 25                  | WS 25 S | 36.5       | WAL037884   | WAL025593  | WAL624623          | WAL625956           | WAL625996                                   |
|        |              | 30                  | WS 30 S | 46.5       | WAL037885   | WAL025594  | WAL624624          | WAL625957           | WAL625997                                   |
|        |              | 38                  | WS 38 S | 66         | WAL037886   | WAL025595  | WAL624625          | WAL625958           | WAL625998                                   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

P-TV ...

P-TV ...-1.4571

E



| Series     | PN bar (psi) | Tube outer diameter | Model     | kg/100 pc. | L <sub>2</sub> | L <sub>5</sub> | I    | S <sub>1</sub> | S <sub>2</sub> | Walpro P-TV ...<br>Art. no. | Walpro stainless steel P-TV ...-1.4571*<br>Art. no. |
|------------|--------------|---------------------|-----------|------------|----------------|----------------|------|----------------|----------------|-----------------------------|---|
| LL         | 100 (1450)   | 4                   | S-TV 4 LL | 2.8        | 21             | 15             | 11   | 8              | 10             | WAL038600                   | WAL609123   |
|            |              | 6                   | S-TV 6 LL | 3.7        | 21             | 15             | 9.5  | 10             | 12             | WAL038602                   | WAL065338   |
|            |              | 8                   | S-TV 8 LL | 5.1        | 23             | 17             | 11.5 | 12             | 14             | WAL038603                   | WAL065340   |
| L          | 500 (7252)   | 6                   | P-TV 6 L  | 7.1        | 27             | 19             | 12   | 12             | 14             | WAL373408                   | WAL620093   |
|            |              | 8                   | P-TV 8 L  | 10.1       | 29             | 21             | 14   | 14             | 17             | WAL373409                   | WAL620094   |
|            |              | 10                  | P-TV 10 L | 13.0       | 30             | 22             | 15   | 17             | 19             | WAL373410                   | WAL620095   |
|            | 400 (5801)   | 12                  | P-TV 12 L | 17.7       | 32             | 24             | 17   | 19             | 22             | WAL373411                   | WAL620096   |
|            |              | 15                  | P-TV 15 L | 23.2       | 36             | 28             | 21   | 19             | 27             | WAL373412                   | WAL620097   |
|            |              | 18                  | P-TV 18 L | 35.4       | 40             | 31             | 23.5 | 24             | 32             | WAL373413                   | WAL620098   |
| 250 (3626) | 22           | P-TV 22 L           | 44.3      | 44         | 35             | 27.5           | 27   | 36             | WAL373414      | WAL620099                   |   |
|            | 28           | P-TV 28 L           | 61.1      | 47         | 38             | 30.5           | 36   | 41             | WAL373415      | WAL620100                   |   |
|            | 35           | P-TV 35 L           | 90.1      | 56         | 45             | 34.5           | 41   | 50             | WAL373416      | WAL620101                   |   |
| S          | 800 (11603)  | 42                  | P-TV 42 L | 136.8      | 63             | 51             | 40   | 50             | 60             | WAL373417                   | WAL620102   |
|            |              | 6                   | P-TV 6 S  | 12.0       | 31             | 23             | 16   | 12             | 17             | WAL373418                   | WAL620103   |
|            |              | 8                   | P-TV 8 S  | 15.7       | 32             | 24             | 17   | 17             | 19             | WAL373419                   | WAL620104   |
|            | 630 (9137)   | 10                  | P-TV 10 S | 21.2       | 34             | 25             | 17.5 | 19             | 22             | WAL373420                   | WAL620105   |
|            |              | 12                  | P-TV 12 S | 28.5       | 38             | 29             | 21.5 | 22             | 24             | WAL373421                   | WAL620106   |
|            |              | 14                  | P-TV 14 S | 28.5       | 40             | 30             | 22   | 19             | 27             | WAL373422                   | WAL621643   |
|            | 420 (6091)   | 16                  | P-TV 16 S | 35.7       | 43             | 33             | 24.5 | 24             | 30             | WAL373423                   | WAL620107   |
|            |              | 20                  | P-TV 20 S | 55.8       | 48             | 37             | 26.5 | 27             | 36             | WAL373424                   | WAL620108   |
|            |              | 25                  | P-TV 25 S | 106.7      | 54             | 42             | 30   | 36             | 46             | WAL373425                   | WAL620109   |
|            |              | 30                  | P-TV 30 S | 134.9      | 62             | 49             | 35.5 | 41             | 50             | WAL373426                   | WAL620110   |
|            |              | 38                  | P-TV 38 S | 202.2      | 72             | 57             | 41   | 50             | 60             | WAL373427                   | WAL620111   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

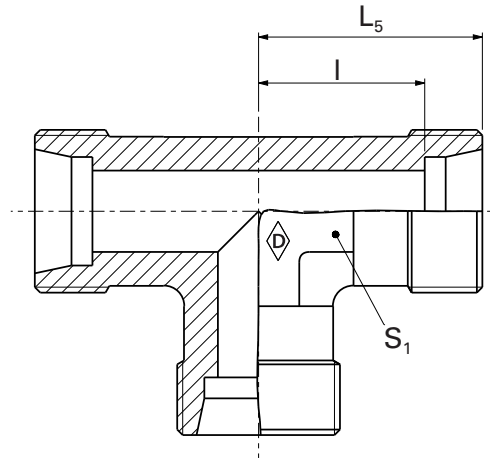
\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened



**TS ...**

**TS ... -1.4571**



E

System nuts for supplementing the stud  
(for technical data, see part D of this catalog)

| Series | PN bar (psi)   | Tube outer diameter | Model   | kg/100 pc. | DIN 2353  | Art. no.  | Stud<br>TS ... | Stud<br>Stainless steel<br>TS ...<br>-1.4571* | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                        |  |
|--------|----------------|---------------------|---------|------------|-----------|-----------|----------------|---|--|------------------------|--|
|        |                |                     |         |            |           |           |                |   | Walring<br>W-R ... VI  | Walform<br>WF-M ... VI | Walform stainless steel<br>WF-M ... VI-1.4571* |
| LL     | 100<br>(1450)  | 4                   | TS 4 LL | 1.4        | QLL 4     | WAL037887 | WAL617473      |   |  |                        |  |
|        |                | 6                   | TS 6 LL | 1.7        | QLL 6     | WAL037889 | WAL065339      |   |  |                        |  |
|        |                | 8                   | TS 8 LL | 2.5        | QLL 8     | WAL037890 | WAL065341      |   |  |                        |  |
| L      | 500<br>(7252)  | 6                   | TS 6 L  | 3.4        | QL 6      | WAL037891 | WAL025596      | WAL624607                                     | WAL625940  | WAL625980              |  |
|        |                | 8                   | TS 8 L  | 5.2        | QL 8      | WAL037892 | WAL025597      | WAL624608                                     | WAL625941  | WAL625981              |  |
|        |                | 10                  | TS 10 L | 6.3        | QL 10     | WAL037893 | WAL025598      | WAL624609                                     | WAL625942  | WAL625982              |  |
|        | 400<br>(5801)  | 12                  | TS 12 L | 8.6        | QL 12     | WAL037894 | WAL025599      | WAL624610                                     | WAL625943  | WAL625983              |  |
|        |                | 15                  | TS 15 L | 8.9        | QL 15     | WAL037895 | WAL025600      | WAL624611                                     | WAL625944  | WAL625984              |  |
|        |                | 18                  | TS 18 L | 14.7       | QL 18     | WAL037896 | WAL025601      | WAL624612                                     | WAL625945  | WAL625985              |  |
|        |                | 22                  | TS 22 L | 19.6       | QL 22     | WAL037897 | WAL025602      | WAL624613                                     | WAL625946  | WAL625986              |  |
|        | 250<br>(3626)  | 28                  | TS 28 L | 33.4       | QL 28     | WAL037898 | WAL025603      | WAL624614                                     | WAL625947  | WAL625987              |  |
|        |                | 35                  | TS 35 L | 49.5       | QL 35     | WAL037899 | WAL025604      | WAL624615                                     | WAL625948  | WAL625988              |  |
|        |                | 42                  | TS 42 L | 67.5       | QL 42     | WAL037900 | WAL025605      | WAL624616                                     | WAL625949  | WAL625989              |  |
| 6      |                | TS 6 S              | 6.1     | QS 6       | WAL037901 | WAL025606 | WAL624617      | WAL625950                                     | WAL625990  |                        |  |
| S      | 800<br>(11603) | 8                   | TS 8 S  | 8.6        | QS 8      | WAL037902 | WAL025607      | WAL624618                                     | WAL625951  | WAL625991              |  |
|        |                | 10                  | TS 10 S | 10.8       | QS 10     | WAL037903 | WAL025608      | WAL624619                                     | WAL625952  | WAL625992              |  |
|        |                | 12                  | TS 12 S | 16.0       | QS 12     | WAL037904 | WAL025609      | WAL624620                                     | WAL625953  | WAL625993              |  |
|        | 630<br>(9137)  | 14                  | TS 14 S | 13.2       | QS 14     | WAL037905 | WAL025610      |   |  |                        |  |
|        |                | 16                  | TS 16 S | 16.0       | QS 16     | WAL037906 | WAL025611      | WAL624621                                     | WAL625954  | WAL625994              |  |
|        |                | 20                  | TS 20 S | 26.8       | QS 20     | WAL037907 | WAL025612      | WAL624622                                     | WAL625955  | WAL625995              |  |
|        | 420<br>(6091)  | 25                  | TS 25 S | 46.0       | QS 25     | WAL037908 | WAL025613      | WAL624623                                     | WAL625956  | WAL625996              |  |
|        |                | 30                  | TS 30 S | 71.4       | QS 30     | WAL037909 | WAL025614      | WAL624624                                     | WAL625957  | WAL625997              |  |
|        |                | 38                  | TS 38 S | 103.5      | QS 38     | WAL037910 | WAL025615      | WAL624625                                     | WAL625958  | WAL625998              |  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

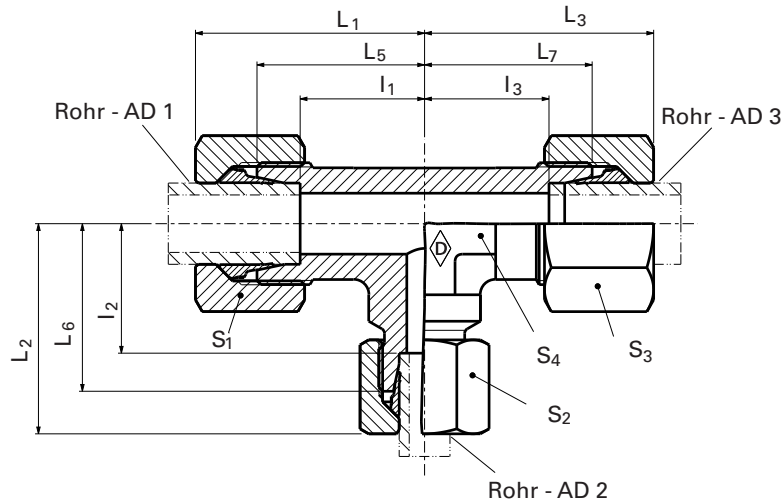
Special parts are available on request.

## T reducer fittings

### P-TV 1 / 2 / 3

- L<sub>1</sub>, L<sub>2</sub> and L<sub>3</sub> = approximate dimensions if the union nuts are tightened
- Light-duty range

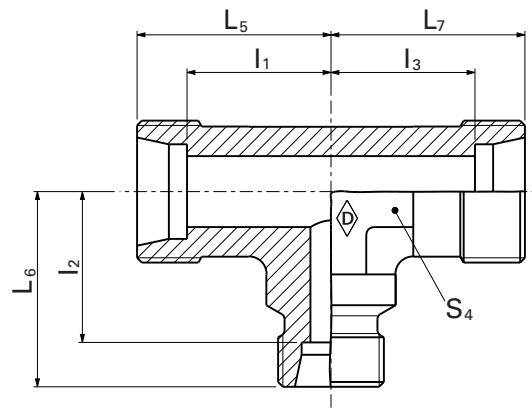
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|        |                 |                             |                             |                             |                 |                |                |                |                |                |                |                |                |                |                |                | Walpro<br>P-TV .../.../... |                |           |
|--------|-----------------|-----------------------------|-----------------------------|-----------------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|----------------|-----------|
| Series | PN<br>bar (psi) | Tube<br>outer<br>diameter 1 | Tube<br>outer<br>diameter 2 | Tube<br>outer<br>diameter 3 | Model           | I <sub>1</sub> | I <sub>2</sub> | I <sub>3</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>5</sub> | L <sub>6</sub> | L <sub>7</sub> | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub>             | S <sub>4</sub> | Art. no.  |
| L      | 500<br>(7252)   | 10                          | 6                           | 10                          | P-TV 10/6/10 L  | 15             | 15             | 15             | 30             | 30             | 30             | 22             | 22             | 22             | 17             | 19             | 14                         | 14             | WAL374542 |
|        |                 | 10                          | 8                           | 10                          | P-TV 10/8/10 L  | 15             | 15             | 15             | 30             | 30             | 30             | 22             | 22             | 22             | 17             | 19             | 17                         | 14             | WAL374543 |
|        |                 | 12                          | 6                           | 12                          | P-TV 12/6/12 L  | 17             | 17             | 17             | 32             | 32             | 32             | 24             | 24             | 24             | 22             | 22             | 14                         | 17             | WAL602635 |
|        |                 | 12                          | 8                           | 12                          | P-TV 12/8/12 L  | 17             | 17             | 17             | 32             | 32             | 32             | 24             | 24             | 24             | 22             | 22             | 17                         | 17             | WAL374544 |
|        |                 | 12                          | 10                          | 12                          | P-TV 12/10/12 L | 17             | 17             | 17             | 32             | 32             | 32             | 24             | 24             | 24             | 22             | 22             | 19                         | 17             | WAL374545 |
|        |                 | 12                          | 15                          | 12                          | P-TV 12/15/12 L | 21             | 21             | 21             | 36             | 36             | 36             | 28             | 28             | 28             | 22             | 22             | 27                         | 19             | WAL374546 |
|        | 400<br>(5801)   | 15                          | 12                          | 12                          | P-TV 15/12/12 L | 21             | 21             | 21             | 36             | 36             | 36             | 28             | 28             | 28             | 27             | 22             | 22                         | 19             | WAL374549 |
|        |                 | 15                          | 15                          | 12                          | P-TV 15/15/12 L | 21             | 21             | 21             | 36             | 36             | 36             | 28             | 28             | 28             | 27             | 22             | 27                         | 19             | WAL606957 |
|        |                 | 15                          | 8                           | 15                          | P-TV 15/8/15 L  | 21             | 21             | 21             | 36             | 36             | 36             | 28             | 28             | 28             | 27             | 27             | 17                         | 19             | WAL374547 |
|        |                 | 15                          | 10                          | 15                          | P-TV 15/10/15 L | 21             | 21             | 21             | 36             | 36             | 36             | 28             | 28             | 28             | 27             | 27             | 19                         | 19             | WAL605187 |
|        |                 | 15                          | 12                          | 15                          | P-TV 15/12/15 L | 21             | 21             | 21             | 36             | 36             | 36             | 28             | 28             | 28             | 27             | 27             | 22                         | 19             | WAL374548 |
|        |                 | 18                          | 12                          | 12                          | P-TV 18/12/12 L | 23.5           | 24             | 24             | 40             | 39             | 39             | 31             | 31             | 31             | 32             | 22             | 22                         | 24             | WAL374552 |
|        | 250<br>(3626)   | 18                          | 10                          | 18                          | P-TV 18/10/18 L | 23.5           | 23.5           | 24             | 40             | 40             | 39             | 31             | 31             | 31             | 32             | 32             | 19                         | 24             | WAL374550 |
|        |                 | 18                          | 12                          | 18                          | P-TV 18/12/18 L | 23.5           | 23.5           | 24             | 40             | 40             | 39             | 31             | 31             | 31             | 32             | 32             | 22                         | 24             | WAL374551 |
|        |                 | 18                          | 15                          | 18                          | P-TV 18/15/18 L | 23.5           | 23.5           | 24             | 40             | 40             | 39             | 31             | 31             | 31             | 32             | 32             | 27                         | 24             | WAL605018 |
|        |                 | 22                          | 10                          | 22                          | P-TV 22/10/22 L | 27.5           | 27.5           | 28             | 44             | 44             | 43             | 35             | 35             | 35             | 36             | 36             | 19                         | 27             | WAL373553 |
|        |                 | 22                          | 15                          | 22                          | P-TV 22/15/22 L | 27.5           | 27.5           | 28             | 44             | 44             | 43             | 35             | 35             | 35             | 36             | 36             | 27                         | 27             | WAL374554 |
|        |                 | 28                          | 22                          | 22                          | P-TV 28/22/22 L | 30.5           | 30.5           | 30.5           | 47             | 47             | 47             | 38             | 38             | 38             | 41             | 36             | 36                         | 36             | WAL606590 |
|        | 28              | 22                          | 28                          | P-TV 28/22/28 L             | 30.5            | 30.5           | 30.5           | 47             | 47             | 47             | 38             | 38             | 38             | 41             | 41             | 36             | 36                         | WAL605916      |           |

L<sub>1</sub>, L<sub>2</sub> and L<sub>3</sub> = approximate dimensions if the union nuts are tightened

TS 1 / 2 / 3



E

| Series | PN<br>bar (psi) | Tube<br>outer diameter 1 | Tube<br>outer diameter 2 | Tube<br>outer diameter 3 | Model         | kg/<br>100 pc. | Stud           |
|--------|-----------------|--------------------------|--------------------------|--------------------------|---------------|----------------|----------------|
|        |                 |                          |                          |                          |               |                | TS .../.../... |
|        |                 |                          |                          |                          |               |                | Art. no.       |
| L      | 500 (7525)      | 10                       | 6                        | 10                       | TS 10/6/10 L  | 5.8            | WAL027761      |
|        |                 | 10                       | 8                        | 10                       | TS 10/8/10 L  | 5.8            | WAL029472      |
|        |                 | 12                       | 6                        | 12                       | TS 12/6/12 L  | 8.9            | WAL025465      |
|        |                 | 12                       | 8                        | 12                       | TS 12/8/12 L  | 8.7            | WAL027710      |
|        |                 | 12                       | 10                       | 12                       | TS 12/10/12 L | 8.9            | WAL024215      |
|        |                 | 12                       | 15                       | 12                       | TS 12/15/12 L | 7.9            | WAL060044      |
|        | 400 (5801)      | 15                       | 12                       | 12                       | TS 15/12/12 L | 8.0            | WAL028939      |
|        |                 | 15                       | 15                       | 12                       | TS 15/15/12 L | 8.0            | WAL024959      |
|        |                 | 15                       | 8                        | 15                       | TS 15/8/15 L  | 7.7            | WAL025033      |
|        |                 | 15                       | 10                       | 15                       | TS 15/10/15 L | 8.0            | WAL060051      |
|        |                 | 15                       | 12                       | 15                       | TS 15/12/15 L | 8.7            | WAL029473      |
|        |                 | 18                       | 12                       | 12                       | TS 18/12/12 L | 15.0           | WAL064007      |
|        |                 | 18                       | 10                       | 18                       | TS 18/10/18 L | 15.0           | WAL029620      |
|        |                 | 18                       | 12                       | 18                       | TS 18/12/18 L | 15.3           | WAL028666      |
|        |                 | 18                       | 15                       | 18                       | TS 18/15/18 L | 15.5           | WAL066450      |
|        |                 | 250 (3626)               | 22                       | 10                       | 22            | TS 22/10/22 L  | 20.1           |
|        | 22              |                          | 15                       | 22                       | TS 22/15/22 L | 20.6           | WAL060866      |
|        | 28              |                          | 22                       | 22                       | TS 28/22/22 L | 34.0           | WAL063243      |
| 28     | 22              |                          | 28                       | TS 28/22/28 L            | 33.2          | WAL060956      |                |

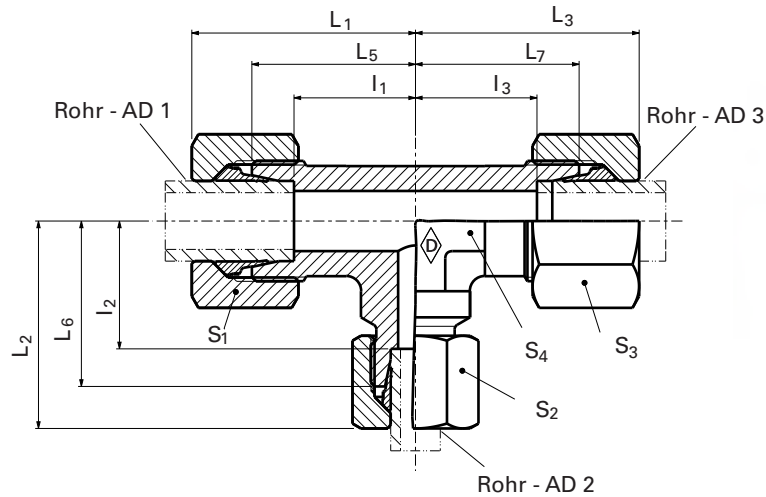
Special parts are available on request.

## T reducer fittings

### P-TV 1 / 2 / 3

- L1, L2 and L3 = approximate dimensions if the union nuts are tightened
- Heavy-duty range

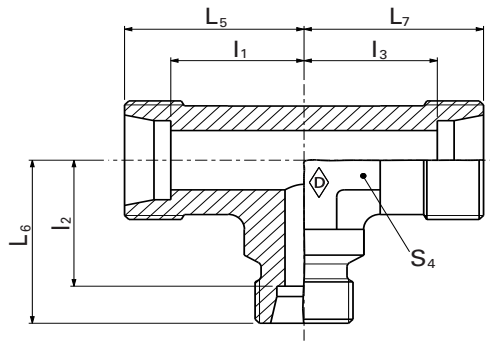
E



| Series        | PN bar (psi) | Tube outer diameter 1 | Tube outer diameter 2 | Tube outer diameter 3 | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>5</sub> | L <sub>6</sub> | L <sub>7</sub> | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | S <sub>4</sub> |
|---------------|--------------|-----------------------|-----------------------|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 630<br>(9137) |              | 12                    | 16                    | 12                    | 25.5           | 25.5           | 24.5           | 42             | 42             | 43             | 33             | 33             | 33             | 24             | 24             | 30             | 24             |
|               |              | 16                    | 10                    | 16                    | 24.5           | 24.5           | 25.5           | 43             | 43             | 42             | 33             | 33             | 33             | 30             | 30             | 22             | 24             |
|               |              | 16                    | 12                    | 16                    | 24.5           | 25.5           | 25.5           | 43             | 43             | 42             | 33             | 33             | 33             | 30             | 30             | 24             | 24             |
|               |              | 16                    | 12                    | 12                    | 24.5           | 25.5           | 25.5           | 43             | 42             | 38             | 33             | 33             | 29             | 30             | 30             | 24             | 24             |
|               |              | 16                    | 6                     | 16                    | 24.5           | 24.5           | 26             | 43             | 43             | 41             | 33             | 33             | 33             | 30             | 30             | 17             | 24             |
|               |              | 16                    | 25                    | 16                    | 33.5           | 33.5           | 30             | 52             | 52             | 54             | 42             | 42             | 42             | 30             | 30             | 46             | 36             |
|               |              | 16                    | 20                    | 16                    | 28.5           | 28.5           | 26.5           | 47             | 47             | 48             | 37             | 37             | 37             | 30             | 30             | 36             | 27             |
|               |              | 20                    | 25                    | 20                    | 31.5           | 31.5           | 30             | 53             | 53             | 54             | 42             | 42             | 42             | 36             | 36             | 46             | 36             |
|               |              | 20                    | 20                    | 16                    | 36.5           | 28.5           | 36.5           | 48             | 47             | 48             | 37             | 37             | 37             | 36             | 30             | 36             | 27             |
|               |              | 20                    | 16                    | 16                    | 26.5           | 28.5           | 24.5           | 48             | 47             | 43             | 37             | 37             | 33             | 36             | 30             | 30             | 27             |
| 420<br>(6091) |              | 20                    | 10                    | 20                    | 26.5           | 26.5           | 29.5           | 48             | 48             | 46             | 37             | 37             | 37             | 36             | 36             | 22             | 27             |
|               |              | 20                    | 12                    | 20                    | 26.5           | 26.5           | 29.5           | 48             | 48             | 47             | 37             | 37             | 37             | 36             | 36             | 24             | 27             |
|               |              | 25                    | 12                    | 25                    | 30             | 30             | 34.5           | 54             | 54             | 51             | 42             | 42             | 42             | 46             | 46             | 24             | 36             |
|               |              | 25                    | 16                    | 25                    | 30             | 30             | 33.5           | 54             | 54             | 52             | 42             | 42             | 42             | 46             | 46             | 30             | 36             |
|               |              | 25                    | 20                    | 25                    | 30             | 30             | 31.5           | 54             | 54             | 53             | 42             | 42             | 42             | 46             | 46             | 36             | 36             |
|               |              | 30                    | 20                    | 30                    | 35.5           | 35.5           | 38.5           | 62             | 62             | 60             | 49             | 49             | 49             | 50             | 50             | 36             | 41             |
|               |              | 30                    | 25                    | 30                    | 35.5           | 35.5           | 37             | 62             | 62             | 61             | 49             | 49             | 49             | 50             | 50             | 46             | 41             |
|               |              | 30                    | 30                    | 20                    | 35.5           | 33             | 35.5           | 62             | 60             | 62             | 49             | 49             | 49             | 50             | 36             | 50             | 41             |
|               |              | 30                    | 30                    | 16                    | 35.5           | 40.5           | 35.5           | 62             | 59             | 62             | 49             | 49             | 49             | 50             | 30             | 50             | 41             |
|               |              | 30                    | 38                    | 30                    | 43.5           | 43.5           | 41             | 70             | 70             | 72             | 57             | 57             | 57             | 50             | 50             | 60             | 50             |
| 400<br>(5801) |              | 20                    | 16                    | 20                    | 26.5           | 26.5           | 28.5           | 48             | 48             | 47             | 37             | 37             | 37             | 36             | 36             | 30             | 27             |
|               |              | 25                    | 38                    | 25                    | 41             | 45             | 41             | 69             | 69             | 72             | 57             | 57             | 57             | 46             | 46             | 60             | 50             |
|               |              | 38                    | 20                    | 38                    | 41             | 41             | 46.5           | 72             | 72             | 68             | 57             | 57             | 57             | 60             | 46             | 46             | 50             |
|               |              | 38                    | 25                    | 25                    | 41             | 45             | 45             | 72             | 69             | 69             | 57             | 57             | 57             | 60             | 46             | 46             | 50             |
|               |              | 38                    | 25                    | 38                    | 41             | 41             | 41             | 72             | 72             | 65             | 57             | 57             | 53             | 60             | 60             | 46             | 50             |
|               |              | 38                    | 38                    | 25                    | 41             | 45             | 41             | 72             | 69             | 72             | 57             | 57             | 57             | 60             | 46             | 60             | 50             |

L<sub>1</sub>, L<sub>2</sub> and L<sub>3</sub> = approximate dimensions if the union nuts are tightened

TS 1 / 2 / 3



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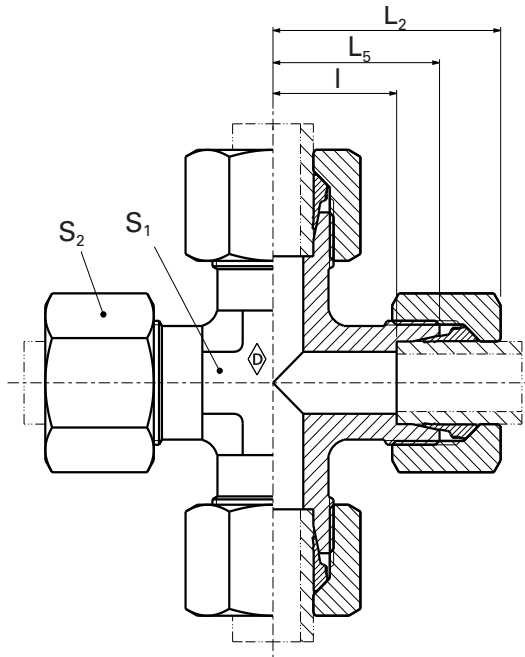
Stud  
TS ... / ... / ...

| Series        | PN bar (psi)  | Tube outer diameter 1 | Tube outer diameter 2 | Tube outer diameter 3 | Model         | Art. no.  |
|---------------|---------------|-----------------------|-----------------------|-----------------------|---------------|-----------|
| S             | 630<br>(9137) | 12                    | 16                    | 12                    | TS 12/16/12 S | WAL066485 |
|               |               | 16                    | 10                    | 16                    | TS 16/10/16 S | WAL025263 |
|               |               | 16                    | 12                    | 16                    | TS 16/12/16 S | WAL067362 |
|               |               | 16                    | 12                    | 12                    | TS 16/12/12 S | WAL612794 |
|               |               | 16                    | 6                     | 16                    | TS 16/6/16 S  | WAL615645 |
|               |               | 16                    | 25                    | 16                    | TS 16/25/16 S | WAL613187 |
|               |               | 16                    | 20                    | 16                    | TS 16/20/16 S | WAL611432 |
|               |               | 20                    | 25                    | 20                    | TS 20/25/20 S | WAL612080 |
|               |               | 20                    | 20                    | 16                    | TS 20/20/16 S | WAL612792 |
|               |               | 20                    | 16                    | 16                    | TS 20/16/16 S | WAL612793 |
|               | 420<br>(6091) | 20                    | 10                    | 20                    | TS 20/10/20 S | WAL024178 |
|               |               | 20                    | 12                    | 20                    | TS 20/12/20 S | WAL617083 |
|               |               | 25                    | 12                    | 25                    | TS 25/12/25 S | WAL025200 |
|               |               | 25                    | 16                    | 25                    | TS 25/16/25 S | WAL615644 |
|               |               | 25                    | 20                    | 25                    | TS 25/20/25 S | WAL060872 |
|               |               | 30                    | 20                    | 30                    | TS 30/20/30 S | WAL615640 |
|               |               | 30                    | 25                    | 30                    | TS 30/25/30 S | WAL624322 |
|               |               | 30                    | 30                    | 20                    | TS 30/30/20 S | WAL624323 |
|               |               | 30                    | 30                    | 16                    | TS 30/30/16 S | WAL624743 |
|               |               | 30                    | 38                    | 30                    | TS 30/38/30 S | WAL060874 |
| 400<br>(5801) | 20            | 16                    | 20                    | TS 20/16/20 S         | WAL615641     |           |
|               | 25            | 38                    | 25                    | TS 25/38/25 S         | WAL615638     |           |
|               | 38            | 20                    | 38                    | TS 38/20/38 S         | WAL615639     |           |
|               | 38            | 25                    | 25                    | TS 38/25/25 S         | WAL615637     |           |
|               | 38            | 25                    | 38                    | TS 38/25/38 S         | WAL615642     |           |
|               | 38            | 38                    | 25                    | TS 38/38/25 S         | WAL618539     |           |

Special parts are available on request.

**P-KV ...**

**P-KV ... -1.4571**



E

| Series     | PN bar (psi) | Tube outer diameter | Model            | kg/100 pc. | L <sub>2</sub> | L <sub>5</sub> | I <sub>1</sub> | S <sub>1</sub> | S <sub>2</sub>   | Walpro P-KV ...<br>Art. no. | Walpro stainless steel P-KV ...-1.4571*<br>Art. no. |
|------------|--------------|---------------------|------------------|------------|----------------|----------------|----------------|----------------|------------------|-----------------------------|---|
| LL         | 100 (1450)   | 4                   | <b>S-KV 4 LL</b> | 3.0        | 21             | 15             | 11             | 9              | 10               | <b>WAL038624</b>            | <b>WAL623076</b>                                    |
|            |              | 6                   | <b>S-KV 6 LL</b> | 4.0        | 21             | 15             | 9.5            | 9              | 12               | <b>WAL038626</b>            | <b>WAL623078</b>                                    |
|            |              | 8                   | <b>S-KV 8 LL</b> | 6.0        | 23             | 17             | 11.5           | 12             | 14               | <b>WAL038627</b>            | <b>WAL623080</b>                                    |
| L          | 500 (7252)   | 6                   | <b>P-KV 6 L</b>  | 7.7        | 27             | 19             | 12             | 12             | 14               | <b>WAL373431</b>            | <b>WAL620368</b>                                    |
|            |              | 8                   | <b>P-KV 8 L</b>  | 10.9       | 29             | 21             | 14             | 12             | 17               | <b>WAL373432</b>            | <b>WAL621030</b>                                    |
|            |              | 10                  | <b>P-KV 10 L</b> | 15.5       | 30             | 22             | 15             | 14             | 19               | <b>WAL373433</b>            | <b>WAL620446</b>                                    |
|            | 400 (5801)   | 12                  | <b>P-KV 12 L</b> | 19.2       | 32             | 24             | 17             | 17             | 22               | <b>WAL373434</b>            | <b>WAL620442</b>                                    |
|            |              | 15                  | <b>P-KV 15 L</b> | 31.1       | 36             | 28             | 21             | 19             | 27               | <b>WAL373435</b>            | <b>WAL620355</b>                                    |
|            |              | 18                  | <b>P-KV 18 L</b> | 48.3       | 40             | 31             | 23.5           | 24             | 32               | <b>WAL373436</b>            | <b>WAL620670</b>                                    |
| 250 (5801) | 22           | <b>P-KV 22 L</b>    | 72.4             | 44         | 35             | 27.5           | 27             | 36             | <b>WAL373437</b> | <b>WAL620529</b>            |   |
|            | 28           | <b>P-KV 28 L</b>    | 101.1            | 47         | 38             | 30.5           | 36             | 41             | <b>WAL373438</b> | <b>WAL621031</b>            |   |
|            | 35           | <b>P-KV 35 L</b>    | 122.8            | 56         | 45             | 34.5           | 41             | 50             | <b>WAL373439</b> | <b>WAL621032</b>            |   |
| S          | 800 (11603)  | 42                  | <b>P-KV 42 L</b> | 175.6      | 63             | 51             | 40             | 50             | 60               | <b>WAL373440</b>            | <b>WAL620671</b>                                    |
|            |              | 6                   | <b>P-KV 6 S</b>  | 12.3       | 31             | 23             | 16             | 12             | 17               | <b>WAL373441</b>            | <b>WAL621033</b>                                    |
|            |              | 8                   | <b>P-KV 8 S</b>  | 14.8       | 32             | 24             | 17             | 14             | 19               | <b>WAL373442</b>            | <b>WAL620649</b>                                    |
|            | 630 (9137)   | 10                  | <b>P-KV 10 S</b> | 23.0       | 34             | 25             | 17.5           | 17             | 22               | <b>WAL373443</b>            | <b>WAL620498</b>                                    |
|            |              | 12                  | <b>P-KV 12 S</b> | 28.2       | 38             | 29             | 21.5           | 17             | 24               | <b>WAL373444</b>            | <b>WAL620522</b>                                    |
|            |              | 14                  | <b>P-KV 14 S</b> | 35.4       | 40             | 30             | 22             | 19             | 27               | <b>WAL373445</b>            | <b>WAL621534</b>                                    |
|            | 420 (6091)   | 16                  | <b>P-KV 16 S</b> | 45.1       | 43             | 33             | 24.5           | 24             | 30               | <b>WAL373446</b>            | <b>WAL621034</b>                                    |
|            |              | 20                  | <b>P-KV 20 S</b> | 70.4       | 48             | 37             | 26.5           | 27             | 36               | <b>WAL373447</b>            | <b>WAL620906</b>                                    |
|            |              | 25                  | <b>P-KV 25 S</b> | 125.7      | 54             | 42             | 30             | 36             | 46               | <b>WAL373448</b>            | <b>WAL620515</b>                                    |
|            | 400 (5801)   | 30                  | <b>P-KV 30 S</b> | 150.3      | 62             | 49             | 35.5           | 41             | 50               | <b>WAL373449</b>            | <b>WAL621035</b>                                    |
| 38         |              | <b>P-KV 38 S</b>    | 205.1            | 72         | 57             | 41             | 50             | 60             | <b>WAL373450</b> | <b>WAL621036</b>            |   |

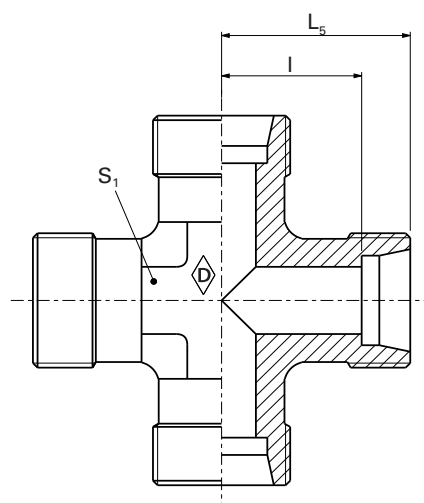
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

**KS ...**

**KS ... -1.4571**



**E**

|            |                 |                           |         |                |           | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |   |                       |                        |  |
|------------|-----------------|---------------------------|---------|----------------|-----------|--|---|-----------------------|------------------------|--|
|            |                 |                           |         |                |           | Stud<br>KS ...   | Stud<br>Stainless steel<br>KS ...<br>-1.4571* | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless steel<br>WF-M ... VI-1.4571* |
| Series     | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model   | kg/<br>100 pc. | Art. no.  | Art. no.   | Art. no.                                      | Art. no.              | Art. no.               |  |
| LL         | 100<br>(1450)   | 4                         | KS 4 LL | 1.5            | WAL037911 | WAL623077  |   |                       |                        |  |
|            |                 | 6                         | KS 6 LL | 1.5            | WAL037913 | WAL623079  |   |                       |                        |  |
|            |                 | 8                         | KS 8 LL | 2.6            | WAL037914 | WAL623081  |   |                       |                        |  |
| L          | 500<br>(7252)   | 6                         | KS 6 L  | 3.5            | WAL037915 | WAL372737  | WAL624607                                     | WAL625940             | WAL625980              |  |
|            |                 | 8                         | KS 8 L  | 4.1            | WAL037916 | WAL372105  | WAL624608                                     | WAL625941             | WAL625981              |  |
|            |                 | 10                        | KS 10 L | 4.6            | WAL037917 | WAL370719  | WAL624609                                     | WAL625942             | WAL625982              |  |
|            | 400<br>(5801)   | 12                        | KS 12 L | 7.3            | WAL037918 | WAL604343  | WAL624610                                     | WAL625943             | WAL625983              |  |
|            |                 | 15                        | KS 15 L | 12.5           | WAL037919 | WAL372319  | WAL624611                                     | WAL625944             | WAL625984              |  |
|            |                 | 18                        | KS 18 L | 18.2           | WAL037920 | WAL374733  | WAL624612                                     | WAL625945             | WAL625985              |  |
|            | 250<br>(5801)   | 22                        | KS 22 L | 23.5           | WAL037921 | WAL371815  | WAL624613                                     | WAL625946             | WAL625986              |  |
|            |                 | 28                        | KS 28 L | 64.0           | WAL037922 | WAL617474  | WAL624614                                     | WAL625947             | WAL625987              |  |
| 35         |                 | KS 35 L                   | 64.0    | WAL037923      | WAL617475 | WAL624615  | WAL625948                                     | WAL625988             |                        |  |
| 42         |                 | KS 42 L                   | 83.2    | WAL037924      | WAL605168 | WAL624616  | WAL625949                                     | WAL625989             |                        |  |
| S          | 800<br>(11603)  | 6                         | KS 6 S  | 6.1            | WAL037925 | WAL617476  | WAL624617                                     | WAL625950             | WAL625990              |  |
|            |                 | 8                         | KS 8 S  | 8.1            | WAL037926 | WAL617477  | WAL624618                                     | WAL625951             | WAL625991              |  |
|            |                 | 10                        | KS 10 S | 10.4           | WAL037927 | WAL604780  | WAL624619                                     | WAL625952             | WAL625992              |  |
|            | 630<br>(9137)   | 12                        | KS 12 S | 13.7           | WAL037928 | WAL604969  | WAL624620                                     | WAL625953             | WAL625993              |  |
|            |                 | 14                        | KS 14 S | 16.5           | WAL037929 | WAL617478  |   |                       |                        |  |
|            | 420<br>(6091)   | 16                        | KS 16 S | 22.4           | WAL037930 | WAL371676  | WAL624621                                     | WAL625954             | WAL625994              |  |
|            |                 | 20                        | KS 20 S | 29.0           | WAL037931 | WAL617479  | WAL624622                                     | WAL625955             | WAL625995              |  |
| 25         |                 | KS 25 S                   | 43.5    | WAL037932      | WAL604892 | WAL624623  | WAL625956                                     | WAL625996             |                        |  |
| 400 (5801) | 30              | KS 30 S                   | 58.5    | WAL037933      | WAL371178 | WAL624624  | WAL625957                                     | WAL625997             |                        |  |
|            | 38              | KS 38 S                   | 73.5    | WAL037934      | WAL604807 | WAL624625  | WAL625958                                     | WAL625998             |                        |  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

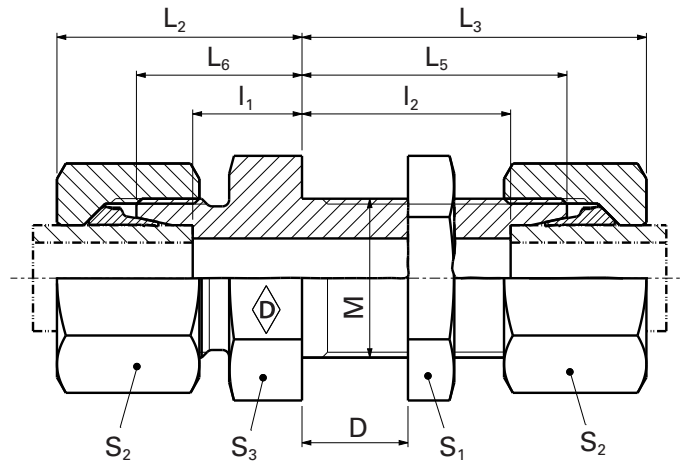
Special parts are available on request.

## Straight bulkhead fittings

**P-GSV ...**

**P-GSV ... -1.4571**

E



| Series | PN bar (psi) | Tube outer diameter | Model                      | M                          | D min.   | D max. | kg/100 pc. | L <sub>6</sub> | L <sub>5</sub> | L <sub>3</sub> | L <sub>2</sub> | L <sub>1</sub> | L <sub>2</sub> | *S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Art. no.  | Art. no.  |
|--------|--------------|---------------------|----------------------------|----------------------------|----------|--------|------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|-----------|-----------|
| L      | 500 (7252)   | 6                   | <b>P-GSV 6 L m. 6kt M</b>  | M 12 x 1.5                 | 4        | 16     | 6.7        | 14             | 34             | 42             | 22             | 7              | 27             | 17              | 14             | 17             | WAL373451 | WAL620175 |
|        |              | 8                   | <b>P-GSV 8 L m. 6kt M</b>  | M 14 x 1.5                 | 4        | 16     | 8.4        | 15             | 34             | 42             | 23             | 8              | 27             | 19              | 17             | 19             | WAL373452 | WAL620154 |
|        |              | 10                  | <b>P-GSV 10 L m. 6kt M</b> | M 16 x 1.5                 | 4        | 16     | 11.0       | 17             | 35             | 43             | 25             | 10             | 28             | 22              | 19             | 22             | WAL373453 | WAL620143 |
|        |              | 12                  | <b>P-GSV 12 L m. 6kt M</b> | M 18 x 1.5                 | 4        | 16     | 13.3       | 17             | 36             | 44             | 25             | 10             | 29             | 24              | 22             | 24             | WAL373454 | WAL620137 |
|        | 400 (5801)   | 15                  | <b>P-GSV 15 L m. 6kt M</b> | M 22 x 1.5                 | 4        | 16     | 22.8       | 19             | 38             | 45             | 27             | 12             | 31             | 30              | 27             | 27             | WAL373455 | WAL620217 |
|        |              | 18                  | <b>P-GSV 18 L m. 6kt M</b> | M 26 x 1.5                 | 4        | 16     | 33.2       | 21             | 40             | 49             | 30             | 13.5           | 32.5           | 36              | 32             | 32             | WAL373456 | WAL620194 |
|        | 250 (3626)   | 22                  | <b>P-GSV 22 L m. 6kt M</b> | M 30 x 2                   | 5        | 16     | 41.5       | 24             | 42             | 51             | 33             | 16.5           | 34.5           | 41              | 36             | 36             | WAL373457 | WAL620195 |
|        |              | 28                  | <b>P-GSV 28 L m. 6kt M</b> | M 36 x 2                   | 5        | 16     | 52.5       | 26             | 43             | 52             | 35             | 18.5           | 35.5           | 46              | 41             | 41             | WAL373458 | WAL620192 |
|        |              | 35                  | <b>P-GSV 35 L m. 6kt M</b> | M 45 x 2                   | 5        | 16     | 80.0       | 29             | 47             | 58             | 40             | 18.5           | 36.5           | 55              | 50             | 50             | WAL373459 | WAL620513 |
|        |              | 42                  | <b>P-GSV 42 L m. 6kt M</b> | M 52 x 2                   | 5        | 16     | 119.3      | 30             | 47             | 59             | 42             | 19             | 36             | 65              | 60             | 60             | WAL373460 | WAL620267 |
| S      | 800 (11603)  | 6                   | <b>P-GSV 6 S m. 6kt M</b>  | M 14 x 1.5                 | 4        | 16     | 9.6        | 19             | 36             | 44             | 27             | 12             | 29             | 19              | 17             | 19             | WAL373461 | WAL620135 |
|        |              | 8                   | <b>P-GSV 8 S m. 6kt M</b>  | M 16 x 1.5                 | 4        | 16     | 12.4       | 20             | 36             | 44             | 28             | 13             | 29             | 22              | 19             | 22             | WAL373462 | WAL620273 |
|        |              | 10                  | <b>P-GSV 10 S m. 6kt M</b> | M 18 x 1.5                 | 4        | 16     | 18.1       | 22             | 37             | 46             | 31             | 14.5           | 29.5           | 24              | 22             | 24             | WAL373463 | WAL620206 |
|        | 630 (9137)   | 12                  | <b>P-GSV 12 S m. 6kt M</b> | M 20 x 1.5                 | 4        | 16     | 21.0       | 22             | 38             | 47             | 31             | 14.5           | 30.5           | 27              | 24             | 27             | WAL373464 | WAL620136 |
|        |              | 14                  | <b>P-GSV 14 S m. 6kt M</b> | M 22 x 1.5                 | 4        | 16     | 29.0       | 25             | 40             | 50             | 35             | 17             | 32             | 30              | 27             | 30             | WAL373465 | WAL620466 |
|        | 400 (5801)   | 16                  | <b>P-GSV 16 S m. 6kt M</b> | M 24 x 1.5                 | 4        | 16     | 31.0       | 25             | 40             | 50             | 35             | 16.5           | 31.5           | 32              | 30             | 32             | WAL373466 | WAL620162 |
|        |              | 20                  | <b>P-GSV 20 S m. 6kt M</b> | M 30 x 2                   | 5        | 16     | 54.5       | 28             | 44             | 55             | 39             | 17.5           | 33.5           | 41              | 36             | 41             | WAL373467 | WAL620234 |
|        |              | 25                  | <b>P-GSV 25 S m. 6kt M</b> | M 36 x 2                   | 5        | 16     | 89.0       | 32             | 47             | 59             | 44             | 20             | 35             | 46              | 46             | 46             | WAL373468 | WAL620193 |
|        |              | 30                  | <b>P-GSV 30 S m. 6kt M</b> | M 42 x 2                   | 5        | 16     | 107.7      | 35             | 51             | 64             | 48             | 21.5           | 37.5           | 50              | 50             | 50             | WAL373469 | WAL620259 |
|        |              |                     | 38                         | <b>P-GSV 38 S m. 6kt M</b> | M 52 x 2 | 5      | 16         | 173.0          | 38             | 53             | 68             | 53             | 22             | 37              | 65             | 60             | 65        | WAL373470 |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

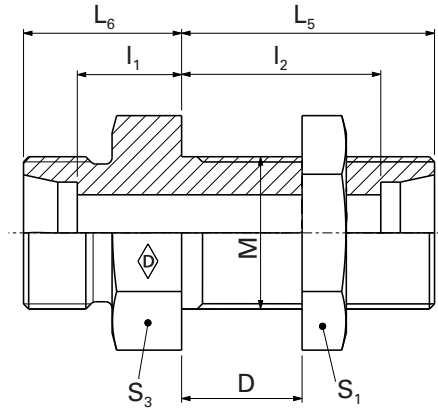
\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened



GSS ...

GSS ... -1.4571



E

System nuts for supplementing the stud  
(for technical data, see part D of this catalog)

| Series | PN bar (psi) | Tube outer diameter | Model             | M          | D min. | D max. | kg/100 pc. | Stud GSS ... Art. no. | Stainless steel stud GSS ... -1.4571* Art. no. | System nuts for supplementing the stud (for technical data, see part D of this catalog) |                              |  |
|--------|--------------|---------------------|-------------------|------------|--------|--------|------------|-----------------------|--|---|------------------------------|--|
|        |              |                     |                   |            |        |        |            |                       |  | Walring W-R ... VI Art. no.   | Walform WF-M ... VI Art. no. | Walform stainless steel WF-M ... VI-1.4571* Art. no. |
| L      | 500 (7252)   | 6                   | GSS 6 L m. 6kt M  | M 12 x 1.5 | 4      | 16     | 4.0        | WAL063273             | WAL606286                                      | WAL624607   | WAL625940                    | WAL625980  |
|        |              | 8                   | GSS 8 L m. 6kt M  | M 14 x 1.5 | 4      | 16     | 5.0        | WAL024147             | WAL606287                                      | WAL624608   | WAL625941                    | WAL625981  |
|        |              | 10                  | GSS 10 L m. 6kt M | M 16 x 1.5 | 4      | 16     | 6.5        | WAL061656             | WAL606288                                      | WAL624609   | WAL625942                    | WAL625982  |
|        | 400 (5801)   | 12                  | GSS 12 L m. 6kt M | M 18 x 1.5 | 4      | 16     | 7.5        | WAL061657             | WAL602786                                      | WAL624610   | WAL625943                    | WAL625983  |
|        |              | 15                  | GSS 15 L m. 6kt M | M 22 x 1.5 | 4      | 16     | 13.0       | WAL061995             | WAL617480                                      | WAL624611   | WAL625944                    | WAL625984  |
|        | 250 (3626)   | 18                  | GSS 18 L m. 6kt M | M 26 x 1.5 | 4      | 16     | 19.5       | WAL061658             | WAL605445                                      | WAL624612   | WAL625945                    | WAL625985  |
|        |              | 22                  | GSS 22 L m. 6kt M | M 30 x 2   | 5      | 16     | 25.5       | WAL063759             | WAL612436                                      | WAL624613   | WAL625946                    | WAL625986  |
|        |              | 28                  | GSS 28 L m. 6kt M | M 36 x 2   | 5      | 16     | 34.0       | WAL063760             | WAL617481                                      | WAL624614   | WAL625947                    | WAL625987  |
|        |              | 35                  | GSS 35 L m. 6kt M | M 45 x 2   | 5      | 16     | 49.4       | WAL063761             | WAL617482                                      | WAL624615   | WAL625948                    | WAL625988  |
|        |              | 42                  | GSS 42 L m. 6kt M | M 52 x 2   | 5      | 16     | 71.6       | WAL063762             | WAL617483                                      | WAL624616   | WAL625949                    | WAL625989  |
| S      | 800 (11603)  | 6                   | GSS 6 S m. 6kt M  | M 14 x 1.5 | 4      | 16     | 6.2        | WAL063763             | WAL603960                                      | WAL624617   | WAL625950                    | WAL625990  |
|        |              | 8                   | GSS 8 S m. 6kt M  | M 16 x 1.5 | 4      | 16     | 9.0        | WAL063764             | WAL604963                                      | WAL624618   | WAL625951                    | WAL625991  |
|        |              | 10                  | GSS 10 S m. 6kt M | M 18 x 1.5 | 4      | 16     | 11.3       | WAL063765             | WAL617063                                      | WAL624619   | WAL625952                    | WAL625992  |
|        | 630 (9137)   | 12                  | GSS 12 S m. 6kt M | M 20 x 1.5 | 4      | 16     | 14.0       | WAL063766             | WAL604599                                      | WAL624620   | WAL625953                    | WAL625993  |
|        |              | 14                  | GSS 14 S m. 6kt M | M 22 x 1.5 | 4      | 16     | 18.0       | WAL063767             | WAL617484                                      |   |                              |  |
|        | 400 (5801)   | 16                  | GSS 16 S m. 6kt M | M 24 x 1.5 | 4      | 16     | 17.5       | WAL063768             | WAL372243                                      | WAL624621   | WAL625954                    | WAL625994  |
|        |              | 20                  | GSS 20 S m. 6kt M | M 30 x 2   | 5      | 16     | 33.2       | WAL063769             | WAL370731                                      | WAL624622   | WAL625955                    | WAL625995  |
|        |              | 25                  | GSS 25 S m. 6kt M | M 36 x 2   | 5      | 16     | 49.5       | WAL063770             | WAL372244                                      | WAL624623   | WAL625956                    | WAL625996  |
|        | 30           | GSS 30 S m. 6kt M   | M 42 x 2          | 5          | 16     | 66.4   | WAL063771  | WAL617485             | WAL624624                                      | WAL625957   | WAL625997                    |  |
|        | 38           | GSS 38 S m. 6kt M   | M 52 x 2          | 5          | 16     | 105.9  | WAL063772  | WAL604964             | WAL624625                                      | WAL625958   | WAL625998                    |  |

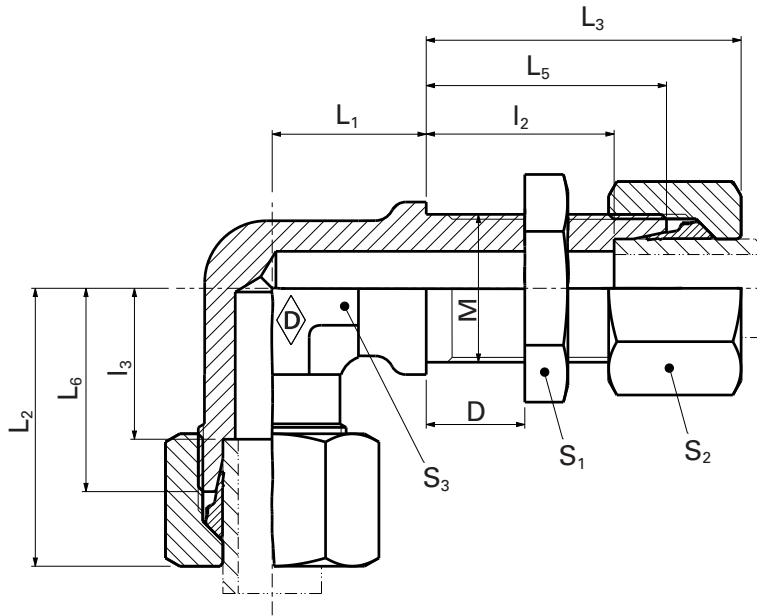
⚠ **Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

Bulkhead elbow fittings

P-WSV ...

P-WSV ... -1.4571

E



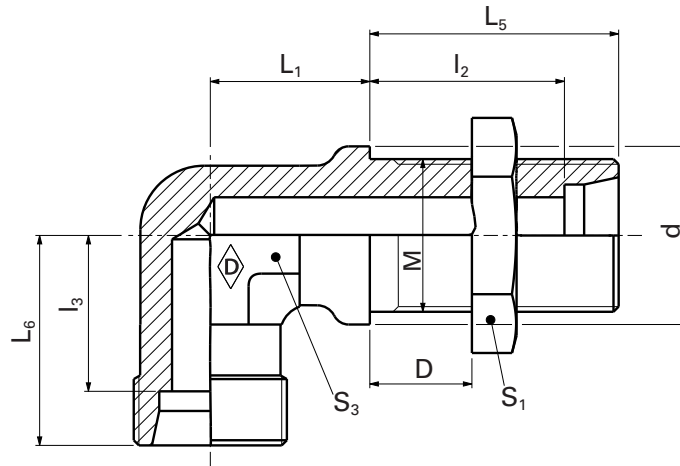
| Series | PN bar (psi) | Tube outer diameter | Model               | M                   | D min.   | D max. | kg/100 pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>5</sub> | L <sub>6</sub> | L <sub>2</sub> | L <sub>3</sub> | d  | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Art. no.  | Art. no.  | Walpro P-WSV ... | Walpro stainless steel P-WSV ... -1.4571* |
|--------|--------------|---------------------|---------------------|---------------------|----------|--------|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|----------------|----------------|----------------|-----------|-----------|------------------|---|
|        |              |                     |                     |                     |          |        |            |                |                |                |                |                |                |                |    |                |                |                |           |           |                  |   |
| L      | 500 (7252)   | 6                   | P-WSV 6 L m. 6kt M  | M 12 x 1.5          | 4        | 16     | 7.5        | 14             | 27             | 42             | 34             | 19             | 27             | 12             | 17 | 17             | 14             | 12             | WAL373471 | WAL620245 |                  |   |
|        |              | 8                   | P-WSV 8 L m. 6kt M  | M 14 x 1.5          | 4        | 16     | 9.9        | 17             | 29             | 42             | 34             | 21             | 27             | 14             | 19 | 19             | 17             | 12             | WAL373472 | WAL620480 |                  |   |
|        |              | 10                  | P-WSV 10 L m. 6kt M | M 16 x 1.5          | 4        | 16     | 12.0       | 18             | 30             | 43             | 35             | 22             | 28             | 15             | 22 | 22             | 19             | 14             | WAL373473 | WAL620502 |                  |   |
|        |              | 12                  | P-WSV 12 L m. 6kt M | M 18 x 1.5          | 4        | 16     | 15.0       | 20             | 32             | 44             | 36             | 24             | 29             | 17             | 24 | 24             | 22             | 17             | WAL373474 | WAL620246 |                  |   |
|        | 400 (5801)   | 15                  | P-WSV 15 L m. 6kt M | M 22 x 1.5          | 4        | 16     | 25.0       | 23             | 36             | 46             | 38             | 28             | 31             | 21             | 27 | 30             | 27             | 19             | WAL373475 | WAL620338 |                  |   |
|        |              | 18                  | P-WSV 18 L m. 6kt M | M 26 x 1.5          | 4        | 16     | 35.5       | 24             | 40             | 49             | 40             | 31             | 32.5           | 23.5           | 32 | 36             | 32             | 24             | WAL373476 | WAL620500 |                  |   |
|        |              | 22                  | P-WSV 22 L m. 6kt M | M 30 x 2            | 5        | 16     | 46.5       | 30             | 44             | 51             | 42             | 35             | 34.5           | 27.5           | 36 | 41             | 36             | 27             | WAL373477 | WAL620520 |                  |   |
|        | 250 (3626)   | 28                  | P-WSV 28 L m. 6kt M | M 36 x 2            | 5        | 16     | 64.0       | 34             | 47             | 52             | 43             | 38             | 35.5           | 30.5           | 42 | 46             | 41             | 36             | WAL373478 | WAL620552 |                  |   |
|        |              | 35                  | P-WSV 35 L m. 6kt M | M 45 x 2            | 5        | 16     | 99.4       | 39             | 56             | 58             | 47             | 45             | 36.5           | 34.5           | 50 | 55             | 50             | 41             | WAL373479 | WAL620672 |                  |   |
|        |              |                     | 42                  | P-WSV 42 L m. 6kt M | M 52 x 2 | 5      | 16         | 149.0          | 43             | 63             | 59             | 47             | 51             | 36             | 40 | 60             | 65             | 60             | 50        | WAL373480 | WAL620673        |   |
| S      | 800 (11603)  | 6                   | P-WSV 6 S m. 6kt M  | M 14 x 1.5          | 4        | 16     | 10.5       | 17             | 31             | 44             | 36             | 23             | 29             | 16             | 19 | 19             | 17             | 12             | WAL373481 | WAL620540 |                  |   |
|        |              | 8                   | P-WSV 8 S m. 6kt M  | M 16 x 1.5          | 4        | 16     | 14.0       | 18             | 32             | 44             | 36             | 24             | 29             | 17             | 22 | 22             | 19             | 14             | WAL373482 | WAL620541 |                  |   |
|        |              | 10                  | P-WSV 10 S m. 6kt M | M 18 x 1.5          | 4        | 16     | 19.0       | 20             | 34             | 46             | 37             | 25             | 29.5           | 17.5           | 24 | 24             | 22             | 17             | WAL373483 | WAL620463 |                  |   |
|        |              | 12                  | P-WSV 12 S m. 6kt M | M 20 x 1.5          | 4        | 16     | 22.5       | 21             | 38             | 47             | 38             | 29             | 30.5           | 21.5           | 27 | 27             | 24             | 17             | WAL373484 | WAL620334 |                  |   |
|        | 630 (9137)   | 14                  | P-WSV 14 S m. 6kt M | M 22 x 1.5          | 4        | 16     | 30.0       | 23             | 40             | 50             | 40             | 30             | 32             | 22             | 27 | 30             | 27             | 19             | WAL373485 | WAL620674 |                  |   |
|        |              | 16                  | P-WSV 16 S m. 6kt M | M 24 x 1.5          | 4        | 16     | 36.5       | 24             | 43             | 50             | 40             | 33             | 31.5           | 24.5           | 30 | 32             | 30             | 24             | WAL373486 | WAL620264 |                  |   |
|        |              | 20                  | P-WSV 20 S m. 6kt M | M 30 x 2            | 5        | 16     | 58.0       | 30             | 48             | 55             | 44             | 37             | 33.5           | 26.5           | 36 | 41             | 36             | 27             | WAL373487 | WAL620223 |                  |   |
|        | 400 (5801)   | 25                  | P-WSV 25 S m. 6kt M | M 36 x 2            | 5        | 16     | 100.0      | 34             | 54             | 59             | 47             | 42             | 35             | 30             | 42 | 46             | 46             | 36             | WAL373488 | WAL620247 |                  |   |
|        |              | 30                  | P-WSV 30 S m. 6kt M | M 42 x 2            | 5        | 16     | 130.0      | 39             | 62             | 64             | 51             | 49             | 37.5           | 35.5           | 50 | 50             | 50             | 41             | WAL373489 | WAL620675 |                  |   |
|        |              |                     | 38                  | P-WSV 38 S m. 6kt M | M 52 x 2 | 5      | 16         | 197.0          | 43             | 72             | 68             | 53             | 57             | 37             | 41 | 60             | 65             | 60             | 50        | WAL373490 | WAL620391        |   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

**WSS ...**  
**WSS ... -1.4571**



E

System nuts for supplementing the stud  
 (for technical data, see part D of this catalog)

| Series     | PN bar (psi) | Tube outer diameter | Model             | M                 | D min.   | D max. | kg/100 pc. | Stud WSS ... | Stainless steel stud WSS ... -1.4571* | Walring W-R ... VI | Walform WF-M ... VI | Walform stainless steel WF-M ... VI-1.4571* |
|------------|--------------|---------------------|-------------------|-------------------|----------|--------|------------|--------------|---------------------------------------|--------------------|---------------------|---|
|            |              |                     |                   |                   |          |        |            | Art. no.     | Art. no.                              | Art. no.           | Art. no.            | Art. no.                                    |
| L          | 500 (7252)   | 6                   | WSS 6 L m. 6kt M  | M 12 x 1.5        | 4        | 16     | 5.0        | WAL063274    | WAL617488                             | WAL624607          | WAL625940           | WAL625980                                   |
|            |              | 8                   | WSS 8 L m. 6kt M  | M 14 x 1.5        | 4        | 16     | 6.5        | WAL024146    | WAL617489                             | WAL624608          | WAL625941           | WAL625981                                   |
|            |              | 10                  | WSS 10 L m. 6kt M | M 16 x 1.5        | 4        | 16     | 8.0        | WAL024127    | WAL608422                             | WAL624609          | WAL625942           | WAL625982                                   |
|            | 400 (5801)   | 12                  | WSS 12 L m. 6kt M | M 18 x 1.5        | 4        | 16     | 10.0       | WAL063773    | WAL615355                             | WAL624610          | WAL625943           | WAL625983                                   |
|            |              | 15                  | WSS 15 L m. 6kt M | M 22 x 1.5        | 4        | 16     | 17.0       | WAL063275    | WAL617490                             | WAL624611          | WAL625944           | WAL625984                                   |
|            |              | 18                  | WSS 18 L m. 6kt M | M 26 x 1.5        | 4        | 16     | 24.0       | WAL063774    | WAL617491                             | WAL624612          | WAL625945           | WAL625985                                   |
|            |              | 22                  | WSS 22 L m. 6kt M | M 30 x 2          | 5        | 16     | 64.2       | WAL063775    | WAL612437                             | WAL624613          | WAL625946           | WAL625986                                   |
|            | 250 (3626)   | 28                  | WSS 28 L m. 6kt M | M 36 x 2          | 5        | 16     | 44.5       | WAL063776    | WAL615221                             | WAL624614          | WAL625947           | WAL625987                                   |
|            |              | 35                  | WSS 35 L m. 6kt M | M 45 x 2          | 5        | 16     | 68.8       | WAL063777    | WAL617492                             | WAL624615          | WAL625948           | WAL625988                                   |
|            | S            | 800 (11603)         | 42                | WSS 42 L m. 6kt M | M 52 x 2 | 5      | 16         | 196.7        | WAL063778                             | WAL617493          | WAL624616           | WAL625949                                   |
| 6          |              |                     | WSS 6 S m. 6kt M  | M 14 x 1.5        | 4        | 16     | 7.5        | WAL063779    | WAL617494                             | WAL624617          | WAL625950           | WAL625990                                   |
| 8          |              |                     | WSS 8 S m. 6kt M  | M 16 x 1.5        | 4        | 16     | 10.0       | WAL063780    | WAL617495                             | WAL624618          | WAL625951           | WAL625991                                   |
| 10         |              |                     | WSS 10 S m. 6kt M | M 18 x 1.5        | 4        | 16     | 12.2       | WAL063781    | WAL617496                             | WAL624619          | WAL625952           | WAL625992                                   |
| 12         |              |                     | WSS 12 S m. 6kt M | M 20 x 1.5        | 4        | 16     | 16.0       | WAL063782    | WAL617497                             | WAL624620          | WAL625953           | WAL625993                                   |
| 14         |              |                     | WSS 14 S m. 6kt M | M 22 x 1.5        | 4        | 16     | 20.0       | WAL063783    | WAL617498                             |                    |                     |   |
| 630 (9137) |              | 16                  | WSS 16 S m. 6kt M | M 24 x 1.5        | 4        | 16     | 23.0       | WAL063784    | WAL601079                             | WAL624621          | WAL625954           | WAL625994                                   |
|            |              | 20                  | WSS 20 S m. 6kt M | M 30 x 2          | 5        | 16     | 38.5       | WAL063785    | WAL612438                             | WAL624622          | WAL625955           | WAL625995                                   |
|            |              | 25                  | WSS 25 S m. 6kt M | M 36 x 2          | 5        | 16     | 62.0       | WAL063786    | WAL615212                             | WAL624623          | WAL625956           | WAL625996                                   |
|            |              | 30                  | WSS 30 S m. 6kt M | M 42 x 2          | 5        | 16     | 88.5       | WAL063244    | WAL615651                             | WAL624624          | WAL625957           | WAL625997                                   |
| 400 (5801) | 38           | WSS 38 S m. 6kt M   | M 52 x 2          | 5                 | 16       | 129.9  | WAL063787  | WAL617499    | WAL624625                             | WAL625958          | WAL625998           |   |

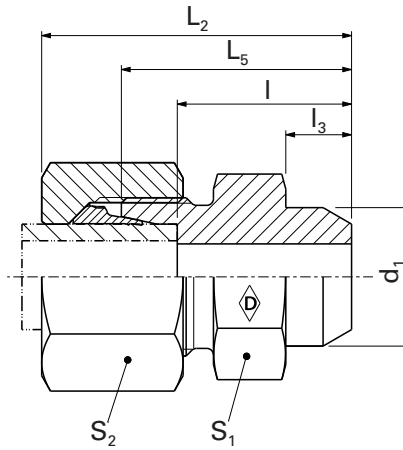
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

Special parts are available on request.

**P-ASV ...**

**P-ASV ... -1.4571**

E

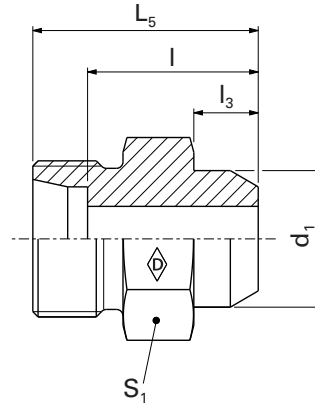


| Series | PN bar (psi) | Tube outer diameter | Model             | kg/100 pc. | $L_2$ | $L_5$ | $I$  | $I_3$ | $d_1$ | $S_1$ | $S_2$ | Walpro           | Walpro stainless steel |          |
|--------|--------------|---------------------|-------------------|------------|-------|-------|------|-------|-------|-------|-------|------------------|------------------------|----------|
|        |              |                     |                   |            |       |       |      |       |       |       |       | P-ASV ...        | P-ASV ...-1.4571*      |          |
|        |              |                     |                   |            |       |       |      |       |       |       |       |                  | Art. no.               | Art. no. |
| L      | 500 (7252)   | 6                   | <b>P-ASV 6 L</b>  | 2.5        | 29    | 21    | 14   | 7     | 10    | 12    | 14    | <b>WAL373491</b> | <b>WAL620204</b>       |          |
|        |              | 8                   | <b>P-ASV 8 L</b>  | 3.6        | 31    | 23    | 16   | 8     | 12    | 14    | 17    | <b>WAL373492</b> | <b>WAL620271</b>       |          |
|        |              | 10                  | <b>P-ASV 10 L</b> | 4.7        | 33    | 25    | 18   | 8     | 14    | 17    | 19    | <b>WAL373493</b> | <b>WAL620220</b>       |          |
|        | 400 (5801)   | 12                  | <b>P-ASV 12 L</b> | 6.3        | 33    | 25    | 18   | 8     | 16    | 19    | 22    | <b>WAL373494</b> | <b>WAL620221</b>       |          |
|        |              | 15                  | <b>P-ASV 15 L</b> | 8.4        | 37    | 29    | 22   | 10    | 19    | 22    | 27    | <b>WAL373495</b> | <b>WAL620222</b>       |          |
|        |              | 18                  | <b>P-ASV 18 L</b> | 13.9       | 40    | 31    | 23.5 | 10    | 22    | 27    | 32    | <b>WAL373496</b> | <b>WAL620178</b>       |          |
|        | 250 (3626)   | 22                  | <b>P-ASV 22 L</b> | 18.1       | 45    | 36    | 28.5 | 12    | 27    | 32    | 36    | <b>WAL373497</b> | <b>WAL620208</b>       |          |
|        |              | 28                  | <b>P-ASV 28 L</b> | 30.2       | 47    | 38    | 30.5 | 12    | 32    | 41    | 41    | <b>WAL373498</b> | <b>WAL620177</b>       |          |
|        |              | 35                  | <b>P-ASV 35 L</b> | 37.7       | 54    | 43    | 32.5 | 14    | 40    | 46    | 50    | <b>WAL373499</b> | <b>WAL620176</b>       |          |
|        |              | 42                  | <b>P-ASV 42 L</b> | 64.1       | 58    | 46    | 35   | 16    | 46    | 55    | 60    | <b>WAL373500</b> | <b>WAL620676</b>       |          |
| S      | 800 (11603)  | 6                   | <b>P-ASV 6 S</b>  | 3.2        | 34    | 26    | 19   | 7     | 11    | 14    | 17    | <b>WAL373501</b> | <b>WAL620677</b>       |          |
|        |              | 8                   | <b>P-ASV 8 S</b>  | 4.9        | 36    | 28    | 21   | 8     | 13    | 17    | 19    | <b>WAL373502</b> | <b>WAL620318</b>       |          |
|        |              | 10                  | <b>P-ASV 10 S</b> | 7.2        | 39    | 30    | 22.5 | 8     | 15    | 19    | 22    | <b>WAL373503</b> | <b>WAL620149</b>       |          |
|        | 630 (9137)   | 12                  | <b>P-ASV 12 S</b> | 8.3        | 41    | 32    | 24.5 | 10    | 17    | 22    | 24    | <b>WAL373504</b> | <b>WAL620231</b>       |          |
|        |              | 14                  | <b>P-ASV 14 S</b> | 10.8       | 45    | 35    | 27   | 10    | 19    | 24    | 27    | <b>WAL373505</b> | <b>WAL621459</b>       |          |
|        |              | 16                  | <b>P-ASV 16 S</b> | 14.4       | 45    | 35    | 26.5 | 10    | 21    | 27    | 30    | <b>WAL373506</b> | <b>WAL620411</b>       |          |
|        | 420 (6091)   | 20                  | <b>P-ASV 20 S</b> | 21.8       | 51    | 40    | 29.5 | 12    | 26    | 32    | 36    | <b>WAL373507</b> | <b>WAL620396</b>       |          |
|        |              | 25                  | <b>P-ASV 25 S</b> | 37.7       | 56    | 44    | 32   | 12    | 31    | 41    | 46    | <b>WAL373508</b> | <b>WAL620432</b>       |          |
|        |              | 30                  | <b>P-ASV 30 S</b> | 44.9       | 62    | 49    | 35.5 | 14    | 36    | 46    | 50    | <b>WAL373509</b> | <b>WAL620678</b>       |          |
|        |              | 38                  | <b>P-ASV 38 S</b> | 68.4       | 69    | 54    | 38   | 16    | 44    | 55    | 60    | <b>WAL373510</b> | <b>WAL620476</b>       |          |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

$L_2$  = approximate dimension if the union nut is tightened

**ASS ...**
**ASS ... -1.4571**

**E**

| Series | PN bar (psi) | Tube outer diameter | Model    | kg/100 pc. | Stud ASS ... Art. no. | System nuts for supplementing the stud (for technical data, see part D of this catalog) |                             |                              |  |
|--------|--------------|---------------------|----------|------------|-----------------------|---|-----------------------------|------------------------------|--|
|        |              |                     |          |            |                       | Stainless steel stud ASS ... -1.4571* Art. no.  | Walring W-R ... VI Art. no. | Walform WF-M ... VI Art. no. | Walform stainless steel WF-M ... VI-1.4571* Art. no. |
| L      | 500 (7252)   | 6                   | ASS 6L   | 1.1        | WAL037975             | WAL061824   | WAL624607                   | WAL625940                    | WAL625980  |
|        |              | 8                   | ASS 8 L  | 1.5        | WAL037976             | WAL066290   | WAL624608                   | WAL625941                    | WAL625981  |
|        |              | 10                  | ASS 10 L | 2.2        | WAL037977             | WAL024055   | WAL624609                   | WAL625942                    | WAL625982  |
|        | 400 (5801)   | 12                  | ASS 12 L | 2.5        | WAL037978             | WAL060719   | WAL624610                   | WAL625943                    | WAL625983  |
|        |              | 15                  | ASS 15 L | 4.3        | WAL037979             | WAL066291   | WAL624611                   | WAL625944                    | WAL625984  |
|        |              | 18                  | ASS 18 L | 6.6        | WAL037980             | WAL066292   | WAL624612                   | WAL625945                    | WAL625985  |
|        |              | 22                  | ASS 22 L | 9.8        | WAL037981             | WAL066293   | WAL624613                   | WAL625946                    | WAL625986  |
|        | 250 (3626)   | 28                  | ASS 28 L | 15.9       | WAL037982             | WAL066294   | WAL624614                   | WAL625947                    | WAL625987  |
|        |              | 35                  | ASS 35 L | 23         | WAL037983             | WAL066295   | WAL624615                   | WAL625948                    | WAL625988  |
|        |              | 42                  | ASS 42 L | 32.7       | WAL037984             | WAL066296   | WAL624616                   | WAL625949                    | WAL625989  |
| S      | 800 (11603)  | 6                   | ASS 6 S  | 2.1        | WAL037985             | WAL066297   | WAL624617                   | WAL625950                    | WAL625990  |
|        |              | 8                   | ASS 8 S  | 3.1        | WAL037986             | WAL066298   | WAL624618                   | WAL625951                    | WAL625991  |
|        |              | 10                  | ASS 10 S | 4.1        | WAL037987             | WAL061333   | WAL624619                   | WAL625952                    | WAL625992  |
|        | 630 (9137)   | 12                  | ASS 12 S | 5.6        | WAL037988             | WAL066299   | WAL624620                   | WAL625953                    | WAL625993  |
|        |              | 14                  | ASS 14 S | 7.0        | WAL037989             | WAL066300   |                             |                              |  |
|        | 420 (6091)   | 16                  | ASS 16 S | 8.3        | WAL037990             | WAL066301   | WAL624621                   | WAL625954                    | WAL625994  |
|        |              | 20                  | ASS 20 S | 12.9       | WAL037991             | WAL066302   | WAL624622                   | WAL625955                    | WAL625995  |
|        |              | 25                  | ASS 25 S | 21.9       | WAL037992             | WAL066303   | WAL624623                   | WAL625956                    | WAL625996  |
|        |              | 30                  | ASS 30 S | 29.5       | WAL037993             | WAL066304   | WAL624624                   | WAL625957                    | WAL625997  |
|        |              | 38                  | ASS 38 S | 44.7       | WAL037994             | WAL066305   | WAL624625                   | WAL625958                    | WAL625998  |

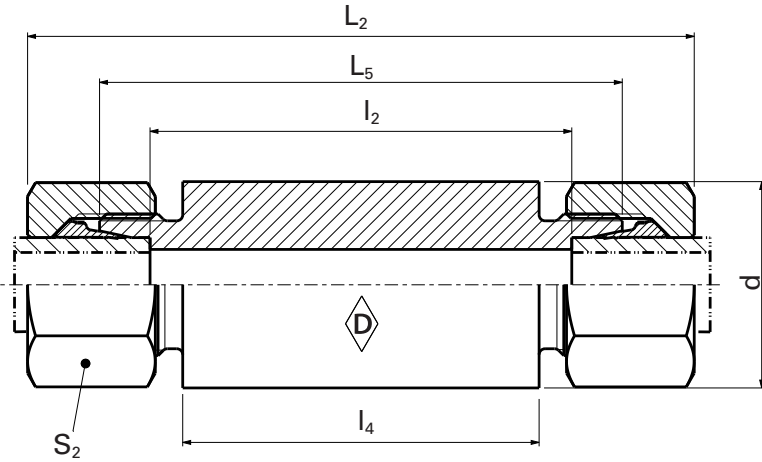
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

## Weld-in bulkhead fittings

### P-ESV ...

#### P-ESV ...-1.4571

E



| Series | PN bar (psi) | Tube outer diameter | Model      | kg/100 pc. | Walpro P-ESV ... |                |                |                |                |                | Walpro stainless steel P-ESV ...-1.4571* |           |
|--------|--------------|---------------------|------------|------------|------------------|----------------|----------------|----------------|----------------|----------------|--|-----------|
|        |              |                     |            |            | L <sub>2</sub>   | L <sub>5</sub> | l <sub>2</sub> | l <sub>4</sub> | d <sub>1</sub> | S <sub>2</sub> | Art. no.                                 | Art. no.  |
| L      | 500 (7252)   | 6                   | P-ESV 6 L  | 13.1       | 85               | 70             | 56             | 50             | 18             | 14             | WAL373511                                | WAL620144 |
|        |              | 8                   | P-ESV 8 L  | 16.2       | 85               | 70             | 56             | 50             | 20             | 17             | WAL373512                                | WAL620236 |
|        |              | 10                  | P-ESV 10 L | 19.5       | 87               | 72             | 58             | 50             | 22             | 19             | WAL373513                                | WAL620145 |
|        | 400 (5801)   | 12                  | P-ESV 12 L | 24.1       | 87               | 72             | 58             | 50             | 25             | 22             | WAL373514                                | WAL620158 |
|        |              | 15                  | P-ESV 15 L | 35.3       | 100              | 84             | 70             | 60             | 28             | 27             | WAL373515                                | WAL620237 |
|        |              | 18                  | P-ESV 18 L | 46.9       | 101              | 84             | 69             | 60             | 32             | 32             | WAL373516                                | WAL620235 |
|        |              | 22                  | P-ESV 22 L | 58.2       | 105              | 88             | 73             | 60             | 36             | 36             | WAL373517                                | WAL620238 |
|        | 250 (3626)   | 28                  | P-ESV 28 L | 66.0       | 106              | 88             | 73             | 60             | 40             | 41             | WAL373518                                | WAL620488 |
|        |              | 35                  | P-ESV 35 L | 102.9      | 114              | 92             | 71             | 60             | 50             | 50             | WAL373519                                | WAL620274 |
| 42     |              | P-ESV 42 L          | 148.8      | 115        | 92               | 70             | 60             | 60             | 60             | WAL373520      | WAL620839                                |           |
| S      | 800 (11603)  | 6                   | P-ESV 6 S  | 16.9       | 89               | 74             | 60             | 50             | 20             | 17             | WAL373521                                | WAL620679 |
|        |              | 8                   | P-ESV 8 S  | 20.4       | 89               | 74             | 60             | 50             | 22             | 19             | WAL373522                                | WAL620292 |
|        |              | 10                  | P-ESV 10 S | 27.0       | 91               | 74             | 59             | 50             | 25             | 22             | WAL373523                                | WAL620680 |
|        | 630 (9137)   | 12                  | P-ESV 12 S | 33.1       | 91               | 74             | 59             | 50             | 28             | 24             | WAL373524                                | WAL620423 |
|        |              | 14                  | P-ESV 14 S | 44.7       | 107              | 88             | 72             | 60             | 30             | 27             | WAL373525                                | WAL620681 |
|        |              | 16                  | P-ESV 16 S | 57.8       | 107              | 88             | 71             | 60             | 35             | 30             | WAL373526                                | WAL620146 |
|        | 420 (6091)   | 20                  | P-ESV 20 S | 73.2       | 114              | 92             | 71             | 60             | 38             | 36             | WAL373527                                | WAL620002 |
|        |              | 25                  | P-ESV 25 S | 114.6      | 120              | 96             | 72             | 60             | 45             | 46             | WAL373528                                | WAL620001 |
|        |              | 30                  | P-ESV 30 S | 134.4      | 126              | 100            | 73             | 60             | 50             | 50             | WAL373529                                | WAL620239 |
|        |              | 38                  | P-ESV 38 S | 191.3      | 133              | 104            | 72             | 60             | 60             | 60             | WAL373530                                | WAL620346 |

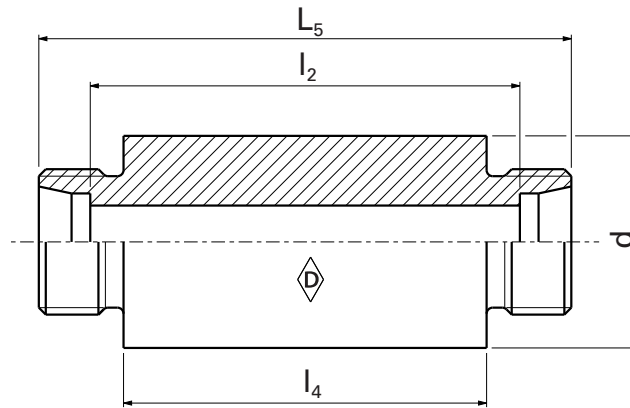
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

ESS ...

ESS ... -1.4571



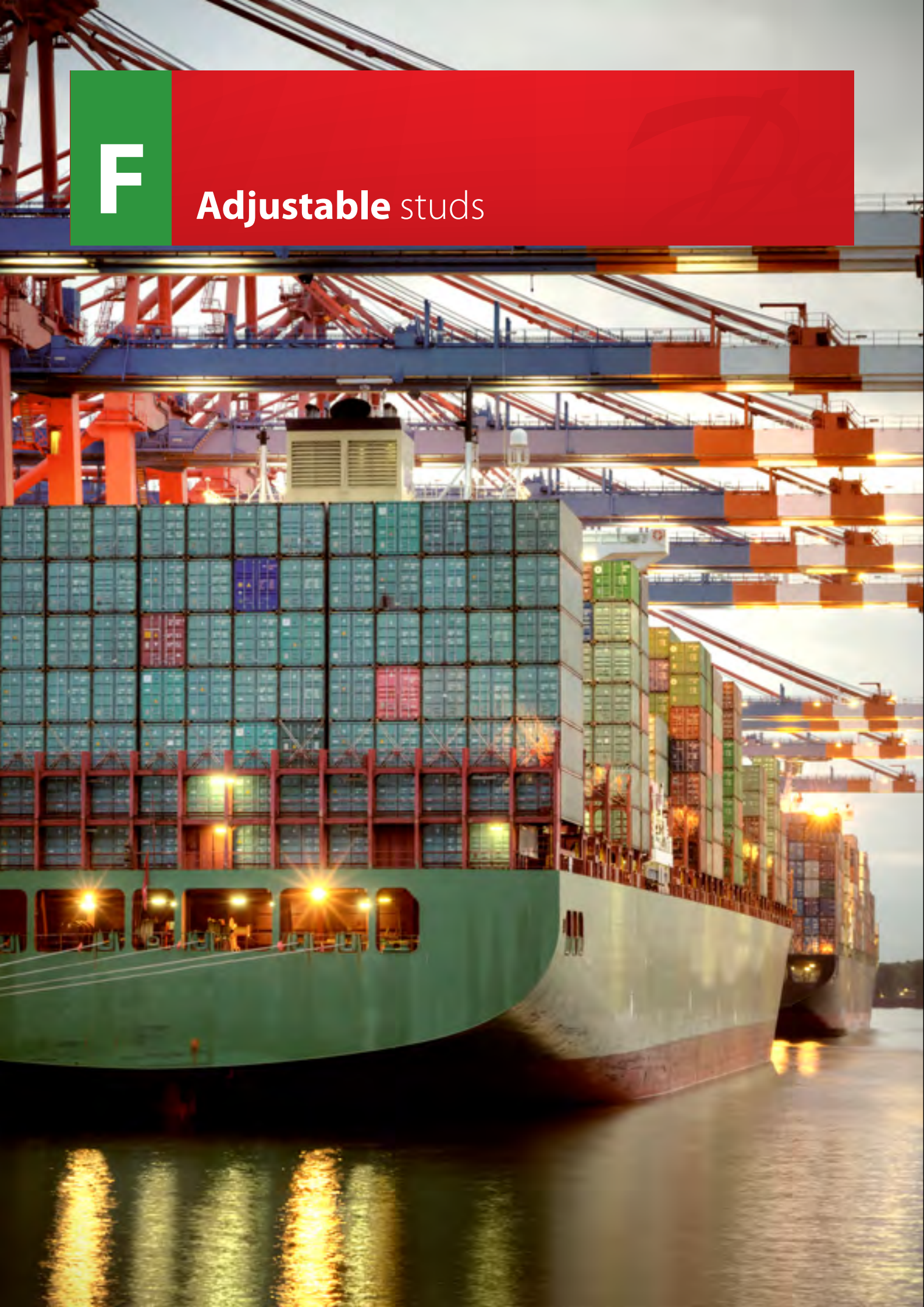
E

|        |                 |                           |          |                | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |   |                       |                        |  |
|--------|-----------------|---------------------------|----------|----------------|--|---|-----------------------|------------------------|--|
|        |                 |                           |          |                | Stud<br>ESS ...  | Stainless steel stud<br>ESS ...<br>-1.4571* | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless<br>steel<br>WF-M ...<br>VI-1.4571* |
| Series | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model    | kg/<br>100 pc. | Art. no.   | Art. no.                                    | Art. no.              | Art. no.               | Art. no.   |
| L      | 500<br>(7252)   | 6                         | ESS 6 L  | 10.3           | WAL037995  | WAL061099                                   | WAL624607             | WAL625940              | WAL625980  |
|        |                 | 8                         | ESS 8 L  | 12.3           | WAL037996  | WAL067360                                   | WAL624608             | WAL625941              | WAL625981  |
|        |                 | 10                        | ESS 10 L | 14.4           | WAL037997  | WAL061101                                   | WAL624609             | WAL625942              | WAL625982  |
|        |                 | 12                        | ESS 12 L | 17.9           | WAL037998  | WAL060689                                   | WAL624610             | WAL625943              | WAL625983  |
|        | 400<br>(5801)   | 15                        | ESS 15 L | 26.5           | WAL037999  | WAL067418                                   | WAL624611             | WAL625944              | WAL625984  |
|        |                 | 18                        | ESS 18 L | 33.4           | WAL038000  | WAL060686                                   | WAL624612             | WAL625945              | WAL625985  |
|        |                 | 22                        | ESS 22 L | 39.9           | WAL038001  | WAL067420                                   | WAL624613             | WAL625946              | WAL625986  |
|        | 250<br>(3626)   | 28                        | ESS 28 L | 45.1           | WAL038002  | WAL066897                                   | WAL624614             | WAL625947              | WAL625987  |
|        |                 | 35                        | ESS 35 L | 72.2           | WAL038003  | WAL068958                                   | WAL624615             | WAL625948              | WAL625988  |
|        |                 | 42                        | ESS 42 L | 100.7          | WAL038004  | WAL069205                                   | WAL624616             | WAL625949              | WAL625989  |
| 6      |                 | ESS 6 S                   | 13.6     | WAL038005      | WAL617500  | WAL624617                                   | WAL625950             | WAL625990              |  |
| S      | 800<br>(11603)  | 8                         | ESS 8 S  | 16.4           | WAL038006  | WAL371031                                   | WAL624618             | WAL625951              | WAL625991  |
|        |                 | 10                        | ESS 10 S | 20.3           | WAL038007  | WAL372568                                   | WAL624619             | WAL625952              | WAL625992  |
|        |                 | 12                        | ESS 12 S | 25.3           | WAL038008  | WAL061848                                   | WAL624620             | WAL625953              | WAL625993  |
|        | 630<br>(9137)   | 14                        | ESS 14 S | 16.8           | WAL038009  | WAL060319                                   |                       |                        |  |
|        |                 | 16                        | ESS 16 S | 44.5           | WAL038010  | WAL061103                                   | WAL624621             | WAL625954              | WAL625994  |
|        |                 | 20                        | ESS 20 S | 51.7           | WAL038011  | WAL024157                                   | WAL624622             | WAL625955              | WAL625995  |
|        | 420<br>(6091)   | 25                        | ESS 25 S | 72.5           | WAL038012  | WAL024155                                   | WAL624623             | WAL625956              | WAL625996  |
|        |                 | 30                        | ESS 30 S | 87.9           | WAL038013  | WAL066873                                   | WAL624624             | WAL625957              | WAL625997  |
|        |                 | 38                        | ESS 38 S | 125.5          | WAL038014  | WAL372103                                   | WAL624625             | WAL625958              | WAL625998  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

F

**Adjustable** studs





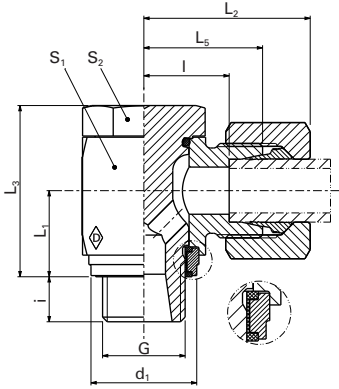
|  | Figure Fitting | Figure Stud | Model                     | Page      |
|--|----------------|-------------|---------------------------|-----------|
| Banjo coupling elbow fittings / Banjo coupling elbow studs |                |             | P-RSWV / RSWS ... R       | F3 / F4   |
|  |                |             | P-RSWV / RSWS ... R-WD    | F3 / F4   |
|  |                |             | P-RSWV / RSWS ... M       | F5 / F6   |
|  |                |             | P-RSWV / RSWS ... M-WD    | F5 / F6   |
|  |                |             | P-RSWV / RSWS ... R-HD-WD | F7 / F8   |
|  |                |             | P-RSWV / RSWS ... M-HD-WD | F7 / F8   |
| Banjo coupling T fittings / Banjo coupling T studs         |                |             | P-RSTV / RSTS ... R       | F9 / F10  |
|  |                |             | P-RSTV / RSTS ... R-WD    | F9 / F10  |
|  |                |             | P-RSTV / RSTS ... M       | F11 / F12 |
|  |                |             | P-RSTV / RSTS ... M-WD    | F11 / F12 |
| Adjustable elbow fittings / adjustable elbow studs         |                |             | P-EWV / P-EWS ... -SV     | F13 / F14 |
|  |                |             | P-EWVD / EWSD ...         | F15 / F16 |
|  |                |             | P-EWVD 45 / EWSD 45 ...   | F17 / F18 |
| Adjustable T fittings / adjustable T studs                 |                |             | P-ETV / P-ETS ... -SV     | F19 / F20 |
|  |                |             | P-ETVD / ETSD ...         | F21 / F22 |
| Adjustable L fittings / adjustable L studs                 |                |             | P-ELV / P-ELS ... -SV     | F23 / F24 |
|  |                |             | P-ELVD / ELSD ...         | F25 / F26 |
| Straight male studs  |                |             | P-EGES ... R-WD-SV        | F27       |
|  |                |             | P-EGES ... M-WD-SV        | F29       |
|  |                |             | EGESD ... R-WD            | F28       |
|  |                |             | EGESD ... M-WD            | F30       |
|  |                |             | EGESD ... NPT             | F31       |
| Spacer fittings / spacer adapters                          |                |             | P-DAV ... / DAS ...       | F33 / F34 |
| Straight fittings  |                |             | SNV ...                   | F35       |
| Straight fittings<br>Reducer fittings                      |                |             | SNV ... / ... L           | F36       |
|  |                |             | SNV ... / ... S           | F37       |
|  |                |             | SNV ... L / S-S / L       | F38       |

**F**

Special parts are available on request.

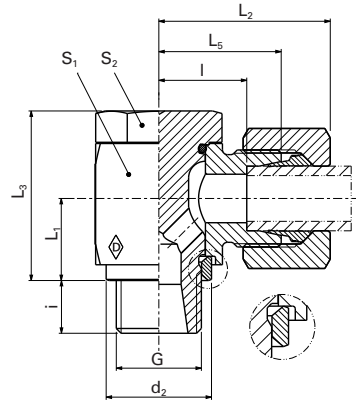
#### P-RSWV ... R-WD

- Inch studs type E to DIN EN ISO 1179-2
- with soft seal made from NBR\*\* (e.g. Perbunan)



#### P-RSWV ... R

- Inch studs type B to DIN EN ISO 1179-4
- with metal-to-metal seal



F

| Series     | PB bar (psi) | Tube outer diameter | DIN-ISO 228 (R.... DIN 259) G | kg/100 pc. | P-RSWV with elastomer seal |                |                |                |                |      |      |                     |                |                |                    |             |                 | P-RSWV with metal-to-metal seal |           |
|------------|--------------|---------------------|-------------------------------|------------|----------------------------|----------------|----------------|----------------|----------------|------|------|---------------------|----------------|----------------|--------------------|-------------|-----------------|---------------------------------|-----------|
|            |              |                     |                               |            | L <sub>1</sub>             | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | I    | i    | d <sub>1</sub> max. | d <sub>2</sub> | S <sub>1</sub> | S <sub>2</sub>     | Model       | Art. no.        | Model                           | Art. no.  |
| LL         | 100 (1450)   | 4                   | G 1/8 A                       | 4.0        | 10                         | 25.5           | 21             | 20             | 16             | 8    |      |                     | 14.5           | 14             | 14                 |             |                 | S-RSWV 4LLR                     | WAL607000 |
|            |              | 6                   | G 1/8 A                       | 4.2        | 10                         | 26             | 21             | 20             | 14.5           | 8    |      |                     | 14.5           | 14             | 14                 |             |                 | S-RSWV 6LLR                     | WAL607001 |
|            |              | 8                   | G 1/8 A                       | 5.2        | 10                         | 26             | 21             | 20             | 16             | 8    |      |                     | 14.5           | 14             | 14                 |             |                 | S-RSWV 8LLR                     | WAL607002 |
| L          | 500 (7252)   | 6                   | G 1/8 A                       | 5.9        | 10                         | 27.5           | 21             | 20             | 13             | 8    | 14.9 | 13                  | 14             | 14             | P-RSWV 6LR-WD      | WAL607051   | P-RSWV 6LR      | WAL607003                       |           |
|            |              | 6                   | G 1/4 A                       | 5.9        | 13.5                       | 29.5           | 27             | 22             | 15             | 10   | 18.9 | 17.8                | 19             | 19             | P-RSWV 6L/R1/4-WD  | WAL606501   | P-RSWV 6L/R1/4  | WAL606502                       |           |
|            |              | 8                   | G 1/4 A                       | 9.3        | 13.5                       | 28.5           | 27             | 21             | 14             | 10   | 18.9 | 17.8                | 19             | 19             | P-RSWV 8LR-WD      | WAL607052   | P-RSWV 8LR      | WAL607004                       |           |
|            |              | 10                  | G 1/4 A                       | 10.2       | 13.5                       | 29.5           | 27             | 22             | 15             | 10   | 18.9 | 17.8                | 19             | 19             | P-RSWV 10LR-WD     | WAL607053   | P-RSWV 10LR     | WAL607005                       |           |
|            |              | 12                  | G 1/4 A                       | 15.8       | 15.5                       | 29.5           | 30             | 22             | 15             | 10   | 18.9 | 17.8                | 22             | 19             | P-RSWV 12L/R1/4-WD | WAL607054   | P-RSWV 12L/R1/4 | WAL607006                       |           |
|            |              | 12                  | G 3/8 A                       | 15.9       | 16                         | 32             | 32.5           | 24.5           | 17.5           | 10   | 21.9 | 22                  | 24             | 22             | P-RSWV 12LR-WD     | WAL607055   | P-RSWV 12LR     | WAL607007                       |           |
|            | 400 (5801)   | 15                  | G 1/2 A                       | 28.4       | 19.5                       | 36             | 43             | 28             | 21             | 14   | 26.9 | 26                  | 30             | 27             | P-RSWV 15LR-WD     | WAL607056   | P-RSWV 15LR     | WAL607008                       |           |
|            |              | 18                  | G 1/2 A                       | 32         | 21.5                       | 36.5           | 43             | 28             | 20.5           | 12   | 26.9 | 26                  | 30             | 27             | P-RSWV 18LR-WD     | WAL607057   | P-RSWV 18LR     | WAL607009                       |           |
|            |              | 22                  | G 3/4 A                       | 48.5       | 24                         | 43             | 48             | 34.5           | 27             | 16   | 32.9 | 32                  | 36             | 32             | P-RSWV 22LR-WD     | WAL607058   | P-RSWV 22LR     | WAL607010                       |           |
|            |              | 28                  | G 1 A                         | 88.2       | 30.5                       | 48             | 59             | 39             | 31.5           | 18   | 39.9 | 39                  | 46             | 41             | P-RSWV 28LR-WD     | WAL607059   | P-RSWV 28LR     | WAL607011                       |           |
|            |              | 35                  | G 1 1/4 A                     | 150.8      | 35.5                       | 57             | 70             | 46             | 35.5           | 20   | 49.9 | 49                  | 55             | 50             | P-RSWV 35LR-WD     | WAL607060   | P-RSWV 35LR     | WAL607012                       |           |
|            |              | 42                  | G 1 1/2 A                     | 234.1      | 40.5                       | 62.5           | 80             | 51             | 40             | 22   | 55.9 | 55                  | 65             | 55             | P-RSWV 42LR-WD     | WAL607061   | P-RSWV 42LR     | WAL607013                       |           |
| S          | 500 (7252)   | 6                   | G 1/4 A                       | 8.7        | 13.5                       | 30.5           | 27             | 23             | 16             | 10   | 18.9 | 17.8                | 19             | 19             | P-RSWV 6SR-WD      | WAL607062   | P-RSWV 6SR      | WAL607014                       |           |
|            |              | 8                   | G 1/4 A                       | 10.3       | 13.5                       | 30.5           | 27             | 23             | 16             | 10   | 18.9 | 17.8                | 19             | 19             | P-RSWV 8SR-WD      | WAL607063   | P-RSWV 8SR      | WAL607015                       |           |
|            |              | 10                  | G 3/8 A                       | 17         | 16                         | 34             | 32.5           | 25.5           | 18             | 10   | 21.9 | 22                  | 24             | 22             | P-RSWV 10SR-WD     | WAL607064   | P-RSWV 10SR     | WAL607016                       |           |
|            | 400 (5801)   | 12                  | G 3/8 A                       | 17.9       | 16                         | 34             | 32.5           | 25.5           | 18             | 10   | 21.9 | 22                  | 24             | 22             | P-RSWV 12SR-WD     | WAL607065   | P-RSWV 12SR     | WAL607017                       |           |
|            |              | 14                  | G 1/2 A                       | 30.3       | 19.5                       | 39.5           | 41             | 30             | 22             | 12   | 26.9 | 26                  | 30             | 27             | P-RSWV 14SR-WD     | WAL607066   | P-RSWV 14SR     | WAL607018                       |           |
|            |              | 16                  | G 1/2 A                       | 31.6       | 21.5                       | 39.5           | 43             | 30             | 21.5           | 12   | 26.9 | 26                  | 30             | 27             | P-RSWV 16SR-WD     | WAL607067   | P-RSWV 16SR     | WAL607019                       |           |
| 315 (4569) | 20           | G 3/4 A             | 51.8                          | 24         | 47.5                       | 48             | 36.5           | 26             | 16             | 32.9 | 32   | 36                  | 32             | P-RSWV 20SR-WD | WAL607068          | P-RSWV 20SR | WAL607020       |                                 |           |
| 250 (3626) | 25           | G 1 A               | 103                           | 30.5       | 55                         | 59             | 43             | 31             | 18             | 39.9 | 39   | 46                  | 41             | P-RSWV 25SR-WD | WAL607069          | P-RSWV 25SR | WAL607021       |                                 |           |
|            | 30           | G 1 1/4 A           | 163.7                         | 35.5       | 63                         | 70             | 50             | 36.5           | 20             | 49.9 | 49   | 55                  | 50             | P-RSWV 30SR-WD | WAL607070          | P-RSWV 30SR | WAL607022       |                                 |           |
|            |              | 38                  | G 1 1/2 A                     | 262.7      | 40.5                       | 71.5           | 80             | 57             | 41             | 22   | 55.9 | 55                  | 65             | 55             | P-RSWV 38SR-WD     | WAL607071   | P-RSWV 38SR     | WAL607023                       |           |

L<sub>2</sub> = approximate dimension if the union nut is tightened  
 \*\*For FPM (e.g. Viton) see price list / available on request  
 For P-RSWV and RSWV in stainless steel (1.4571), see price list / available on request

#### Operating pressure

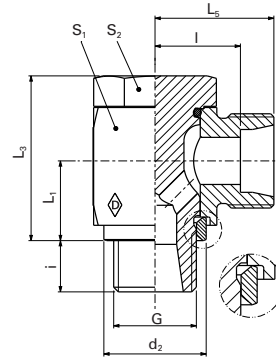
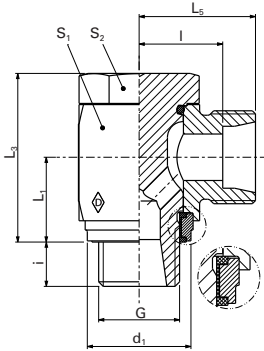
The specified operating pressure ratings (PB) are calculated with a minimum safety factor of 2.5 and represent the maximum permissible operating pressures under predominantly static load conditions and temperatures of up to +120 °C (in the case of steel). Strong pressure surges and mechanical stresses, such as vibrations, require special consideration.

If the version with metal-to-metal sealing edge is used for special applications (e.g. higher temperatures or aggressive media), the banjo bolt O-ring must be removed!

Special parts are available on request.

RSWS ... R-WD

RSWS ... R



F

Individual components

| RSWS with elastomer seal |  | RSWS with metal-to-metal seal |  | Body |  | Banjo bolt with O-ring (NBR)* |  | O-ring (NBR)* |  | Captive ring with soft seal (NBR)* |  | Sealing-edge ring |  |
|--------------------------|--|-------------------------------|--|------|--|-------------------------------|--|---------------|--|------------------------------------|--|-------------------|--|
|--------------------------|--|-------------------------------|--|------|--|-------------------------------|--|---------------|--|------------------------------------|--|-------------------|--|

| Model            | Art. no.  | Model         | Art. no.  | Art. no.  | Art. no.  | Dimensions | Art. no.  | Art. no.  | Art. no.  |
|------------------|-----------|---------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|
|                  |           | RSWS 4LLR     | WAL606661 | WAL608333 | WAL606516 | 8.5 x 1.5  | WAL304288 |           | WAL605824 |
|                  |           | RSWS 6LLR     | WAL606662 | WAL608334 | WAL606516 | 8.5 x 1.5  | WAL304288 |           | WAL605824 |
|                  |           | RSWS 8LLR     | WAL606663 | WAL608335 | WAL606516 | 8.5 x 1.5  | WAL304288 |           | WAL605824 |
| RSWS 6LR-WD      | WAL606364 | RSWS 6LR      | WAL606664 | WAL605763 | WAL606516 | 8.5 x 1.5  | WAL304288 | WAL606481 | WAL605824 |
| RSWS 6L/R1/4-WD  | WAL606365 | RSWS 6L/R1/4  | WAL606665 | WAL605764 | WAL606519 | 11 x 2     | WAL023492 | WAL606482 | WAL605740 |
| RSWS 8LR-WD      | WAL606366 | RSWS 8LR      | WAL607323 | WAL605766 | WAL606519 | 11 x 2     | WAL023492 | WAL606482 | WAL605740 |
| RSWS 10LR-WD     | WAL606367 | RSWS 10LR     | WAL606508 | WAL605768 | WAL606519 | 11 x 2     | WAL023492 | WAL606482 | WAL605740 |
| RSWS 12L/R1/4-WD | WAL606368 | RSWS 12L/R1/4 | WAL606666 | WAL606076 | WAL606522 | 11 x 2     | WAL023492 | WAL606482 | WAL605740 |
| RSWS 12LR-WD     | WAL606369 | RSWS 12LR     | WAL606642 | WAL605770 | WAL606523 | 14.5 x 2   | WAL605949 | WAL606485 | WAL606827 |
| RSWS 15LR-WD     | WAL606370 | RSWS 15LR     | WAL607367 | WAL605775 | WAL606527 | 19.5 x 2   | WAL605951 | WAL606488 | WAL606831 |
| RSWS 18LR-WD     | WAL606371 | RSWS 18LR     | WAL606667 | WAL605777 | WAL606527 | 19.5 x 2   | WAL605951 | WAL606489 | WAL606454 |
| RSWS 22LR-WD     | WAL606372 | RSWS 22LR     | WAL606668 | WAL605779 | WAL607401 | 26 x 1.5   | WAL605952 | WAL606492 | WAL605833 |
| RSWS 28LR-WD     | WAL606373 | RSWS 28LR     | WAL606669 | WAL605781 | WAL607403 | 31 x 2     | WAL250258 | WAL606495 | WAL605834 |
| RSWS 35LR-WD     | WAL606374 | RSWS 35LR     | WAL606599 | WAL605783 | WAL607405 | 40 x 2     | WAL261157 | WAL606496 | WAL605835 |
| RSWS 42LR-WD     | WAL606375 | RSWS 42LR     | WAL606670 | WAL605785 | WAL607407 | 46 x 2     | WAL605953 | WAL606498 | WAL605836 |
| RSWS 65R-WD      | WAL606376 | RSWS 65R      | WAL606671 | WAL605765 | WAL606519 | 11 x 2     | WAL023492 | WAL606482 | WAL606740 |
| RSWS 85R-WD      | WAL606377 | RSWS 85R      | WAL606672 | WAL605767 | WAL606519 | 11 x 2     | WAL023492 | WAL606482 | WAL606740 |
| RSWS 105R-WD     | WAL606378 | RSWS 105R     | WAL606673 | WAL605769 | WAL606523 | 14.5 x 2   | WAL605949 | WAL606485 | WAL605827 |
| RSWS 125R-WD     | WAL606379 | RSWS 125R     | WAL606674 | WAL605771 | WAL606523 | 14.5 x 2   | WAL605949 | WAL606485 | WAL605827 |
| RSWS 145R-WD     | WAL606380 | RSWS 145R     | WAL606675 | WAL605774 | WAL606527 | 19.5 x 2   | WAL605951 | WAL606488 | WAL605831 |
| RSWS 165R-WD     | WAL606381 | RSWS 165R     | WAL606643 | WAL605776 | WAL606527 | 19.5 x 2   | WAL605951 | WAL606489 | WAL606454 |
| RSWS 205R-WD     | WAL606382 | RSWS 205R     | WAL606644 | WAL605778 | WAL607401 | 26 x 1.5   | WAL605952 | WAL606492 | WAL605833 |
| RSWS 255R-WD     | WAL606383 | RSWS 255R     | WAL607324 | WAL605780 | WAL607403 | 31 x 2     | WAL250258 | WAL606495 | WAL605834 |
| RSWS 305R-WD     | WAL606384 | RSWS 305R     | WAL606677 | WAL605782 | WAL607405 | 40 x 2     | WAL261157 | WAL606496 | WAL605835 |
| RSWS 385R-WD     | WAL606385 | RSWS 385R     | WAL607326 | WAL605784 | WAL607407 | 46 x 2     | WAL605953 | WAL606498 | WAL605836 |

Special parts are available on request.

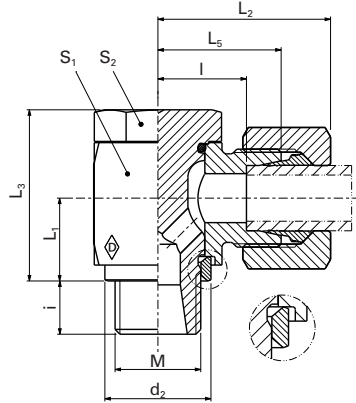
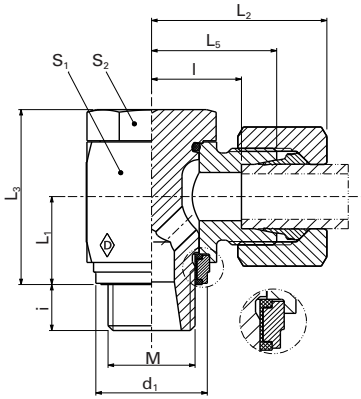
## Banjo coupling elbow fittings

### P-RSWV ... M-WD

- Metric stud type E to DIN EN ISO 9974-2
- with soft seal made from NBR\* (e.g. Perbunan)

### P-RSWV ... M

- Metric stud type B to DIN EN ISO 9974-3
- with metal-to-metal seal



F

| Series | PB bar (psi)  | Tube outer diameter | M             | kg/100 pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>5</sub> | I    | i    | d <sub>1</sub> max. | d <sub>2</sub> | S <sub>1</sub> | S <sub>2</sub> | P-RSWV with elastomer seal |                | P-RSWV with metal-to-metal seal |                       |            |                    |           |
|--------|---------------|---------------------|---------------|------------|----------------|----------------|----------------|----------------|------|------|---------------------|----------------|----------------|----------------|----------------------------|----------------|---------------------------------|-----------------------|------------|--------------------|-----------|
|        |               |                     |               |            |                |                |                |                |      |      |                     |                |                |                | Model                      | Art. no.       | Model                           | Art. no.              |            |                    |           |
| LL     | 100<br>(1450) | 4                   | M 8 x 1       | 3.4        | 8              | 22.5           | 17             | 17             | 13   | 6    |                     | 12.5           | 12             | 12             |                            | P-RSWV 4LLM    | WAL607024                       |                       |            |                    |           |
|        |               | 6                   | M 10 x 1      | 4.2        | 10             | 26             | 21             | 20             | 14.5 | 8    |                     | 14.5           | 14             | 14             |                            | P-RSWV 6LLM    | WAL607025                       |                       |            |                    |           |
|        |               | 8                   | M 10 x 1      | 4.5        | 10             | 26             | 21             | 20             | 14.5 | 8    |                     | 14.5           | 14             | 14             |                            | P-RSWV 8LLM    | WAL607026                       |                       |            |                    |           |
|        | 500<br>(7252) | 6                   | M 10 x 1      | 5.9        | 10             | 27.5           | 21             | 20             | 13   | 8    | 14.9                | 13             | 14             | 14             |                            | P-RSWV 6LM-WD  | WAL607075                       | P-RSWV 6LM            | WAL607027  |                    |           |
|        |               | 8                   | M 12 x 1.5    | 9.0        | 13.5           | 28.5           | 27             | 21             | 14   | 10   | 17.9                | 17.8           | 19             | 19             |                            | P-RSWV 8LM-WD  | WAL607076                       | P-RSWV 8LM            | WAL607028  |                    |           |
|        |               | 10                  | M 14 x 1.5    | 10.3       | 13.5           | 29.5           | 27             | 22             | 15   | 10   | 19.9                | 17.8           | 19             | 19             |                            | P-RSWV 10LM-WD | WAL607077                       | P-RSWV 10LM           | WAL607029  |                    |           |
|        | 400<br>(5801) | 12                  | M 16 x 1.5    | 15.8       | 16             | 32             | 32.5           | 24.5           | 17.5 | 10   | 21.9                | 21             | 24             | 22             |                            | P-RSWV 12LM-WD | WAL607078                       | P-RSWV 12LM           | WAL607030  |                    |           |
|        |               | L                   | 315<br>(4569) | 12         | M 18 x 1.5     | 16.9           | 18.5           | 34.5           | 36   | 27   | 20                  | 10             | 23.9           | 23             | 24                         | 22             |                                 | P-RSWV 12L/M18x1.5-WD | WAL607079  | P-RSWV 12L/M18x1.5 | WAL607031 |
|        |               |                     | 400<br>(5801) | 15         | M 18 x 1.5     | 20.9           | 18.5           | 35             | 37   | 27   | 20                  | 10             | 23.9           | 23             | 27                         | 24             |                                 | P-RSWV 15LM-WD        | WAL607080  | P-RSWV 15LM        | WAL607032 |
| 18     | M 22 x 1.5    |                     | 31.9          | 21.5       | 36.5           | 43             | 28             | 20.5           | 12   | 27.9 | 27                  | 30             | 27             |                | P-RSWV 18LM-WD             | WAL607081      | P-RSWV 18LM                     | WAL607033             |            |                    |           |
|        | 250<br>(3626) | 22                  | M 26 x 1.5    | 48.6       | 24             | 43             | 48             | 34.5           | 27   | 16   | 31.9                | 31             | 36             | 32             |                            | P-RSWV 22LM-WD | WAL607082                       | P-RSWV 22LM           | WAL607034  |                    |           |
|        |               | 28                  | M 33 x 2      | 88.5       | 30.5           | 48             | 59             | 39             | 31.5 | 18   | 39.9                | 39             | 46             | 41             |                            | P-RSWV 28LM-WD | WAL607083                       | P-RSWV 28LM           | WAL607035  |                    |           |
|        |               | 35                  | M 42 x 2      | 151        | 35.5           | 57             | 70             | 46             | 35.5 | 20   | 49.9                | 49             | 55             | 50             |                            | P-RSWV 35LM-WD | WAL607084                       | P-RSWV 35LM           | WAL607036  |                    |           |
|        | 500<br>(7252) | 42                  | M 48 x 2      | 234        | 40.5           | 62.5           | 80             | 51             | 40   | 22   | 55.9                | 55             | 65             | 55             |                            | P-RSWV 42LM-WD | WAL607085                       | P-RSWV 42LM           | WAL607037  |                    |           |
|        |               | S                   | 6             | M 12 x 1.5 | 8.5            | 13.5           | 30.5           | 27             | 23   | 16   | 10                  | 17.9           | 17.8           | 19             | 19                         |                | P-RSWV 6SM-WD                   | WAL607086             | P-RSWV 6SM | WAL607038          |           |
|        |               |                     | 8             | M 14 x 1.5 | 10.4           | 13.5           | 30.5           | 27             | 23   | 16   | 10                  | 19.9           | 17.8           | 19             | 19                         |                | P-RSWV 8SM-WD                   | WAL607087             | P-RSWV 8SM | WAL607039          |           |
| 10     | M 16 x 1.5    |                     | 16.9          | 16         | 34             | 32.5           | 25.5           | 18             | 10   | 21.9 | 21                  | 24             | 22             |                | P-RSWV 10SM-WD             | WAL607088      | P-RSWV 10SM                     | WAL607040             |            |                    |           |
|        | 400<br>(5801) | 12                  | M 18 x 1.5    | 22.2       | 18.5           | 35.5           | 37             | 27             | 19.5 | 10   | 23.9                | 23             | 27             | 24             |                            | P-RSWV 12SM-WD | WAL607089                       | P-RSWV 12SM           | WAL607041  |                    |           |
|        |               | 14                  | M 20 x 1.5    | 28.0       | 19.5           | 39.5           | 41             | 30             | 22   | 12   |                     | 25             | 30             | 27             |                            |                | WAL607090                       | P-RSWV 14SM           | WAL607042  |                    |           |
|        |               | 16                  | M 22 x 1.5    | 32.3       | 21.5           | 39.5           | 43             | 30             | 21.5 | 12   | 27.9                | 27             | 30             | 27             |                            | P-RSWV 16SM-WD | WAL607091                       | P-RSWV 16SM           | WAL607043  |                    |           |
|        | 315<br>(4569) | 20                  | M 27 x 2      | 51.9       | 24             | 47.5           | 48             | 36.5           | 26   | 16   | 32.9                | 32             | 36             | 32             |                            | P-RSWV 20SM-WD | WAL607092                       | P-RSWV 20SM           | WAL607044  |                    |           |
|        |               | 25                  | M 33 x 2      | 103.3      | 30.5           | 55             | 59             | 43             | 31   | 18   | 39.9                | 39             | 46             | 41             |                            | P-RSWV 25SM-WD | WAL607093                       | P-RSWV 25SM           | WAL607045  |                    |           |
|        |               | 30                  | M 42 x 2      | 163.9      | 35.5           | 63             | 70             | 50             | 36.5 | 20   | 49.9                | 49             | 55             | 50             |                            | P-RSWV 30SM-WD | WAL607094                       | P-RSWV 30SM           | WAL607046  |                    |           |
|        | 250<br>(3626) | 38                  | M 48 x 2      | 252.7      | 40.5           | 71.5           | 80             | 57             | 41   | 22   | 55.9                | 55             | 65             | 55             |                            | P-RSWV 38SM-WD | WAL607095                       | P-RSWV 38SM           | WAL607047  |                    |           |

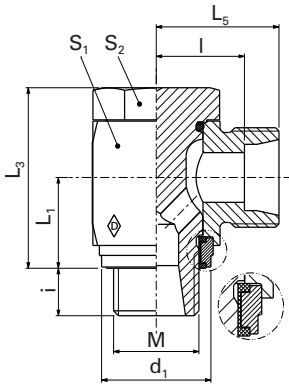
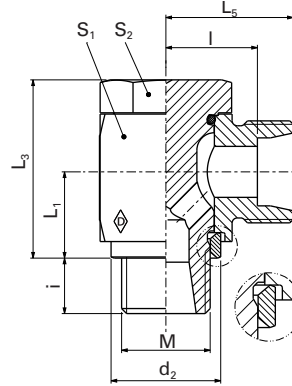
L<sub>2</sub> = approximate dimension if the union nut is tightened  
 \*For FPM (e.g. Viton) see price list / available on request  
 For P-RSWV and RSWV in stainless steel (1.4571), see price list / available on request

### Operating pressure

The specified operating pressure ratings (PB) are calculated with a minimum safety factor of 2.5 and represent the maximum permissible operating pressures under predominantly static load conditions and temperatures of up to +120 °C (in the case of steel). Strong pressure surges and mechanical stresses, such as vibrations, require special consideration.

If the version with metal-to-metal sealing edge is used for special applications (e.g. higher temperatures or aggressive media), the banjo bolt O-ring must be removed!

Special parts are available on request.

**RSWS ... M-WD**

**RSWS ... M**

**F**
**Individual components**

| RSWS with elastomer seal |           | RSWS with metal-to-metal seal |           | Body      | Banjo bolt with O-ring (NBR)* | O-ring (NBR)* | Captive ring with soft seal (NBR)* |           | Sealing-edge ring |
|--------------------------|-----------|-------------------------------|-----------|-----------|-------------------------------|---------------|------------------------------------|-----------|-------------------|
| Model                    | Art. no.  | Model                         | Art. no.  | Art. no.  | Art. no.                      | Dimensions    | Art. no.                           | Art. no.  | Art. no.          |
|                          |           | RSWS 4LLM                     | WAL606678 | WAL608332 | WAL606514                     | 6.5 x 1.5     | WAL605948                          |           | WAL608323         |
|                          |           | RSWS 6LLM                     | WAL607325 | WAL608334 | WAL606515                     | 8.5 x 1.5     | WAL304288                          |           | WAL605824         |
|                          |           | RSWS 8LLM                     | WAL606679 | WAL608335 | WAL606515                     | 8.5 x 1.5     | WAL304288                          |           | WAL605824         |
| RSWS 6LM-WD              | WAL606389 | RSWS 6LM                      | WAL606640 | WAL605763 | WAL606515                     | 8.5 x 1.5     | WAL304288                          | WAL606481 | WAL605824         |
| RSWS 8LM-WD              | WAL606390 | RSWS 8LM                      | WAL606680 | WAL605766 | WAL606517                     | 11 x 2        | WAL023492                          | WAL606483 | WAL606739         |
| RSWS 10LM-WD             | WAL606391 | RSWS 10LM                     | WAL607321 | WAL605768 | WAL606518                     | 11 x 2        | WAL023492                          | WAL606484 | WAL605825         |
| RSWS 12LM-WD             | WAL606392 | RSWS 12LM                     | WAL606681 | WAL605770 | WAL606520                     | 14.5 x 2      | WAL605949                          | WAL606485 | WAL605825         |
| RSWS 12L/M18x 1.5-WD     | WAL606393 | RSWS 12L/M18x1.5              | WAL606682 | WAL607124 | WAL606521                     | 14.5 x 2      | WAL605949                          | WAL606500 | WAL605830         |
| RSWS 15LM-WD             | WAL606394 | RSWS 15LM                     | WAL606683 | WAL605773 | WAL606524                     | 16.5 x 2      | WAL605950                          | WAL606486 | WAL605830         |
| RSWS 18LM-WD             | WAL606395 | RSWS 18LM                     | WAL606684 | WAL605777 | WAL606526                     | 19.5 x 2      | WAL605951                          | WAL606490 | WAL605832         |
| RSWS 22LM-WD             | WAL606396 | RSWS 22LM                     | WAL606685 | WAL605779 | WAL607399                     | 26 x 1.5      | WAL605952                          | WAL606491 | WAL606455         |
| RSWS 28LM-WD             | WAL606397 | RSWS 28LM                     | WAL606686 | WAL605781 | WAL607402                     | 31 x 2        | WAL250258                          | WAL606495 | WAL605834         |
| RSWS 35LM-WD             | WAL606398 | RSWS 35LM                     | WAL606687 | WAL605783 | WAL607404                     | 40 x 2        | WAL261157                          | WAL606496 | WAL606825         |
| RSWS 42LM-WD             | WAL606399 | RSWS 42LM                     | WAL606688 | WAL605785 | WAL607406                     | 46 x 2        | WAL605953                          | WAL606498 | WAL605836         |
| RSWS 6SM-WD              | WAL606400 | RSWS 6SM                      | WAL606689 | WAL605765 | WAL606517                     | 11 x 2        | WAL023492                          | WAL606483 | WAL606739         |
| RSWS 8SM-WD              | WAL606401 | RSWS 8SM                      | WAL606690 | WAL605767 | WAL606518                     | 11 x 2        | WAL023492                          | WAL606484 | WAL606825         |
| RSWS 10SM-WD             | WAL606402 | RSWS 10SM                     | WAL606691 | WAL605769 | WAL606520                     | 14.5 x 2      | WAL605949                          | WAL606485 | WAL605826         |
| RSWS 12SM-WD             | WAL606403 | RSWS 12SM                     | WAL606692 | WAL605772 | WAL606524                     | 16.5 x 2      | WAL605950                          | WAL606486 | WAL605830         |
|                          |           | RSWS 14SM                     | WAL606693 | WAL605774 | WAL606525                     | 19.5 x 2      | WAL605951                          |           | WAL605831         |
| RSWS 16SM-WD             | WAL606405 | RSWS 16SM                     | WAL606646 | WAL605776 | WAL606526                     | 19.5 x 2      | WAL605951                          | WAL606490 | WAL605832         |
| RSWS 20SM-WD             | WAL606406 | RSWS 20SM                     | WAL606694 | WAL605778 | WAL607400                     | 26 x 1.5      | WAL605952                          | WAL606492 | WAL605833         |
| RSWS 25SM-WD             | WAL606407 | RSWS 25SM                     | WAL607322 | WAL605780 | WAL607402                     | 31 x 2        | WAL250258                          | WAL606495 | WAL605834         |
| RSWS 30SM-WD             | WAL606408 | RSWS 30SM                     | WAL606695 | WAL605782 | WAL607404                     | 40 x 2        | WAL261157                          | WAL606496 | WAL605835         |
| RSWS 38SM-WD             | WAL606409 | RSWS 38SM                     | WAL606696 | WAL605784 | WAL607406                     | 46 x 2        | WAL605953                          | WAL606498 | WAL605836         |

Special parts are available on request.

## P-RSWV ... SR-HD-WD

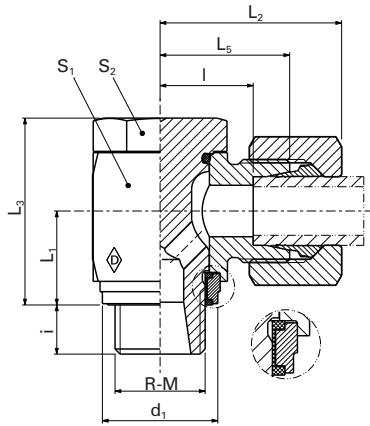
- High-pressure swivel fittings are only available with elastomer seals!
- with soft seal made from NBR\* (e.g. Perbunan)
- Inch studs type E to DIN EN ISO 1179-2

## P-RSWV ... SM-HD-WD

- with soft seal made from NBR\* (e.g. Perbunan)
- Metric stud type E to DIN EN ISO 9974-2

### Outer dimensions

Suitable for "narrow" counterbores to DIN 3852



F

|        |              |          |                           |                |                |      |    |     |                     |                |                | P-RSWV SR/SM-HD-WD with elastomer seal |
|--------|--------------|----------|---------------------------|----------------|----------------|------|----|-----|---------------------|----------------|----------------|--|
| Series | PB bar (psi) | Thread   | Model                     | L <sub>2</sub> | L <sub>3</sub> | l    | i  | h   | d <sub>1 max.</sub> | S <sub>1</sub> | S <sub>2</sub> | Art. no.                               |
| S      | 400 bar      | G 1      | <b>P-RSWV 25 SR-HD-WD</b> | 30.5           | 59             | 31   | 18 | 3.5 | 39.9                | 50             | 41             | <b>WAL608810</b>                       |
|        |              | G 1 1/4  | <b>P-RSWV 30 SR-HD-WD</b> | 35.5           | 70             | 36.5 | 20 | 3.5 | 49.9                | 60             | 50             | <b>WAL608811</b>                       |
|        |              | G 1 1/2  | <b>P-RSWV 38 SR-HD-WD</b> | 40.5           | 80             | 41   | 22 | 3.5 | 55.9                | 70             | 55             | <b>WAL608812</b>                       |
| S      | 400 bar      | M 33 x 2 | <b>P-RSWV 25 SM-HD-WD</b> | 30.5           | 59             | 31   | 18 | 3.5 | 39.9                | 50             | 41             | <b>WAL608813</b>                       |
|        |              | M 42 x 2 | <b>P-RSWV 30 SM-HD-WD</b> | 35.5           | 70             | 36.5 | 20 | 3.5 | 49.9                | 60             | 50             | <b>WAL608814</b>                       |
|        |              | M 48 x 2 | <b>P-RSWV 38 SM-HD-WD</b> | 40.5           | 80             | 41   | 22 | 3.5 | 55.9                | 70             | 55             | <b>WAL608815</b>                       |

L<sub>2</sub> = approximate dimension if the union nut is tightened  
 \*For FPM (e.g. Viton) see price list / available on request

### Installation safety:

- Same degree of protection against excessive tightening as for the standard RSWV
- The soft seal is preloaded inside the body
- The banjo bolt can only be inserted into the body from one side

**⚠ Caution:** Observe assembly instructions for the RSWV... swivel fittings. See catalog chapter C or the "Assembly instructions" leaflet.

### Pressure performance

In the event of a safety factor of 2.5, an operating pressure (PB) of 400 bar is guaranteed.

**⚠ Caution:** The specified pressure rating represents the maximum permissible operating pressure, assuming a predominantly static load and a temperature of max. +120 °C.

### Flow rate

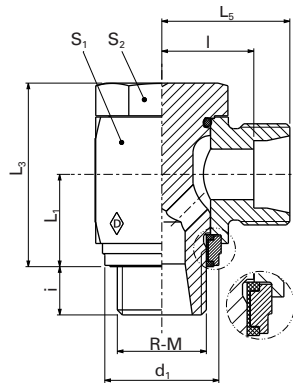
Corresponds to that of the standard RSWV.

### Operating pressure

The specified operating pressure ratings (PB) are calculated with a minimum safety factor of 2.5 and represent the maximum permissible operating pressures under predominantly static load conditions and temperatures of up to +120 °C (in the case of steel). Strong pressure surges and mechanical stresses, such as vibrations, require special consideration.

Special parts are available on request.

RSWS ... SR-HD-WD  
RSWS ... SM-HD-WD



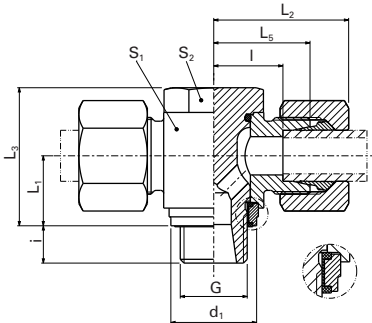
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| Model            | Stud<br>RSWS SR/SM-HDWD<br>with<br>elastomer seal | Individual components |            |           |
|------------------|---|-----------------------|------------|-----------|
|                  |   | Body                  | Banjo bolt | Soft seal |
| Art. no.         | Art. no.  | Art. no.              | Art. no.   | Art. no.  |
| RSWS 25 SR-HD-WD | WAL625035   | WAL608830             | WAL607403  | WAL608800 |
| RSWS 30 SR-HD-WD | WAL626065   | WAL608831             | WAL607405  | WAL608801 |
| RSWS 38 SR-HD-WD | WAL611028   | WAL608832             | WAL607407  | WAL608802 |
| RSWS 25 SM-HD-WD | WAL626066   | WAL608830             | WAL607402  | WAL608800 |
| RSWS 30 SM-HD-WD | WAL626067   | WAL608831             | WAL607404  | WAL608801 |
| RSWS 38 SM-HD-WD | WAL626068   | WAL608832             | WAL607406  | WAL608802 |

## Banjo coupling T fittings

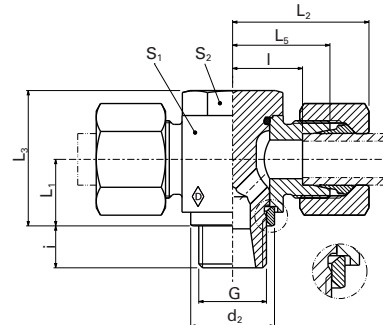
### P-RSTV ... R-WD

- Inch studs type E to DIN EN ISO 1179-2
- with soft seal made from NBR\* (e.g. Perbunan)



### P-RSTV ... R

- Inch studs type B to DIN EN ISO 1179-4
- with metal-to-metal seal



F

| Series | PB bar (psi) | Tube outer diameter | DIN-ISO 228 (R... DIN 259) G | kg/100 pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L    | I    | i    | d <sub>1</sub> max. | d <sub>2</sub> | S <sub>1</sub> | S <sub>2</sub> | P-RSTV with elastomer seal |           | P-RSTV with metal-to-metal seal |          |
|--------|--------------|---------------------|------------------------------|------------|----------------|----------------|----------------|----------------|----------------|------|------|------|---------------------|----------------|----------------|----------------|----------------------------|-----------|---------------------------------|----------|
|        |              |                     |                              |            |                |                |                |                |                |      |      |      |                     |                |                |                | Model                      | Art. no.  | Model                           | Art. no. |
| L      | 500 (7252)   | 6                   | G 1/8 A                      | 6.5        | 10             | 27.5           | 21             | 20             | 13             | 8    | 14.9 | 13   | 14                  | 14             | P-RSTV 6LR-WD  | WAL612523      | P-RSTV 6LR                 | WAL606717 |                                 |          |
|        |              | 8                   | G 1/4 A                      | 10.0       | 13.5           | 28.5           | 27             | 21             | 14             | 10   | 18.9 | 17.8 | 19                  | 19             | P-RSTV 8LR-WD  | WAL614820      | P-RSTV 8LR                 | WAL606773 |                                 |          |
|        |              | 10                  | G 1/4 A                      | 11.0       | 13.5           | 29.5           | 27             | 22             | 15             | 10   | 18.9 | 17.8 | 19                  | 19             | P-RSTV 10LR-WD | WAL601151      | P-RSTV 10LR                | WAL601090 |                                 |          |
|        | 400 (5801)   | 12                  | G 3/8 A                      | 16.8       | 16             | 32             | 32.5           | 24.5           | 17.5           | 10   | 21.9 | 22   | 24                  | 22             | P-RSTV 12LR-WD | WAL611623      | P-RSTV 12LR                | WAL607978 |                                 |          |
|        |              | 15                  | G 1/2 A                      | 28.8       | 19.5           | 36             | 43             | 28             | 21             | 14   | 26.9 | 26   | 30                  | 27             | P-RSTV 15LR-WD | WAL611985      | P-RSTV 15LR                | WAL610395 |                                 |          |
|        | 250 (3626)   | 18                  | G 1/2 A                      | 33.7       | 21.5           | 36.5           | 43             | 28             | 20.5           | 12   | 26.9 | 26   | 30                  | 27             | P-RSTV 18LR-WD | WAL623392      | P-RSTV 18LR                | WAL606360 |                                 |          |
|        |              | 22                  | G 3/4 A                      | 50.0       | 24             | 43             | 48             | 34.5           | 27             | 16   | 32.9 | 32   | 36                  | 32             | P-RSTV 22LR-WD | WAL623393      | P-RSTV 22LR                | WAL607436 |                                 |          |
|        |              | 28                  | G 1 A                        | 89.5       | 30.5           | 48             | 59             | 39             | 31.5           | 18   | 39.9 | 39   | 46                  | 41             | P-RSTV 28LR-WD | WAL608605      | P-RSTV 28LR                | WAL607317 |                                 |          |
|        |              | 35                  | G 1 1/4 A                    | 155.8      | 35.5           | 57             | 70             | 46             | 35.5           | 20   | 49.9 | 49   | 55                  | 50             | P-RSTV 35LR-WD | WAL611641      | P-RSTV 35LR                | WAL611642 |                                 |          |
|        |              | 42                  | G 1 1/2 A                    | 248.3      | 34             | 62.5           | 80             | 51             | 40             | 22   | 55.9 | 55   | 65                  | 55             | P-RSTV 42LR-WD | WAL623394      | P-RSTV 42LR                | WAL608595 |                                 |          |
| S      | 500 (7252)   | 6                   | G 1/4 A                      | 10.0       | 13.5           | 30.5           | 27             | 23             | 16             | 10   | 18.9 | 17.8 | 19                  | 19             | P-RSTV 6SR-WD  | WAL608693      | P-RSTV 6SR                 | WAL608601 |                                 |          |
|        |              | 8                   | G 1/4 A                      | 11.6       | 13.5           | 30.5           | 27             | 23             | 16             | 10   | 18.9 | 17.8 | 19                  | 19             | P-RSTV 8SR-WD  | WAL601148      | P-RSTV 8SR                 | WAL607784 |                                 |          |
|        |              | 10                  | G 3/8 A                      | 18.7       | 16             | 34             | 32.5           | 25.5           | 18             | 10   | 21.9 | 22   | 24                  | 22             | P-RSTV 10SR-WD | WAL608682      | P-RSTV 10SR                | WAL608223 |                                 |          |
|        | 400 (5801)   | 12                  | G 3/8 A                      | 19.3       | 16             | 34             | 32.5           | 25.5           | 18             | 10   | 21.9 | 22   | 24                  | 22             | P-RSTV 12SR-WD | WAL608683      | P-RSTV 12SR                | WAL607759 |                                 |          |
|        |              | 16                  | G 1/2 A                      | 34.0       | 21.5           | 39.5           | 43             | 30             | 21.5           | 12   | 26.9 | 26   | 30                  | 27             | P-RSTV 16SR-WD | WAL611986      | P-RSTV 16SR                | WAL607760 |                                 |          |
|        | 315 (4569)   | 20                  | G 3/4 A                      | 56.0       | 24             | 47.5           | 48             | 36.5           | 26             | 16   | 32.9 | 32   | 36                  | 32             | P-RSTV 20SR-WD | WAL608433      | P-RSTV 20SR                | WAL607754 |                                 |          |
|        | 250 (3626)   | 25                  | G 1 A                        | 107.6      | 30.5           | 55             | 59             | 43             | 31             | 18   | 39.9 | 39   | 46                  | 41             | P-RSTV 25SR-WD | WAL608979      | P-RSTV 25SR                | WAL607905 |                                 |          |
|        |              | 30                  | G 1/4 A                      | 175.3      | 35.5           | 63             | 70             | 50             | 36.5           | 20   | 49.9 | 49   | 55                  | 50             | P-RSTV 30SR-WD | WAL610045      | P-RSTV 30SR                |           |                                 |          |
| 38     |              | G 1/2 A             | 274.5                        | 40.5       | 71.5           | 80             | 57             | 41             | 22             | 55.9 | 55   | 65   | 55                  | P-RSTV 38SR-WD | WAL607954      | P-RSTV 38SR    | WAL607763                  |           |                                 |          |

L<sub>2</sub> = approximate dimension if the union nut is tightened

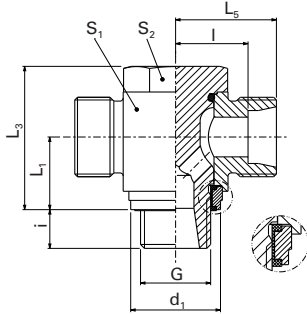
\*For FPM (e.g. Viton) see price list / available on request

### Operating pressure

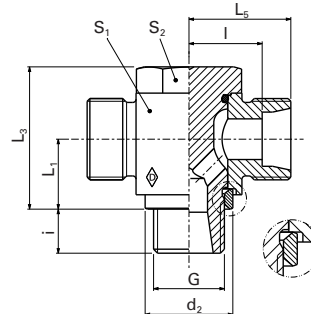
The specified operating pressure ratings (PB) are calculated with a minimum safety factor of 2.5 and represent the maximum permissible operating pressures under predominantly static load conditions and temperatures of up to +120 °C (in the case of steel). Strong pressure surges and mechanical stresses, such as vibrations, require special consideration. If the version with metal-to-metal sealing edge is used for special applications (e.g. higher temperatures or aggressive media), the banjo bolt O-ring must be removed!



RSTS ... R-WD



RSTS ... R



F

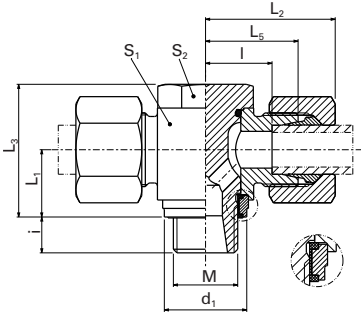
| RSTS with elastomer seal |           | RSTS with metal-to-metal seal |           | Individual components |                               |               |                                    |                   |           |
|--------------------------|-----------|-------------------------------|-----------|-----------------------|-------------------------------|---------------|------------------------------------|-------------------|-----------|
| Model                    | Art. no.  | Model                         | Art. no.  | Body                  | Banjo bolt with O-ring (NBR)* | O-ring (NBR)* | Captive ring with soft seal (NBR)* | Sealing-edge ring |           |
| RSTS 6LR-WD              | WAL609870 | RSTS 6LR                      | WAL615526 | WAL607341             | WAL606516                     | 8.5 x 1.5     | WAL304288                          | WAL606481         | WAL605824 |
| RSTS 8LR-WD              | WAL606305 | RSTS 8LR                      | WAL601153 | WAL607344             | WAL606519                     | 11 x 2        | WAL023492                          | WAL606482         | WAL606740 |
| RSTS 10LR-WD             | WAL609871 | RSTS 10LR                     | WAL613340 | WAL607346             | WAL606519                     | 11 x 2        | WAL023492                          | WAL606482         | WAL606740 |
| RSTS 12LR-WD             | WAL609872 | RSTS 12LR                     | WAL607290 | WAL607349             | WAL606523                     | 14.5 x 2      | WAL605949                          | WAL606485         | WAL605827 |
| RSTS 15LR-WD             | WAL608193 | RSTS 15LR                     | WAL606641 | WAL607354             | WAL606527                     | 19.5 x 2      | WAL605951                          | WAL606488         | WAL605831 |
| RSTS 18LR-WD             | WAL609873 | RSTS 18LR                     | WAL607772 | WAL607356             | WAL606527                     | 19.5 x 2      | WAL605951                          | WAL606489         | WAL605454 |
| RSTS 22LR-WD             | WAL607438 | RSTS 22LR                     | WAL615527 | WAL307358             | WAL607401                     | 26 x 1.5      | WAL605952                          | WAL606492         | WAL605833 |
| RSTS 28LR-WD             | WAL609874 | RSTS 28LR                     | WAL608289 | WAL607360             | WAL607403                     | 31 x 2        | WAL250258                          | WAL606495         | WAL605834 |
| RSTS 35LR-WD             | WAL608195 | RSTS 35LR                     | WAL615528 | WAL607362             | WAL607405                     | 40 x 2        | WAL261157                          | WAL606496         | WAL605835 |
| RSTS 42LR-WD             | WAL608196 | RSTS 42LR                     | WAL615529 | WAL607364             | WAL607407                     | 46 x 2        | WAL605953                          | WAL606498         | WAL605836 |
| RSTS 6SR-WD              | WAL615520 | RSTS 6SR                      | WAL615530 | WAL607343             | WAL606519                     | 11 x 2        | WAL023492                          | WAL606482         | WAL606740 |
| RSTS 8SR-WD              | WAL608191 | RSTS 8SR                      | WAL607435 | WAL607345             | WAL606519                     | 11 x 2        | WAL023492                          | WAL606482         | WAL606740 |
| RSTS 10SR-WD             | WAL615521 | RSTS 10SR                     | WAL607365 | WAL607347             | WAL606523                     | 14.5 x 2      | WAL605949                          | WAL606485         | WAL605827 |
| RSTS 12SR-WD             | WAL608192 | RSTS 12SR                     | WAL615531 | WAL607350             | WAL606523                     | 14.5 x 2      | WAL605949                          | WAL606485         | WAL605827 |
| RSTS 16SR-WD             | WAL615522 | RSTS 16SR                     | WAL624205 | WAL607355             | WAL606527                     | 19.5 x 2      | WAL606951                          | WAL606489         | WAL606454 |
| RSTS 20SR-WD             | WAL615523 | RSTS 20SR                     | WAL615533 | WAL607357             | WAL607401                     | 26 x 1.5      | WAL605952                          | WAL606492         | WAL605833 |
| RSTS 25SR-WD             | WAL615524 | RSTS 25SR                     | WAL615534 | WAL607359             | WAL607403                     | 31 x 2        | WAL250258                          | WAL606495         | WAL605834 |
| RSTS 30SR-WD             | WAL615525 | RSTS 30SR                     | WAL615535 | WAL607361             | WAL607405                     | 40 x 2        | WAL261157                          | WAL606496         | WAL605835 |
| RSTS 38SR-WD             | WAL612599 | RSTS 38SR                     | WAL607958 | WAL607363             | WAL607407                     | 46 x 2        | WAL605953                          | WAL606498         | WAL605836 |

Special parts are available on request.

## Banjo coupling T fittings

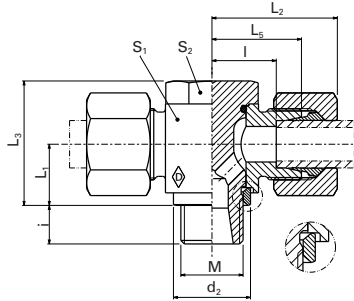
### P-RSTV ... M-WD

- Metric stud type E to DIN EN ISO 9974-2
- with soft seal made from NBR\* (e.g. Perbunan)



### P-RSTV ... M

- Metric stud type B to DIN EN ISO 9974-3
- with metal-to-metal seal



F

| Series     | PB bar (psi) | Tube outer diameter | M          | kg/100 pc. | P-RSTV with elastomer seal |                |                |                |                |      |      |      |                     |                | P-RSTV with metal-to-metal seal |                |             |           |
|------------|--------------|---------------------|------------|------------|----------------------------|----------------|----------------|----------------|----------------|------|------|------|---------------------|----------------|---------------------------------|----------------|-------------|-----------|
|            |              |                     |            |            | L <sub>1</sub>             | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L    | I    | i    | d <sub>1</sub> max. | d <sub>2</sub> | S <sub>1</sub>                  | S <sub>2</sub> | Model       | Art. no.  |
| L          | 500 (7252)   | 6                   | M 10 x 1   | 6.5        | 10                         | 27.5           | 21             | 20             | 13             | 8    | 14.9 | 13   | 14                  | 14             | P-RSTV 6LM-WD                   | WAL608490      | P-RSTV 6LM  | WAL607620 |
|            |              | 8                   | M 12 x 1.5 | 9.6        | 13.5                       | 28.5           | 27             | 21             | 14             | 10   | 17.9 | 17.8 | 19                  | 19             | P-RSTV 8LM-WD                   | WAL609972      | P-RSTV 8LM  | WAL608277 |
|            |              | 10                  | M 14 x 1.5 | 11.1       | 13.5                       | 29.5           | 27             | 22             | 15             | 10   | 19.9 | 17.8 | 19                  | 19             | P-RSTV 10LM-WD                  | WAL608318      | P-RSTV 10LM | WAL608278 |
|            | 400 (5801)   | 12                  | M 16 x 1.5 | 16.7       | 16                         | 32             | 32.5           | 24.5           | 17.5           | 10   | 21.9 | 21   | 24                  | 22             | P-RSTV 12LM-WD                  | WAL609948      | P-RSTV 12LM | WAL607430 |
|            |              | 15                  | M 18 x 1.5 | 21.3       | 18.5                       | 35             | 37             | 27             | 20             | 10   | 23.9 | 23   | 27                  | 24             | P-RSTV 15LM-WD                  | WAL612019      | P-RSTV 15LM | WAL607938 |
|            |              | 18                  | M 22 x 1.5 | 33.6       | 21.5                       | 36.5           | 43             | 28             | 20.5           | 12   | 27.9 | 27   | 30                  | 27             | P-RSTV 18LM-WD                  | WAL613149      | P-RSTV 18LM | WAL606831 |
|            | 250 (3626)   | 22                  | M 26 x 1.5 | 50.2       | 24                         | 43             | 48             | 34.5           | 27             | 16   | 31.9 | 31   | 36                  | 32             | P-RSTV 22LM-WD                  | WAL623380      | P-RSTV 22LM | WAL610416 |
|            |              | 28                  | M 33 x 2   | 89.9       | 30.5                       | 48             | 59             | 39             | 31.5           | 18   | 39.9 | 39   | 46                  | 41             | P-RSTV 28LM-WD                  | WAL623381      | P-RSTV 28LM |           |
|            |              | 35                  | M 42 x 2   | 156        | 35.5                       | 57             | 70             | 46             | 35.5           | 20   | 49.9 | 49   | 55                  | 50             | P-RSTV 35LM-WD                  | WAL623382      | P-RSTV 35LM |           |
|            |              | 42                  | M 48 x 2   | 248.1      | 40.5                       | 62.5           | 80             | 51             | 40             | 22   | 55.9 | 55   | 65                  | 55             | P-RSTV 42LM-WD                  | WAL623383      | P-RSTV 42LM | WAL608236 |
| S          | 500 (7252)   | 6                   | M 12 x 1.5 | 9.8        | 13.5                       | 30.5           | 27             | 23             | 16             | 10   | 17.9 | 17.8 | 19                  | 19             | P-RSTV 6SM-WD                   | WAL623384      | P-RSTV 6SM  | WAL608225 |
|            |              | 8                   | M 14 x 1.5 | 11.7       | 13.5                       | 30.5           | 27             | 23             | 16             | 10   | 19.9 | 17.8 | 19                  | 19             | P-RSTV 8SM-WD                   | WAL623385      | P-RSTV 8SM  | WAL601091 |
|            |              | 10                  | M 16 x 1.5 | 18.7       | 16                         | 34             | 32.5           | 25.5           | 18             | 10   | 21.9 | 21   | 24                  | 22             | P-RSTV 10SM-WD                  | WAL623386      | P-RSTV 10SM |           |
|            | 400 (5801)   | 12                  | M 18 x 1.5 | 22.7       | 18.5                       | 35.5           | 37             | 27             | 19.5           | 10   | 23.9 | 23   | 27                  | 24             | P-RSTV 12SM-WD                  | WAL607449      | P-RSTV 12SM | WAL607907 |
|            |              | 16                  | M 22 x 1.5 | 34.7       | 21.5                       | 39.5           | 43             | 30             | 21.5           | 12   | 27.9 | 27   | 30                  | 27             | P-RSTV 16SM-WD                  | WAL623387      | P-RSTV 16SM |           |
|            | 315 (4569)   | 20                  | M 27 x 2   | 54.3       | 24                         | 47.5           | 48             | 36.5           | 26             | 16   | 32.9 | 32   | 36                  | 32             | P-RSTV 20SM-WD                  | WAL623388      | P-RSTV 20SM | WAL607952 |
|            |              | 25                  | M 33 x 2   | 108        | 30.5                       | 55             | 59             | 43             | 31             | 18   | 39.9 | 39   | 46                  | 41             | P-RSTV 25SM-WD                  | WAL623389      | P-RSTV 25SM | WAL613354 |
| 250 (3626) | 30           | M 42 x 2            | 175.5      | 35.5       | 63                         | 70             | 50             | 36.5           | 20             | 49.9 | 49   | 55   | 50                  | P-RSTV 30SM-WD | WAL623390                       | P-RSTV 30SM    |             |           |
|            | 38           | M 48 x 2            | 264.5      | 40.5       | 71.5                       | 80             | 57             | 41             | 22             | 55.9 | 55   | 65   | 55                  | P-RSTV 38SM-WD | WAL623391                       | P-RSTV 38SM    | WAL623319   |           |

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*For FPM (e.g. Viton) see price list / available on request

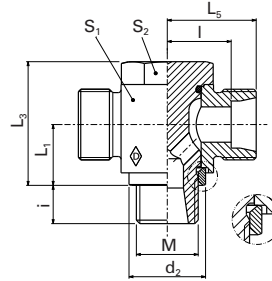
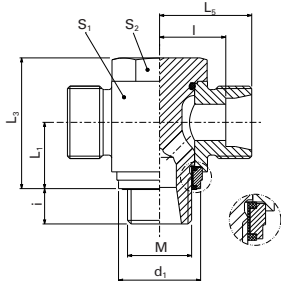
### Operating pressure

The specified operating pressure ratings (PB) are calculated with a minimum safety factor of 2.5 and represent the maximum permissible operating pressures under predominantly static load conditions and temperatures of up to +120 °C (in the case of steel). Strong pressure surges and mechanical stresses, such as vibrations, require special consideration.

If the version with metal-to-metal sealing edge is used for special applications (e.g. higher temperatures or aggressive media), the banjo bolt O-ring must be removed!

RSTS ... M-WD

RSTS ... M



F

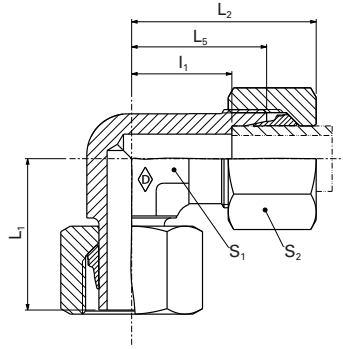
| Individual components    |           |                               |           |           |           |            |                               |           |               |          |                                    |          |                   |  |
|--------------------------|-----------|-------------------------------|-----------|-----------|-----------|------------|-------------------------------|-----------|---------------|----------|------------------------------------|----------|-------------------|--|
| RSTS with elastomer seal |           | RSTS with metal-to-metal seal |           | Body      |           |            | Banjo bolt with O-ring (NBR)* |           | O-ring (NBR)* |          | Captive ring with soft seal (NBR)* |          | Sealing-edge ring |  |
| Model                    | Art. no.  | Model                         | Art. no.  | Art. no.  | Art. no.  | Dimensions | Art. no.                      | Art. no.  | Art. no.      | Art. no. | Art. no.                           | Art. no. | Art. no.          |  |
| RSTS 6LM-WD              | WAL615536 | RSTS 6LM                      | WAL609780 | WAL607341 | WAL606515 | 8.5 x 1.5  | WAL304288                     | WAL606481 | WAL605824     |          |                                    |          |                   |  |
| RSTS 8LM-WD              | WAL612600 | RSTS 8LM                      | WAL606718 | WAL607344 | WAL606517 | 11 x 2     | WAL023492                     | WAL606483 | WAL606739     |          |                                    |          |                   |  |
| RSTS 10LM-WD             | WAL611676 | RSTS 10LM                     | WAL608274 | WAL607346 | WAL606518 | 11 x 2     | WAL023492                     | WAL606484 | WAL605825     |          |                                    |          |                   |  |
| RSTS 12LM-WD             | WAL615537 | RSTS 12LM                     | WAL606719 | WAL607349 | WAL606520 | 14.5 x 2   | WAL605949                     | WAL606485 | WAL605826     |          |                                    |          |                   |  |
| RSTS 15LM-WD             | WAL615538 | RSTS 15LM                     | WAL615547 | WAL607352 | WAL606524 | 16.5 x 2   | WAL605950                     | WAL606486 | WAL605830     |          |                                    |          |                   |  |
| RSTS 18LM-WD             | WAL615539 | RSTS 18LM                     | WAL606762 | WAL607356 | WAL606526 | 19.5 x 2   | WAL605951                     | WAL606490 | WAL605832     |          |                                    |          |                   |  |
| RSTS 22LM-WD             | WAL615540 | RSTS 22LM                     | WAL615548 | WAL607358 | WAL607399 | 26 x 1.5   | WAL605952                     | WAL606491 | WAL606455     |          |                                    |          |                   |  |
| RSTS 28LM-WD             | WAL608194 | RSTS 28LM                     | WAL607957 | WAL607360 | WAL607402 | 31 x 2     | WAL250258                     | WAL606495 | WAL605834     |          |                                    |          |                   |  |
| RSTS 35LM-WD             | WAL608308 | RSTS 35LM                     | WAL615549 | WAL607362 | WAL607404 | 40 x 2     | WAL261157                     | WAL606496 | WAL605835     |          |                                    |          |                   |  |
| RSTS 42LM-WD             | WAL615541 | RSTS 42LM                     | WAL615550 | WAL607364 | WAL607406 | 46 x 2     | WAL605953                     | WAL606498 | WAL605836     |          |                                    |          |                   |  |
| RSTS 6SM-WD              | WAL615542 | RSTS 6SM                      | WAL615551 | WAL607343 | WAL606517 | 11 x 2     | WAL023492                     | WAL606483 | WAL606739     |          |                                    |          |                   |  |
| RSTS 8SM-WD              | WAL607568 | RSTS 8SM                      | WAL615552 | WAL607345 | WAL606518 | 11 x 2     | WAL023492                     | WAL606484 | WAL605825     |          |                                    |          |                   |  |
| RSTS 10SM-WD             | WAL615543 | RSTS 10SM                     | WAL615553 | WAL607347 | WAL606520 | 14.5 x 2   | WAL605949                     | WAL606485 | WAL605826     |          |                                    |          |                   |  |
| RSTS 12SM-WD             | WAL601136 | RSTS 12SM                     | WAL615554 | WAL607351 | WAL606524 | 14.5 x 2   | WAL605949                     | WAL606486 | WAL605830     |          |                                    |          |                   |  |
| RSTS 16SM-WD             | WAL608307 | RSTS 16SM                     | WAL608298 | WAL607355 | WAL606526 | 19.5 x 2   | WAL606951                     | WAL606490 | WAL605832     |          |                                    |          |                   |  |
| RSTS 20SM-WD             | WAL615544 | RSTS 20SM                     | WAL615555 | WAL607357 | WAL607400 | 26 x 1.5   | WAL605952                     | WAL606492 | WAL605833     |          |                                    |          |                   |  |
| RSTS 25SM-WD             | WAL615545 | RSTS 25SM                     | WAL615556 | WAL607359 | WAL607402 | 31 x 2     | WAL250258                     | WAL606495 | WAL605834     |          |                                    |          |                   |  |
| RSTS 30SM-WD             | WAL608324 | RSTS 30SM                     | WAL615557 | WAL607361 | WAL607404 | 40 x 2     | WAL261157                     | WAL606496 | WAL605835     |          |                                    |          |                   |  |
| RSTS 38SM-WD             | WAL615546 | RSTS 38SM                     | WAL615558 | WAL607363 | WAL607406 | 46 x 2     | WAL605953                     | WAL606498 | WAL605836     |          |                                    |          |                   |  |

Special parts are available on request.

**P-EWV ... -SV**

**P-EWV ... -SV-1.4571**

- with pre-assembled standpipe



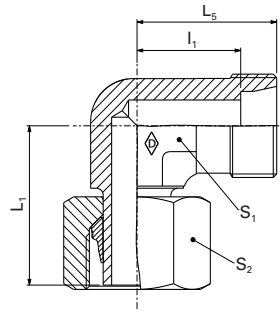
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|               |                 |                           |                      |                |                |                |                |                |                |                  |                  | Walpro<br>P-EWV... SV | Walpro<br>Stainless steel (1.4571)<br>P-EWV ...<br>SV-1.4571* |
|---------------|-----------------|---------------------------|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|-----------------------|---|
| Series        | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model                | kg/ 100<br>pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>5</sub> | I <sub>5</sub> | S <sub>1</sub> | S <sub>2</sub>   | Art. no.         | Art. no.              |   |
| L             | 500<br>(7252)   | 6                         | <b>P-EWV 6 L-SV</b>  | 3.6            | 26             | 27             | 19             | 12             | 12             | 14               | <b>WAL373636</b> | <b>WAL620232</b>      |   |
|               |                 | 8                         | <b>P-EWV 8 L-SV</b>  | 5.0            | 27.5           | 29             | 21             | 14             | 12             | 17               | <b>WAL373637</b> | <b>WAL620372</b>      |   |
|               |                 | 10                        | <b>P-EWV 10 L-SV</b> | 6.9            | 29             | 30             | 22             | 15             | 14             | 19               | <b>WAL373638</b> | <b>WAL620268</b>      |   |
|               | 400<br>(5801)   | 12                        | <b>P-EWV 12 L-SV</b> | 9.2            | 29.5           | 32             | 24             | 17             | 17             | 22               | <b>WAL373639</b> | <b>WAL620226</b>      |   |
|               |                 | 15                        | <b>P-EWV 15 L-SV</b> | 15.4           | 32.5           | 36             | 28             | 21             | 19             | 27               | <b>WAL373640</b> | <b>WAL620340</b>      |   |
|               |                 | 18                        | <b>P-EWV 18 L-SV</b> | 22.5           | 35.5           | 40             | 31             | 23.5           | 24             | 32               | <b>WAL373641</b> | <b>WAL620508</b>      |   |
| 250<br>(3626) | 22              | <b>P-EWV 22 L-SV</b>      | 30.4                 | 38.5           | 44             | 35             | 27.5           | 27             | 36             | <b>WAL373642</b> | <b>WAL620280</b> |                       |   |
|               | 28              | <b>P-EWV 28 L-SV</b>      | 42.6                 | 41.5           | 47             | 38             | 30.5           | 36             | 41             | <b>WAL373643</b> | <b>WAL620337</b> |                       |   |
| S             | 800<br>(11603)  | 6                         | <b>P-EWV 6 S-SV</b>  | 5.8            | 27             | 31             | 23             | 16             | 12             | 17               | <b>WAL373646</b> | <b>WAL620330</b>      |   |
|               |                 | 8                         | <b>P-EWV 8 S-SV</b>  | 7.0            | 27.5           | 32             | 24             | 17             | 14             | 19               | <b>WAL373647</b> | <b>WAL620465</b>      |   |
|               |                 | 10                        | <b>P-EWV 10 S-SV</b> | 11.2           | 30             | 34             | 25             | 17.5           | 17             | 22               | <b>WAL373648</b> | <b>WAL620319</b>      |   |
|               | 630<br>(9137)   | 12                        | <b>P-EWV 12 S-SV</b> | 13.8           | 31             | 38             | 29             | 21.5           | 27             | 24               | <b>WAL373649</b> | <b>WAL620320</b>      |   |
|               |                 | 14                        | <b>P-EWV 14 S-SV</b> | 19.0           | 35             | 40             | 30             | 22             | 19             | 27               | <b>WAL373650</b> | <b>WAL620542</b>      |   |
|               |                 | 16                        | <b>P-EWV 16 S-SV</b> | 23.8           | 36.5           | 43             | 33             | 24.5           | 24             | 30               | <b>WAL373651</b> | <b>WAL620248</b>      |   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened

**P-EWS ... -SV**
**P-EWS ... -SV-1.4571**

**F**

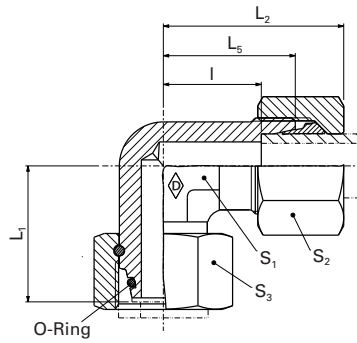
| Series     | PN bar (psi) | Tube outer diameter | Model         | kg/ 100 pc. | Art. no.  | Art. no.  | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |   |                    |
|------------|--------------|---------------------|---------------|-------------|-----------|-----------|--|---|--------------------|
|            |              |                     |               |             |           |           | Stud P-EWS ... -SV   | Stud Stainless steel (1.4571) P-EWS... SV-1.4571* | Walring W-R ... VI |
| L          | 500 (7252)   | 6                   | P-EWS 6 L-SV  | 2.5         | WAL602582 | WAL621226 | WAL624607  | WAL625940   | WAL625980          |
|            |              | 8                   | P-EWS 8 L-SV  | 4           | WAL602579 | WAL621227 | WAL624608  | WAL625941   | WAL625981          |
|            |              | 10                  | P-EWS 10 L-SV | 5           | WAL374926 | WAL620332 | WAL624609  | WAL625942   | WAL625982          |
|            | 400 (5801)   | 12                  | P-EWS 12 L-SV | 7.5         | WAL374927 | WAL620651 | WAL624610  | WAL625943   | WAL625983          |
|            |              | 15                  | P-EWS 15 L-SV | 12.5        | WAL374928 | WAL620604 | WAL624611  | WAL625944   | WAL625984          |
|            |              | 18                  | P-EWS 18 L-SV | 17.5        | WAL602501 | WAL620336 | WAL624612  | WAL625945   | WAL625985          |
| 250 (3626) | 22           | P-EWS 22 L-SV       | 23            | WAL602464   | WAL620380 | WAL624613 | WAL625946  | WAL625986   |                    |
|            | 28           | P-EWS 28 L-SV       | 34.5          | WAL602465   | WAL621228 | WAL624614 | WAL625947  | WAL625987   |                    |
| S          | 800 (11603)  | 6                   | P-EWS 6 S-SV  | 4.5         | WAL602696 | WAL620594 | WAL624617  | WAL625950   | WAL625990          |
|            |              | 8                   | P-EWS 8 S-SV  | 6           | WAL602881 | WAL620655 | WAL624618  | WAL625951   | WAL625991          |
|            |              | 10                  | P-EWS 10 S-SV | 8.5         | WAL602697 | WAL621230 | WAL624619  | WAL625952   | WAL625992          |
|            | 630 (9137)   | 12                  | P-EWS 12 S-SV | 8.5         | WAL602593 | WAL621231 | WAL624620  | WAL625953   | WAL625993          |
|            |              | 14                  | P-EWS 14 S-SV | 13.9        | WAL604826 | WAL621232 |  |   |                    |
|            |              | 16                  | P-EWS 16 S-SV | 16.5        | WAL602698 | WAL620321 | WAL624621  | WAL625954   | WAL625994          |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-EWVD ...**

**P-EWVD ...-1.4571**

- with taper and O-ring made from NBR\* (e.g. Perbunan) for steel
- with taper and O-ring made from FKM (e.g. Viton) for stainless steel (1.4571)



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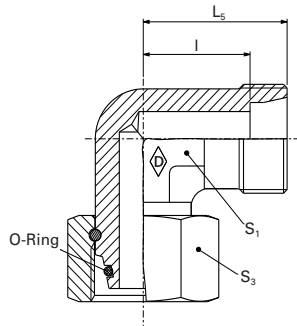
| Series     | PN bar (psi) | Tube outer diameter | Model       | kg/ 100 pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>5</sub> | I    | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | *O-ring    | Walpro    | Walpro  |           |
|------------|--------------|---------------------|-------------|-------------|----------------|----------------|----------------|------|----------------|----------------|----------------|------------|-----------|---|-----------|
|            |              |                     |             |             |                |                |                |      |                |                |                |            | P-EWVD... | Stainless steel (1.4571)<br>P-EWVD ...-1.4571** |           |
|            |              |                     |             |             |                |                |                |      |                |                |                |            |           | Art. no.  | Art. no.  |
| L          | 500 (7252)   | 6                   | P-EWVD 6 L  | 5.8         | 26             | 29             | 21             | 14   | 12             | 14             | 17             | 4.5 x 1.5  | WAL374555 | WAL621326                                       |           |
|            |              | 8                   | P-EWVD 8 L  | 6.6         | 27.5           | 29             | 21             | 14   | 12             | 17             | 17             | 6 x 1.5    | WAL374556 | WAL621327                                       |           |
|            |              | 10                  | P-EWVD 10 L | 8.7         | 29             | 30             | 22             | 15   | 14             | 19             | 19             | 8.5 x 1.5  | WAL374557 | WAL621328                                       |           |
|            | 400 (5801)   | 12                  | P-EWVD 12 L | 11.3        | 29.5           | 32             | 24             | 17   | 17             | 22             | 22             | 10 x 1.5   | WAL372992 | WAL621329                                       |           |
|            |              | 15                  | P-EWVD 15 L | 15.6        | 32.5           | 36             | 28             | 21   | 19             | 27             | 27             | 12 x 2     | WAL374558 | WAL621330                                       |           |
|            |              | 18                  | P-EWVD 18 L | 22.9        | 35.5           | 40             | 31             | 23.5 | 24             | 32             | 32             | 15 x 2     | WAL374559 | WAL621331                                       |           |
|            | 250 (3626)   | 22                  | P-EWVD 22 L | 30.7        | 38.5           | 44             | 35             | 27.5 | 27             | 36             | 36             | 20 x 2     | WAL374560 | WAL621332                                       |           |
|            |              | 28                  | P-EWVD 28 L | 43.1        | 41.5           | 47             | 38             | 30.5 | 36             | 41             | 46             | 26 x 2     | WAL374561 | WAL621333                                       |           |
|            |              | 35                  | P-EWVD 35 L | 65.4        | 51             | 56             | 45             | 34.5 | 41             | 50             | 50             | 32 x 2.5   | WAL374562 | WAL621334                                       |           |
|            | S            | 800 (11603)         | 42          | P-EWVD 42 L | 100.5          | 56             | 63             | 51   | 40             | 50             | 60             | 60         | 38 x 2.5  | WAL374563                                       | WAL621335 |
|            |              |                     | 6           | P-EWVD 6 S  | 7.2            | 27             | 31             | 23   | 16             | 12             | 17             | 17         | 4.5 x 1.5 | WAL374564                                       | WAL621336 |
|            |              |                     | 8           | P-EWVD 8 S  | 9.1            | 27.5           | 32             | 24   | 17             | 14             | 19             | 19         | 6 x 1.5   | WAL374565                                       | WAL621337 |
| 630 (9137) |              | 10                  | P-EWVD 10 S | 12.1        | 30             | 34             | 25             | 17.5 | 17             | 22             | 22             | 8.5 x 1.5  | WAL374566 | WAL621338                                       |           |
|            |              | 12                  | P-EWVD 12 S | 14.8        | 31             | 38             | 29             | 21.5 | 22             | 24             | 24             | 10 x 1.5   | WAL374567 | WAL620589                                       |           |
|            |              | 14                  | P-EWVD 14 S | 19.3        | 35             | 40             | 30             | 22   | 19             | 27             | 27             | 12 x 2     | WAL374568 |   |           |
| 420 (6091) |              | 16                  | P-EWVD 16 S | 24.2        | 36.5           | 43             | 33             | 24.5 | 24             | 30             | 30             | 14 x 2     | WAL374569 | WAL621340                                       |           |
|            |              | 20                  | P-EWVD 20 S | 36.6        | 44.5           | 48             | 37             | 26.5 | 27             | 36             | 36             | 17.3 x 2.4 | WAL374570 | WAL621341                                       |           |
|            |              | 25                  | P-EWVD 25 S | 72.7        | 50             | 54             | 42             | 30   | 36             | 46             | 46             | 22.3 x 2.4 | WAL374571 | WAL621342                                       |           |
| 400 (5801) |              | 30                  | P-EWVD 30 S | 97.3        | 55             | 62             | 49             | 35.5 | 41             | 50             | 50             | 27.3 x 2.4 | WAL374572 | WAL621343                                       |           |
|            |              | 38                  | P-EWVD 38 S | 139.1       | 63             | 72             | 57             | 41   | 50             | 60             | 60             | 35 x 2.5   | WAL374573 | WAL621344                                       |           |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*For FPM (e.g. Viton) see price list / available on request

**EWSD ...**
**EWSD ... -1.4571**

**F**

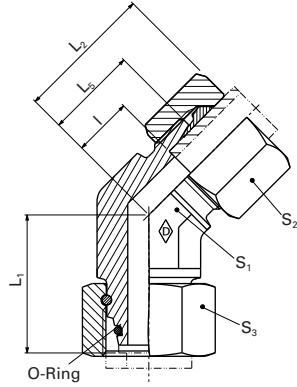
 System nuts for supplementing the stud  
 (for technical data, see part D of this catalog)

| Series | PN bar (psi) | Tube outer diameter | Model     | kg/100 pc. | Art. no.  | Art. no.  | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |   |                    |
|--------|--------------|---------------------|-----------|------------|-----------|-----------|--|---|--------------------|
|        |              |                     |           |            |           |           | Stud EWSD ...  | Stud Stainless steel (1.4571) EWSD ... VI -1.4571 | Walring W-R ... VI |
| L      | 500 (7252)   | 6                   | EWSD 6 L  | 6.0        | WAL063877 | WAL618224 | WAL624607  | WAL625940   | WAL625980          |
|        |              | 8                   | EWSD 8 L  | 6.0        | WAL063878 | WAL618225 | WAL624608  | WAL625941   | WAL625981          |
|        |              | 10                  | EWSD 10 L | 7.5        | WAL063879 | WAL618226 | WAL624609  | WAL625942   | WAL625982          |
|        | 400 (5801)   | 12                  | EWSD 12 L | 11.0       | WAL063880 | WAL618227 | WAL624610  | WAL625943   | WAL625983          |
|        |              | 15                  | EWSD 15 L | 12.0       | WAL063881 | WAL618228 | WAL624611  | WAL625944   | WAL625984          |
|        |              | 18                  | EWSD 18 L | 18.0       | WAL063882 | WAL618229 | WAL624612  | WAL625945   | WAL625985          |
|        |              | 22                  | EWSD 22 L | 24.0       | WAL063883 | WAL618230 | WAL624613  | WAL625946   | WAL625986          |
|        | 250 (3626)   | 28                  | EWSD 28 L | 42.0       | WAL063884 | WAL618231 | WAL624614  | WAL625947   | WAL625987          |
|        |              | 35                  | EWSD 35 L | 55.5       | WAL063885 | WAL618232 | WAL624615  | WAL625948   | WAL625988          |
|        |              | 42                  | EWSD 42 L | 84.5       | WAL063886 | WAL618233 | WAL624616  | WAL625949   | WAL625989          |
| S      | 800 (11603)  | 6                   | EWSD 6 S  | 6.0        | WAL063887 | WAL618234 | WAL624617  | WAL625950   | WAL625990          |
|        |              | 8                   | EWSD 8 S  | 8.5        | WAL063888 | WAL618235 | WAL624618  | WAL625951   | WAL625991          |
|        |              | 10                  | EWSD 10 S | 12.0       | WAL063889 | WAL618236 | WAL624619  | WAL625952   | WAL625992          |
|        | 630 (9137)   | 12                  | EWSD 12 S | 11.0       | WAL063890 | WAL605365 | WAL624620  | WAL625953   | WAL625993          |
|        |              | 14                  | EWSD 14 S | 14.5       | WAL063891 | WAL606246 |  |   |                    |
|        | 420 (6091)   | 16                  | EWSD 16 S | 19.0       | WAL063892 | WAL618237 | WAL624621  | WAL625954   | WAL625994          |
|        |              | 20                  | EWSD 20 S | 29.5       | WAL063893 | WAL067826 | WAL624622  | WAL625955   | WAL625995          |
|        |              | 25                  | EWSD 25 S | 53.5       | WAL063894 | WAL606247 | WAL624623  | WAL625956   | WAL625996          |
|        |              | 30                  | EWSD 30 S | 72.0       | WAL063895 | WAL606248 | WAL624624  | WAL625957   | WAL625997          |
|        |              | 38                  | EWSD 38 S | 106.0      | WAL063896 | WAL618238 | WAL624625  | WAL625958   | WAL625998          |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-EWVD 45 ...**

- with taper and O-ring made from NBR\* (e.g. Perbunan)



F

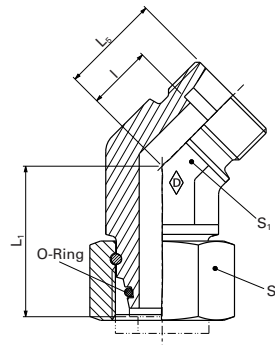
Walpro  
P-EWVD 45 ...

| Series | PN bar (psi) | Tube outer diameter   | Model                 | L <sub>1</sub> | L <sub>5</sub> | I    | S <sub>1</sub> | S <sub>3</sub> | *O-ring          | Art. no.         |
|--------|--------------|-----------------------|-----------------------|----------------|----------------|------|----------------|----------------|------------------|------------------|
| L      | 500 (7252)   | 6                     | <b>P-EWVD 45 6 L</b>  | 26.0           | 16.0           | 9.0  | 14             | 17             | 4.5 x 1.5        | <b>WAL625819</b> |
|        |              | 8                     | <b>P-EWVD 45 8 L</b>  | 27.5           | 19.0           | 12.0 | 14             | 17             | 6 x 1.5          | <b>WAL625820</b> |
|        |              | 10                    | <b>P-EWVD 45 10 L</b> | 29.0           | 19.0           | 12.0 | 19             | 19             | 8.5 x 1.5        | <b>WAL625821</b> |
|        | 400 (5801)   | 12                    | <b>P-EWVD 45 12 L</b> | 29.5           | 21.0           | 14.0 | 19             | 22             | 10 x 1.5         | <b>WAL625822</b> |
|        |              | 15                    | <b>P-EWVD 45 15 L</b> | 32.5           | 24.0           | 17.0 | 22             | 27             | 12 x 2           | <b>WAL625823</b> |
|        |              | 18                    | <b>P-EWVD 45 18 L</b> | 35.5           | 24.0           | 16.5 | 27             | 32             | 15 x 2           | <b>WAL625824</b> |
|        |              | 22                    | <b>P-EWVD 45 22 L</b> | 38.5           | 26.5           | 18.5 | 30             | 36             | 20 x 2           | <b>WAL625825</b> |
|        |              | 28                    | <b>P-EWVD 45 28 L</b> | 41.5           | 30.5           | 23.0 | 36             | 46             | 26 x 2           | <b>WAL625826</b> |
|        | 250 (3626)   | 35                    | <b>P-EWVD 45 35 L</b> | 51.0           | 37.0           | 26.5 | 50             | 50             | 32 x 2.5         | <b>WAL625827</b> |
|        |              | 42                    | <b>P-EWVD 45 42 L</b> | 56.0           | 37.0           | 26.0 | 50             | 60             | 38 x 2.5         | <b>WAL625828</b> |
| S      | 800 (11603)  | 6                     | <b>P-EWVD 45 6 S</b>  | 27.0           | 16.0           | 9.0  | 14             | 17             | 4.5 x 1.5        | <b>WAL625829</b> |
|        |              | 8                     | <b>P-EWVD 45 8 S</b>  | 27.5           | 19.0           | 12.0 | 19             | 19             | 6 x 1.5          | <b>WAL625830</b> |
|        |              | 10                    | <b>P-EWVD 45 10 S</b> | 30.0           | 21.0           | 13.5 | 19             | 22             | 8.5 x 1.5        | <b>WAL625831</b> |
|        | 630 (9137)   | 12                    | <b>P-EWVD 45 12 S</b> | 31.0           | 24.0           | 16.5 | 22             | 24             | 10 x 1.5         | <b>WAL625832</b> |
|        |              | 16                    | <b>P-EWVD 45 16 S</b> | 36.5           | 24.0           | 15.5 | 27             | 30             | 14 x 2           | <b>WAL625833</b> |
|        | 420 (6091)   | 20                    | <b>P-EWVD 45 20 S</b> | 44.5           | 26.5           | 16.0 | 30             | 36             | 17.3 x 2.4       | <b>WAL625834</b> |
|        |              | 25                    | <b>P-EWVD 45 25 S</b> | 50.5           | 30.5           | 18.5 | 36             | 46             | 22.3 x 2.4       | <b>WAL625835</b> |
|        | 400 (5801)   | 30                    | <b>P-EWVD 45 30 S</b> | 55.0           | 37.0           | 23.5 | 50             | 50             | 27.3 x 2.4       | <b>WAL625836</b> |
| 38     |              | <b>P-EWVD 45 38 S</b> | 63.0                  | 37.0           | 21.0           | 50   | 60             | 35 x 2.5       | <b>WAL625837</b> |                  |

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*For FPM (e.g. Viton) see price list / available on request



**EWSD 45 ...**

**F**

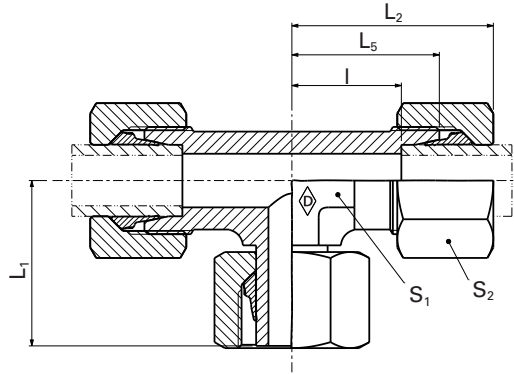
|        |                 |                           |              | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                       |                        |           |
|--------|-----------------|---------------------------|--------------|--|-----------------------|------------------------|-----------|
|        |                 |                           |              | Stud<br>EWSD 45 ...  | Walring<br>W-R ... VI | Walform<br>WF-M ... VI |           |
| Series | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model        | Art. no.   | Art. no.              | Art. no.               |           |
| L      | 500 (7252)      | 6                         | EWSD 45 6 L  | WAL625761  | WAL624607             | WAL625940              |           |
|        |                 | 8                         | EWSD 45 8 L  | WAL625762  | WAL624608             | WAL625941              |           |
|        |                 | 10                        | EWSD 45 10 L | WAL625763  | WAL624609             | WAL625942              |           |
|        |                 | 12                        | EWSD 45 12 L | WAL625764  | WAL624610             | WAL625943              |           |
|        | 400 (5801)      | 15                        | EWSD 45 15 L | WAL625765  | WAL624611             | WAL625944              |           |
|        |                 | 18                        | EWSD 45 18 L | WAL625766  | WAL624612             | WAL625945              |           |
|        |                 | 22                        | EWSD 45 22 L | WAL625767  | WAL624613             | WAL625946              |           |
|        |                 | 28                        | EWSD 45 28 L | WAL625768  | WAL624614             | WAL625947              |           |
|        | 250 (3626)      | 35                        | EWSD 45 35 L | WAL625769  | WAL624615             | WAL625948              |           |
|        |                 | 42                        | EWSD 45 42 L | WAL625770  | WAL624616             | WAL625949              |           |
|        |                 | 800 (11603)               | 6            | EWSD 45 6 S  | WAL625771             | WAL624617              | WAL625950 |
|        |                 |                           | 8            | EWSD 45 8 S  | WAL625772             | WAL624618              | WAL625951 |
| 10     | EWSD 45 10 S    |                           | WAL625773    | WAL624619  | WAL625952             |                        |           |
| S      | 630 (9137)      | 12                        | EWSD 45 12 S | WAL625774  | WAL624620             | WAL625953              |           |
|        |                 | 16                        | EWSD 45 16 S | WAL625775  | WAL624621             | WAL625954              |           |
|        |                 | 20                        | EWSD 45 20 S | WAL625776  | WAL624622             | WAL625955              |           |
|        | 420 (6091)      | 25                        | EWSD 45 25 S | WAL625777  | WAL624623             | WAL625956              |           |
|        |                 | 30                        | EWSD 45 30 S | WAL625778  | WAL624624             | WAL625957              |           |
|        | 400 (5801)      | 38                        | EWSD 45 38 S | WAL625779  | WAL624625             | WAL625958              |           |

Special parts are available on request.

**P-ETV ... -SV**

**P-ETV ...SV-1.4571**

- with pre-assembled standpipe



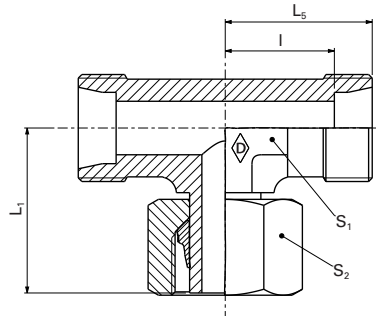
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|               |                 |                           |                      |                |                |                |                |      |                |                  |                  | Walpro<br>P-ETV ... -SV  |  |
|---------------|-----------------|---------------------------|----------------------|----------------|----------------|----------------|----------------|------|----------------|------------------|------------------|--|--|
|               |                 |                           |                      |                |                |                |                |      |                |                  |                  | Walpro<br>Stainless steel (1.4571)<br>P-ETV ... -SV<br>1.4571* |  |
| Series        | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model                | kg/ 100<br>pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>5</sub> | l    | S <sub>1</sub> | S <sub>2</sub>   | Art. no.         | Art. no.   |  |
| L             | 500<br>(7252)   | 6                         | <b>P-ETV 6 L-SV</b>  | 5.3            | 26             | 27             | 19             | 12   | 12             | 14               | <b>WAL373676</b> | <b>WAL620329</b>   |  |
|               |                 | 8                         | <b>P-ETV 8 L-SV</b>  | 7.4            | 27.5           | 29             | 21             | 14   | 12             | 17               | <b>WAL373677</b> | <b>WAL620341</b>   |  |
|               |                 | 10                        | <b>P-ETV 10 L-SV</b> | 10.4           | 29             | 30             | 22             | 15   | 14             | 19               | <b>WAL373678</b> | <b>WAL620436</b>   |  |
|               | 400<br>(5801)   | 12                        | <b>P-ETV 12 L-SV</b> | 13.1           | 29.5           | 32             | 24             | 17   | 17             | 22               | <b>WAL373679</b> | <b>WAL620486</b>   |  |
|               |                 | 15                        | <b>P-ETV 15 L-SV</b> | 21.9           | 32.5           | 36             | 28             | 21   | 19             | 27               | <b>WAL373680</b> | <b>WAL620512</b>   |  |
|               |                 | 18                        | <b>P-ETV 18 L-SV</b> | 32.5           | 35.5           | 40             | 31             | 23.5 | 24             | 32               | <b>WAL373681</b> | <b>WAL620686</b>   |  |
| 250<br>(3626) | 22              | <b>P-ETV 22 L-SV</b>      | 43.3                 | 38.5           | 44             | 35             | 27.5           | 27   | 36             | <b>WAL373682</b> | <b>WAL620687</b> |  |  |
|               | 28              | <b>P-ETV 28 L-SV</b>      | 57.4                 | 41.5           | 47             | 38             | 30.5           | 36   | 41             | <b>WAL373683</b> | <b>WAL620688</b> |  |  |
| S             | 800<br>(11603)  | 6                         | <b>P-ETV 6 S-SV</b>  | 8.6            | 27             | 31             | 23             | 16   | 12             | 17               | <b>WAL373686</b> | <b>WAL620689</b>   |  |
|               |                 | 8                         | <b>P-ETV 8 S-SV</b>  | 10.7           | 27.5           | 32             | 24             | 17   | 14             | 19               | <b>WAL373687</b> | <b>WAL621096</b>   |  |
|               |                 | 10                        | <b>P-ETV 10 S-SV</b> | 16.6           | 30             | 34             | 25             | 17.5 | 17             | 22               | <b>WAL373688</b> | <b>WAL620690</b>   |  |
|               | 630<br>(9137)   | 12                        | <b>P-ETV 12 S-SV</b> | 20.4           | 31             | 38             | 29             | 21.5 | 17             | 24               | <b>WAL373689</b> | <b>WAL620419</b>   |  |
|               |                 | 14                        | <b>P-ETV 14 S-SV</b> | 27.6           | 35             | 40             | 30             | 22   | 19             | 27               | <b>WAL373690</b> |  |  |
|               |                 | 16                        | <b>P-ETV 16 S-SV</b> | 35.6           | 36.5           | 43             | 33             | 24.5 | 24             | 30               | <b>WAL373691</b> | <b>WAL620691</b>   |  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened

**P-ETS ... -SV**
**P-ETS ... -SV-1.4571**

**F**

 System nuts for supplementing the stud  
 (for technical data, see part D of this catalog)

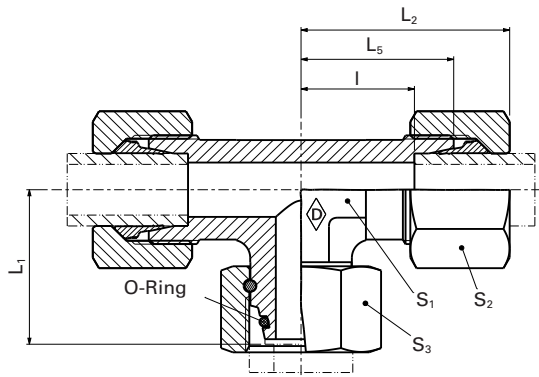
| Series | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model         | kg/ 100 pc. | Art. no.  | Stud<br>P-ETS ... -SV | Stud<br>Stainless steel (1.4571)<br>P-ETS ...-SV VI -1.4571 | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                        |  |
|--------|-----------------|---------------------------|---------------|-------------|-----------|-----------------------|---|--|------------------------|--|
|        |                 |                           |               |             |           |                       |   | Walring<br>W-R ... VI  | Walform<br>WF-M ... VI | Walform<br>Stainless steel (1.4571)<br>WF-M ... VI<br>-1.4571* |
| L      | 500<br>(7252)   | 6                         | P-ETS 6 L-SV  | 3.5         | WAL602686 | WAL621235             | WAL624607   | WAL625940  | WAL625980              |  |
|        |                 | 8                         | P-ETS 8 L-SV  | 5           | WAL374929 | WAL621236             | WAL624608   | WAL625941  | WAL625981              |  |
|        |                 | 10                        | P-ETS 10 L-SV | 6.5         | WAL602662 | WAL620654             | WAL624609   | WAL625942  | WAL625982              |  |
|        | 400<br>(5801)   | 12                        | P-ETS 12 L-SV | 8.5         | WAL602431 | WAL620333             | WAL624610   | WAL625943  | WAL625983              |  |
|        |                 | 15                        | P-ETS 15 L-SV | 15          | WAL602597 | WAL621237             | WAL624611   | WAL625944  | WAL625984              |  |
|        |                 | 18                        | P-ETS 18 L-SV | 19          | WAL602687 | WAL621238             | WAL624612   | WAL625945  | WAL625985              |  |
|        | 250<br>(3626)   | 22                        | P-ETS 22 L-SV | 28          | WAL602688 | WAL621239             | WAL624613   | WAL625946  | WAL625986              |  |
| 28     |                 | P-ETS 28 L-SV             | 42.5          | WAL374930   | WAL621240 | WAL624614             | WAL625947   | WAL625987  |                        |  |
| S      | 800<br>(11603)  | 6                         | P-ETS 6 S-SV  | 5.3         | WAL604060 | WAL621243             | WAL624617   | WAL625950  | WAL625990              |  |
|        |                 | 8                         | P-ETS 8 S-SV  | 7.5         | WAL602689 | WAL621244             | WAL624618   | WAL625951  | WAL625991              |  |
|        |                 | 10                        | P-ETS 10 S-SV | 10.2        | WAL602912 | WAL621245             | WAL624619   | WAL625952  | WAL625992              |  |
|        | 630<br>(9137)   | 12                        | P-ETS 12 S-SV | 13.5        | WAL602907 | WAL621246             | WAL624620   | WAL625953  | WAL625993              |  |
|        |                 | 14                        | P-ETS 14 S-SV | 17          | WAL615559 | WAL621247             |   |  |                        |  |
|        |                 | 16                        | P-ETS 16 S-SV | 24          | WAL604098 | WAL621248             | WAL624621   | WAL625954  | WAL625994              |  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-ETVD ...**

**P-ETVD ...-1.4571**

- with taper and O-ring made from NBR\* (e.g. Perbunan) for steel
- with taper and O-ring made from FKM (e.g. Viton) for stainless steel (1.4571)



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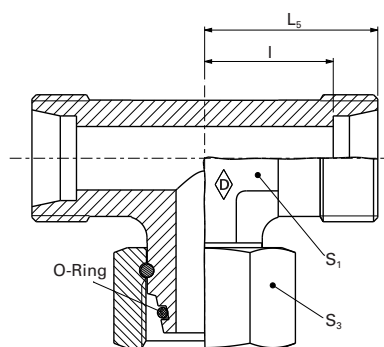
| Series | PN bar (psi) | Tube outer diameter | Model              | kg/100 pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>5</sub> | I    | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | *O-ring   | Walpro                 | Walpro                   |           |
|--------|--------------|---------------------|--------------------|------------|----------------|----------------|----------------|------|----------------|----------------|----------------|-----------|------------------------|--------------------------|-----------|
|        |              |                     |                    |            |                |                |                |      |                |                |                |           | P-ETVD...              | Stainless steel (1.4571) |           |
|        |              |                     |                    |            |                |                |                |      |                |                |                |           | P-ETVD ... VI-1.4571** |                          |           |
|        |              |                     |                    |            |                |                |                |      |                |                |                |           | Art. no.               | Art. no.                 |           |
| L      | 500 (7252)   | 6                   | <b>P-ETVD 6 L</b>  | 5.4        | 26             | 29             | 21             | 14   | 14             | 14             | 17             | 4.5 x 1.5 | WAL374574              | WAL621345                |           |
|        |              | 8                   | <b>P-ETVD 8 L</b>  | 7.6        | 27.5           | 29             | 21             | 14   | 14             | 17             | 17             | 17        | 6 x 1.5                | WAL374575                | WAL621100 |
|        |              | 10                  | <b>P-ETVD 10 L</b> | 10.7       | 29             | 30             | 22             | 15   | 17             | 19             | 19             | 19        | 8.5 x 1.5              | WAL374576                | WAL621346 |
|        | 400 (5801)   | 12                  | <b>P-ETVD 12 L</b> | 13.5       | 29.5           | 32             | 24             | 17   | 19             | 22             | 22             | 22        | 10 x 1.5               | WAL374577                | WAL621347 |
|        |              | 15                  | <b>P-ETVD 15 L</b> | 22.3       | 32.5           | 36             | 28             | 21   | 19             | 27             | 27             | 27        | 12 x 2                 | WAL374578                | WAL621348 |
|        |              | 18                  | <b>P-ETVD 18 L</b> | 33.2       | 35.5           | 40             | 31             | 23.5 | 24             | 32             | 32             | 32        | 15 x 2                 | WAL374579                | WAL621101 |
|        |              | 22                  | <b>P-ETVD 22 L</b> | 43.9       | 38.5           | 44             | 35             | 27.5 | 27             | 36             | 36             | 36        | 20 x 2                 | WAL374580                | WAL621102 |
|        | 250 (3626)   | 28                  | <b>P-ETVD 28 L</b> | 58.3       | 41.5           | 47             | 38             | 30.5 | 36             | 41             | 46             | 46        | 26 x 2                 | WAL374581                | WAL621349 |
|        |              | 35                  | <b>P-ETVD 35 L</b> | 91.5       | 51             | 56             | 45             | 34.5 | 41             | 50             | 50             | 50        | 32 x 2.5               | WAL374582                | WAL621350 |
|        |              | 42                  | <b>P-ETVD 42 L</b> | 136.9      | 56             | 63             | 51             | 40   | 50             | 60             | 60             | 60        | 38 x 2.5               | WAL374583                | WAL621351 |
| S      | 800 (11603)  | 6                   | <b>P-ETVD 6 S</b>  | 8.7        | 27             | 31             | 23             | 16   | 14             | 17             | 17             | 4.5 x 1.5 | WAL374584              | WAL621103                |           |
|        |              | 8                   | <b>P-ETVD 8 S</b>  | 10.9       | 27.5           | 32             | 24             | 17   | 17             | 19             | 19             | 19        | 6 x 1.5                | WAL374585                | WAL621352 |
|        |              | 10                  | <b>P-ETVD 10 S</b> | 16.9       | 30             | 34             | 25             | 17.5 | 19             | 22             | 22             | 22        | 8.5 x 1.5              | WAL374586                | WAL621353 |
|        | 630 (9137)   | 12                  | <b>P-ETVD 12 S</b> | 21.2       | 31             | 38             | 29             | 21.5 | 22             | 24             | 24             | 24        | 10 x 1.5               | WAL374587                | WAL620637 |
|        |              | 14                  | <b>P-ETVD 14 S</b> | 28.1       | 35             | 40             | 30             | 22   | 19             | 27             | 27             | 27        | 12 x 2                 | WAL374588                |           |
|        |              | 16                  | <b>P-ETVD 16 S</b> | 36.4       | 36.5           | 43             | 33             | 24.5 | 24             | 30             | 30             | 30        | 14 x 2                 | WAL374589                | WAL621354 |
|        | 420 (6091)   | 20                  | <b>P-ETVD 20 S</b> | 54.2       | 44.5           | 48             | 37             | 26.5 | 27             | 36             | 36             | 36        | 17.3 x 2.4             | WAL374590                | WAL621355 |
|        |              | 25                  | <b>P-ETVD 25 S</b> | 105.0      | 50             | 54             | 42             | 30   | 36             | 46             | 46             | 46        | 22.3 x 2.4             | WAL374591                | WAL621356 |
|        | 400 (5801)   | 30                  | <b>P-ETVD 30 S</b> | 134.9      | 55             | 62             | 49             | 35.5 | 41             | 50             | 50             | 50        | 27.3 x 2.4             | WAL374592                | WAL621357 |
|        |              | 38                  | <b>P-ETVD 38 S</b> | 206.1      | 63             | 72             | 57             | 41   | 50             | 60             | 60             | 60        | 35 x 2.5               | WAL374593                | WAL621358 |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened

\*For FPM (e.g. Viton) see price list / available on request

**ETSD ...**
**ETSD ...-1.4571**

**F**

 System nuts for supplementing the stud  
 (for technical data, see part D of this catalog)

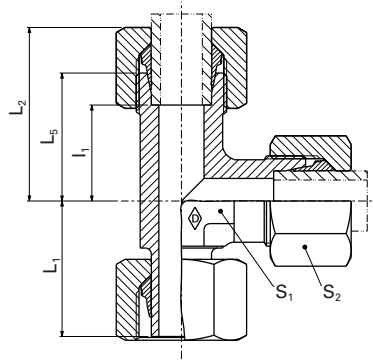
| Series        | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model     | kg/ 100 pc. | Art. no.  | Art. no.  | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |   |                       |
|---------------|-----------------|---------------------------|-----------|-------------|-----------|-----------|--|---|-----------------------|
|               |                 |                           |           |             |           |           | Stud<br>ETSD ...   | Stud<br>Stainless steel (1.4571)<br>ETSD ... VI -1.4571 | Walring<br>W-R ... VI |
| L             | 500<br>(7252)   | 6                         | ETSD 6 L  | 3.2         | WAL063897 | WAL618253 | WAL624607  | WAL625940   | WAL625980             |
|               |                 | 8                         | ETSD 8 L  | 6.5         | WAL063898 | WAL618254 | WAL624608  | WAL625941   | WAL625981             |
|               |                 | 10                        | ETSD 10 L | 9.5         | WAL063899 | WAL618255 | WAL624609  | WAL625942   | WAL625982             |
|               | 400<br>(5801)   | 12                        | ETSD 12 L | 12.5        | WAL063900 | WAL618256 | WAL624610  | WAL625943   | WAL625983             |
|               |                 | 15                        | ETSD 15 L | 14          | WAL063901 | WAL618257 | WAL624611  | WAL625944   | WAL625984             |
|               |                 | 18                        | ETSD 18 L | 21.5        | WAL063902 | WAL618258 | WAL624612  | WAL625945   | WAL625985             |
|               |                 | 22                        | ETSD 22 L | 28          | WAL063903 | WAL618259 | WAL624613  | WAL625946   | WAL625986             |
|               |                 | 28                        | ETSD 28 L | 49          | WAL063904 | WAL618260 | WAL624614  | WAL625947   | WAL625987             |
|               | 250<br>(3626)   | 35                        | ETSD 35 L | 60.9        | WAL063905 | WAL618261 | WAL624615  | WAL625948   | WAL625988             |
|               |                 | 42                        | ETSD 42 L | 89.2        | WAL063906 | WAL617598 | WAL624616  | WAL625949   | WAL625989             |
|               |                 | 6                         | ETSD 6 S  | 8           | WAL063907 | WAL617599 | WAL624617  | WAL625950   | WAL625990             |
|               | S               | 800<br>(11603)            | 8         | ETSD 8 S    | 10.5      | WAL063908 | WAL618262  | WAL624618   | WAL625951             |
| 10            |                 |                           | ETSD 10 S | 14          | WAL063909 | WAL618263 | WAL624619  | WAL625952   | WAL625992             |
| 12            |                 |                           | ETSD 12 S | 19          | WAL063910 | WAL618264 | WAL624620  | WAL625953   | WAL625993             |
| 630<br>(9137) |                 | 14                        | ETSD 14 S | 16.9        | WAL063911 | WAL606249 |  |   |                       |
|               |                 | 16                        | ETSD 16 S | 23          | WAL063912 | WAL618265 | WAL624621  | WAL625954   | WAL625994             |
| 420<br>(6091) |                 | 20                        | ETSD 20 S | 35          | WAL063913 | WAL618266 | WAL624622  | WAL625955   | WAL625995             |
|               |                 | 25                        | ETSD 25 S | 63.5        | WAL063914 | WAL618267 | WAL624623  | WAL625956   | WAL625996             |
| 400<br>(5801) |                 | 30                        | ETSD 30 S | 87          | WAL063915 | WAL617600 | WAL624624  | WAL625957   | WAL625997             |
|               |                 | 38                        | ETSD 38 S | 131         | WAL063916 | WAL618268 | WAL624625  | WAL625958   | WAL625998             |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-ELV ... -SV**

**P-ELV ...SV-1.4571**

- with pre-assembled standpipe



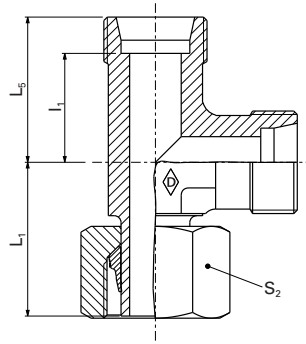
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|               |                 |                           |                      |                |                |                |                |      |                |                  | Walpro<br>P-ELV... -SV | Walpro<br>Stainless steel (1.4571)<br>P-ELV ... SV-1.4571* |
|---------------|-----------------|---------------------------|----------------------|----------------|----------------|----------------|----------------|------|----------------|------------------|------------------------|--|
| Series        | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model                | kg/<br>100 pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>5</sub> | l    | S <sub>1</sub> | S <sub>2</sub>   | Model                  | Art. no.   |
| L             | 500<br>(7252)   | 6                         | <b>P-ELV 6 L-SV</b>  | 5.2            | 26             | 27             | 19             | 12   | 12             | 14               | <b>WAL373716</b>       | <b>WAL620359</b>   |
|               |                 | 8                         | <b>P-ELV 8 L-SV</b>  | 7.8            | 27.5           | 29             | 21             | 14   | 12             | 17               | <b>WAL373717</b>       | <b>WAL620283</b>   |
|               |                 | 10                        | <b>P-ELV 10 L-SV</b> | 10.6           | 29             | 30             | 22             | 15   | 14             | 19               | <b>WAL373718</b>       | <b>WAL620455</b>   |
|               | 400<br>(5801)   | 12                        | <b>P-ELV 12 L-SV</b> | 12.8           | 29.5           | 32             | 24             | 17   | 17             | 22               | <b>WAL373719</b>       | <b>WAL620441</b>   |
|               |                 | 15                        | <b>P-ELV 15 L-SV</b> | 21.9           | 32.5           | 36             | 28             | 21   | 19             | 27               | <b>WAL373720</b>       | <b>WAL620401</b>   |
|               |                 | 18                        | <b>P-ELV 18 L-SV</b> | 33.0           | 35.5           | 40             | 31             | 23.5 | 24             | 32               | <b>WAL373721</b>       | <b>WAL620530</b>   |
| 250<br>(3626) | 22              | <b>P-ELV 22 L-SV</b>      | 43.3                 | 38.5           | 44             | 35             | 27.5           | 27   | 36             | <b>WAL373722</b> | <b>WAL620402</b>       |  |
|               | 28              | <b>P-ELV 28 L-SV</b>      | 55.9                 | 41.5           | 47             | 38             | 30.5           | 36   | 41             | <b>WAL373723</b> | <b>WAL620692</b>       |  |
| S             | 800<br>(11603)  | 6                         | <b>P-ELV 6 S-SV</b>  | 8.8            | 27             | 31             | 23             | 16   | 12             | 17               | <b>WAL373726</b>       | <b>WAL620694</b>   |
|               |                 | 8                         | <b>P-ELV 8 S-SV</b>  | 10.7           | 27.5           | 32             | 24             | 17   | 14             | 19               | <b>WAL373727</b>       | <b>WAL621106</b>   |
|               |                 | 10                        | <b>P-ELV 10 S-SV</b> | 16.7           | 30             | 34             | 25             | 17.5 | 17             | 22               | <b>WAL373728</b>       | <b>WAL620695</b>   |
|               | 630<br>(9137)   | 12                        | <b>P-ELV 12 S-SV</b> | 20.4           | 31             | 38             | 29             | 21.5 | 17             | 24               | <b>WAL373729</b>       | <b>WAL620417</b>   |
|               |                 | 14                        | <b>P-ELV 14 S-SV</b> | 27.2           | 35             | 40             | 30             | 22   | 19             | 27               | <b>WAL373730</b>       | <b>WAL621107</b>   |
|               |                 | 16                        | <b>P-ELV 16 S-SV</b> | 33.7           | 36.5           | 43             | 33             | 24.5 | 24             | 30               | <b>WAL373731</b>       | <b>WAL620696</b>   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened

**P-ELS ... -SV**
**P-ELS ...SV-1.4571**

**F**

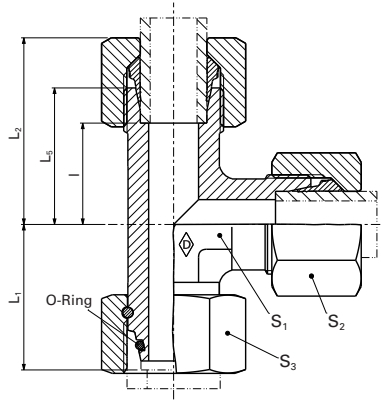
|        |                 |                           |               |                | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |   |                       |                        |  |
|--------|-----------------|---------------------------|---------------|----------------|--|---|-----------------------|------------------------|--|
|        |                 |                           |               |                | Stud<br>P-ELS ... -SV  | Stud<br>Stainless steel<br>(1.4571)<br>P-ELS ... -SV-<br>1.4571 | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform<br>Stainless steel (1.4571)<br>WF-M ... VI<br>-1.4571* |
| Series | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model         | kg/<br>100 pc. | Art. no.   | Art. no.  | Art. no.              | Art. no.               | Art. no.   |
| L      | 500<br>(7252)   | 6                         | P-ELS 6 L-SV  | 4.0            | WAL602911  | WAL620609   | WAL624607             | WAL625940              | WAL625980  |
|        |                 | 8                         | P-ELS 8 L-SV  | 4.4            | WAL374931  | WAL621253   | WAL624608             | WAL625941              | WAL625981  |
|        |                 | 10                        | P-ELS 10 L-SV | 6.0            | WAL374932  | WAL620599   | WAL624609             | WAL625942              | WAL625982  |
|        | 400<br>(5801)   | 12                        | P-ELS 12 L-SV | 8.5            | WAL602559  | WAL620658   | WAL624610             | WAL625943              | WAL625983  |
|        |                 | 15                        | P-ELS 15 L-SV | 14.5           | WAL374933  | WAL621254   | WAL624611             | WAL625944              | WAL625984  |
|        |                 | 18                        | P-ELS 18 L-SV | 21.0           | WAL602467  | WAL620568   | WAL624612             | WAL625945              | WAL625985  |
|        | 250<br>(3626)   | 22                        | P-ELS 22 L-SV | 25.6           | WAL604092  | WAL620636   | WAL624613             | WAL625946              | WAL625986  |
|        |                 | 28                        | P-ELS 28 L-SV | 41.5           | WAL602583  | WAL621255   | WAL624614             | WAL625947              | WAL625987  |
| S      | 800<br>(11603)  | 6                         | P-ELS 6 S-SV  | 6.0            | WAL602998  | WAL621257   | WAL624617             | WAL625950              | WAL625990  |
|        |                 | 8                         | P-ELS 8 S-SV  | 7.5            | WAL602999  | WAL620348   | WAL624618             | WAL625951              | WAL625991  |
|        |                 | 10                        | P-ELS 10 S-SV | 10.5           | WAL602913  | WAL621258   | WAL624619             | WAL625952              | WAL625992  |
|        | 630<br>(9137)   | 12                        | P-ELS 12 S-SV | 13.5           | WAL602908  | WAL621259   | WAL624620             | WAL625953              | WAL625993  |
|        |                 | 14                        | P-ELS 14 S-SV | 16.6           | WAL606307  | WAL621260   |                       |                        |  |
|        |                 | 16                        | P-ELS 16 S-SV | 24.0           | WAL602910  | WAL620570   | WAL624621             | WAL625954              | WAL625994  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-ELVD ...**

**P-ELVD ...-1.4571**

- with taper and O-ring made from NBR\* (e.g. Perbunan) for steel
- with taper and O-ring made from FKM (e.g. Viton) for stainless steel (1.4571)



F

| Series | PN bar (psi) | Tube outer diameter | Model              | kg/100 pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L    | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | *O-ring    | Art. no.         | Art. no.         |
|--------|--------------|---------------------|--------------------|------------|----------------|----------------|----------------|------|----------------|----------------|----------------|------------|------------------|------------------|
| L      | 500 (7252)   | 6                   | <b>P-ELVD 6 L</b>  | 5.3        | 26             | 29             | 21             | 14   | 14             | 14             | 17             | 4.5 x 1.5  | <b>WAL374594</b> | <b>WAL620653</b> |
|        |              | 8                   | <b>P-ELVD 8 L</b>  | 8.0        | 27.5           | 29             | 21             | 14   | 14             | 17             | 17             | 6 x 1.5    | <b>WAL374595</b> | <b>WAL621360</b> |
|        |              | 10                  | <b>P-ELVD 10 L</b> | 10.9       | 29             | 30             | 22             | 15   | 17             | 19             | 19             | 8.5 x 1.5  | <b>WAL374596</b> | <b>WAL621109</b> |
|        |              | 12                  | <b>P-ELVD 12 L</b> | 13.2       | 29.5           | 32             | 24             | 17   | 19             | 22             | 22             | 10 x 1.5   | <b>WAL372991</b> | <b>WAL620815</b> |
|        | 400 (5801)   | 15                  | <b>P-ELVD 15 L</b> | 22.3       | 32.5           | 36             | 28             | 21   | 19             | 27             | 27             | 12 x 2     | <b>WAL374597</b> | <b>WAL620727</b> |
|        |              | 18                  | <b>P-ELVD 18 L</b> | 33.7       | 35.5           | 40             | 31             | 23.5 | 24             | 32             | 32             | 15 x 2     | <b>WAL374598</b> | <b>WAL621361</b> |
|        | 250 (3626)   | 22                  | <b>P-ELVD 22 L</b> | 43.9       | 38.5           | 44             | 35             | 27.5 | 27             | 36             | 36             | 20 x 2     | <b>WAL374599</b> | <b>WAL621362</b> |
|        |              | 28                  | <b>P-ELVD 28 L</b> | 56.8       | 41.5           | 47             | 38             | 30.5 | 36             | 41             | 46             | 26 x 2     | <b>WAL374600</b> | <b>WAL621363</b> |
|        |              | 35                  | <b>P-ELVD 35 L</b> | 90.5       | 51             | 56             | 45             | 34.5 | 41             | 50             | 50             | 32 x 2.5   | <b>WAL374601</b> | <b>WAL621364</b> |
|        |              | 42                  | <b>P-ELVD 42 L</b> | 134.4      | 56             | 63             | 51             | 40   | 50             | 60             | 60             | 38 x 2.5   | <b>WAL374602</b> | <b>WAL621365</b> |
| S      | 800 (11603)  | 6                   | <b>P-ELVD 6 S</b>  | 8.9        | 27             | 31             | 23             | 16   | 14             | 17             | 17             | 4.5 x 1.5  | <b>WAL374603</b> | <b>WAL620864</b> |
|        |              | 8                   | <b>P-ELVD 8 S</b>  | 10.9       | 27.5           | 32             | 24             | 17   | 17             | 19             | 19             | 6 x 1.5    | <b>WAL374604</b> | <b>WAL621110</b> |
|        |              | 10                  | <b>P-ELVD 10 S</b> | 17.0       | 30             | 34             | 25             | 17.5 | 19             | 22             | 22             | 8.5 x 1.5  | <b>WAL374605</b> | <b>WAL621366</b> |
|        |              | 12                  | <b>P-ELVD 12 S</b> | 21.2       | 31             | 38             | 29             | 21.5 | 22             | 24             | 24             | 10 x 1.5   | <b>WAL374606</b> | <b>WAL620587</b> |
|        | 630 (9137)   | 14                  | <b>P-ELVD 14 S</b> | 27.7       | 35             | 40             | 30             | 22   | 19             | 27             | 27             | 12 x 2     | <b>WAL374607</b> | <b>WAL621111</b> |
|        |              | 16                  | <b>P-ELVD 16 S</b> | 34.5       | 36.5           | 43             | 33             | 24.5 | 24             | 30             | 30             | 14 x 2     | <b>WAL374608</b> | <b>WAL621112</b> |
|        | 420 (6091)   | 20                  | <b>P-ELVD 20 S</b> | 54.8       | 44.5           | 48             | 37             | 26.5 | 27             | 36             | 36             | 17.3 x 2.4 | <b>WAL374609</b> | <b>WAL620588</b> |
|        |              | 25                  | <b>P-ELVD 25 S</b> | 103.6      | 50             | 54             | 42             | 30   | 36             | 46             | 46             | 22.3 x 2.4 | <b>WAL374610</b> | <b>WAL621367</b> |
|        | 400 (5801)   | 30                  | <b>P-ELVD 30 S</b> | 134.1      | 55             | 62             | 49             | 35.5 | 41             | 50             | 50             | 27.3 x 2.4 | <b>WAL374611</b> | <b>WAL621113</b> |
|        |              | 38                  | <b>P-ELVD 38 S</b> | 196.4      | 63             | 72             | 57             | 41   | 50             | 60             | 60             | 35 x 2.5   | <b>WAL374612</b> | <b>WAL621114</b> |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

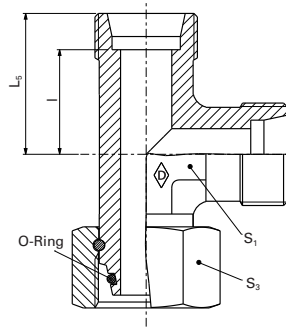
L<sub>2</sub> = approximate dimension if the union nut is tightened

\*For FPM (e.g. Viton) see price list / available on request



**ELSD ...**

**ELSD ...-1.4571**



F

System nuts for supplementing the stud  
(for technical data, see part D of this catalog)

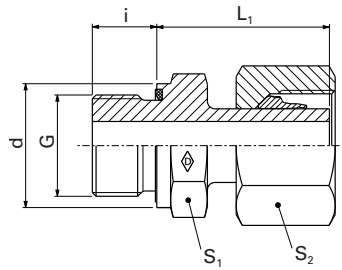
| Series | PN bar (psi) | Tube outer diameter | Model     | kg/ 100 pc. | Art. no.  | Art. no.  | Walring W-R ... VI | Walform WF-M ... VI | Walform Stainless steel (1.4571) WF-M ... VI -1.4571** |
|--------|--------------|---------------------|-----------|-------------|-----------|-----------|--------------------|---------------------|--|
|        |              |                     |           |             |           |           |                    |                     | Stud ELSD ...  |
| L      | 500 (7252)   | 6                   | ELSD 6 L  | 4.6         | WAL063917 | WAL602804 | WAL624607          | WAL625940           | WAL625980  |
|        |              | 8                   | ELSD 8 L  | 7.0         | WAL063918 | WAL602774 | WAL624608          | WAL625941           | WAL625981  |
|        |              | 10                  | ELSD 10 L | 9.0         | WAL063919 | WAL617610 | WAL624609          | WAL625942           | WAL625982  |
|        | 400 (5801)   | 12                  | ELSD 12 L | 12.5        | WAL063920 | WAL618269 | WAL624610          | WAL625943           | WAL625983  |
|        |              | 15                  | ELSD 15 L | 13.1        | WAL063921 | WAL371559 | WAL624611          | WAL625944           | WAL625984  |
|        |              | 18                  | ELSD 18 L | 20.5        | WAL063922 | WAL618270 | WAL624612          | WAL625945           | WAL625985  |
|        |              | 22                  | ELSD 22 L | 28.0        | WAL063923 | WAL617611 | WAL624613          | WAL625946           | WAL625986  |
|        | 250 (3626)   | 28                  | ELSD 28 L | 49.0        | WAL063924 | WAL618271 | WAL624614          | WAL625947           | WAL625987  |
|        |              | 35                  | ELSD 35 L | 65.0        | WAL063925 | WAL605999 | WAL624615          | WAL625948           | WAL625988  |
|        |              | 42                  | ELSD 42 L | 100.0       | WAL063926 | WAL618272 | WAL624616          | WAL625949           | WAL625989  |
| S      | 800 (11603)  | 6                   | ELSD 6 S  | 8.0         | WAL063927 | WAL617612 | WAL624617          | WAL625950           | WAL625990  |
|        |              | 8                   | ELSD 8 S  | 11.0        | WAL063928 | WAL618273 | WAL624618          | WAL625951           | WAL625991  |
|        |              | 10                  | ELSD 10 S | 14.0        | WAL063929 | WAL617613 | WAL624619          | WAL625952           | WAL625992  |
|        | 630 (9137)   | 12                  | ELSD 12 S | 19.0        | WAL063930 | WAL605361 | WAL624620          | WAL625953           | WAL625993  |
|        |              | 14                  | ELSD 14 S | 16.5        | WAL063931 | WAL617614 |                    |                     |  |
|        |              | 16                  | ELSD 16 S | 23.5        | WAL063932 | WAL618275 | WAL624621          | WAL625954           | WAL625994  |
|        | 420 (6091)   | 20                  | ELSD 20 S | 35.5        | WAL063933 | WAL605363 | WAL624622          | WAL625955           | WAL625995  |
|        |              | 25                  | ELSD 25 S | 63.5        | WAL063934 | WAL618277 | WAL624623          | WAL625956           | WAL625996  |
|        | 400 (5801)   | 30                  | ELSD 30 S | 88.0        | WAL063935 | WAL617615 | WAL624624          | WAL625957           | WAL625997  |
|        |              | 38                  | ELSD 38 S | 130.0       | WAL063936 | WAL618278 | WAL624625          | WAL625958           | WAL625998  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-EGES ... R-WD-SV**

**P-EGES ... R-WD-SV-1.4571**

- with pre-assembled standpipe
- with soft seal made from NBR\* (e.g. Perbunan) for steel
- with soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)
- Inch studs type E to DIN EN ISO 1179-2



F

| Series     | PN bar (psi) | Tube outer diameter | DIN-ISO 228 (R...DIN 259) G | Model                          | kg/100 pc. | i    | d    | L <sub>1</sub> | S <sub>1</sub> | S <sub>2</sub>   | Art. no.         | Art. no.         |
|------------|--------------|---------------------|-----------------------------|--------------------------------|------------|------|------|----------------|----------------|------------------|------------------|------------------|
| L          | 500 (7252)   | 6                   | G 1/8 A                     | <b>P-EGES 6 LR-WD-SV</b>       | 2.5        | 8    | 13.9 | 24.5           | 14             | 14               | <b>WAL373856</b> | <b>WAL620543</b> |
|            |              | 8                   | G 1/4 A                     | <b>P-EGES 8 LR-WD-SV</b>       | 4.5        | 12   | 18.9 | 29.5           | 19             | 17               | <b>WAL373857</b> | <b>WAL620493</b> |
|            |              | 10                  | G 1/4 A                     | <b>P-EGES 10 LR-WD-SV</b>      | 5.8        | 12   | 18.9 | 27.5           | 19             | 19               | <b>WAL373858</b> | <b>WAL620456</b> |
|            |              | 12                  | G 1/4 A                     | <b>P-EGES 12 L/R 1/4-WD-SV</b> | 6.5        | 12   | 18.9 | 27.5           | 19             | 22               | <b>WAL373859</b> | <b>WAL623088</b> |
|            | 400 (5801)   | 12                  | G 3/8 A                     | <b>P-EGES 12 LR-WD-SV</b>      | 6.5        | 12   | 21.9 | 34             | 22             | 22               | <b>WAL373860</b> | <b>WAL620408</b> |
|            |              | 15                  | G 3/8 A                     | <b>P-EGES 15 L/R 3/8-WD-SV</b> | 11.0       | 12   | 21.9 | 34             | 27             | 27               | <b>WAL374482</b> | <b>WAL623089</b> |
|            |              | 15                  | G 1/2 A                     | <b>P-EGES 15 LR-WD-SV</b>      | 11.6       | 14   | 26.9 | 32             | 27             | 27               | <b>WAL373861</b> | <b>WAL620457</b> |
|            |              | 18                  | G 1/2 A                     | <b>P-EGES 18 LR-WD-SV</b>      | 13.0       | 14   | 26.9 | 31.5           | 27             | 27               | <b>WAL373862</b> | <b>WAL620487</b> |
| 250 (3626) | 22           | G 3/4 A             | <b>P-EGES 22 LR-WD-SV</b>   | 17.6                           | 16         | 31.9 | 32.5 | 32             | 36             | <b>WAL373863</b> | <b>WAL620472</b> |                  |
| S          | 800 (11603)  | 6                   | G 1/4 A                     | <b>P-EGES 6 SR-WD-SV</b>       | 5.1        | 12   | 18.9 | 27             | 19             | 17               | <b>WAL373867</b> | <b>WAL620544</b> |
|            |              | 8                   | G 1/4 A                     | <b>P-EGES 8 SR-WD-SV</b>       | 4.8        | 12   | 18.9 | 29.5           | 19             | 19               | <b>WAL373868</b> | <b>WAL620490</b> |
|            |              | 10                  | G 3/8 A                     | <b>P-EGES 10 SR-WD-SV</b>      | 8.3        | 12   | 21.9 | 32             | 22             | 22               | <b>WAL373869</b> | <b>WAL620545</b> |
|            |              | 12                  | G 3/8 A                     | <b>P-EGES 12 SR-WD-SV</b>      | 7.3        | 12   | 21.9 | 34             | 22             | 24               | <b>WAL373870</b> | <b>WAL620407</b> |
|            | 630 (9137)   | 12                  | G 1/2 A                     | <b>P-EGES 12 S/R 1/2-WD-SV</b> | 9.2        | 14   | 26.9 | 34.5           | 27             | 25               | <b>WAL373871</b> | <b>WAL620546</b> |
|            |              | 14                  | G 1/2 A                     | <b>P-EGES 14 SR-WD-SV</b>      | 14.9       | 14   | 26.9 | 36.5           | 27             | 27               | <b>WAL373872</b> | <b>WAL617616</b> |
|            |              | 16                  | G 1/2 A                     | <b>P-EGES 16 SR-WD-SV</b>      | 15.4       | 14   | 26.9 | 37             | 27             | 30               | <b>WAL373873</b> | <b>WAL620532</b> |
|            |              | 16                  | G 3/4 A                     | <b>P-EGES 16 S/R 3/4-WD-SV</b> | 20.0       | 16   | 31.9 | 39             | 32             | 30               | <b>WAL373874</b> | <b>WAL623090</b> |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

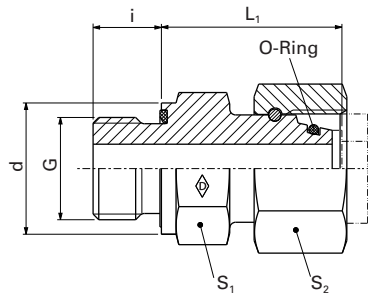
\*\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

\*For FPM (e.g. Viton) see price list / available on request

## EGESD ... R-WD

### EGESD ... R-WD-1.4571

- with taper and O-ring made from NBR\* (e.g. Perbunan) for steel
- with taper and O-ring made from FKM (e.g. Viton) for stainless steel (1.4571)
- Inch studs type E to DIN EN ISO 1179-2



F

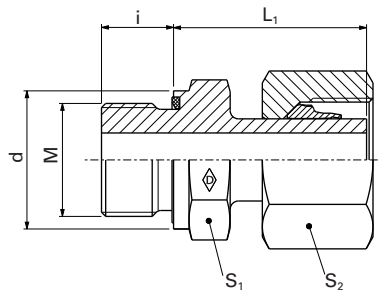
| Series | PN bar (psi) | Tube outer diameter | DIN-ISO 228 (R...DIN 259) G | Model                      | kg/100 pc. | L <sub>1</sub> | i    | d    | S <sub>1</sub> | S <sub>2</sub> | *O-ring          | Stud EGESD ... R-WD | Stud Stainless steel (1.4571) EGESD ... R-WD-VI-1.4571** |
|--------|--------------|---------------------|-----------------------------|----------------------------|------------|----------------|------|------|----------------|----------------|------------------|---------------------|--|
| L      | 500 (7252)   | 6                   | G 1/8 A                     | <b>EGESD 6 LR-WD</b>       | 3.6        | 24.5           | 8    | 13.9 | 14             | 17             | 4.5 x 1.5        | <b>WAL063661</b>    |  |
|        |              | 8                   | G 1/4 A                     | <b>EGESD 8 LR-WD</b>       | 5.7        | 29.5           | 12   | 18.9 | 19             | 17             | 6 x 1.5          | <b>WAL063662</b>    | <b>WAL374950</b>   |
|        |              | 10                  | G 1/4 A                     | <b>EGESD 10 LR-WD</b>      | 5.8        | 27.5           | 12   | 18.9 | 19             | 19             | 8.5 x 1.5        | <b>WAL063663</b>    | <b>WAL371550</b>   |
|        |              | 12                  | G 1/4 A                     | <b>EGESD 12 L/R 1/4-WD</b> | 6.8        | 27.5           | 12   | 18.9 | 19             | 22             | 10 x 1.5         | <b>WAL063664</b>    | <b>WAL615354</b>   |
|        | 400 (5801)   | 12                  | G 3/8 A                     | <b>EGESD 12 LR-WD</b>      | 7.5        | 34             | 12   | 21.9 | 22             | 22             | 10 x 1.5         | <b>WAL063665</b>    | <b>WAL372579</b>   |
|        |              | 15                  | G 1/2 A                     | <b>EGESD 15 LR-WD</b>      | 14.4       | 32             | 14   | 26.9 | 27             | 27             | 12 x 2           | <b>WAL063666</b>    | <b>WAL371553</b>   |
|        |              | 18                  | G 1/2 A                     | <b>EGESD 18 LR-WD</b>      | 15.2       | 31.5           | 14   | 26.9 | 27             | 32             | 15 x 2           | <b>WAL063667</b>    | <b>WAL371556</b>   |
|        | 250 (3626)   | 22                  | G 3/4 A                     | <b>EGESD 22 LR-WD</b>      | 20.2       | 32.5           | 16   | 31.9 | 32             | 36             | 20 x 2           | <b>WAL063668</b>    | <b>WAL372751</b>   |
|        |              | 28                  | G 1 A                       | <b>EGESD 28 LR-WD</b>      | 35.6       | 35             | 18   | 39.9 | 41             | 46             | 26 x 2           | <b>WAL063669</b>    | <b>WAL604194</b>   |
| 35     |              | G 1/4 A             | <b>EGESD 35 LR-WD</b>       | 50.7                       | 42.5       | 20             | 49.9 | 50   | 50             | 32 x 2.5       | <b>WAL063670</b> | <b>WAL604648</b>    |  |
| 42     |              | G 1/2 A             | <b>EGESD 42 LR-WD</b>       | 66.4                       | 46.5       | 22             | 54.9 | 55   | 60             | 38 x 2.5       | <b>WAL063671</b> | <b>WAL372348</b>    |  |
| S      | 800 (11603)  | 6                   | G 1/4 A                     | <b>EGESD 6 SR-WD</b>       | 5.6        | 27             | 12   | 18.9 | 19             | 17             | 4.5 x 1.5        | <b>WAL063672</b>    | <b>WAL615654</b>   |
|        |              | 8                   | G 1/4 A                     | <b>EGESD 8 SR-WD</b>       | 6.2        | 29.5           | 12   | 18.9 | 19             | 19             | 6 x 1.5          | <b>WAL063673</b>    | <b>WAL068481</b>   |
|        |              | 10                  | G 3/8 A                     | <b>EGESD 10 SR-WD</b>      | 9.2        | 32             | 12   | 21.9 | 22             | 22             | 8.5 x 1.5        | <b>WAL063674</b>    | <b>WAL608620</b>   |
|        |              | 12                  | G 3/8 A                     | <b>EGESD 12 SR-WD</b>      | 11.0       | 34             | 12   | 21.9 | 22             | 24             | 10 x 1.5         | <b>WAL063675</b>    | <b>WAL608620</b>   |
|        | 630 (9137)   | 12                  | G 1/2 A                     | <b>EGESD 12 S/R 1/2-WD</b> | 15.3       | 34.5           | 14   | 26.9 | 27             | 24             | 10 x 1.5         | <b>WAL063676</b>    | <b>WAL372581</b>   |
|        |              | 14                  | G 1/2 A                     | <b>EGESD 14 SR-WD</b>      | 17.0       | 36.5           | 14   | 26.9 | 27             | 27             | 12 x 2           | <b>WAL063677</b>    | <b>WAL617616</b>   |
|        |              | 16                  | G 1/2 A                     | <b>EGESD 16 SR-WD</b>      | 23.0       | 37             | 14   | 26.9 | 27             | 30             | 14 x 2           | <b>WAL063678</b>    | <b>WAL370609</b>   |
|        | 420 (6091)   | 20                  | G 3/4 A                     | <b>EGESD 20 SR-WD</b>      | 28.6       | 43             | 16   | 31.9 | 32             | 36             | 17.3 x 2.4       | <b>WAL063679</b>    | <b>WAL068479</b>   |
|        |              | 25                  | G 1 A                       | <b>EGESD 25 SR-WD</b>      | 49.4       | 48             | 18   | 39.9 | 41             | 46             | 22.3 x 2.4       | <b>WAL063680</b>    | <b>WAL372587</b>   |
|        | 400 (5801)   | 30                  | G 1 1/4 A                   | <b>EGESD 30 SR-WD</b>      | 67.4       | 51             | 20   | 49.9 | 50             | 50             | 27.3 x 2.4       | <b>WAL063681</b>    | <b>WAL372332</b>   |
| 38     |              | G 1 1/2 A           | <b>EGESD 38 SR-WD</b>       | 93.1                       | 60         | 22             | 54.9 | 55   | 60             | 35 x 2.5       | <b>WAL063682</b> | <b>WAL370961</b>    |  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.  
 \*For FPM (e.g. Viton) see price list / available on request

**P-EGES ... M-WD-SV**

**P-EGES ... M-WD-SV-1.4571**

- with pre-assembled standpipe
- with soft seal made from NBR\* (e.g. Perbunan) for steel
- with soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)
- Metric stud type E to DIN EN ISO 9974-2



F

| Series     | PN bar (psi) | Tube outer diameter | Model              | M          | kg/100 pc. | i    | d    | L <sub>1</sub> | S <sub>1</sub> | S <sub>2</sub> | Stud               | Stud   |          |
|------------|--------------|---------------------|--------------------|------------|------------|------|------|----------------|----------------|----------------|--------------------|--|----------|
|            |              |                     |                    |            |            |      |      |                |                |                | P-EGES ... M-WD-SV | Stainless steel (1.4571) P-EGES ... M-WD-SV-1.4571** |          |
|            |              |                     |                    |            |            |      |      |                |                |                |                    | Art. no.   | Art. no. |
| L          | 500 (7252)   | 6                   | P-EGES 6 LM-WD-SV  | M 10 x 1   | 2.5        | 8    | 13.9 | 24.5           | 14             | 14             | WAL373879          | WAL621116  |          |
|            |              | 8                   | P-EGES 8 LM-WD-SV  | M 12 x 1.5 | 4.0        | 12   | 16.9 | 26.5           | 17             | 17             | WAL373880          | WAL621117  |          |
|            |              | 10                  | P-EGES 10 LM-WD-SV | M 14 x 1.5 | 4.8        | 12   | 18.9 | 27.5           | 19             | 19             | WAL373881          | WAL620700  |          |
|            | 400 (5801)   | 12                  | P-EGES 12 LM-WD-SV | M 16 x 1.5 | 6.5        | 12   | 21.9 | 30.5           | 22             | 22             | WAL373882          | WAL621118  |          |
|            |              | 15                  | P-EGES 15 LM-WD-SV | M 18 x 1.5 | 9.6        | 12   | 23.9 | 31.5           | 24             | 27             | WAL373883          | WAL621119  |          |
|            |              | 18                  | P-EGES 18 LM-WD-SV | M 22 x 1.5 | 13.0       | 14   | 26.9 | 31.5           | 27             | 32             | WAL373884          | WAL621120  |          |
| 250 (3626) | 22           | P-EGES 22 LM-WD-SV  | M 26 x 1.5         | 17.6       | 16         | 31.9 | 32   | 32             | 36             | WAL373885      | WAL621121          |  |          |
| S          | 800 (11603)  | 6                   | P-EGES 6 SM-WD-SV  | M 12 x 1.5 | 4.6        | 12   | 16.9 | 27             | 17             | 17             | WAL373889          | WAL620701  |          |
|            |              | 8                   | P-EGES 8 SM-WD-SV  | M 14 x 1.5 | 5.5        | 12   | 18.9 | 29.5           | 19             | 19             | WAL373890          | WAL621125  |          |
|            |              | 10                  | P-EGES 10 SM-WD-SV | M 16 x 1.5 | 8.3        | 12   | 21.9 | 32             | 22             | 22             | WAL373891          | WAL621126  |          |
|            | 630 (9137)   | 12                  | P-EGES 12 SM-WD-SV | M 18 x 1.5 | 11.5       | 12   | 23.9 | 34             | 24             | 24             | WAL373892          | WAL621127  |          |
|            |              | 14                  | P-EGES 14 SM-WD-SV | M 20 x 1.5 | 14.9       | 14   | 25.9 | 36.5           | 27             | 27             | WAL373893          | WAL621472  |          |
|            |              | 16                  | P-EGES 16 SM-WD-SV | M 22 x 1.5 | 15.4       | 14   | 26.9 | 37             | 27             | 30             | WAL373894          | WAL620657  |          |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

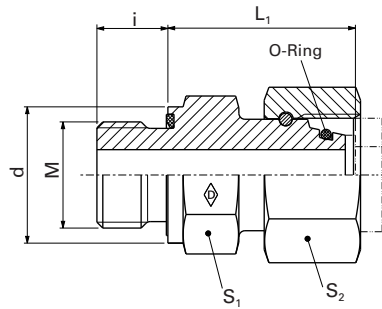
\*\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

\*For FPM (e.g. Viton) see price list / available on request

**EGESD ... M-WD**

**EGESD ... M-WD-1.4571**

- with taper and O-ring made from NBR\* (e.g. Perbunan) for steel
- with taper and O-ring made from FKM (e.g. Viton) for stainless steel (1.4571)
- Metric stud type E to DIN EN ISO 9974-2



F

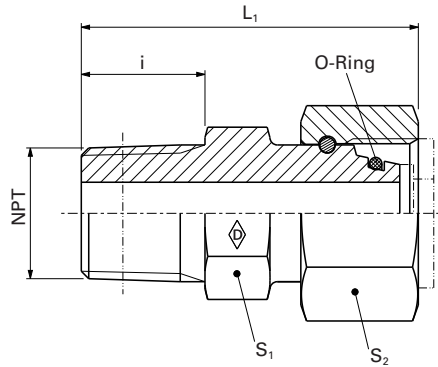
| Series | PN bar (psi) | Tube outer diameter | M          | Model                 | kg/100 pc. | L <sub>1</sub> | i  | d    | S <sub>1</sub> | S <sub>2</sub> | *O-ring    | Art. no.         | Stud             |
|--------|--------------|---------------------|------------|-----------------------|------------|----------------|----|------|----------------|----------------|------------|------------------|------------------|
|        |              |                     |            |                       |            |                |    |      |                |                |            |                  | EGESD ... M-WD   |
| L      | 500 (7252)   | 6                   | M 10 x 1   | <b>EGESD 6 LM-WD</b>  | 3.6        | 24.5           | 8  | 13.9 | 14             | 17             | 4.5 x 1.5  | <b>WAL063641</b> | <b>WAL602795</b> |
|        |              | 8                   | M 12 x 1.5 | <b>EGESD 8 LM-WD</b>  | 5.7        | 26.5           | 12 | 16.9 | 17             | 17             | 6 x 1.5    | <b>WAL063642</b> | <b>WAL617617</b> |
|        |              | 10                  | M 14 x 1.5 | <b>EGESD 10 LM-WD</b> | 5.8        | 27.5           | 12 | 18.9 | 19             | 19             | 8.5 x 1.5  | <b>WAL063643</b> | <b>WAL615649</b> |
|        |              | 12                  | M 16 x 1.5 | <b>EGESD 12 LM-WD</b> | 7.5        | 30.5           | 12 | 21.9 | 22             | 22             | 10 x 1.5   | <b>WAL063644</b> | <b>WAL613252</b> |
|        | 400 (5801)   | 15                  | M 18 x 1.5 | <b>EGESD 15 LM-WD</b> | 14.4       | 31.5           | 12 | 23.9 | 24             | 27             | 12 x 2     | <b>WAL063645</b> | <b>WAL617618</b> |
|        |              | 18                  | M 22 x 1.5 | <b>EGESD 18 LM-WD</b> | 15.2       | 31.5           | 14 | 26.9 | 27             | 32             | 15 x 2     | <b>WAL063646</b> | <b>WAL615369</b> |
|        |              | 22                  | M 26 x 1.5 | <b>EGESD 22 LM-WD</b> | 20.2       | 32.5           | 16 | 31.9 | 32             | 36             | 20 x 2     | <b>WAL063647</b> | <b>WAL615318</b> |
|        | 250 (3626)   | 28                  | M 33 x 2   | <b>EGESD 28 LM-WD</b> | 35.6       | 35             | 18 | 39.9 | 41             | 46             | 26 x 2     | <b>WAL063648</b> | <b>WAL617619</b> |
|        |              | 35                  | M 42 x 2   | <b>EGESD 35 LM-WD</b> | 50.7       | 42.5           | 20 | 49.9 | 50             | 50             | 32 x 2.5   | <b>WAL063649</b> | <b>WAL615713</b> |
|        |              | 42                  | M 48 x 2   | <b>EGESD 42 LM-WD</b> | 66.4       | 46.5           | 22 | 54.9 | 55             | 60             | 38 x 2.5   | <b>WAL063650</b> | <b>WAL617620</b> |
| S      | 800 (11603)  | 6                   | M 12 x 1.5 | <b>EGESD 6 SM-WD</b>  | 5.6        | 27             | 12 | 16.9 | 17             | 17             | 4.5 x 1.5  | <b>WAL063651</b> | <b>WAL617621</b> |
|        |              | 8                   | M 14 x 1.5 | <b>EGESD 8 SM-WD</b>  | 6.2        | 29.5           | 12 | 18.9 | 19             | 19             | 6 x 1.5    | <b>WAL063652</b> | <b>WAL617622</b> |
|        |              | 10                  | M 16 x 1.5 | <b>EGESD 10 SM-WD</b> | 9.2        | 32             | 12 | 21.9 | 22             | 22             | 8.5 x 1.5  | <b>WAL063653</b> | <b>WAL617623</b> |
|        |              | 12                  | M 18 x 1.5 | <b>EGESD 12 SM-WD</b> | 11.0       | 34             | 12 | 23.9 | 24             | 24             | 10 x 1.5   | <b>WAL063654</b> | <b>WAL617624</b> |
|        | 630 (9137)   | 14                  | M 20 x 1.5 | <b>EGESD 14 SM-WD</b> | 17.0       | 36.5           | 14 | 25.9 | 27             | 27             | 12 x 2     | <b>WAL063655</b> |                  |
|        |              | 16                  | M 22 x 1.5 | <b>EGESD 16 SM-WD</b> | 23.0       | 37             | 14 | 26.9 | 27             | 30             | 14 x 2     | <b>WAL063656</b> | <b>WAL607908</b> |
|        | 420 (6091)   | 20                  | M 27 x 2   | <b>EGESD 20 SM-WD</b> | 28.6       | 43             | 16 | 31.9 | 32             | 36             | 17.3 x 2.4 | <b>WAL063657</b> | <b>WAL610674</b> |
|        |              | 25                  | M 33 x 2   | <b>EGESD 25 SM-WD</b> | 49.4       | 48             | 18 | 39.9 | 41             | 46             | 22.3 x 2.4 | <b>WAL063658</b> | <b>WAL617625</b> |
|        | 400 (5801)   | 30                  | M 42 x 2   | <b>EGESD 30 SM-WD</b> | 67.4       | 51             | 20 | 49.9 | 50             | 50             | 27.3 x 2.4 | <b>WAL063659</b> | <b>WAL610619</b> |
|        |              | 38                  | M 48 x 2   | <b>EGESD 38 SM-WD</b> | 93.1       | 60             | 22 | 54.9 | 55             | 60             | 35 x 2.5   | <b>WAL063660</b> | <b>WAL617626</b> |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.  
\*For FPM (e.g. Viton) see price list / available on request

**EGESD ... NPT**

**EGESD ... NPT-1.4571**

- with taper and O-ring made from NBR\* (e.g. Perbunan) for steel
- with taper and O-ring made from FKM (e.g. Viton) for stainless steel (1.4571)
- Stud with NPT thread to ANSI/ASME B1.20.1-1983



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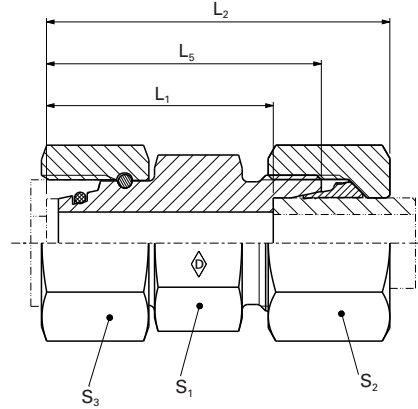
| Series | PN bar (psi) | Tube outer diameter | NPT       | Model                        | kg/100 pc. | i  | L <sub>1</sub> | S <sub>1</sub> | S <sub>2</sub> | *O-ring          | Art. no.         | Art. no.         |
|--------|--------------|---------------------|-----------|------------------------------|------------|----|----------------|----------------|----------------|------------------|------------------|------------------|
| L      | 250 (3626)   | 6                   | 1/8 NPT   | <b>EGESD 6 L/ 1/8 NPT</b>    | 3.7        | 10 | 36.5           | 11             | 14             | 4.5 x 1.5        | <b>WAL605721</b> | <b>WAL617627</b> |
|        |              | 8                   | 1/4 NPT   | <b>EGESD 8 L/ 1/4 NPT</b>    | 6.9        | 15 | 41.5           | 14             | 17             | 6 x 1.5          | <b>WAL605722</b> | <b>WAL617628</b> |
|        |              | 10                  | 1/4 NPT   | <b>EGESD 10 L/ 1/4 NPT</b>   | 5.9        | 15 | 40.5           | 17             | 19             | 8.5 x 1.5        | <b>WAL605723</b> | <b>WAL617629</b> |
|        |              | 12                  | 3/8 NPT   | <b>EGESD 12 L/ 3/8 NPT</b>   | 10.2       | 15 | 45.5           | 19             | 22             | 10 x 1.5         | <b>WAL605724</b> | <b>WAL615256</b> |
|        |              | 15                  | 1/2 NPT   | <b>EGESD 15 L/ 1/2 NPT</b>   | 15.9       | 20 | 48             | 22             | 27             | 12 x 2           | <b>WAL605725</b> | <b>WAL617630</b> |
|        | 160 (2321)   | 18                  | 1/2 NPT   | <b>EGESD 18 L/ 1/2 NPT</b>   | 15.8       | 20 | 47.5           | 27             | 32             | 15 x 2           | <b>WAL605726</b> | <b>WAL617631</b> |
|        |              | 22                  | 3/4 NPT   | <b>EGESD 22 L/ 3/4 NPT</b>   | 21.6       | 20 | 49             | 30             | 36             | 20 x 2           | <b>WAL605727</b> | <b>WAL617632</b> |
|        | 100 (1450)   | 28                  | 1 NPT     | <b>EGESD 28 L/ 1NPT</b>      | 43.9       | 25 | 57.5           | 36             | 46             | 26 x 2           | <b>WAL605728</b> | <b>WAL618291</b> |
|        |              | 35                  | 1 1/4 NPT | <b>EGESD 35 L/ 1 1/4 NPT</b> | 50.5       | 26 | 65             | 46             | 50             | 32 x 2.5         | <b>WAL605729</b> | <b>WAL617633</b> |
|        |              | 42                  | 1 1/2 NPT | <b>EGESD 42 L/ 1 1/2 NPT</b> | 77.0       | 26 | 65             | 50             | 60             | 38 x 2.5         | <b>WAL605730</b> | <b>WAL617634</b> |
| S      | 630 (9137)   | 6                   | 1/4 NPT   | <b>EGESD 6 S/ 1/4 NPT</b>    | 6.1        | 15 | 41.5           | 17             | 17             | 4.5 x 1.5        | <b>WAL605731</b> | <b>WAL617635</b> |
|        |              | 8                   | 1/4 NPT   | <b>EGESD 8 S/ 1/4 NPT</b>    | 6.2        | 15 | 41.5           | 17             | 19             | 6 x 1.5          | <b>WAL605732</b> | <b>WAL617636</b> |
|        |              | 10                  | 3/8 NPT   | <b>EGESD 10 S/ 3/8 NPT</b>   | 9.0        | 15 | 44.5           | 19             | 22             | 8.5 x 1.5        | <b>WAL605733</b> | <b>WAL617637</b> |
|        |              | 12                  | 3/8 NPT   | <b>EGESD 12 S/ 3/8 NPT</b>   | 9.5        | 15 | 45.5           | 19             | 24             | 10 x 1.5         | <b>WAL605734</b> | <b>WAL618292</b> |
|        |              | 14                  | 1/2 NPT   | <b>EGESD 14 S/ 1/2 NPT</b>   | 17.7       | 20 | 53.5           | 22             | 27             | 12 x 2           | <b>WAL605735</b> | <b>WAL617638</b> |
|        | 400 (5801)   | 16                  | 1/2 NPT   | <b>EGESD 16 S/ 1/2 NPT</b>   | 23.6       | 20 | 53.5           | 24             | 30             | 14 x 2           | <b>WAL605736</b> | <b>WAL617639</b> |
|        |              | 20                  | 3/4 NPT   | <b>EGESD 20 S/ 3/4 NPT</b>   | 28.3       | 20 | 58             | 30             | 36             | 17.3 x 2.4       | <b>WAL605737</b> | <b>WAL617640</b> |
|        | 250 (3626)   | 25                  | 1 NPT     | <b>EGESD 25 S/ 1NPT</b>      | 50.4       | 25 | 68             | 36             | 46             | 22.3 x 2.4       | <b>WAL605738</b> | <b>WAL618293</b> |
|        |              | 30                  | 1 1/4 NPT | <b>EGESD 30 S/ 1 1/4 NPT</b> | 65.0       | 26 | 73.5           | 46             | 50             | 27.3 x 2.4       | <b>WAL605739</b> | <b>WAL617641</b> |
|        |              | 38                  | 1 1/2 NPT | <b>EGESD 38 S/ 1 1/2 NPT</b> | 93.2       | 26 | 78             | 50             | 35 x 2.5       | <b>WAL605740</b> | <b>WAL617642</b> |                  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.  
 \*For FPM (e.g. Viton) see price list / available on request



**P-DAV ...**

- with taper and O-ring made from NBR\* (e.g. Perbunan)



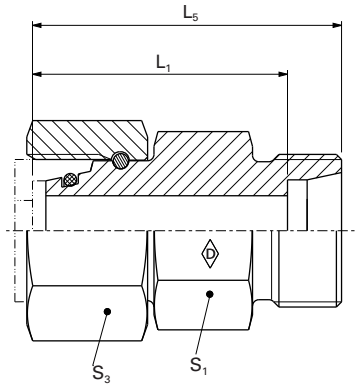
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|        |              |                        |                        |            |                |                |                |                |                |                |                  | Walpro P-DAV...  |  |
|--------|--------------|------------------------|------------------------|------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|--|
| Series | PN bar (psi) | Tube outer diameter    | Model                  | kg/100 pc. | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | *O-ring          | Art. no.         |  |
| L      | 500 (7252)   | 6                      | <b>P-DAV 6 L A4GS</b>  | 5.8        | 51             | 43.0           | 36             | 12             | 14             | 17             | 4.5x1.5          | <b>WAL627441</b> |  |
|        |              | 8                      | <b>P-DAV 8 L A4GS</b>  | 6.6        | 51             | 43.0           | 36             | 14             | 17             | 17             | 6x1.5            | <b>WAL627442</b> |  |
|        |              | 10                     | <b>P-DAV 10 L A4GS</b> | 8.7        | 51             | 43.0           | 36             | 17             | 19             | 19             | 8.5x1.5          | <b>WAL627443</b> |  |
|        | 400 (5801)   | 12                     | <b>P-DAV 12 L A4GS</b> | 11.3       | 51             | 43.0           | 36             | 19             | 22             | 12             | 10x1.5           | <b>WAL627444</b> |  |
|        |              | 15                     | <b>P-DAV 15 L A4GS</b> | 17.1       | 51             | 43.0           | 36             | 24             | 27             | 27             | 12x2             | <b>WAL627445</b> |  |
|        |              | 18                     | <b>P-DAV 18 L A4GS</b> | 23.2       | 52             | 43.5           | 36             | 27             | 32             | 32             | 15x2             | <b>WAL627446</b> |  |
|        |              | 22                     | <b>P-DAV 22 L A4GS</b> | 30.9       | 56             | 47.5           | 40             | 32             | 36             | 36             | 20x2             | <b>WAL627447</b> |  |
|        | 250 (3626)   | 28                     | <b>P-DAV 28 L A4GS</b> | 46.4       | 57             | 47.5           | 40             | 41             | 41             | 46             | 26x2             | <b>WAL627448</b> |  |
|        |              | 35                     | <b>P-DAV 35 L A4GS</b> | 65.7       | 72             | 60.5           | 50             | 46             | 50             | 50             | 32x2.5           | <b>WAL627449</b> |  |
| 42     |              | <b>P-DAV 42 L A4GS</b> | 106.5                  | 83         | 71.0           | 60             | 55             | 60             | 60             | 38x2.5         | <b>WAL627450</b> |                  |  |
| S      | 800 (11603)  | 6                      | <b>P-DAV 6 S A4GS</b>  | 7.2        | 51             | 43.0           | 36             | 14             | 17             | 17             | 4.5x1.5          | <b>WAL627451</b> |  |
|        |              | 8                      | <b>P-DAV 8 S A4GS</b>  | 9.1        | 51             | 43.0           | 36             | 17             | 19             | 19             | 6x1.5            | <b>WAL627452</b> |  |
|        |              | 10                     | <b>P-DAV 10 S A4GS</b> | 12.1       | 52             | 43.5           | 36             | 19             | 22             | 22             | 8.5x1.5          | <b>WAL627453</b> |  |
|        | 630 (9137)   | 12                     | <b>P-DAV 12 S A4GS</b> | 14.8       | 52             | 43.5           | 36             | 22             | 24             | 24             | 10x1.5           | <b>WAL627454</b> |  |
|        |              | 14                     | <b>P-DAV 14 S A4GS</b> | 19.9       | 58             | 48.0           | 40             | 24             | 27             | 27             | 12X2             | <b>WAL627455</b> |  |
|        |              | 16                     | <b>P-DAV 16 S A4GS</b> | 24.6       | 58             | 48.5           | 40             | 27             | 30             | 30             | 14x2             | <b>WAL627456</b> |  |
|        |              | 20                     | <b>P-DAV 20 S A4GS</b> | 39.8       | 68             | 56.5           | 46             | 32             | 36             | 36             | 17.3x2.4         | <b>WAL627457</b> |  |
|        | 400 (5801)   | 25                     | <b>P-DAV 25 S A4GS</b> | 71.1       | 74             | 62.0           | 50             | 41             | 46             | 46             | 22.3x2.4         | <b>WAL627458</b> |  |
|        |              | 30                     | <b>P-DAV 30 S A4GS</b> | 86.5       | 83             | 69.5           | 56             | 46             | 50             | 50             | 27.3x2.4         | <b>WAL627459</b> |  |
|        |              |                        | <b>P-DAV 38 S A4GS</b> | 123.3      | 91             | 76.0           | 60             | 55             | 60             | 60             | 35x2.5           | <b>WAL627460</b> |  |

L<sub>2</sub>= approximate dimension if the union nut is tightened  
 \*FPM (e.g. Viton) available on request



DAS ...



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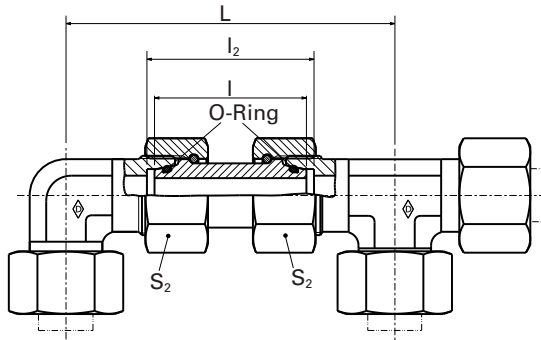
| Series     | PN bar (psi) | Tube outer diameter | Model         | kg/100 pc.   | Stud DAS...<br>Art. no. | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                                  |
|------------|--------------|---------------------|---------------|--------------|-------------------------|--|----------------------------------|
|            |              |                     |               |              |                         | Walring W-R ... VI<br>Art. no.   | Walform WF-M ... VI<br>Art. no.* |
| L          | 500 (7252)   | 6                   | DAS 6 L A4GS  | 4.6          | WAL627401               | WAL624607  | WAL625940                        |
|            |              | 8                   | DAS 8 L A4GS  | 4.9          | WAL627402               | WAL624608  | WAL625941                        |
|            |              | 10                  | DAS 10 L A4GS | 6.5          | WAL627403               | WAL624609  | WAL625942                        |
|            |              | 12                  | DAS 12 L A4GS | 8.3          | WAL627404               | WAL624610  | WAL625943                        |
|            | 400 (5801)   | 15                  | DAS 15 L A4GS | 12.2         | WAL627405               | WAL624611  | WAL625944                        |
|            |              | 18                  | DAS 18 L A4GS | 16.2         | WAL627406               | WAL624612  | WAL625945                        |
|            |              | 22                  | DAS 22 L A4GS | 21.7         | WAL627407               | WAL624613  | WAL625946                        |
|            | 250 (3626)   | 28                  | DAS 28 L A4GS | 36.0         | WAL627408               | WAL624614  | WAL625947                        |
|            |              | 35                  | DAS 35 L A4GS | 49.7         | WAL627409               | WAL624615  | WAL625948                        |
|            |              | 42                  | DAS 42 L A4GS | 81.5         | WAL627410               | WAL624616  | WAL625949                        |
| S          |              | 800 (11603)         | 6             | DAS 6 S A4GS | 5.2                     | WAL627411  | WAL624617                        |
|            | 8            |                     | DAS 8 S A4GS  | 6.8          | WAL627412               | WAL624618  | WAL625951                        |
|            | 10           |                     | DAS 10 S A4GS | 8.7          | WAL627413               | WAL624619  | WAL625952                        |
|            | 12           |                     | DAS 12 S A4GS | 10.8         | WAL627414               | WAL624620  | WAL625953                        |
|            | 630 (9137)   | 14                  | DAS 14 S A4GS | 14.3         | WAL627415               |  |                                  |
|            |              | 16                  | DAS 16 S A4GS | 17.2         | WAL627416               | WAL624621  | WAL625954                        |
|            |              | 20                  | DAS 20 S A4GS | 28.7         | WAL627417               | WAL624622  | WAL625955                        |
|            |              | 25                  | DAS 25 S A4GS | 49.1         | WAL627418               | WAL624623  | WAL625956                        |
| 400 (5801) | 30           | DAS 30 S A4GS       | 62.9          | WAL627419    | WAL624624               | WAL625957  |                                  |
|            | 38           | DAS 38 S A4GS       | 89.5          | WAL627420    | WAL624625               | WAL625958  |                                  |

Special parts are available on request.

**SNV ...**

**SNV ...-1.4571**

- for steel, with taper and O-rings made from NBR\* (e.g. Perbunan) at both ends
- for stainless steel (1.4571), with taper and O-rings made from FKM (e.g. Viton) at both ends
- in each case, one nut can be pushed back to the rear edge of the O-ring groove



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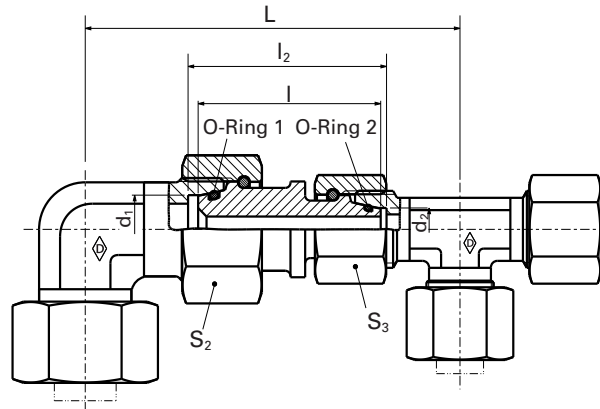
| Series | PN bar (psi) | Tube outer diameter | Model           | L    | l    | l <sub>2</sub> | S <sub>2</sub> | *O-ring    | Fitting          | Fitting                  |
|--------|--------------|---------------------|-----------------|------|------|----------------|----------------|------------|------------------|--------------------------|
|        |              |                     |                 |      |      |                |                |            | SNV ...          | Stainless steel (1.4571) |
|        |              |                     |                 |      |      |                |                |            | SNV ...          | SNV ... -VI-1.4571**     |
|        |              |                     |                 |      |      |                |                |            |                  |                          |
|        |              |                     |                 |      |      |                |                |            | Model            | Art. no.                 |
| L      | 500 (7252)   | 6                   | <b>SNV 6 L</b>  | 60   | 34   | 36             | 17             | 4.5 x 1.5  | <b>WAL372938</b> | <b>WAL605650</b>         |
|        |              | 8                   | <b>SNV 8 L</b>  | 64   | 34   | 36             | 17             | 6 x 1.5    | <b>WAL372939</b> | <b>WAL614821</b>         |
|        |              | 10                  | <b>SNV 10 L</b> | 67   | 36   | 37             | 19             | 8.5 x 1.5  | <b>WAL372940</b> | <b>WAL614822</b>         |
|        | 400 (5801)   | 12                  | <b>SNV 12 L</b> | 71   | 36   | 37             | 22             | 10 x 1.5   | <b>WAL372941</b> | <b>WAL602792</b>         |
|        |              | 15                  | <b>SNV 15 L</b> | 82   | 39   | 40             | 27             | 12 x 2     | <b>WAL372942</b> | <b>WAL613125</b>         |
|        |              | 18                  | <b>SNV 18 L</b> | 89.5 | 40.5 | 42.5           | 32             | 15 x 2     | <b>WAL372943</b> | <b>WAL613126</b>         |
|        |              | 22                  | <b>SNV 22 L</b> | 102  | 45   | 47             | 36             | 20 x 2     | <b>WAL372944</b> | <b>WAL613249</b>         |
|        | 250 (3626)   | 28                  | <b>SNV 28 L</b> | 110  | 47   | 49             | 46             | 26 x 2     | <b>WAL372945</b> | <b>WAL615448</b>         |
|        |              | 35                  | <b>SNV 35 L</b> | 127  | 53   | 58             | 50             | 32 x 2.5   | <b>WAL372946</b> | <b>WAL615456</b>         |
|        |              | 42                  | <b>SNV 42 L</b> | 139  | 53   | 59             | 60             | 38 x 2.5   | <b>WAL372947</b> | <b>WAL615609</b>         |
| S      | 800 (11603)  | 6                   | <b>SNV 6 S</b>  | 71   | 37   | 39             | 17             | 4.5 x 1.5  | <b>WAL372948</b> | <b>WAL617643</b>         |
|        |              | 8                   | <b>SNV 8 S</b>  | 73   | 37   | 39             | 19             | 6 x 1.5    | <b>WAL069234</b> | <b>WAL607143</b>         |
|        |              | 10                  | <b>SNV 10 S</b> | 78   | 41   | 43             | 22             | 8.5 x 1.5  | <b>WAL068948</b> | <b>WAL613325</b>         |
|        | 630 (9137)   | 12                  | <b>SNV 12 S</b> | 87   | 42   | 48             | 24             | 10 x 1.5   | <b>WAL068950</b> | <b>WAL604350</b>         |
|        |              | 14                  | <b>SNV 14 S</b> | 92   | 45   | 48             | 27             | 12 x 2     | <b>WAL372949</b> | <b>WAL617644</b>         |
|        |              | 16                  | <b>SNV 16 S</b> | 99   | 46   | 50             | 30             | 14 x 2     | <b>WAL068088</b> | <b>WAL610011</b>         |
|        | 420 (6091)   | 20                  | <b>SNV 20 S</b> | 113  | 55   | 60             | 36             | 17.3 x 2.4 | <b>WAL681090</b> | <b>WAL605521</b>         |
|        |              | 25                  | <b>SNV 25 S</b> | 126  | 58   | 66             | 46             | 22.3 x 2.4 | <b>WAL061763</b> | <b>WAL605522</b>         |
|        | 400 (5801)   | 30                  | <b>SNV 30 S</b> | 144  | 62   | 73             | 50             | 27.3 x 2.4 | <b>WAL068099</b> | <b>WAL613266</b>         |
|        |              | 38                  | <b>SNV 38 S</b> | 165  | 67   | 83             | 60             | 35 x 2.5   | <b>WAL061765</b> | <b>WAL606413</b>         |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*For FPM (e.g. Viton) see price list / available on request

### SNV .../.... L

- Reducer fittings
- with taper and O-rings made from NBR\* (e.g. Perbunan) at both ends
- in each case, one nut can be pushed back to the rear edge of the O-ring groove
- Light-duty range



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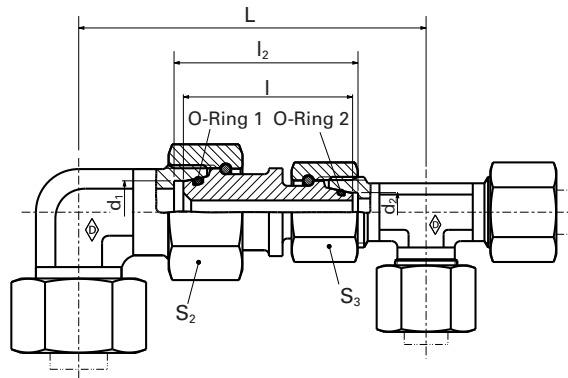
| Series | PN bar (psi) | Tube outer diameter d <sub>1</sub> | Tube outer diameter d <sub>2</sub> | Model              | L    | l    | l <sub>2</sub> | S <sub>1</sub> | S <sub>2</sub> | *O-ring 1        | *O-ring 2        | Art. no.         | Fitting SNV .../... |
|--------|--------------|------------------------------------|------------------------------------|--------------------|------|------|----------------|----------------|----------------|------------------|------------------|------------------|---------------------|
| L      | 500 (7252)   | 8                                  | 6                                  | <b>SNV 8/ 6 L</b>  | 64   | 34   | 36             | 17             | 17             | 6 x 1.5          | 4.5 x 1.5        | <b>WAL612675</b> |                     |
|        |              | 10                                 | 6                                  | <b>SNV 10/ 6 L</b> | 65.5 | 35   | 36.5           | 19             | 17             | 8.5 x 1.5        | 4.5 x 1.5        | <b>WAL612676</b> |                     |
|        |              | 10                                 | 8                                  | <b>SNV 10/ 8 L</b> | 65.5 | 35   | 36.5           | 19             | 17             | 8.5 x 1.5        | 6 x 1.5          | <b>WAL612677</b> |                     |
|        |              | 12                                 | 6                                  | <b>SNV 12/ 6 L</b> | 67.5 | 35   | 36.5           | 22             | 17             | 10 x 1.5         | 4.5 x 1.5        | <b>WAL612678</b> |                     |
|        |              | 12                                 | 8                                  | <b>SNV 12/ 8 L</b> | 68.5 | 36   | 37.5           | 22             | 17             | 10 x 1.5         | 6 x 1.5          | <b>WAL374358</b> |                     |
|        |              | 12                                 | 10                                 | <b>SNV 12/10 L</b> | 69.5 | 36.5 | 37.5           | 22             | 19             | 10 x 1.5         | 8.5 x 1.5        | <b>WAL612679</b> |                     |
|        | 400 (5801)   | 15                                 | 8                                  | <b>SNV 15/ 8 L</b> | 73   | 36.5 | 38             | 27             | 17             | 12 x 2           | 6 x 1.5          | <b>WAL612680</b> |                     |
|        |              | 15                                 | 10                                 | <b>SNV 15/10 L</b> | 74.5 | 37.5 | 38.5           | 27             | 19             | 12 x 2           | 8.5 x 1.5        | <b>WAL612681</b> |                     |
|        |              | 15                                 | 12                                 | <b>SNV 15/12 L</b> | 83   | 44   | 45             | 27             | 22             | 12 x 2           | 10 x 1.5         | <b>WAL612682</b> |                     |
|        |              | 18                                 | 10                                 | <b>SNV 18/10 L</b> | 78   | 38   | 39.5           | 32             | 19             | 15 x 2           | 8.5 x 1.5        | <b>WAL612683</b> |                     |
|        |              | 18                                 | 12                                 | <b>SNV 18/12 L</b> | 80   | 38   | 39.5           | 32             | 22             | 15 x 2           | 10 x 1.5         | <b>WAL612684</b> |                     |
|        |              | 18                                 | 15                                 | <b>SNV 18/15 L</b> | 91   | 45   | 46.5           | 32             | 27             | 15 x 2           | 12 x 2           | <b>WAL612685</b> |                     |
|        | 250 (3626)   | 22                                 | 12                                 | <b>SNV 22/12 L</b> | 86.5 | 40.5 | 42             | 36             | 22             | 20 x 2           | 10 x 1.5         | <b>WAL612686</b> |                     |
|        |              | 22                                 | 15                                 | <b>SNV 22/15 L</b> | 92   | 42   | 43.5           | 36             | 27             | 20 x 2           | 12 x 2           | <b>WAL612687</b> |                     |
|        |              | 22                                 | 18                                 | <b>SNV 22/18 L</b> | 98   | 45   | 47             | 36             | 32             | 20 x 2           | 15 x 2           | <b>WAL612688</b> |                     |
|        |              | 28                                 | 15                                 | <b>SNV 28/15 L</b> | 96   | 43   | 44.5           | 41             | 27             | 26 x 2           | 12 x 2           | <b>WAL612689</b> |                     |
|        |              | 28                                 | 18                                 | <b>SNV 28/18 L</b> | 100  | 44   | 46             | 41             | 32             | 26 x 2           | 15 x 2           | <b>WAL612690</b> |                     |
|        |              | 28                                 | 22                                 | <b>SNV 28/22 L</b> | 106  | 46   | 48             | 41             | 36             | 26 x 2           | 20 x 2           | <b>WAL612691</b> |                     |
| 35     |              | 18                                 | <b>SNV 35/18 L</b>                 | 109.5              | 48   | 51.5 | 50             | 32             | 32 x 2.5       | 15 x 2           | <b>WAL612692</b> |                  |                     |
| 35     |              | 22                                 | <b>SNV 35/22 L</b>                 | 115                | 49.5 | 53   | 50             | 36             | 32 x 2.5       | 20 x 2           | <b>WAL612693</b> |                  |                     |
| 35     |              | 28                                 | <b>SNV 35/28 L</b>                 | 118.5              | 50   | 53.5 | 50             | 46             | 32 x 2.5       | 26 x 2           | <b>WAL612694</b> |                  |                     |
| 42     |              | 22                                 | <b>SNV 42/22 L</b>                 | 121                | 49.5 | 53.5 | 60             | 36             | 38 x 2.5       | 20 x 2           | <b>WAL612695</b> |                  |                     |
| 42     | 28           | <b>SNV 42/28 L</b>                 | 124.5                              | 50                 | 54   | 60   | 46             | 38 x 2.5       | 26 x 2         | <b>WAL612696</b> |                  |                  |                     |
| 42     | 35           | <b>SNV 42/35 L</b>                 | 133                                | 53                 | 58.5 | 60   | 50             | 38 x 2.5       | 32 x 2.5       | <b>WAL612697</b> |                  |                  |                     |

\*For FPM (e.g. Viton) see price list / available on request

## Straight fittings

### SNV .../ ... S

- Reducer fittings
- with taper and O-rings made from NBR\* (e.g. Perbunan) at both ends
- in each case, one nut can be pushed back to the rear edge of the O-ring groove
- Heavy-duty range



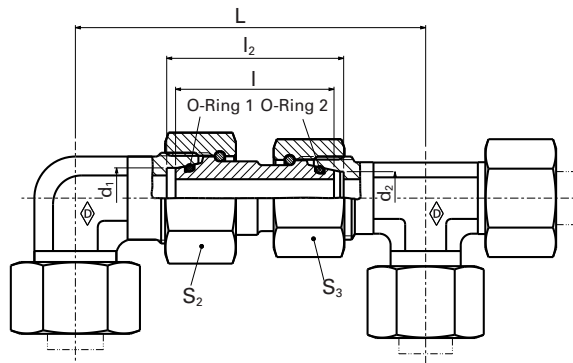
F

| Series     | PN bar (psi) | Tube outer diameter d <sub>1</sub> | Tube outer diameter d <sub>2</sub> | Model              | L    | I    | I <sub>2</sub> | S <sub>1</sub> | S <sub>2</sub> | *O-ring 1  | *O-ring 2        | Art. no.         | Fitting SNV .../ ... |
|------------|--------------|------------------------------------|------------------------------------|--------------------|------|------|----------------|----------------|----------------|------------|------------------|------------------|----------------------|
| S          | 800 (11603)  | 8                                  | 6                                  | <b>SNV 8/ 6 S</b>  | 72   | 37   | 39             | 19             | 17             | 6 x 1.5    | 4.5 x 1.5        | <b>WAL612698</b> |                      |
|            |              | 10                                 | 6                                  | <b>SNV 10/ 6 S</b> | 76   | 40.5 | 42.5           | 22             | 17             | 8.5 x 1.5  | 4.5 x 1.5        | <b>WAL612699</b> |                      |
|            |              | 10                                 | 8                                  | <b>SNV 10/ 8 S</b> | 75.5 | 39   | 41             | 22             | 19             | 8.5 x 1.5  | 6 x 1.5          | <b>WAL612700</b> |                      |
|            | 630 (9137)   | 12                                 | 6                                  | <b>SNV 12/ 6 S</b> | 80.5 | 39   | 43             | 24             | 17             | 10 x 1.5   | 4.5 x 1.5        | <b>WAL612701</b> |                      |
|            |              | 12                                 | 8                                  | <b>SNV 12/ 8 S</b> | 84.5 | 44   | 46             | 24             | 19             | 10 x 1.5   | 6 x 1.5          | <b>WAL612702</b> |                      |
|            |              | 12                                 | 10                                 | <b>SNV 12/10 S</b> | 82.5 | 41.5 | 43.5           | 24             | 22             | 10 x 1.5   | 8.5 x 1.5        | <b>WAL612703</b> |                      |
|            |              | 16                                 | 10                                 | <b>SNV 16/10 S</b> | 88.5 | 43.5 | 46.5           | 30             | 22             | 14 x 2.0   | 8.5 x 1.5        | <b>WAL612704</b> |                      |
|            | 420 (6091)   | 16                                 | 12                                 | <b>SNV 16/12 S</b> | 96.5 | 47.5 | 50.5           | 30             | 24             | 14 x 2.0   | 10 x 1.5         | <b>WAL612705</b> |                      |
|            |              | 20                                 | 12                                 | <b>SNV 20/12 S</b> | 100  | 48.5 | 52             | 36             | 24             | 17.3 x 2.4 | 10 x 1.5         | <b>WAL612706</b> |                      |
|            |              | 20                                 | 16                                 | <b>SNV 20/16 S</b> | 108  | 52.5 | 57             | 36             | 30             | 17.3 x 2.4 | 14 x 2           | <b>WAL612707</b> |                      |
| 25         |              | 16                                 | <b>SNV 25/16 S</b>                 | 112.5              | 52   | 58   | 46             | 30             | 22.3 x 2.4     | 14 x 2     | <b>WAL612708</b> |                  |                      |
| 25         |              | 20                                 | <b>SNV 25/20 S</b>                 | 121                | 58   | 64.5 | 46             | 36             | 22.3 x 2.4     | 17.3 x 2.4 | <b>WAL612709</b> |                  |                      |
| 30         |              | 16                                 | <b>SNV 30/16 S</b>                 | 121.5              | 54   | 61.5 | 50             | 30             | 27.3 x 2.4     | 14 x 2     | <b>WAL612710</b> |                  |                      |
| 30         |              | 20                                 | <b>SNV 30/20 S</b>                 | 128.5              | 58.5 | 66.5 | 50             | 36             | 27.3 x 2.4     | 17.3 x 2.4 | <b>WAL612711</b> |                  |                      |
| 30         |              | 25                                 | <b>SNV 30/25 S</b>                 | 135                | 60   | 69.5 | 50             | 46             | 27.3 x 2.4     | 22.3 x 2.4 | <b>WAL612712</b> |                  |                      |
| 400 (5801) | 38           | 20                                 | <b>SNV 38/20 S</b>                 | 139                | 61   | 71.5 | 60             | 36             | 35 x 2.5       | 17.3 x 2.4 | <b>WAL612713</b> |                  |                      |
|            | 38           | 25                                 | <b>SNV 38/25 S</b>                 | 145.5              | 62.5 | 74.5 | 60             | 46             | 35 x 2.5       | 22.3 x 2.4 | <b>WAL612714</b> |                  |                      |
|            | 38           | 30                                 | <b>SNV 38/30 S</b>                 | 154.5              | 64.5 | 78   | 60             | 50             | 35 x 2.5       | 27.3 x 2.4 | <b>WAL612715</b> |                  |                      |

\*For FPM (e.g. Viton) see price list / available on request

### SNV ... L/S-S/L

- Reducer fittings
- with taper and O-rings made from NBR\* (e.g. Perbunan) at both ends
- in each case, one nut can be pushed back to the rear edge of the O-ring groove



F





| PN bar (psi) | Tube outer diameter d <sub>1</sub> | Tube outer diameter d <sub>2</sub> | Model               | L     | l    | l <sub>2</sub> | S <sub>1</sub> | S <sub>2</sub> | *O-ring 1  | *O-ring 2  | Fitting          |
|--------------|------------------------------------|------------------------------------|---------------------|-------|------|----------------|----------------|----------------|------------|------------|------------------|
|              |                                    |                                    |                     |       |      |                |                |                |            |            | SNV ... / ...    |
|              |                                    |                                    |                     |       |      |                |                |                |            |            | Art. no.         |
| 400 (5801)   | 6                                  | 6                                  | <b>SNV 6L/ 6 S</b>  | 67.5  | 35.5 | 37.5           | 17             | 17             | 4.5 x 1.5  | 4.5 x 1.5  | <b>WAL612716</b> |
|              | 8                                  | 8                                  | <b>SNV 8L/ 8 S</b>  | 68.5  | 35.5 | 37.5           | 17             | 19             | 6 x 1.5    | 6 x 1.5    | <b>WAL612717</b> |
|              | 10                                 | 10                                 | <b>SNV 10L/10 S</b> | 72.5  | 38.5 | 40             | 19             | 22             | 8.5 x 1.5  | 8.5 x 1.5  | <b>WAL612718</b> |
|              | 12                                 | 12                                 | <b>SNV 12L/12 S</b> | 79    | 39   | 40.5           | 22             | 24             | 10 x 1.5   | 10 x 1.5   | <b>WAL612719</b> |
|              | 18                                 | 16                                 | <b>SNV 18L/16 S</b> | 94.5  | 43.5 | 46.5           | 32             | 30             | 15 x 2     | 14 x 2     | <b>WAL612720</b> |
| 250 (3626)   | 22                                 | 20                                 | <b>SNV 22L/20 S</b> | 107.5 | 50   | 53.5           | 36             | 36             | 20 x 2     | 17.3 x 2.4 | <b>WAL612721</b> |
|              | 28                                 | 25                                 | <b>SNV 28L/25 S</b> | 118   | 52.5 | 57.5           | 46             | 46             | 26 x 2     | 22.3 x 2.4 | <b>WAL612722</b> |
|              | 35                                 | 30                                 | <b>SNV 35L/30 S</b> | 139   | 61   | 69             | 50             | 50             | 32 x 2.5   | 27.3 x 2.4 | <b>WAL612723</b> |
|              | 42                                 | 38                                 | <b>SNV 42L/38 S</b> | 147   | 55   | 66             | 60             | 60             | 38 x 2.5   | 35 x 2.5   | <b>WAL612724</b> |
| 400 (5801)   | 16                                 | 15                                 | <b>SNV 16S/15 L</b> | 90.5  | 42.5 | 45             | 30             | 27             | 14 x 2     | 12 x 2     | <b>WAL612725</b> |
|              | 20                                 | 18                                 | <b>SNV 20S/18 L</b> | 101   | 47.5 | 51             | 36             | 32             | 17.3 x 2.4 | 15 x 2     | <b>WAL612726</b> |
| 250 (3626)   | 25                                 | 22                                 | <b>SNV 25S/22 L</b> | 119.5 | 57   | 62             | 46             | 36             | 22.3 x 2.4 | 20 x 2     | <b>WAL612727</b> |
|              | 30                                 | 28                                 | <b>SNV 30S/28 L</b> | 131.5 | 59   | 65.5           | 50             | 46             | 27.3 x 2.4 | 26 x 2     | <b>WAL612728</b> |
|              | 38                                 | 35                                 | <b>SNV 38S/35 L</b> | 148   | 62   | 72.5           | 60             | 50             | 35 x 2.5   | 32 x 2.5   | <b>WAL612729</b> |

\*For FPM (e.g. Viton) see price list / available on request



**G1**

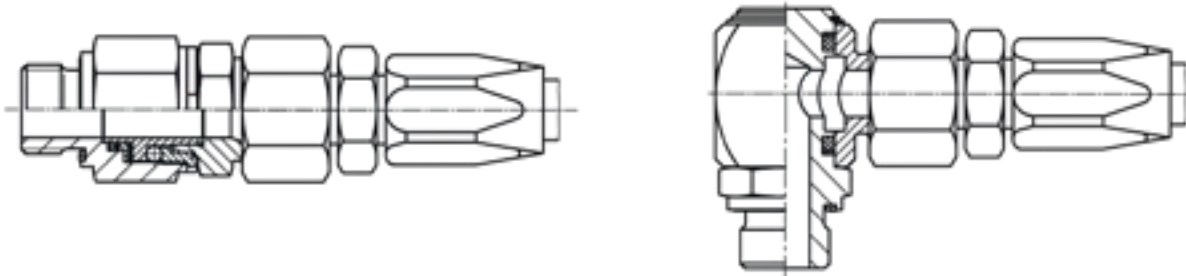
**Swivel** studs

|                                | Figure Fitting  | Figure Stud   | Model                    | Page                      |    |
|--------------------------------|---|---|--------------------------|---------------------------|----|
|                                |   |   |                          | Technical information     | G3 |
|                                |   |   |                          | Speed and starting torque | G4 |
| Swivel fittings / swivel studs |  |  | P-DGWEV / DGWES ... R-WD | G5 / G6                   |    |
|                                |   |   | P-DGWEV / DGWES ... M-WD | G7 / G8                   |    |
|                                |  |  | P-DGWW / DGWS ...        | G9 / G10                  |    |

**G**

## Technical information

G



### Application

Danfoss's Waltech swivels are connecting elements for the transmission of swivel and rotary movements between assemblies and tubes at low angular velocity.

The fittings are maintenance-free, prevent leakage losses and have low starting torques.

**Note:** The use of flexible fittings is recommended to compensate for any misalignment.

### Safety

The nominal pressure ratings of the swivels are designed to provide a safety factor of 2.5. If used at lower pressure ranges, the safety factor will be higher accordingly.

### Materials

Made from steel as standard. A stainless steel version (1.4571) is available on request.

### Seals

The seals are made from NBR (e.g. Perbunan) as standard and can be easily replaced. In the case of special hydraulic fluids or higher operating temperatures, special sealing materials are available on request.

The service life of the sealing elements depends on the operating pressure and the sliding velocity. Seal kits are available on request.

### Operating temperature

Temperature range of -30 °C to +100 °C



### Speed and starting torque

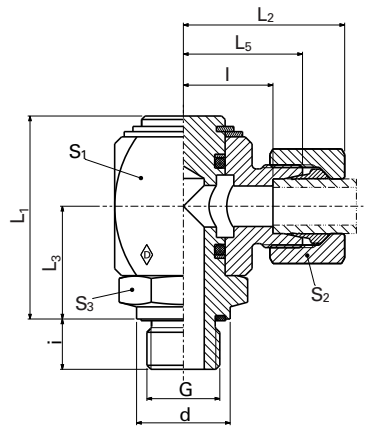
| DN (mm) | Model DGWES ... | DGWS ... | Permissible speed (min-1) at an operating pressure of |         | Starting torque (reference value) |         |
|---------|-----------------|----------|---|---------|-----------------------------------|---------|
|         |                 |          | 200 bar   | 400 bar | (Nm)                              |         |
| 5       | 6 LR            | 6 L      | 50  | 25      | 0.5 at                            | 400 bar |
|         | 6 L/R 1/4       | 6 S      |   |         |                                   |         |
|         | 6 SR            | 8 S      |   |         |                                   |         |
|         | 8 SR            |          |   |         |                                   |         |
|         | 6 LM            |          |   |         |                                   |         |
|         | 6 L/M 12 x 1.5  |          |   |         |                                   |         |
|         | 8 LM            |          |   |         |                                   |         |
|         | 8 SM            |          |   |         |                                   |         |
| 6       | 8 LR            | 8 L      | 40  | 20      | 2.8 at                            | 400 bar |
|         | 10 LR           | 10 L     |   |         |                                   |         |
|         | 10 SR           |          |   |         |                                   |         |
|         | 12 L/R 1/4      |          |   |         |                                   |         |
|         | 8 L/M 14 x 1.5  |          |   |         |                                   |         |
|         | 10 LM           |          |   |         |                                   |         |
|         | 10 SM           |          |   |         |                                   |         |
| 8       | 10 L/R 3/8      | 10 L     | 40  | 20      | 2.8 at                            | 400 bar |
|         | 12 LR           | 12 S     |   |         |                                   |         |
|         | 12 SR           |          |   |         |                                   |         |
|         | 10 L/M 16 x 1.5 |          |   |         |                                   |         |
|         | 12 LM           |          |   |         |                                   |         |
|         | 12 SM           |          |   |         |                                   |         |
| 10      | 12 L/R 1/2      | 12 L     | 40  | 20      | 2.8 at                            | 400 bar |
|         | 14 SR           | 14 S     |   |         |                                   |         |
|         | 12 L/M 18 x 1.5 |          |   |         |                                   |         |
|         | 15 LM           |          |   |         |                                   |         |
|         | 14 SM           |          |   |         |                                   |         |
| 13      | 15 LR           | 15 L     | 15  | -       | 3.0 at                            | 200 bar |
|         | 18 LR           | 16 S     |   |         |                                   |         |
|         | 16 SR           |          |   |         |                                   |         |
|         | 18 LM           |          |   |         |                                   |         |
| 16      | 16 SM           |          | 15  | -       | 3.0 at                            | 200 bar |
|         | 22 LR           | 18 L     |   |         |                                   |         |
|         | 20 SR           | 20 S     |   |         |                                   |         |
|         | 22 LM           |          |   |         |                                   |         |
| 20      | 20 SM           |          | 8   | -       | 7.0 at                            | 200 bar |
|         | 28 LR           | 22 L     |   |         |                                   |         |
|         | 25 SR           | 25 S     |   |         |                                   |         |
|         | 28 LM           |          |   |         |                                   |         |
|         | 25 SM           |          |   |         |                                   |         |
| 25      | 35 LR           | 28 L     | 8   | -       | 7.0 at                            | 200 bar |
|         | 30 SR           | 30 S     |   |         |                                   |         |
|         | 35 LM           |          |   |         |                                   |         |
|         | 30 SM           |          |   |         |                                   |         |
| 32      | 42 LR           | 35 L     | 4   | -       | 7.0 at                            | 200 bar |
|         | 38 SR           | 38 S     |   |         |                                   |         |
|         | 42 LM           |          |   |         |                                   |         |
|         | 38 SM           |          |   |         |                                   |         |
| 40      | -               | 42 L     | 4   | -       | 7.0 at                            | 200 bar |

These specifications are provided for reference only. Factors such as temperature, the degree of contamination and whether or not the fittings were installed under stress will affect these values.



**P-DGWEV ... R-WD**

- with soft seal made from NBR\* (e.g. Perbunan)
- Inch studs type E to DIN EN ISO 1179-2



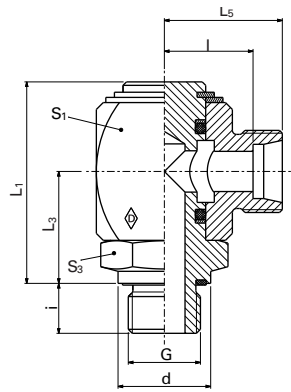
G

|            |              |                         |                                |                             |                |                |                |                |      |      |      |                |                  | Walpro<br>P-DGWEV ... |                  |
|------------|--------------|-------------------------|--------------------------------|-----------------------------|----------------|----------------|----------------|----------------|------|------|------|----------------|------------------|-----------------------|------------------|
| Series     | PN bar (psi) | Tube outer diameter     | DIN-ISO 228 (R ..., DIN 259) G | Model                       | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>5</sub> | I    | i    | d    | S <sub>1</sub> | S <sub>2</sub>   | S <sub>3</sub>        | Art. no.         |
| L          | w250 (3626)  | 6                       | G 1/8 A                        | <b>P-DGWEV 6 LR-WD</b>      | 39             | 31             | 21.5           | 23.5           | 16.5 | 8    | 13.9 | 27             | 14               | 17                    | <b>WAL607570</b> |
|            |              | 6                       | G 1/4 A                        | <b>P-DGWEV 6 L/R1/4-WD</b>  | 40             | 31             | 22.5           | 23.5           | 16.5 | 12   | 18.9 | 27             | 14               | 19                    | <b>WAL607571</b> |
|            |              | 8                       | G 1/4 A                        | <b>P-DGWEV 8 LR-WD</b>      | 45.5           | 32.5           | 25             | 25             | 18   | 12   | 18.9 | 30             | 17               | 22                    | <b>WAL607572</b> |
|            |              | 10                      | G 1/4 A                        | <b>P-DGWEV 10 LR-WD</b>     | 45.5           | 33.5           | 25             | 26             | 19   | 12   | 18.9 | 30             | 19               | 22                    | <b>WAL607573</b> |
|            |              | 10                      | G 3/8 A                        | <b>P-DGWEV 10 L/R3/8-WD</b> | 47.5           | 34.5           | 27             | 27             | 20   | 12   | 21.9 | 32             | 19               | 24                    | <b>WAL607574</b> |
|            |              | 12                      | G 3/8 A                        | <b>P-DGWEV 12 LR-WD</b>     | 47.5           | 34.5           | 27             | 27             | 20   | 12   | 21.9 | 32             | 22               | 24                    | <b>WAL607575</b> |
|            | 12           | G 1/2 A                 | <b>P-DGWEV 12 L/R1/2-WD</b>    | 54                          | 36.5           | 30             | 29             | 22             | 14   | 26.9 | 36   | 22             | 27               | <b>WAL607576</b>      |                  |
|            | 15           | G 1/2 A                 | <b>P-DGWEV 15 LR-WD</b>        | 59                          | 40             | 33             | 32             | 25             | 14   | 26.9 | 40   | 27             | 32               | <b>WAL607577</b>      |                  |
|            | 160 (2321)   | 18                      | G 1/2 A                        | <b>P-DGWEV 18 LR-WD</b>     | 59             | 40.5           | 33             | 32             | 24.5 | 14   | 26.9 | 40             | 32               | 32                    | <b>WAL607578</b> |
|            | 22           | G 3/4 A                 | <b>P-DGWEV 22 LR-WD</b>        | 64                          | 45             | 35.5           | 36.5           | 29             | 16   | 32.9 | 45   | 36             | 36               | <b>WAL607579</b>      |                  |
| S          | 100 (1450)   | 28                      | G 1 A                          | <b>P-DGWEV 28 LR-WD</b>     | 76             | 50.5           | 41.5           | 45.5           | 38   | 18   | 39.9 | 55             | 41               | 41                    | <b>WAL607580</b> |
|            |              | 35                      | G 1 1/4 A                      | <b>P-DGWEV 35 LR-WD</b>     | 92             | 59.5           | 51.5           | 48.5           | 38   | 20   | 49.9 | 65             | 50               | 50                    | <b>WAL607581</b> |
|            |              | 42                      | G 1 1/2 A                      | <b>P-DGWEV 42 LR-WD</b>     | 102            | 65             | 56.5           | 53.5           | 42.5 | 22   | 54.9 | 75             | 60               | 55                    | <b>WAL607582</b> |
|            |              | 6                       | G 1/4 A                        | <b>P-DGWEV 6 SR-WD</b>      | 40             | 33             | 22.5           | 25.5           | 18.5 | 12   | 18.9 | 27             | 17               | 19                    | <b>WAL607583</b> |
|            | 400 (5801)   | 8                       | G 1/4 A                        | <b>P-DGWEV 8 SR-WD</b>      | 40             | 33             | 22.5           | 25.5           | 18.5 | 12   | 18.9 | 27             | 19               | 19                    | <b>WAL607584</b> |
|            |              | 10                      | G 3/8 A                        | <b>P-DGWEV 10 SR-WD</b>     | 45.5           | 35.5           | 25             | 27             | 19.5 | 12   | 21.9 | 30             | 22               | 22                    | <b>WAL607585</b> |
|            |              | 12                      | G 3/8 A                        | <b>P-DGWEV 12 SR-WD</b>     | 47.5           | 36.5           | 27             | 28             | 20.5 | 12   | 21.9 | 32             | 24               | 24                    | <b>WAL607586</b> |
|            |              | 14                      | G 1/2 A                        | <b>P-DGWEV 14 SR-WD</b>     | 54             | 41.5           | 30             | 32             | 24   | 14   | 26.9 | 36             | 27               | 27                    | <b>WAL607587</b> |
| 250 (3626) | 16           | G 1/2 A                 | <b>P-DGWEV 16 SR-WD</b>        | 59                          | 43.5           | 33             | 34             | 25.5           | 14   | 26.9 | 40   | 30             | 32               | <b>WAL607588</b>      |                  |
|            | 20           | G 3/4 A                 | <b>P-DGWEV 20 SR-WD</b>        | 64                          | 49.5           | 35.5           | 38.5           | 28             | 16   | 31.9 | 45   | 36             | 36               | <b>WAL607589</b>      |                  |
|            | 25           | G 1 A                   | <b>P-DGWEV 25 SR-WD</b>        | 76                          | 57.5           | 41.5           | 45.5           | 33.5           | 18   | 39.9 | 55   | 46             | 41               | <b>WAL607590</b>      |                  |
|            | 30           | G 1 1/4 A               | <b>P-DGWEV 30 SR-WD</b>        | 92                          | 65.5           | 51.5           | 52.5           | 39             | 20   | 49.9 | 65   | 50             | 50               | <b>WAL607591</b>      |                  |
| 38         | G 1 1/2 A    | <b>P-DGWEV 38 SR-WD</b> | 102                            | 74                          | 56.5           | 59.5           | 43.5           | 22             | 54.9 | 75   | 60   | 55             | <b>WAL607592</b> |                       |                  |

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*For FPM (e.g. Viton) see price list / available on request

DGWES ... R-WD

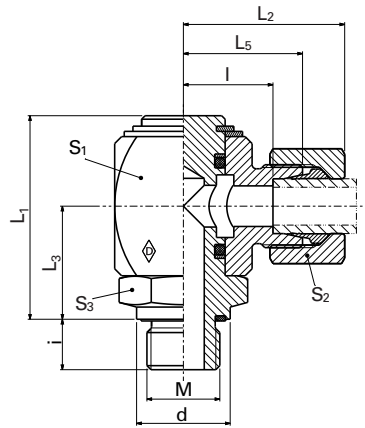


G

| Series     | PN bar (psi) | Tube outer diameter | DIN-ISO 228 (R ..., DIN 259) G | Model               | Stud DGWES ... Art. no. | System nuts for supplementing the stud (for technical data, see part D of this catalog) |                              |
|------------|--------------|---------------------|--------------------------------|---------------------|-------------------------|---|------------------------------|
|            |              |                     |                                |                     |                         | Walring W-R ... VI Art. no.   | Walform WF-M ... VI Art. no. |
| L          | 250 (3626)   | 6                   | G 1/8 A                        | DGWES 6 LR-WD       | WAL608101               | WAL624607   | WAL625940                    |
|            |              | 6                   | G 1/4 A                        | DGWES 6 L/R 1/4-WD  | WAL608102               | WAL624607   | WAL625940                    |
|            |              | 8                   | G 1/4 A                        | DGWES 8 LR-WD       | WAL608103               | WAL624608   | WAL625941                    |
|            |              | 10                  | G 1/4 A                        | DGWES 10 LR-WD      | WAL608104               | WAL624609   | WAL625942                    |
|            |              | 10                  | G 3/8 A                        | DGEWS 10 L/R 3/8-WD | WAL608105               | WAL624609   | WAL625942                    |
|            |              | 12                  | G 3/8 A                        | DGWES 12 LR-WD      | WAL608106               | WAL624610   | WAL625943                    |
|            |              | 12                  | G 1/2 A                        | DGEWS 12 L/R 1/2-WD | WAL608107               | WAL624610   | WAL625943                    |
|            | 15           | G 1/2 A             | DGWES 15 LR-WD                 | WAL608108           | WAL624611               | WAL625944   |                              |
|            | 160 (2321)   | 18                  | G 1/2 A                        | DGWES 18 LR-WD      | WAL608109               | WAL624612   | WAL625945                    |
|            | 22           | G 3/4 A             | DGWES 22 LR-WD                 | WAL608110           | WAL624613               | WAL625946   |                              |
|            | 100 (1450)   | 28                  | G 1 A                          | DGWES 28 LR-WD      | WAL608111               | WAL624614   | WAL625947                    |
|            |              | 35                  | G 1 1/4 A                      | DGWES 35 LR-WD      | WAL608112               | WAL624615   | WAL625948                    |
|            |              | 42                  | G 1 1/2 A                      | DGWES 42 LR-WD      | WAL608113               | WAL624616   | WAL625949                    |
| 400 (5801) |              | 6                   | G 1/4 A                        | DGWES 6 SR-WD       | WAL608114               | WAL624617   | WAL625950                    |
|            |              | 8                   | G 1/4 A                        | DGWES 8 SR-WD       | WAL608115               | WAL624618   | WAL625951                    |
|            |              | 10                  | G 3/8 A                        | DGWES 10 SR-WD      | WAL608116               | WAL624619   | WAL625952                    |
|            |              | 12                  | G 3/8 A                        | DGWES 12 SR-WD      | WAL608117               | WAL624620   | WAL625953                    |
|            | 14           | G 1/2 A             | DGWES 14 SR-WD                 | WAL608118           |                         |   |                              |
|            | 16           | G 1/2 A             | DGWES 16 SR-WD                 | WAL608119           | WAL624621               | WAL625954   |                              |
| 250 (3626) | 20           | G 3/4 A             | DGWES 20 SR-WD                 | WAL608120           | WAL624622               | WAL625955   |                              |
|            | 25           | G 1 A               | DGWES 25 SR-WD                 | WAL608121           | WAL624623               | WAL625956   |                              |
|            | 30           | G 1 1/4 A           | DGWES 30 SR-WD                 | WAL608122           | WAL624624               | WAL625957   |                              |
|            | 38           | G 1 1/2 A           | DGWES 38 SR-WD                 | WAL608123           | WAL624625               | WAL625958   |                              |

**P-DGWEV ... M-WD**

- with soft seal made from NBR\* (e.g. Perbunan)
- Metric stud type E to DIN EN ISO 9974-2



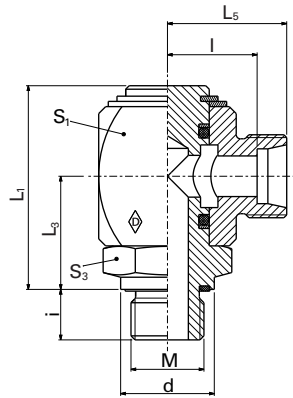
G

| Series | PN bar (psi) | Tube outer diameter | M          | Model                             | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>5</sub> | I    | i  | d    | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Art. no.         |
|--------|--------------|---------------------|------------|-----------------------------------|----------------|----------------|----------------|----------------|------|----|------|----------------|----------------|----------------|------------------|
| L      | 250 (3626)   |                     | M 10 x 1   | <b>P-DGWEV 6 LM-WD</b>            | 39             | 31             | 21.5           | 23             | 16.5 | 8  | 13.9 | 27             | 14             | 17             | <b>WAL607593</b> |
|        |              |                     | M 12 x 1.5 | <b>P-DGWEV 6 L/M 12 x 1.5-WD</b>  | 40             | 31             | 22.5           | 23             | 16.5 | 12 | 16.9 | 27             | 14             | 19             | <b>WAL607594</b> |
|        |              |                     | M 12 x 1.5 | <b>P-DGWEV 8 LM-WD</b>            | 40             | 31             | 22.5           | 23             | 16.5 | 12 | 16.9 | 27             | 17             | 19             | <b>WAL607595</b> |
|        |              |                     | M 14 x 1.5 | <b>P-DGWEV 8 L/M 14 x 1.5-WD</b>  | 45.5           | 32.5           | 25             | 25             | 18   | 12 | 18.9 | 30             | 17             | 22             | <b>WAL607596</b> |
|        |              |                     | M 14 x 1.5 | <b>P-DGWEV 10 LM-WD</b>           | 45.5           | 33.5           | 25             | 26             | 19   | 12 | 18.9 | 30             | 19             | 22             | <b>WAL607597</b> |
|        |              |                     | M 16 x 1.5 | <b>P-DGWEV 10 L/M 16 x 1.5-WD</b> | 47.5           | 34.5           | 27             | 27             | 20   | 12 | 21.9 | 32             | 19             | 24             | <b>WAL607598</b> |
|        |              |                     | M 16 x 1.5 | <b>P-DGWEV 12 LM-WD</b>           | 47.5           | 34.5           | 27             | 27             | 20   | 12 | 21.9 | 32             | 22             | 24             | <b>WAL607599</b> |
|        |              |                     | M 18 x 1.5 | <b>P-DGWEV 12 L/M 18 x 1.5-WD</b> | 54             | 36.5           | 30             | 29             | 22   | 12 | 23.9 | 36             | 22             | 27             | <b>WAL607600</b> |
|        |              |                     | M 18 x 1.5 | <b>P-DGWEV 15 LM-WD</b>           | 54             | 38             | 30             | 30             | 23   | 12 | 23.9 | 36             | 27             | 27             | <b>WAL607601</b> |
|        |              |                     | M 22 x 1.5 | <b>P-DGWEV 18 LM-WD</b>           | 59             | 40.5           | 33             | 32             | 24.5 | 14 | 26.9 | 40             | 32             | 32             | <b>WAL607602</b> |
| L      | 160 (2321)   |                     | M 26 x 1.5 | <b>P-DGWEV 22 LM-WD</b>           | 64             | 45             | 35.5           | 36             | 29   | 16 | 31.9 | 45             | 36             | 36             | <b>WAL607603</b> |
|        |              |                     | M 33 x 2   | <b>P-DGWEV 28 LM-WD</b>           | 76             | 50.5           | 41.5           | 41             | 34   | 18 | 39.9 | 55             | 41             | 41             | <b>WAL607604</b> |
| L      | 100 (1450)   |                     | M 42 x 2   | <b>P-DGWEV 35 LM-WD</b>           | 92             | 59.5           | 51.5           | 48             | 38   | 20 | 49.9 | 65             | 50             | 50             | <b>WAL607605</b> |
|        |              |                     | M 48 x 2   | <b>P-DGWEV 42 LM-WD</b>           | 102            | 65             | 56.5           | 53             | 42.5 | 22 | 54.9 | 75             | 60             | 55             | <b>WAL607606</b> |
|        |              |                     | M 12 x 1.5 | <b>P-DGWEV 6 SM-WD</b>            | 40             | 33             | 22.5           | 25             | 18.5 | 12 | 16.9 | 27             | 17             | 19             | <b>WAL607607</b> |
|        |              |                     | M 14 x 1.5 | <b>P-DGWEV 8 SM-WD</b>            | 40             | 33             | 22.5           | 25             | 18.5 | 12 | 18.9 | 27             | 19             | 19             | <b>WAL607608</b> |
| S      | 400 (5801)   |                     | M 16 x 1.5 | <b>P-DGWEV 10 SM-WD</b>           | 45.5           | 35.5           | 25             | 27             | 19.5 | 12 | 21.9 | 30             | 22             | 22             | <b>WAL607609</b> |
|        |              |                     | M 18 x 1.5 | <b>P-DGWEV 12 SM-WD</b>           | 47.5           | 36.5           | 27             | 28             | 20.5 | 12 | 23.9 | 32             | 24             | 24             | <b>WAL607610</b> |
|        |              |                     | M 20 x 1.5 | <b>P-DGWEV 14 SM-WD</b>           | 54             | 41.5           | 30             | 32             | 24   | 14 | 25.9 | 36             | 27             | 27             | <b>WAL607611</b> |
|        |              |                     | M 22 x 1.5 | <b>P-DGWEV 16 SM-WD</b>           | 59             | 43.5           | 33             | 34             | 25.5 | 14 | 26.9 | 40             | 30             | 32             | <b>WAL607612</b> |
|        |              |                     | M 27 x 2   | <b>P-DGWEV 20 SM-WD</b>           | 64             | 49.5           | 35.5           | 38             | 28   | 16 | 31.9 | 45             | 36             | 36             | <b>WAL607613</b> |
|        |              |                     | M 33 x 2   | <b>P-DGWEV 25 SM-WD</b>           | 76             | 57.5           | 41.5           | 45             | 33.5 | 18 | 39.9 | 55             | 46             | 41             | <b>WAL607614</b> |
| S      | 250 (3626)   |                     | M 42 x 2   | <b>P-DGWEV 30 SM-WD</b>           | 92             | 65.5           | 51.5           | 52             | 39   | 20 | 49.9 | 65             | 50             | 50             | <b>WAL607615</b> |
|        |              |                     | M 48 x 2   | <b>P-DGWEV 38 SM-WD</b>           | 102            | 74             | 56.5           | 59             | 43.5 | 22 | 54.9 | 75             | 60             | 55             | <b>WAL607616</b> |

Walpro P-DGWEV ...

L<sub>2</sub> = approximate dimension if the union nut is tightened  
 \*For FPM (e.g. Viton) see price list / available on request

DGWES ... M-WD

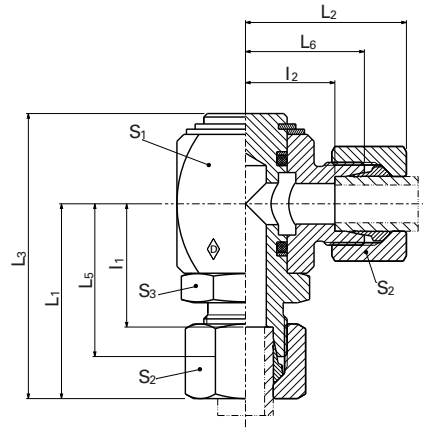


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| Series        | PN bar (psi)  | Tube outer diameter | M              | Model      | Stud DGWES ...<br>Art. no. | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                                 |           |           |
|---------------|---------------|---------------------|----------------|------------|----------------------------|--|---------------------------------|-----------|-----------|
|               |               |                     |                |            |                            | Walring W-R ... VI<br>Art. no.   | Walform WF-M ... VI<br>Art. no. |           |           |
| L             | 250<br>(3626) |                     | 6              | M 10 x 1   | DGWES 6 LM-WD              | WAL608124  | WAL624607                       | WAL625940 |           |
|               |               |                     | 6              | M 12 x 1.5 | DGWES 6 L/M 12 x 1.5-WD    | WAL608125  | WAL624607                       | WAL625940 |           |
|               |               |                     | 8              | M 12 x 1.5 | DGWES 8 LM-WD              | WAL608126  | WAL624608                       | WAL625941 |           |
|               |               |                     | 8              | M 14 x 1.5 | DGWES 8 L/M 14 x 1.5-WD    | WAL608127  | WAL624608                       | WAL625941 |           |
|               |               |                     | 10             | M 14 x 1.5 | DGWES 10 LM-WD             | WAL608128  | WAL624609                       | WAL625942 |           |
|               |               |                     | 10             | M 16 x 1.5 | DGWES 10 L/M 16 x 1.5-WD   | WAL608129  | WAL624609                       | WAL625942 |           |
|               |               |                     | 12             | M 16 x 1.5 | DGWES 12 LM-WD             | WAL608130  | WAL624610                       | WAL625943 |           |
|               |               |                     | 12             | M 18 x 1.5 | DGWES 12 L/M 18 x 1.5-WD   | WAL608131  | WAL624610                       | WAL625943 |           |
|               |               |                     | 15             | M 18 x 1.5 | DGWES 15 LM-WD             | WAL608132  | WAL624611                       | WAL625944 |           |
|               |               |                     | 160<br>(2321)  | 18         | M 22 x 1.5                 | DGWES 18 LM-WD   | WAL608133                       | WAL624612 | WAL625945 |
| S             | 100<br>(1450) |                     | 22             | M 26 x 1.5 | DGWES 22 LM-WD             | WAL608134  | WAL624613                       | WAL625946 |           |
|               |               |                     | 28             | M 33 x 2   | DGWES 28 LM-WD             | WAL608135  | WAL624614                       | WAL625947 |           |
|               |               |                     | 35             | M 42 x 2   | DGWES 35 LM-WD             | WAL608136  | WAL624615                       | WAL625948 |           |
|               |               |                     | 42             | M 48 x 2   | DGWES 42 LM-WD             | WAL608137  | WAL624616                       | WAL625949 |           |
|               |               |                     | 400<br>(5801)  | 6          | M 12 x 1.5                 | DGWES 6 SM-WD  | WAL608138                       | WAL624617 | WAL625950 |
|               |               |                     |                | 8          | M 14 x 1.5                 | DGWES 8 SM-WD  | WAL608139                       | WAL624618 | WAL625951 |
|               |               |                     |                | 10         | M 16 x 1.5                 | DGWES 10 SM-WD   | WAL608140                       | WAL624619 | WAL625952 |
|               |               |                     |                | 12         | M 18 x 1.5                 | DGWES 12 SM-WD   | WAL608141                       | WAL624620 | WAL625953 |
|               |               |                     |                | 14         | M 20 x 1.5                 | DGWES 14 SM-WD   | WAL608142                       |           |           |
|               |               |                     |                | 16         | M 22 x 1.5                 | DGWES 16 SM-WD   | WAL608143                       | WAL624621 | WAL625954 |
| 250<br>(3626) | 20            | M 27 x 2            | DGWES 20 SM-WD | WAL608144  | WAL624622                  | WAL625955  |                                 |           |           |
|               | 25            | M 33 x 2            | DGWES 25 SM-WD | WAL608145  | WAL624623                  | WAL625956  |                                 |           |           |
|               | 30            | M 42 x 2            | DGWES 30 SM-WD | WAL608146  | WAL624624                  | WAL625957  |                                 |           |           |
|               | 38            | M 48 x 2            | DGWES 38 SM-WD | WAL608147  | WAL624625                  | WAL625958  |                                 |           |           |

**P-DGWW ...**

- Tube connection at both ends

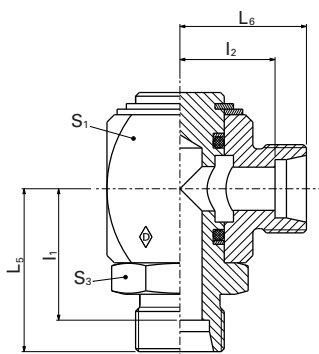


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|        |                 |                           |                    |                |                |                |                |                |                |                |                |                |                | Walpro<br>P-DGWW ... |
|--------|-----------------|---------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------|
| Series | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model              | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>5</sub> | L <sub>6</sub> | I <sub>1</sub> | I <sub>2</sub> | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Art. no.             |
| L      | 250<br>(3626)   | 6                         | <b>P-DGWW 6 L</b>  | 39             | 31             | 56.5           | 31.5           | 23.5           | 24.5           | 16.5           | 27             | 14             | 19             | <b>WAL373966</b>     |
|        |                 | 8                         | <b>P-DGWW 8 L</b>  | 40.5           | 32.5           | 61             | 33             | 25             | 26             | 18             | 30             | 17             | 22             | <b>WAL373967</b>     |
|        |                 | 10                        | <b>P-DGWW 10 L</b> | 43.5           | 34.5           | 64             | 36             | 27             | 29             | 20             | 32             | 19             | 24             | <b>WAL373968</b>     |
|        |                 | 12                        | <b>P-DGWW 12 L</b> | 46.5           | 36.5           | 70.5           | 39             | 29             | 32             | 22             | 36             | 22             | 27             | <b>WAL373969</b>     |
|        |                 | 15                        | <b>P-DGWW 15 L</b> | 50             | 40             | 76             | 42             | 32             | 35             | 25             | 40             | 27             | 32             | <b>WAL373970</b>     |
|        | 160<br>(2321)   | 18                        | <b>P-DGWW 18 L</b> | 55             | 43             | 83.5           | 46.5           | 34.5           | 39             | 27             | 45             | 32             | 36             | <b>WAL373971</b>     |
|        |                 | 22                        | <b>P-DGWW 22 L</b> | 63             | 50             | 97.5           | 54.5           | 41.5           | 47             | 34             | 55             | 36             | 41             | <b>WAL373972</b>     |
|        | 100<br>(1450)   | 28                        | <b>P-DGWW 28 L</b> | 71.5           | 55.5           | 112            | 62.5           | 46.5           | 55             | 39             | 65             | 41             | 50             | <b>WAL373973</b>     |
|        |                 | 35                        | <b>P-DGWW 35 L</b> | 80.5           | 64.5           | 126            | 69.5           | 53.5           | 59             | 43             | 75             | 50             | 55             | <b>WAL373974</b>     |
|        |                 | 42                        | <b>P-DGWW 42 L</b> | 92.5           | 72.5           | 146.5          | 81             | 61             | 70             | 50             | 90             | 60             | 70             | <b>WAL373975</b>     |
| S      | 400<br>(5801)   | 6                         | <b>P-DGWW 6 S</b>  | 41             | 33             | 58.5           | 33.5           | 25.5           | 26.5           | 18.5           | 27             | 17             | 19             | <b>WAL373976</b>     |
|        |                 | 8                         | <b>P-DGWW 8 S</b>  | 41             | 33             | 58.5           | 33.5           | 25.5           | 26.5           | 18.5           | 27             | 19             | 19             | <b>WAL373977</b>     |
|        |                 | 10                        | <b>P-DGWW 10 S</b> | 43.5           | 35.5           | 64             | 35             | 27             | 27.5           | 19.5           | 30             | 22             | 22             | <b>WAL373978</b>     |
|        |                 | 12                        | <b>P-DGWW 12 S</b> | 45.5           | 36.5           | 66             | 37             | 28             | 29.5           | 20.5           | 32             | 24             | 24             | <b>WAL373979</b>     |
|        |                 | 14                        | <b>P-DGWW 14 S</b> | 51.5           | 41.5           | 75.5           | 42             | 32             | 34             | 24             | 36             | 27             | 27             | <b>WAL373980</b>     |
|        | 250<br>(3626)   | 16                        | <b>P-DGWW 16 S</b> | 63.5           | 43.5           | 79.5           | 44             | 34             | 35.5           | 25.5           | 40             | 30             | 32             | <b>WAL373981</b>     |
|        |                 | 20                        | <b>P-DGWW 20 S</b> | 61.5           | 49.5           | 90             | 50.5           | 38.5           | 40             | 28             | 45             | 36             | 36             | <b>WAL373982</b>     |
|        |                 | 25                        | <b>P-DGWW 25 S</b> | 70.5           | 57.5           | 105            | 58.5           | 45.5           | 46.5           | 33.5           | 55             | 46             | 41             | <b>WAL373983</b>     |
|        |                 | 30                        | <b>P-DGWW 30 S</b> | 81.5           | 65.5           | 122            | 68.5           | 52.5           | 55             | 39             | 65             | 50             | 50             | <b>WAL373984</b>     |
|        |                 | 38                        | <b>P-DGWW 38 S</b> | 90             | 74             | 135.5          | 75.5           | 59.5           | 59.5           | 43.5           | 75             | 60             | 55             | <b>WAL373985</b>     |

L<sub>1</sub>, L<sub>2</sub> and L<sub>3</sub> = approximate dimensions if the union nuts are tightened

DGWS ...



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|        |                 |                           |           | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                       |                        |
|--------|-----------------|---------------------------|-----------|--|-----------------------|------------------------|
|        |                 |                           |           | Stud<br>DGWS ...   | Walring<br>W-R ... VI | Walform<br>WF-M ... VI |
| Series | PN<br>bar (psi) | Tube<br>outer<br>diameter | Model     | Art. no.   | Art. no.              | Art. no.               |
| L      | 250<br>(3626)   | 6                         | DGWS 6 L  | WAL060910  | WAL624607             | WAL625940              |
|        |                 | 8                         | DGWS 8 L  | WAL060911  | WAL624608             | WAL625941              |
|        |                 | 10                        | DGWS 10 L | WAL060912  | WAL624609             | WAL625942              |
|        |                 | 12                        | DGWS 12 L | WAL060913  | WAL624610             | WAL625943              |
|        |                 | 15                        | DGWS 15 L | WAL060914  | WAL624611             | WAL625944              |
|        | 160<br>(2321)   | 18                        | DGWS 18 L | WAL060915  | WAL624612             | WAL625945              |
|        |                 | 22                        | DGWS 22 L | WAL060916  | WAL624613             | WAL625946              |
|        |                 | 28                        | DGWS 28 L | WAL060917  | WAL624614             | WAL625947              |
|        |                 | 35                        | DGWS 35 L | WAL060918  | WAL624615             | WAL625948              |
|        |                 | 42                        | DGWS 42 L | WAL060919  | WAL624616             | WAL625949              |
| S      | 400<br>(5801)   | 6                         | DGWS 6 S  | WAL060920  | WAL624617             | WAL625950              |
|        |                 | 8                         | DGWS 8 S  | WAL060921  | WAL624618             | WAL625951              |
|        |                 | 10                        | DGWS 10 S | WAL060922  | WAL624619             | WAL625952              |
|        |                 | 12                        | DGWS 12 S | WAL060923  | WAL624620             | WAL625953              |
|        |                 | 14                        | DGWS 14 S | WAL060924  |                       |                        |
|        | 250<br>(3626)   | 16                        | DGWS 16 S | WAL060925  | WAL624621             | WAL625954              |
|        |                 | 20                        | DGWS 20 S | WAL060926  | WAL624622             | WAL625955              |
|        |                 | 25                        | DGWS 25 S | WAL060927  | WAL624623             | WAL625956              |
|        |                 | 30                        | DGWS 30 S | WAL060928  | WAL624624             | WAL625957              |
|        |                 | 38                        | DGWS 38 S | WAL060929  | WAL624625             | WAL625958              |

**G2**

**Check valves, shuttle valves,  
high-pressure ball valves**

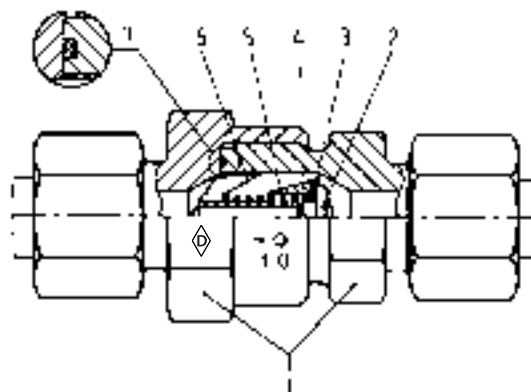




|                          | Figure Fitting  | Figure Stud   | Model                 | Page      |
|--------------------------|---|---|-----------------------|-----------|
|                          |   |   | Technical information | G13       |
|                          |   |   | Valve insert          | G14       |
| Check valve              |    |    | P-RV / RS ...         | G15 / G16 |
|                          |    |    | P-RVV / RSV ... R-WD  | G17 / G18 |
|                          |   |   | P-RVV / RSV ... M-WD  | G19 / G20 |
|                          |    |    | P-RVZ / RSZ ... R-WD  | G21 / G22 |
|                          |   |   | P-RVZ / RSZ ... M-WD  | G23 / G24 |
|                          |   |   | Technical information | G25       |
| Shuttle valve            |    |    | P-TWV / TWS ...       | G25 / G26 |
|                          |   |   | Technical information | G27       |
| High-pressure ball valve |   |    | KH-R ...              | G28       |
|                          |   |   | P-KHV / KHS ...       | G29 / G30 |
|                          |  |  | P-KH3KV / KH3KS ...   | G31 / G32 |
|                          |   |  | KH3KS-R ...           | G33       |
|                          |   |  | KH3S-R ...            | G34       |

## Technical information

1. Stud
2. Bolt
3. Sealing washer
4. Sleeve
5. Compression spring
6. Valve guide
7. O-ring



## G

### Applications

For use with hydraulic fluids and compressed air. To ensure the suitability of the valves for your application, please specify the medium, where necessary also the concentration level, the maximum operating pressure including pressure peaks, the temperature and the frequency of valve actuation.

### Design and construction

Danfoss's Waltech check valves are equipped with 90° tapers and a sealing washer made from FPM (e.g. Viton).

The internal parts are designed to optimize the media flow.

### Operating temperature

Temperature range of -20 °C to +100 °C

### Materials

|                               |     |                  |
|-------------------------------|-----|------------------|
| 1. Stud:                      |     | galvanized steel |
| 2. Bolt:                      |     | galvanized steel |
| 3. Sealing washer:            | FPM |                  |
| 4. Sleeve:                    |     | galvanized steel |
| 5. Compression spring:        |     | steel            |
| 6. Valve guide:               |     |                  |
| Tube outer diameter 6-28 mm:  |     | brass            |
| Tube outer diameter 30-42 mm: |     | galvanized steel |
| 7. O-ring:                    |     | FPM              |

### Opening pressures

The check valves come with a standard opening pressure of 1.0 bar.

Alternative opening pressures from 0.5 to 3.0 bar are available on request.

### Version

The port thread of the check valves is sealed by means of a soft seal.

The opening pressure and flow direction are indicated on the valves.

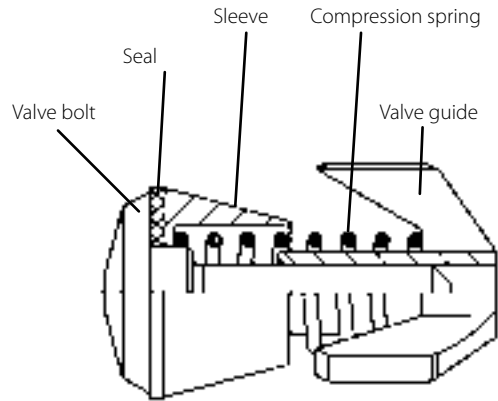
### Assembly

The valve bodies come fully assembled and with the required opening pressure.

When connecting or dismantling the tubes, the hexagon socket closest to the union nut must be held firmly in place to prevent the sealing edge at the inside of the valve body from coming loose.

- for opening pressure of 1 bar
- fitting dimensions available on request

| Nominal width | Tube outer diameter | Art. no.  |
|---------------|---------------------|-----------|
| 6             | 6-12                | WAL032431 |
| 10            | 14-18               | WAL032438 |
| 16            | 20-28               | WAL032445 |
| 25            | 30                  | WAL032451 |
| 32            | 35 - 42             | WAL032457 |

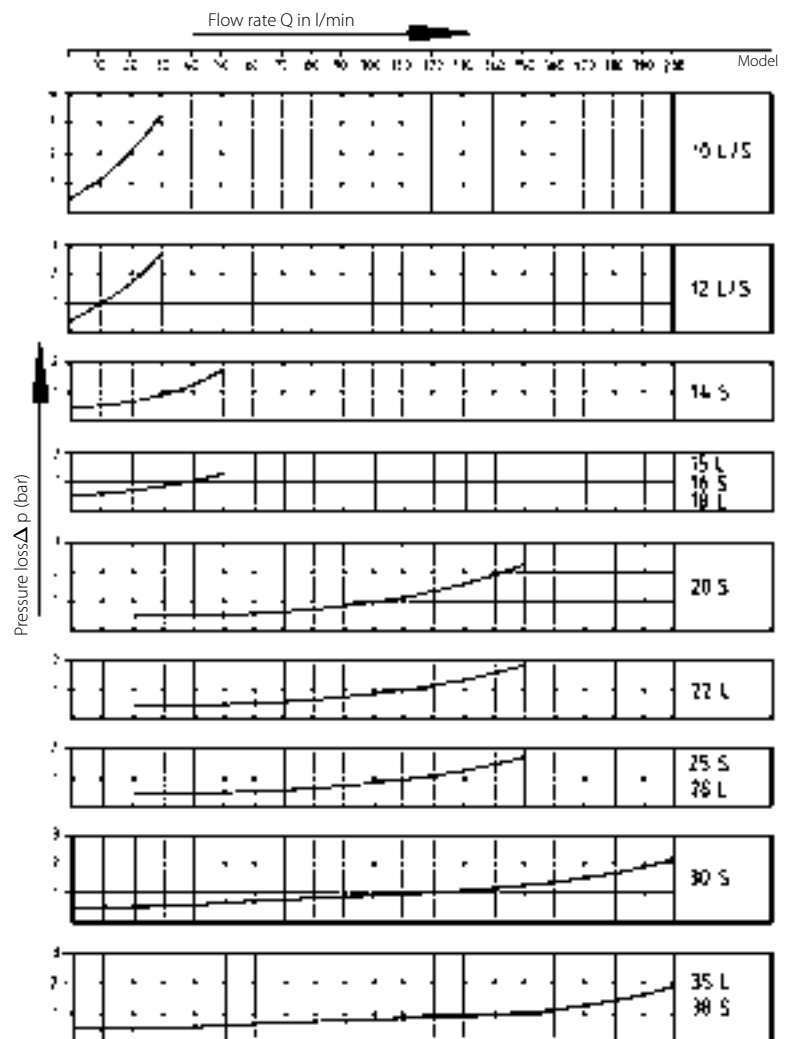
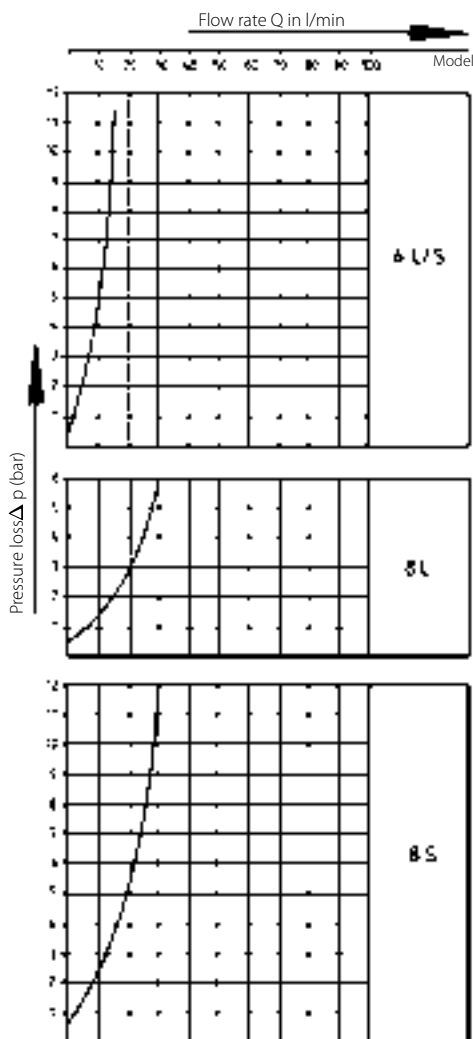


G

The valve insert with nominal size 16 must not be installed in reverse position.

### Pressure loss if check valves are used

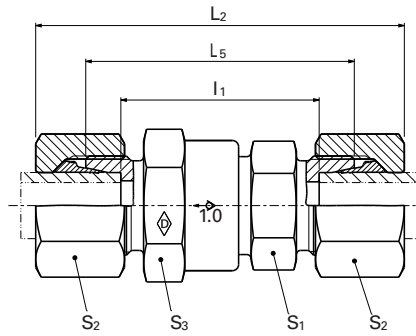
Measured using 35 mm<sup>2</sup> of hydraulic oil per second  
Opening pressure 0.5 bar



**P-RV ...**

**P-RV ... -1.4571**

- Tube connection at both ends



G

|               |                 |                        |           |                |                |                |                |                |                |                |                | Walpro P-RV... |           | Walpro<br>Stainless steel (1.4571)<br>P-RV ... 1.4571* |  |
|---------------|-----------------|------------------------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------|--|--|
| Series        | PN<br>bar (psi) | Tube<br>outer diameter | Model     | kg/<br>100 pc. | L <sub>2</sub> | L <sub>5</sub> | L <sub>1</sub> | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Ø of<br>outlet | Art. no.       | Art. no.  |  |  |
| L             | 400<br>(5801)   | 6                      | P-RV 6 L  | 12.7           | 67             | 52             | 38             | 22             | 14             | 27             | 4.0            | WAL374062      | WAL620511 |  |  |
|               |                 | 8                      | P-RV 8 L  | 14.7           | 67             | 52             | 38             | 22             | 17             | 27             | 6.0            | WAL374063      | WAL620510 |  |  |
|               |                 | 10                     | P-RV 10 L | 14.8           | 67             | 52             | 38             | 22             | 19             | 27             | 7.5            | WAL374064      | WAL620383 |  |  |
|               |                 | 12                     | P-RV 12 L | 19.1           | 68             | 53             | 39             | 22             | 22             | 27             | 7.5            | WAL374065      | WAL620461 |  |  |
|               |                 | 15                     | P-RV 15 L | 27.3           | 74             | 58             | 44             | 27             | 27             | 32             | 11.0           | WAL374066      | WAL620458 |  |  |
|               | 250<br>(3626)   | 18                     | P-RV 18 L | 35.5           | 80             | 63             | 48             | 27             | 32             | 32             | 11.0           | WAL374067      | WAL620467 |  |  |
|               |                 | 22                     | P-RV 22 L | 61.8           | 92             | 75             | 60             | 41             | 36             | 46             | 18.5           | WAL374068      | WAL620404 |  |  |
|               |                 | 28                     | P-RV 28 L | 76.5           | 99             | 81             | 66             | 41             | 41             | 46             | 18.5           | WAL374069      | WAL620389 |  |  |
|               |                 | 35                     | P-RV 35 L | 168.0          | 114            | 92             | 71             | 60             | 50             | 70             | 29.0           | WAL374070      | WAL621556 |  |  |
| S             | 400<br>(5801)   | 42                     | P-RV 42 L | 223.5          | 101            | 87             | 65             | 60             | 60             | 70             | 29.0           | WAL374483      | WAL621558 |  |  |
|               |                 | 6                      | P-RV 6 S  | 14.1           | 71             | 56             | 42             | 22             | 17             | 27             | 4.0            | WAL374071      | WAL621559 |  |  |
|               |                 | 8                      | P-RV 8 S  | 15.3           | 67             | 52             | 38             | 22             | 19             | 27             | 5.0            | WAL374072      | WAL620707 |  |  |
|               |                 | 10                     | P-RV 10 S | 17.2           | 71             | 54             | 39             | 22             | 22             | 27             | 7.0            | WAL374073      | WAL621546 |  |  |
|               |                 | 12                     | P-RV 12 S | 20.7           | 72             | 55             | 40             | 22             | 24             | 27             | 7.5            | WAL374074      | WAL620708 |  |  |
|               | 250<br>(3626)   | 14                     | P-RV 14 S | 30.0           | 81             | 62             | 46             | 27             | 27             | 32             | 10.0           | WAL374075      | WAL621549 |  |  |
|               |                 | 16                     | P-RV 16 S | 34.9           | 84             | 65             | 48             | 27             | 30             | 32             | 11.0           | WAL374076      | WAL620709 |  |  |
|               |                 | 20                     | P-RV 20 S | 68.2           | 100            | 78             | 57             | 41             | 36             | 46             | 16.0           | WAL374077      | WAL621552 |  |  |
|               |                 | 25                     | P-RV 25 S | 94.5           | 105            | 81             | 57             | 41             | 46             | 46             | 18.5           | WAL374078      | WAL620349 |  |  |
| 250<br>(3626) | 30              | P-RV 30 S              | 128.5     | 117            | 91             | 64             | 50             | 50             | 55             | 24.0           | WAL374079      | WAL621554      |           |  |  |
|               | 38              | P-RV 38 S              | 234.7     | 128            | 99             | 67             | 60             | 60             | 70             | 29.0           | WAL374080      | WAL621557      |           |  |  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

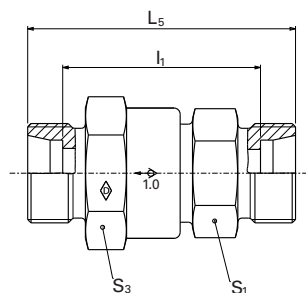
**⚠ Caution:** The dimensions of the stainless steel version deviate from the specified check-valve dimensions.

\*For complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

|            |                 |                        |                | Art. no. of Walpro P-RV... (steel) with different opening pressures |           |           |           |
|------------|-----------------|------------------------|----------------|---|-----------|-----------|-----------|
|            |                 |                        |                | 0.1 bar   | 0.5 bar   | 2.0 bar   | 3.0 bar   |
| Series     | PN<br>bar (psi) | Tube outer<br>diameter | Model**        | Art. no.  | Art. no.  | Art. no.  | Art. no.  |
| L          | 400 (5801)      | 6                      | P-RV 6 L / xx  | WAL605586   | WAL604490 | WAL615163 | WAL606308 |
|            |                 | 8                      | P-RV 8 L / xx  | WAL604362   | WAL374935 | WAL609996 | WAL604502 |
|            |                 | 10                     | P-RV 10 L / xx | WAL604404   | WAL605089 | WAL605683 | WAL602863 |
|            |                 | 12                     | P-RV 12 L / xx | WAL604535   | WAL603966 | WAL604877 | WAL604411 |
|            |                 | 15                     | P-RV 15 L / xx | WAL604478   | WAL604384 | WAL604645 | WAL604727 |
|            | 250 (3626)      | 18                     | P-RV 18 L / xx | WAL604527   | WAL372782 | WAL604646 | WAL374961 |
|            |                 | 22                     | P-RV 22 L / xx | WAL604528   | WAL604841 | WAL605092 | WAL605396 |
|            |                 | 28                     | P-RV 28 L / xx | WAL604632   | WAL604653 | WAL605209 | WAL602566 |
|            |                 | 35                     | P-RV 35 L / xx |   | WAL372781 | WAL604726 | WAL604137 |
| S          | 400 (5801)      | 42                     | P-RV 42 L / xx |   | WAL605397 | WAL604669 | WAL604670 |
|            |                 | 6                      | P-RV 6 S / xx  |   | WAL605289 |           | WAL609920 |
|            |                 | 8                      | P-RV 8 S / xx  | WAL609999   | WAL605288 |           | WAL605499 |
|            |                 | 10                     | P-RV 10 S / xx | WAL606342   | WAL606749 | WAL610036 |           |
|            |                 | 12                     | P-RV 12 S / xx | WAL610000   | WAL604289 |           | WAL604290 |
|            | 250 (3626)      | 16                     | P-RV 16 S / xx | WAL605429   | WAL602989 | WAL605583 | WAL604270 |
|            |                 | 20                     | P-RV 20 S / xx | WAL604798   | WAL605428 | WAL606991 | WAL604945 |
|            |                 | 25                     | P-RV 25 S / xx | WAL605589   | WAL604329 | WAL604621 | WAL605151 |
|            |                 | 30                     | P-RV 30 S / xx |   | WAL604675 | WAL605390 | WAL605416 |
| 250 (3626) | 38              | P-RV 38 S / xx         |                | WAL604608   | WAL604316 | WAL604622 |           |

\*\*e.g. P-RV 6L / 0.1

**RS ...**
**RS ... -1.4571**

**G**

 System nuts for supplementing the stud  
 (for technical data, see part D of this catalog)

| Series | PN bar (psi) | Tube outer diameter | Model   | kg/100 pc. | Stud RS ...<br>Art. no. | Stud Stainless steel (1.4571)<br>RS ... -1.4571<br>Art. no. | Walring W-R ... VI<br>Art. no. | Walform WF-M ... VI<br>Art. no. | Walform Stainless steel (1.4571)<br>WF-M ... VI -1.4571*<br>Art. no. |
|--------|--------------|---------------------|---------|------------|-------------------------|---|--------------------------------|---------------------------------|--|
| L      | 400 (5801)   | 6                   | RS 6 L  | 12.0       | WAL068052               | WAL604852   | WAL624607                      | WAL625940                       | WAL625980  |
|        |              | 8                   | RS 8 L  | 12.5       | WAL067394               | WAL604850   | WAL624608                      | WAL625941                       | WAL625981  |
|        |              | 10                  | RS 10 L | 11.5       | WAL067395               | WAL602518   | WAL624609                      | WAL625942                       | WAL625982  |
|        |              | 12                  | RS 12 L | 12.5       | WAL066490               | WAL370758   | WAL624610                      | WAL625943                       | WAL625983  |
|        |              | 15                  | RS 15 L | 18.5       | WAL067396               | WAL602473   | WAL624611                      | WAL625944                       | WAL625984  |
|        | 250 (3626)   | 18                  | RS 18 L | 23.0       | WAL063191               | WAL604499   | WAL624612                      | WAL625945                       | WAL625985  |
|        |              | 22                  | RS 22 L | 51.1       | WAL067397               | WAL603962   | WAL624613                      | WAL625946                       | WAL625986  |
|        |              | 28                  | RS 28 L | 57.0       | WAL066743               | WAL602724   | WAL624614                      | WAL625947                       | WAL625987  |
|        |              | 35                  | RS 35 L | 130.5      | WAL067398               | WAL617645   | WAL624615                      | WAL625948                       | WAL625988  |
|        |              | 42                  | RS 42 L | 123.4      | WAL067399               | WAL617646   | WAL624616                      | WAL625949                       | WAL625989  |
| S      | 400 (5801)   | 6                   | RS 6 S  | 13.0       | WAL067400               | WAL617647   | WAL624617                      | WAL625950                       | WAL625990  |
|        |              | 8                   | RS 8 S  | 12.0       | WAL067401               | WAL607288   | WAL624618                      | WAL625951                       | WAL625991  |
|        |              | 10                  | RS 10 S | 13.0       | WAL067402               | WAL617648   | WAL624619                      | WAL625952                       | WAL625992  |
|        |              | 12                  | RS 12 S | 14.0       | WAL063381               | WAL602552   | WAL624620                      | WAL625953                       | WAL625993  |
|        |              | 14                  | RS 14 S | 18.5       | WAL067403               | WAL617649   |                                |                                 |  |
|        | 250 (3626)   | 16                  | RS 16 S | 22.0       | WAL025190               | WAL606504   | WAL624621                      | WAL625954                       | WAL625994  |
|        |              | 20                  | RS 20 S | 66.2       | WAL067404               | WAL374975   | WAL624622                      | WAL625955                       | WAL625995  |
|        |              | 25                  | RS 25 S | 53.0       | WAL067405               | WAL372145   | WAL624623                      | WAL625956                       | WAL625996  |
|        |              | 30                  | RS 30 S | 81.0       | WAL067406               | WAL617650   | WAL624624                      | WAL625957                       | WAL625997  |
|        |              | 38                  | RS 38 S | 136.8      | WAL067407               | WAL374976   | WAL624625                      | WAL625958                       | WAL625998  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**⚠ Caution:** The dimensions of the stainless steel version deviate from the specified check-valve dimensions.

| Series | PN bar (psi) | Tube outer diameter | Model**     | Art. no. of studs RS ... (steel) with different opening pressures |           |           |           |
|--------|--------------|---------------------|-------------|---|-----------|-----------|-----------|
|        |              |                     |             | 0.1 bar   | 0.5 bar   | 2.0 bar   | 3.0 bar   |
|        |              |                     |             | Art. no.  | Art. no.  | Art. no.  | Art. no.  |
| L      | 400 (5801)   | 6                   | RS 6 L /xx  | WAL624116   | WAL371999 |           | WAL627053 |
|        |              | 8                   | RS 8 L /xx  | WAL624917   | WAL372294 | WAL370555 | WAL618555 |
|        |              | 10                  | RS 10 L /xx | WAL608429   | WAL608962 | WAL370556 | WAL606715 |
|        |              | 12                  | RS 12 L /xx | WAL610468   | WAL371106 | WAL371822 | WAL371196 |
|        |              | 15                  | RS 15 L /xx | WAL610624   | WAL609797 | WAL607987 | WAL372975 |
|        | 250 (3626)   | 18                  | RS 18 L /xx | WAL619778   | WAL602671 | WAL063188 | WAL608970 |
|        |              | 22                  | RS 22 L /xx | WAL624167   | WAL067672 | WAL607369 | WAL602755 |
|        |              | 28                  | RS 28 L /xx | WAL615505   | WAL602668 | WAL608083 | WAL602669 |
|        |              | 35                  | RS 35 L /xx | WAL370787   | WAL371068 | WAL371068 | WAL371491 |
|        |              | 42                  | RS 42 L /xx | WAL610697   | WAL610697 | WAL609691 | WAL604484 |
| S      | 400 (5801)   | 6                   | RS 6 S /xx  |   |           | WAL614211 |           |
|        |              | 8                   | RS 8 S /xx  | WAL623859   | WAL615253 |           | WAL619735 |
|        |              | 10                  | RS 10 S /xx | WAL623351   | WAL372300 | WAL627054 |           |
|        |              | 12                  | RS 12 S /xx | WAL623317   | WAL602670 | WAL611683 | WAL602553 |
|        | 250 (3626)   | 16                  | RS 16 S /xx | WAL618541   | WAL615749 | WAL609716 | WAL610676 |
|        |              | 20                  | RS 20 S /xx | WAL618542   | WAL372545 | WAL624143 | WAL063189 |
|        |              | 25                  | RS 25 S /xx | WAL623421   | WAL609709 | WAL374824 | WAL605407 |
|        |              | 30                  | RS 30 S /xx |   | WAL612782 |           | WAL612783 |
|        | 38           | RS 38 S /xx         |             | WAL613331   | WAL615780 | WAL608243 |           |

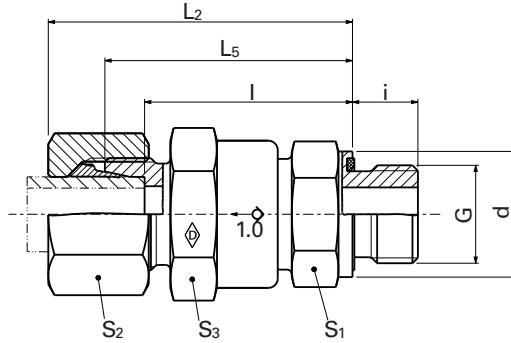
\*\*e.g. RS 6L / 0.1

Male check valve

**P-RVV ... R-WD**

**P-RVV ... R-WD-1.4571**

- Flow from male studs
- with soft seal made from NBR\*\* (e.g. Perbunan) for steel
- with soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)
- Inch studs type E to DIN EN ISO 1179-2



G

| Series | PN bar (psi) | Tube outer diameter | DIN-ISO 228 (R..., DIN 259) | Model                 | kg/100 pc. | d    | L <sub>2</sub> | L <sub>5</sub> | L    | i  | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Ø of outlet | Walpro P-RVV... R-WD |   |
|--------|--------------|---------------------|-----------------------------|-----------------------|------------|------|----------------|----------------|------|----|----------------|----------------|----------------|-------------|----------------------|---|
|        |              |                     |                             |                       |            |      |                |                |      |    |                |                |                |             | Art. no.             | Walpro Stainless steel (1.4571) P-RVV ... R-WD-1.4571* Art. no. |
| L      | 400 (5801)   | 6                   | G 1/8 A                     | <b>P-RVV 6 LR-WD</b>  | 11.5       | 13.9 | 50.5           | 43             | 36   | 8  | 22             | 14             | 27             | 4.0         | WAL373986            | WAL621595   |
|        |              | 8                   | G 1/4 A                     | <b>P-RVV 8 LR-WD</b>  | 13.5       | 18.9 | 50.5           | 43             | 36   | 12 | 22             | 17             | 27             | 6.0         | WAL373987            | WAL621599   |
|        |              | 10                  | G 1/4 A                     | <b>P-RVV 10 LR-WD</b> | 12.8       | 18.9 | 48.5           | 41             | 34   | 12 | 22             | 19             | 27             | 6.0         | WAL373988            | WAL621562   |
|        |              | 12                  | G 3/8 A                     | <b>P-RVV 12 LR-WD</b> | 16.9       | 21.9 | 53.5           | 46             | 39   | 12 | 22             | 22             | 27             | 7.5         | WAL373989            | WAL621566   |
|        |              | 15                  | G 1/2 A                     | <b>P-RVV 15 LR-WD</b> | 23.7       | 26.9 | 56             | 48             | 41   | 14 | 27             | 27             | 32             | 11.0        | WAL373990            | WAL621572   |
|        | 250 (3626)   | 18                  | G 1/2 A                     | <b>P-RVV 18 LR-WD</b> | 28.9       | 26.9 | 61.5           | 53             | 45.5 | 14 | 27             | 32             | 32             | 11.0        | WAL373991            | WAL621576   |
|        |              | 22                  | G 3/4 A                     | <b>P-RVV 22 LR-WD</b> | 52.3       | 31.9 | 69.5           | 61             | 53.5 | 16 | 41             | 36             | 46             | 18.0        | WAL373992            | WAL621580   |
|        |              | 28                  | G 1 A                       | <b>P-RVV 28 LR-WD</b> | 68.3       | 39.9 | 77             | 68             | 60.5 | 18 | 41             | 41             | 46             | 20.0        | WAL373993            | WAL621584   |
|        |              | 35                  | G 1 1/4 A                   | <b>P-RVV 35 LR-WD</b> | 155.5      | 49.9 | 88.5           | 77.5           | 67   | 20 | 60             | 50             | 70             | 29.0        | WAL373994            | WAL621588   |
|        |              | 42                  | G 1 1/2 A                   | <b>P-RVV 42 LR-WD</b> | 161.2      | 54.9 | 87.5           | 75.5           | 64.5 | 22 | 60             | 60             | 70             | 29.0        | WAL602441            | WAL621592   |
| S      | 400 (5801)   | 6                   | G 1/4 A                     | <b>P-RVV 6 SR-WD</b>  | 13.3       | 18.9 | 52.5           | 45             | 38   | 12 | 22             | 17             | 27             | 4.0         | WAL373995            | WAL621597   |
|        |              | 8                   | G 1/4 A                     | <b>P-RVV 8 SR-WD</b>  | 13.8       | 18.9 | 50.5           | 43             | 36   | 12 | 22             | 19             | 27             | 5.0         | WAL373996            | WAL621600   |
|        |              | 10                  | G 3/8 A                     | <b>P-RVV 10 SR-WD</b> | 15.5       | 21.9 | 53.5           | 45             | 37.5 | 12 | 22             | 22             | 27             | 7.5         | WAL373997            | WAL621564   |
|        |              | 12                  | G 3/8 A                     | <b>P-RVV 12 SR-WD</b> | 18.1       | 21.9 | 55.5           | 47             | 39.5 | 12 | 22             | 24             | 27             | 7.5         | WAL373998            | WAL621568   |
|        |              | 14                  | G 1/2 A                     | <b>P-RVV 14 SR-WD</b> | 24.7       | 26.9 | 59.5           | 50             | 42   | 14 | 27             | 27             | 32             | 10.0        | WAL373999            | WAL621570   |
|        | 250 (3626)   | 16                  | G 1/2 A                     | <b>P-RVV 16 SR-WD</b> | 28.3       | 26.9 | 62.5           | 53             | 44.5 | 14 | 27             | 30             | 32             | 11.0        | WAL374000            | WAL621574   |
|        |              | 20                  | G 3/4 A                     | <b>P-RVV 20 SR-WD</b> | 55.3       | 31.9 | 74             | 63             | 52.5 | 16 | 41             | 36             | 46             | 16.0        | WAL374001            | WAL621578   |
|        |              | 25                  | G 1 A                       | <b>P-RVV 25 SR-WD</b> | 73.6       | 39.9 | 77             | 65             | 53   | 18 | 41             | 46             | 46             | 20.0        | WAL374002            | WAL621582   |
|        |              | 30                  | G 1 1/4 A                   | <b>P-RVV 30 SR-WD</b> | 105.3      | 49.9 | 87             | 74             | 60.5 | 20 | 50             | 50             | 55             | 24.0        | WAL374003            | WAL621586   |
|        |              | 38                  | G 1 1/2 A                   | <b>P-RVV 38 SR-WD</b> | 200.4      | 54.9 | 96             | 81.5           | 65.5 | 22 | 60             | 60             | 70             | 29.0        | WAL374004            | WAL621590   |

⚠ **Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

⚠ **Caution:** The dimensions of the stainless steel version deviate from the specified check-valve dimensions.

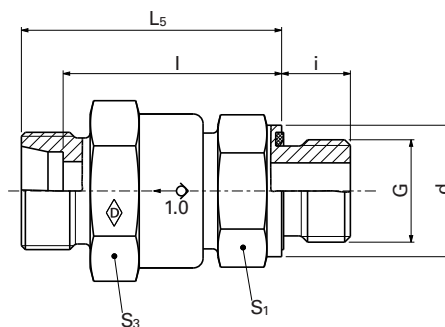
\*For complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened

\*\*FPM (e.g. Viton) see price list / available on request

| Series | PN bar (psi) | Tube outer diameter       | Model**                   | Art. no. of Walpro P-RVV... R-WD (steel) with different opening pressures |           |           |           |
|--------|--------------|---------------------------|---------------------------|---|-----------|-----------|-----------|
|        |              |                           |                           | 0.1 bar   | 0.5 bar   | 2.0 bar   | 3.0 bar   |
| L      | 400 (5801)   | 6                         | <b>P-RVV 6 LR-WD /xx</b>  | WAL604825   | WAL606085 | WAL608600 | WAL607293 |
|        |              | 8                         | <b>P-RVV 8 LR-WD /xx</b>  | WAL610001   | WAL606086 | WAL609791 | WAL612750 |
|        |              | 10                        | <b>P-RVV 10 LR-WD /xx</b> | WAL604692   | WAL606087 | WAL623997 | WAL607096 |
|        |              | 12                        | <b>P-RVV 12 LR-WD /xx</b> | WAL608625   | WAL604700 | WAL604701 | WAL605199 |
|        |              | 15                        | <b>P-RVV 15 LR-WD /xx</b> | WAL374936   | WAL606461 | WAL610393 | WAL605242 |
|        | 250 (3626)   | 18                        | <b>P-RVV 18 LR-WD /xx</b> | WAL605543   | WAL601077 | WAL604815 | WAL603948 |
|        |              | 22                        | <b>P-RVV 22 LR-WD /xx</b> | WAL374937   | WAL604772 | WAL610398 | WAL602657 |
|        |              | 28                        | <b>P-RVV 28 LR-WD /xx</b> | WAL604904   | WAL604300 | WAL605503 | WAL602642 |
|        |              | 35                        | <b>P-RVV 35 LR-WD /xx</b> |   | WAL606410 | WAL610399 |           |
|        |              | 42                        | <b>P-RVV 42 LR-WD /xx</b> |   | WAL605550 | WAL606742 | WAL609995 |
| S      | 400 (5801)   | 6                         | <b>P-RVV 6 SR-WD /xx</b>  |   | WAL604976 |           | WAL611475 |
|        |              | 8                         | <b>P-RVV 8 SR-WD /xx</b>  | WAL610002   |           |           |           |
|        |              | 10                        | <b>P-RVV 10 SR-WD /xx</b> | WAL604543   | WAL604495 |           |           |
|        |              | 12                        | <b>P-RVV 12 SR-WD /xx</b> | WAL610003   | WAL617074 | WAL604533 | WAL604816 |
|        |              | 16                        | <b>P-RVV 16 SR-WD /xx</b> | WAL608994   | WAL603896 |           | WAL606984 |
|        | 250 (3626)   | 20                        | <b>P-RVV 20 SR-WD /xx</b> | WAL604978   | WAL605291 | WAL606741 | WAL604733 |
|        |              | 25                        | <b>P-RVV 25 SR-WD /xx</b> |   | WAL605290 | WAL606741 | WAL605292 |
|        |              | 30                        | <b>P-RVV 30 SR-WD /xx</b> |   | WAL605294 | WAL605293 | WAL606988 |
|        | 38           | <b>P-RVV 38 SR-WD /xx</b> |                           | WAL604063   | WAL606996 |           |           |

\*\*e.g. P-RVV 6LR-WD / 0.1

**RSV ... R-WD**
**RSV ... R-WD-1.4571**

 System nuts for supplementing the stud  
 (for technical data, see part D of this catalog)

**G**

| Series | PN bar (psi) | Tube outer diameter | DIN-ISO 228 (R..., DIN 259) G | Model        | kg/100 pc. | Art. no.  | Art. no.  | System nuts for supplementing the stud (for technical data, see part D of this catalog) |   |                    |
|--------|--------------|---------------------|-------------------------------|--------------|------------|-----------|-----------|---|---|--------------------|
|        |              |                     |                               |              |            |           |           | Stud RSV ... R-WD   | Stud Stainless steel (1.4571) RSV ... R-WD-1.4571 | Walring W-R ... VI |
| L      | 400 (5801)   | 6                   | G 1/8 A                       | RSV 6 LR-WD  | 12.0       | WAL374839 | WAL617651 | WAL624607   | WAL625940   | WAL625980          |
|        |              | 8                   | G 1/4 A                       | RSV 8 LR-WD  | 12.0       | WAL370763 | WAL605386 | WAL624608   | WAL625941   | WAL625981          |
|        |              | 10                  | G 1/4 A                       | RSV 10 LR-WD | 11.5       | WAL371045 | WAL607115 | WAL624609   | WAL625942   | WAL625982          |
|        |              | 12                  | G 3/8 A                       | RSV 12 LR-WD | 14.0       | WAL068470 | WAL617652 | WAL624610   | WAL625943   | WAL625983          |
|        |              | 15                  | G 1/2 A                       | RSV 15 LR-WD | 19.0       | WAL371264 | WAL602751 | WAL624611   | WAL625944   | WAL625984          |
|        | 250 (3626)   | 18                  | G 1/2 A                       | RSV 18 LR-WD | 23.0       | WAL602598 | WAL605216 | WAL624612   | WAL625945   | WAL625985          |
|        |              | 22                  | G 3/4 A                       | RSV 22 LR-WD | 47.0       | WAL060241 | WAL604623 | WAL624613   | WAL625946   | WAL625986          |
|        |              | 28                  | G 1 A                         | RSV 28 LR-WD | 52.5       | WAL371746 | WAL604216 | WAL624614   | WAL625947   | WAL625987          |
|        |              | 35                  | G 1 1/4 A                     | RSV 35 LR-WD | 137.0      | WAL372025 | WAL605066 | WAL624615   | WAL625948   | WAL625988          |
|        |              | 42                  | G 1 1/2 A                     | RSV 42 LR-WD | 140.0      | WAL609782 | WAL617653 | WAL624616   | WAL625949   | WAL625989          |
| S      | 400 (5801)   | 6                   | G 1/4 A                       | RSV 6 SR-WD  | 13.0       | WAL612743 | WAL617654 | WAL624617   | WAL625950   | WAL625990          |
|        |              | 8                   | G 1/4 A                       | RSV 8 SR-WD  | 12.0       | WAL372786 | WAL604974 | WAL624618   | WAL625951   | WAL625991          |
|        |              | 10                  | G 3/8 A                       | RSV 10 SR-WD | 13.5       | WAL371265 | WAL605012 | WAL624619   | WAL625952   | WAL625992          |
|        |              | 12                  | G 3/8 A                       | RSV 12 SR-WD | 14.5       | WAL061960 | WAL371656 | WAL624620   | WAL625953   | WAL625993          |
|        |              | 14                  | G 1/2 A                       | RSV 14 SR-WD | 19.5       | WAL618611 | WAL602875 |   |   |                    |
|        | 250 (3626)   | 16                  | G 1/2 A                       | RSV 16 SR-WD | 23.0       | WAL371105 | WAL602472 | WAL624621   | WAL625954   | WAL625994          |
|        |              | 20                  | G 3/4 A                       | RSV 20 SR-WD | 59.5       | WAL371197 | WAL617655 | WAL624622   | WAL625955   | WAL625995          |
|        |              | 25                  | G 1 A                         | RSV 25 SR-WD | 54.0       | WAL371745 | WAL617656 | WAL624623   | WAL625956   | WAL625996          |
|        |              | 30                  | G 1 1/4 A                     | RSV 30 SR-WD | 86.0       | WAL370764 | WAL617657 | WAL624624   | WAL625957   | WAL625997          |
|        |              | 38                  | G 1 1/2 A                     | RSV 38 SR-WD | 144.1      | WAL372026 | WAL617658 | WAL624625   | WAL625958   | WAL625998          |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**⚠ Caution:** The dimensions of the stainless steel version deviate from the specified check-valve dimensions.

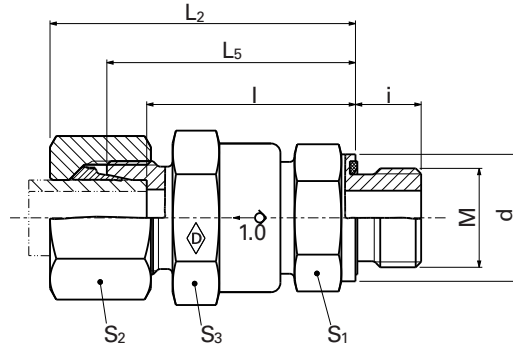
| Series | PN bar (psi) | Tube outer diameter | Model**          | Art. no. of studs RSV ... R-WD (steel) with different opening pressures |           |           |           |
|--------|--------------|---------------------|------------------|---|-----------|-----------|-----------|
|        |              |                     |                  | 0.1 bar   | 0.5 bar   | 2.0 bar   | 3.0 bar   |
| L      | 400 (5801)   | 6                   | RSV 6 LR-WD /xx  | WAL371380   |           |           |           |
|        |              | 8                   | RSV 8 LR-WD /xx  |   | WAL615264 |           |           |
|        |              | 10                  | RSV 10 LR-WD /xx |   | WAL372116 | WAL615341 | WAL609998 |
|        |              | 12                  | RSV 12 LR-WD /xx | WAL610714   | WAL609753 |           | WAL612276 |
|        |              | 15                  | RSV 15 LR-WD /xx | WAL627128   | WAL624124 |           | WAL615655 |
|        | 250 (3626)   | 18                  | RSV 18 LR-WD /xx | WAL612871   | WAL614222 |           | WAL611552 |
|        |              | 22                  | RSV 22 LR-WD /xx | WAL626560   | WAL619704 | WAL617116 | WAL610629 |
|        |              | 28                  | RSV 28 LR-WD /xx | WAL606804   | WAL606077 | WAL371720 | WAL611626 |
|        |              | 35                  | RSV 35 LR-WD /xx |   |           |           |           |
|        |              | 42                  | RSV 42 LR-WD /xx |   | WAL624117 | WAL625906 |           |
| S      | 400 (5801)   | 6                   | RSV 6 SR-WD /xx  |   |           |           |           |
|        |              | 8                   | RSV 8 SR-WD /xx  | WAL624159   | WAL610480 |           |           |
|        |              | 10                  | RSV 10 SR-WD /xx |   | WAL604330 |           | WAL619702 |
|        |              | 12                  | RSV 12 SR-WD /xx |   | WAL604331 |           |           |
|        | 250 (3626)   | 16                  | RSV 16 SR-WD /xx | WAL623436   | WAL617097 |           | WAL624206 |
|        |              | 20                  | RSV 20 SR-WD /xx |   | WAL614224 |           | WAL618545 |
|        |              | 25                  | RSV 25 SR-WD /xx | WAL618544   | WAL606645 |           | WAL610542 |
|        |              | 30                  | RSV 30 SR-WD /xx |   | WAL604487 |           | WAL615601 |
|        | 38           | RSV 38 SR-WD /xx    |                  | WAL615662   |           |           |           |

\*\*e.g. RSV 6LR-WD / 0.1

## Male check valve

### P-RVV ... M-WD

- Flow from male studs
- with soft seal made from NBR\* (e.g. Perbunan)
- Metric stud type E to DIN EN ISO 9974-2



G

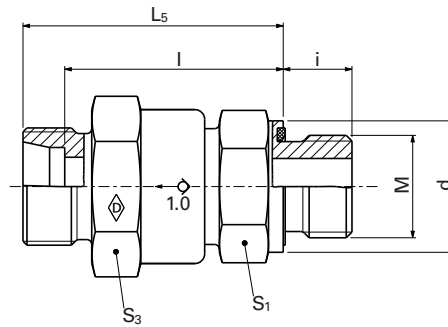
| Series | PN bar (psi) | Tube outer diameter | M                     | Model                 | kg/100 pc. | d    | L <sub>2</sub> | L <sub>5</sub> | L    | i  | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Ø of outlet      | Art. no.         |
|--------|--------------|---------------------|-----------------------|-----------------------|------------|------|----------------|----------------|------|----|----------------|----------------|----------------|------------------|------------------|
| L      | 400 (5801)   | 6                   | M 10 x 1              | <b>P-RVV 6 LM-WD</b>  | 11.5       | 13.9 | 50.5           | 43             | 36   | 8  | 22             | 14             | 27             | 4.0              | <b>WAL374005</b> |
|        |              | 8                   | M 12 x 1.5            | <b>P-RVV 8 LM-WD</b>  | 13.0       | 16.9 | 50.5           | 43             | 36   | 12 | 22             | 17             | 27             | 6.0              | <b>WAL374006</b> |
|        |              | 10                  | M 14 x 1.5            | <b>P-RVV 10 LM-WD</b> | 12.6       | 18.9 | 48.5           | 41             | 34   | 12 | 22             | 19             | 27             | 7.0              | <b>WAL374007</b> |
|        |              | 12                  | M 16 x 1.5            | <b>P-RVV 12 LM-WD</b> | 16.5       | 21.9 | 53.5           | 46             | 39   | 12 | 22             | 22             | 27             | 7.5              | <b>WAL374008</b> |
|        |              | 15                  | M 18 x 1.5            | <b>P-RVV 15 LM-WD</b> | 21.2       | 23.9 | 56             | 48             | 41   | 12 | 27             | 27             | 32             | 11.0             | <b>WAL374009</b> |
|        | 250 (3626)   | 18                  | M 22 x 1.5            | <b>P-RVV 18 LM-WD</b> | 29.7       | 29.9 | 61.5           | 53             | 45.5 | 14 | 27             | 32             | 32             | 11.0             | <b>WAL374010</b> |
|        |              | 22                  | M 26 x 1.5            | <b>P-RVV 22 LM-WD</b> | 51.6       | 31.9 | 69.5           | 61             | 53.5 | 16 | 41             | 36             | 46             | 18.0             | <b>WAL374011</b> |
|        |              | 28                  | M 33 x 2              | <b>P-RVV 28 LM-WD</b> | 68.2       | 39.9 | 77             | 68             | 60.5 | 18 | 41             | 41             | 46             | 18.5             | <b>WAL374012</b> |
|        |              | 35                  | M 42 x 2              | <b>P-RVV 35 LM-WD</b> | 155.5      | 49.9 | 88.5           | 77.5           | 67   | 20 | 60             | 50             | 70             | 29.0             | <b>WAL374013</b> |
|        |              | 42                  | M 48 x 2              | <b>P-RVV 42 LM-WD</b> | 161.2      | 54.9 | 87.5           | 75.5           | 64.5 | 22 | 60             | 60             | 70             | 29.0             | <b>WAL609988</b> |
| S      | 400 (5801)   | 6                   | M 12 x 1.5            | <b>P-RVV 6 SM-WD</b>  | 12.8       | 16.9 | 52.5           | 45             | 38   | 12 | 22             | 17             | 27             | 4.0              | <b>WAL374014</b> |
|        |              | 8                   | M 14 x 1.5            | <b>P-RVV 8 SM-WD</b>  | 13.6       | 18.9 | 50.5           | 43             | 36   | 12 | 22             | 19             | 27             | 5.0              | <b>WAL374015</b> |
|        |              | 10                  | M 16 x 1.5            | <b>P-RVV 10 SM-WD</b> | 15.1       | 21.9 | 53.5           | 45             | 37.5 | 12 | 22             | 22             | 27             | 7.0              | <b>WAL374016</b> |
|        |              | 12                  | M 18 x 1.5            | <b>P-RVV 12 SM-WD</b> | 18.7       | 23.9 | 55.5           | 47             | 39.5 | 12 | 24             | 24             | 27             | 7.5              | <b>WAL374017</b> |
|        | 250 (3626)   | 14                  | M 20 x 1.5            | <b>P-RVV 14 SM-WD</b> | 24.5       | 25.9 | 59.5           | 50             | 42   | 14 | 27             | 27             | 32             | 10.0             | <b>WAL374018</b> |
|        |              | 16                  | M 22 x 1.5            | <b>P-RVV 16 SM-WD</b> | 29.1       | 26.9 | 62.5           | 53             | 44.5 | 14 | 27             | 30             | 32             | 11.0             | <b>WAL374019</b> |
|        |              | 20                  | M 27 x 2              | <b>P-RVV 20 SM-WD</b> | 55.3       | 31.9 | 74             | 63             | 52.5 | 16 | 41             | 36             | 46             | 16.0             | <b>WAL374020</b> |
|        |              | 25                  | M 33 x 2              | <b>P-RVV 25 SM-WD</b> | 73.5       | 39.9 | 77             | 65             | 53   | 18 | 41             | 46             | 46             | 18.5             | <b>WAL374021</b> |
|        | 30           | M 42 x 2            | <b>P-RVV 30 SM-WD</b> | 105.3                 | 49.9       | 87   | 74             | 60.5           | 20   | 50 | 50             | 55             | 24.0           | <b>WAL374022</b> |                  |
|        | 38           | M 48 x 2            | <b>P-RVV 38 SM-WD</b> | 200.4                 | 54.9       | 96   | 81.5           | 65.5           | 22   | 60 | 60             | 70             | 29.0           | <b>WAL374023</b> |                  |

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*For FPM (e.g. Viton) see price list / available on request



RSV ... M-WD



G

System nuts for supplementing the stud  
(for technical data, see part D of this catalog)

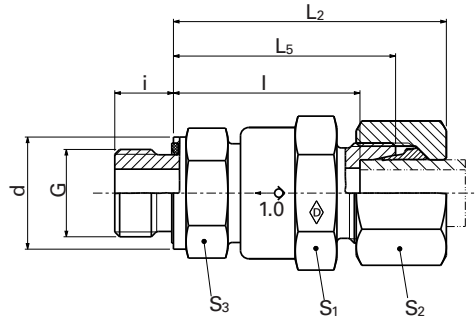
| Series | PN bar (psi) | Tube outer diameter | M          | Model        | Art. no.  | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                    |
|--------|--------------|---------------------|------------|--------------|-----------|--|--------------------|
|        |              |                     |            |              |           | Stud RSV ... M-WD  | Walring W-R ... VI |
| L      | 400 (5801)   | 6                   | M 10 x 1   | RSV 6 LM-WD  | WAL610475 | WAL624607  | WAL625940          |
|        |              | 8                   | M 12 x 1.5 | RSV 8 LM-WD  | WAL374842 | WAL624608  | WAL625941          |
|        |              | 10                  | M 14 x 1.5 | RSV 10 LM-WD | WAL067897 | WAL624609  | WAL625942          |
|        |              | 12                  | M 16 x 1.5 | RSV 12 LM-WD | WAL607416 | WAL624610  | WAL625943          |
|        |              | 15                  | M 18 x 1.5 | RSV 15 LM-WD | WAL067988 | WAL624611  | WAL625944          |
|        | 250 (3626)   | 18                  | M 22 x 1.5 | RSV 18 LM-WD | WAL372118 | WAL624612  | WAL625945          |
|        |              | 22                  | M 26 x 1.5 | RSV 22 LM-WD | WAL061479 | WAL624613  | WAL625946          |
|        |              | 28                  | M 33 x 2   | RSV 28 LM-WD | WAL604421 | WAL624614  | WAL625947          |
|        |              | 35                  | M 42 x 2   | RSV 35 LM-WD | WAL615467 | WAL624615  | WAL625948          |
|        |              | 42                  | M 48 x 2   | RSV 42 LM-WD | WAL615468 | WAL624616  | WAL625949          |
| S      | 400 (5801)   | 6                   | M 12 x 1.5 | RSV 6 SM-WD  | WAL615469 | WAL624617  | WAL625950          |
|        |              | 8                   | M 14 x 1.5 | RSV 8 SM-WD  | WAL615214 | WAL624618  | WAL625951          |
|        |              | 10                  | M 16 x 1.5 | RSV 10 SM-WD | WAL371695 | WAL624619  | WAL625952          |
|        |              | 12                  | M 18 x 1.5 | RSV 12 SM-WD | WAL371496 | WAL624620  | WAL625953          |
|        |              | 14                  | M 20 x 1.5 | RSV 14 SM-WD | WAL609976 |  |                    |
|        | 250 (3626)   | 16                  | M 22 x 1.5 | RSV 16 SM-WD | WAL371266 | WAL624621  | WAL625954          |
|        |              | 20                  | M 27 x 2   | RSV 20 SM-WD | WAL609900 | WAL624622  | WAL625955          |
|        |              | 25                  | M 33 x 2   | RSV 25 SM-WD | WAL025201 | WAL624623  | WAL625956          |
|        |              | 30                  | M 42 x 2   | RSV 30 SM-WD | WAL609901 | WAL624624  | WAL625957          |
|        |              | 38                  | M 48 x 2   | RSV 38 SM-WD | WAL068471 | WAL624625  | WAL625958          |

**Male check valve**

**P-RVZ ... R-WD**

**P-RVZ ... R-WD-1.4571**

- Flow to male studs
- with soft seal made from NBR\*\* (e.g. Perbunan) for steel
- with soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)
- Inch studs type E to DIN EN ISO 1179-2



G

| Series | PN bar (psi) | Tube outer diameter | DIN-ISO 228 (R..., DIN 259) G | Model          | kg/100 pc. | d    | L <sub>2</sub> | L <sub>5</sub> | l    | i  | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Ø of outlet | Walpro        | Walpro   |
|--------|--------------|---------------------|-------------------------------|----------------|------------|------|----------------|----------------|------|----|----------------|----------------|----------------|-------------|---------------|--|
|        |              |                     |                               |                |            |      |                |                |      |    |                |                |                |             | P-RVZ... R-WD | Stainless steel (1.4571) P-RVZ... R-WD-1.4571* |
|        |              |                     |                               |                |            |      |                |                |      |    |                |                |                |             | Art. no.      | Art. no.                                       |
| L      | 400 (5801)   | 6                   | G 1/8 A                       | P-RVZ 6 LR-WD  | 11.5       | 13.9 | 50.5           | 43             | 36   | 8  | 22             | 14             | 27             | 4.0         | WAL374024     | WAL621634                                      |
|        |              | 8                   | G 1/4 A                       | P-RVZ 8 LR-WD  | 13.5       | 18.9 | 50.5           | 43             | 36   | 12 | 22             | 17             | 27             | 6.0         | WAL374025     | WAL621638                                      |
|        |              | 10                  | G 1/4 A                       | P-RVZ 10 LR-WD | 12.8       | 18.9 | 48.5           | 41             | 34   | 12 | 22             | 19             | 27             | 6.0         | WAL374026     | WAL621602                                      |
|        |              | 12                  | G 3/8 A                       | P-RVZ 12 LR-WD | 16.9       | 21.9 | 53.5           | 46             | 39   | 12 | 22             | 22             | 27             | 7.5         | WAL374027     | WAL621606                                      |
|        |              | 15                  | G 1/2 A                       | P-RVZ 15 LR-WD | 23.7       | 26.9 | 56             | 48             | 41   | 14 | 27             | 27             | 32             | 11.0        | WAL374028     | WAL621612                                      |
|        | 250 (3626)   | 18                  | G 1/2 A                       | P-RVZ 18 LR-WD | 28.9       | 26.9 | 61.5           | 53             | 45.5 | 14 | 27             | 32             | 32             | 11.0        | WAL374029     | WAL621616                                      |
|        |              | 22                  | G 3/4 A                       | P-RVZ 22 LR-WD | 54.4       | 31.9 | 69.5           | 61             | 53.5 | 16 | 46**           | 36             | 41**           | 18.0        | WAL374030     | WAL621620                                      |
|        |              | 28                  | G 1 A                         | P-RVZ 28 LR-WD | 64.4       | 39.9 | 71             | 62             | 54.5 | 18 | 46**           | 41             | 41**           | 20.0        | WAL374031     | WAL621624                                      |
|        |              | 35                  | G 1 1/4 A                     | P-RVZ 35 LR-WD | 155.5      | 49.9 | 88.5           | 77.5           | 67   | 20 | 60             | 50             | 70             | 29.0        | WAL374032     | WAL621628                                      |
|        |              | 42                  | G 1 1/2 A                     | P-RVZ 42 LR-WD | 161.2      | 54.9 | 87.5           | 75.5           | 64.5 | 22 | 60             | 60             | 70             | 29.0        | WAL604475     | WAL621632                                      |
| S      | 400 (5801)   | 6                   | G 1/4 A                       | P-RVZ 6 SR-WD  | 13.3       | 18.9 | 52.5           | 45             | 38   | 12 | 22             | 17             | 27             | 4.0         | WAL374033     | WAL621636                                      |
|        |              | 8                   | G 1/4 A                       | P-RVZ 8 SR-WD  | 13.8       | 18.9 | 50.5           | 43             | 36   | 12 | 22             | 19             | 27             | 5.0         | WAL374034     | WAL621640                                      |
|        |              | 10                  | G 3/8 A                       | P-RVZ 10 SR-WD | 15.5       | 21.9 | 53.5           | 45             | 37.5 | 12 | 22             | 22             | 27             | 7.0         | WAL374035     | WAL621604                                      |
|        |              | 12                  | G 3/8 A                       | P-RVZ 12 SR-WD | 18.1       | 21.9 | 55.5           | 47             | 39.5 | 12 | 22             | 24             | 27             | 7.5         | WAL374036     | WAL621608                                      |
|        |              | 14                  | G 1/2 A                       | P-RVZ 14 SR-WD | 27.7       | 26.9 | 59.5           | 50             | 42   | 14 | 27             | 27             | 32             | 10.0        | WAL374037     | WAL621610                                      |
|        | 250 (3626)   | 16                  | G 1/2 A                       | P-RVZ 16 SR-WD | 28.3       | 26.9 | 62.5           | 53             | 44.5 | 14 | 27             | 30             | 32             | 11.0        | WAL374038     | WAL621614                                      |
|        |              | 20                  | G 3/4 A                       | P-RVZ 20 SR-WD | 56.8       | 31.9 | 73             | 62             | 51.5 | 16 | 46**           | 36             | 41**           | 16.0        | WAL374039     | WAL621618                                      |
|        |              | 25                  | G 1 A                         | P-RVZ 25 SR-WD | 74.8       | 39.9 | 77             | 65             | 53   | 18 | 46**           | 46             | 41**           | 20.0        | WAL374040     | WAL621622                                      |
|        |              | 30                  | G 1 1/4 A                     | P-RVZ 30 SR-WD | 105.3      | 49.9 | 87             | 74             | 60.5 | 20 | 50             | 50             | 55             | 24.0        | WAL374041     | WAL621626                                      |
|        |              | 38                  | G 1 1/2 A                     | P-RVZ 38 SR-WD | 200.4      | 54.9 | 96             | 81.5           | 65.5 | 22 | 60             | 60             | 70             | 29.0        | WAL374042     | WAL621630                                      |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**⚠ Caution:** The dimensions of the stainless steel version deviate from the specified check-valve dimensions.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

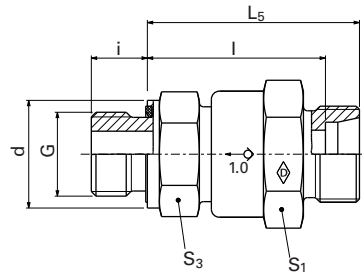
L<sub>2</sub> = approximate dimension if the union nut is tightened  
 \*\*For FPM (e.g. Viton) see price list / available on request

| Series | PN bar (psi) | Tube outer diameter | Model**            | Art. no. of Walpro P-RVZ ... R-WD (steel) with different opening pressures |           |           |           |
|--------|--------------|---------------------|--------------------|--|-----------|-----------|-----------|
|        |              |                     |                    | 0.1 bar  | 0.5 bar   | 2.0 bar   | 3.0 bar   |
|        |              |                     |                    | Art. no.   | Art. no.  | Art. no.  | Art. no.  |
| L      | 400 (5801)   | 6                   | P-RVZ 6 LR-WD /xx  | WAL607749  | WAL609950 |           | WAL601143 |
|        |              | 8                   | P-RVZ 8 LR-WD /xx  | WAL604073  | WAL604497 |           |           |
|        |              | 10                  | P-RVZ 10 LR-WD /xx | WAL608985  | WAL602568 | WAL610269 | WAL607945 |
|        |              | 12                  | P-RVZ 12 LR-WD /xx | WAL605404  | WAL605653 | WAL612357 | WAL606312 |
|        |              | 15                  | P-RVZ 15 LR-WD /xx | WAL605624  | WAL604965 |           | WAL613260 |
|        | 250 (3626)   | 18                  | P-RVZ 18 LR-WD /xx | WAL606805  | WAL604016 | WAL605504 | WAL611655 |
|        |              | 22                  | P-RVZ 22 LR-WD /xx | WAL605671  | WAL605197 |           | WAL604301 |
|        |              | 28                  | P-RVZ 28 LR-WD /xx | WAL604862  | WAL604890 | WAL605873 | WAL602658 |
|        |              | 35                  | P-RVZ 35 LR-WD /xx |  | WAL604938 |           |           |
|        |              | 42                  | P-RVZ 42 LR-WD /xx |  | WAL609892 | WAL606053 | WAL610012 |
| S      | 400 (5801)   | 10                  | P-RVZ 10 SR-WD /xx | WAL608624  | WAL610718 |           |           |
|        |              | 12                  | P-RVZ 12 SR-WD /xx |  |           | WAL604473 | WAL605001 |
|        | 250 (3626)   | 16                  | P-RVZ 16 SR-WD /xx | WAL605584  |           |           | WAL604434 |
|        |              | 20                  | P-RVZ 20 SR-WD /xx | WAL604977  | WAL608097 |           | WAL604570 |
|        |              | 25                  | P-RVZ 25 SR-WD /xx |  | WAL623998 | WAL606992 | WAL604823 |
|        | 30           | P-RVZ 30 SR-WD /xx  |                    | WAL605560  | WAL606261 | WAL608322 |           |
|        |              | P-RVZ 38 SR-WD /xx  |                    | WAL605684  | WAL605542 | WAL606774 |           |

\*\*e.g. P-RVZ 6LR-WD / 0.1

**RSZ ... R-WD**

**RSZ ... R-WD-1.4571**



**G**

System nuts for supplementing the stud  
(for technical data, see part D of this catalog)

| Series | PN bar (psi) | Tube outer diameter | G         | Model        | kg/100 pc. | Art. no.  | Stud<br>RSZ ... R-WD | Stud<br>Stainless steel (1.4571)<br>RSZ ... R-WD-1.4571* | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                        |  |
|--------|--------------|---------------------|-----------|--------------|------------|-----------|----------------------|--|--|------------------------|--|
|        |              |                     |           |              |            |           |                      |  | Walring<br>W-R ... VI  | Walform<br>WF-M ... VI | Walform stainless steel<br>WF-M ... VI-1.4571* |
| L      | 400 (5801)   | 6                   | G 1/8 A   | RSZ 6 LR-WD  | 12.0       | WAL067531 |                      | WAL617677  | WAL624607  | WAL625940              | WAL625980                                      |
|        |              | 8                   | G 1/4 A   | RSZ 8 LR-WD  | 12.0       | WAL370766 |                      | WAL617678  | WAL624608  | WAL625941              | WAL625981                                      |
|        |              | 10                  | G 1/4 A   | RSZ 10 LR-WD | 10.4       | WAL604922 |                      | WAL617679  | WAL624609  | WAL625942              | WAL625982                                      |
|        |              | 12                  | G 3/8 A   | RSZ 12 LR-WD | 14.0       | WAL371413 |                      | WAL605134  | WAL624610  | WAL625943              | WAL625983                                      |
|        |              | 15                  | G 1/2 A   | RSZ 15 LR-WD | 19.5       | WAL372065 |                      | WAL606993  | WAL624611  | WAL625944              | WAL625984                                      |
|        | 250 (3626)   | 18                  | G 1/2 A   | RSZ 18 LR-WD | 23.0       | WAL067899 |                      | WAL617680  | WAL624612  | WAL625945              | WAL625985                                      |
|        |              | 22                  | G 3/4 A   | RSZ 22 LR-WD | 47.0       | WAL067989 |                      | WAL617681  | WAL624613  | WAL625946              | WAL625986                                      |
|        |              | 28                  | G 1 A     | RSZ 28 LR-WD | 52.5       | WAL370767 |                      | WAL605580  | WAL624614  | WAL625947              | WAL625987                                      |
|        |              | 35                  | G 1 1/4 A | RSZ 35 LR-WD | 132.0      | WAL371378 |                      | WAL605085  | WAL624615  | WAL625948              | WAL625988                                      |
|        |              | 42                  | G 1 1/2 A | RSZ 42 LR-WD | 140.0      | WAL610625 |                      | WAL617682  | WAL624616  | WAL625949              | WAL625989                                      |
| S      | 400 (5801)   | 6                   | G 1/4 A   | RSZ 6 SR-WD  | 13.0       | WAL608275 |                      | WAL602681  | WAL624617  | WAL625950              | WAL625990                                      |
|        |              | 8                   | G 1/4 A   | RSZ 8 SR-WD  | 12.0       | WAL370768 |                      | WAL617683  | WAL624618  | WAL625951              | WAL625991                                      |
|        |              | 10                  | G 3/8 A   | RSZ 10 SR-WD | 13.5       | WAL068967 |                      | WAL604778  | WAL624619  | WAL625952              | WAL625992                                      |
|        |              | 12                  | G 3/8 A   | RSZ 12 SR-WD | 14.5       | WAL604061 |                      | WAL617684  | WAL624620  | WAL625953              | WAL625993                                      |
|        |              | 14                  | G 1/2 A   | RSZ 14 SR-WD | 19.5       | WAL615470 |                      | WAL617685  |  |                        |  |
|        | 250 (3626)   | 16                  | G 1/2 A   | RSZ 16 SR-WD | 23.0       | WAL067898 |                      | WAL605166  | WAL624621  | WAL625954              | WAL625994                                      |
|        |              | 20                  | G 3/4 A   | RSZ 20 SR-WD | 47.0       | WAL068472 |                      | WAL605086  | WAL624622  | WAL625955              | WAL625995                                      |
|        |              | 25                  | G 1 A     | RSZ 25 SR-WD | 54.0       | WAL371067 |                      | WAL602474  | WAL624623  | WAL625956              | WAL625996                                      |
|        |              | 30                  | G 1 1/4 A | RSZ 30 SR-WD | 86.0       | WAL067532 |                      | WAL617686  | WAL624624  | WAL625957              | WAL625997                                      |
|        |              | 38                  | G 1 1/2 A | RSZ 38 SR-WD | 143.5      | WAL067900 |                      | WAL617687  | WAL624625  | WAL625958              | WAL625998                                      |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**⚠ Caution:** The dimensions of the stainless steel version deviate from the specified check-valve dimensions.

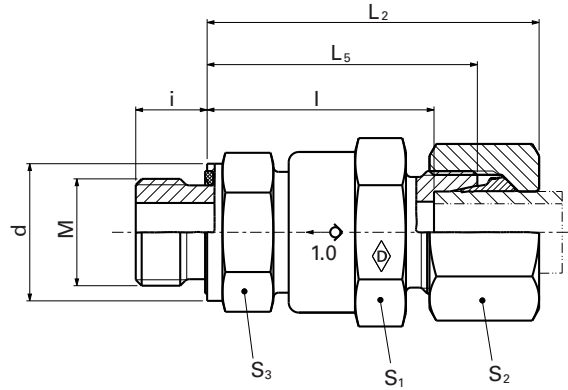
| Series | PN bar (psi) | Tube outer diameter | Model**          | Art. no. of studs RSZ ... R-WD (steel) with different opening pressures |           |           |           |
|--------|--------------|---------------------|------------------|---|-----------|-----------|-----------|
|        |              |                     |                  | 0.1 bar   | 0.5 bar   | 2.0 bar   | 3.0 bar   |
| L      | 400 (5801)   | 6                   | RSZ 6 LR-WD /xx  | WAL604094   |           |           |           |
|        |              | 8                   | RSZ 8 LR-WD /xx  | WAL612870   | WAL371012 |           |           |
|        |              | 10                  | RSZ 10 LR-WD /xx |   |           | WAL610970 | WAL625812 |
|        |              | 12                  | RSZ 12 LR-WD /xx | WAL610715   | WAL604485 | WAL610716 | WAL611665 |
|        |              | 15                  | RSZ 15 LR-WD /xx | WAL617096   | WAL624119 |           | WAL610248 |
|        | 250 (3626)   | 18                  | RSZ 18 LR-WD /xx | WAL624336   | WAL604486 | WAL605555 | WAL611051 |
|        |              | 22                  | RSZ 22 LR-WD /xx |   | WAL615166 | WAL624170 | WAL615476 |
|        |              | 28                  | RSZ 28 LR-WD /xx | WAL624284   | WAL604921 | WAL605556 | WAL610685 |
|        |              | 35                  | RSZ 35 LR-WD /xx |   | WAL612011 | WAL612010 | WAL612067 |
|        |              | 42                  | RSZ 42 LR-WD /xx |   | WAL618616 | WAL612012 | WAL612494 |
| S      | 400 (5801)   | 10                  | RSZ 10 SR-WD /xx | WAL066684   | WAL624120 |           |           |
|        |              | 12                  | RSZ 12 SR-WD /xx |   | WAL610526 |           | WAL626737 |
|        |              | 16                  | RSZ 16 SR-WD /xx | WAL623437   |           |           | WAL372358 |
|        | 250 (3626)   | 20                  | RSZ 20 SR-WD /xx |   | WAL615174 |           |           |
|        |              | 25                  | RSZ 25 SR-WD /xx |   | WAL612077 | WAL623470 | WAL602577 |
|        | 30           | RSZ 30 SR-WD /xx    |                  | WAL615480   |           | WAL624858 |           |
|        | 38           | RSZ 38 SR-WD /xx    |                  | WAL615663   | WAL624901 | WAL615600 |           |

\*\*e.g. RSZ 6LR-WD / 0.1

## Male check valve

### P-RVZ ... M-WD

- Flow to male studs
- with soft seal made from NBR\* (e.g. Perbunan)
- Metric stud type E to DIN EN ISO 9974-2



G

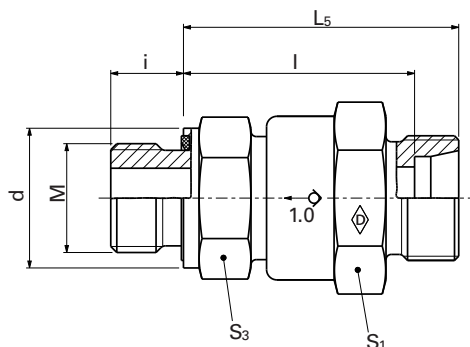
Walpro  
P-RVZ ... M-WD

| Series | PN bar (psi) | Tube outer diameter | M          | Model                 | kg/100 pc. | d    | L <sub>2</sub> | L <sub>5</sub> | l    | i  | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Ø of outlet | Art. no.         |
|--------|--------------|---------------------|------------|-----------------------|------------|------|----------------|----------------|------|----|----------------|----------------|----------------|-------------|------------------|
| L      | 400 (5801)   | 6                   | M 10 x 1   | <b>P-RVZ 6 LM-WD</b>  | 11.5       | 13.9 | 50.5           | 43             | 36   | 8  | 22             | 14             | 27             | 4.0         | <b>WAL374043</b> |
|        |              | 8                   | M 12 x 1.5 | <b>P-RVZ 8 LM-WD</b>  | 13.0       | 16.9 | 50.5           | 43             | 36   | 12 | 22             | 17             | 27             | 6.0         | <b>WAL374044</b> |
|        |              | 10                  | M 14 x 1.5 | <b>P-RVZ 10 LM-WD</b> | 12.6       | 18.9 | 48.5           | 41             | 34   | 12 | 22             | 19             | 27             | 7.0         | <b>WAL374045</b> |
|        |              | 12                  | M 16 x 1.5 | <b>P-RVZ 12 LM-WD</b> | 16.5       | 21.9 | 53.5           | 46             | 39   | 12 | 22             | 22             | 27             | 7.5         | <b>WAL374046</b> |
|        |              | 15                  | M 18 x 1.5 | <b>P-RVZ 15 LM-WD</b> | 21.2       | 21.9 | 56             | 48             | 41   | 12 | 27             | 27             | 32             | 11.0        | <b>WAL374047</b> |
|        | 250 (3626)   | 18                  | M 22 x 1.5 | <b>P-RVZ 18 LM-WD</b> | 29.7       | 26.9 | 61.5           | 53             | 45.5 | 14 | 27             | 32             | 32             | 11.0        | <b>WAL374048</b> |
|        |              | 22                  | M 26 x 1.5 | <b>P-RVZ 22 LM-WD</b> | 57.6       | 31.9 | 70.5           | 62             | 54.5 | 16 | 46**           | 36             | 41**           | 18.0        | <b>WAL374049</b> |
|        |              | 28                  | M 33 x 2   | <b>P-RVZ 28 LM-WD</b> | 64.4       | 39.9 | 71             | 62             | 54.5 | 18 | 46**           | 41             | 41**           | 18.5        | <b>WAL374050</b> |
|        |              | 35                  | M 42 x 2   | <b>P-RVZ 35 LM-WD</b> | 155.5      | 49.9 | 88.5           | 77.5           | 67   | 20 | 60             | 50             | 70             | 29.0        | <b>WAL374051</b> |
|        |              | 42                  | M 48 x 2   | <b>P-RVZ 42 LM-WD</b> | 161.2      | 54.9 | 87.5           | 75.5           | 64.5 | 22 | 60             | 60             | 70             | 29.0        | <b>WAL609989</b> |
| S      | 400 (5801)   | 6                   | M 12 x 1.5 | <b>P-RVZ 6 SM-WD</b>  | 12.8       | 16.9 | 52.5           | 45             | 38   | 12 | 22             | 17             | 27             | 4.0         | <b>WAL374052</b> |
|        |              | 8                   | M 14 x 1.5 | <b>P-RVZ 8 SM-WD</b>  | 13.6       | 18.9 | 50.5           | 43             | 36   | 12 | 22             | 19             | 27             | 5.0         | <b>WAL374053</b> |
|        |              | 10                  | M 16 x 1.5 | <b>P-RVZ 10 SM-WD</b> | 15.1       | 21.9 | 53.5           | 45             | 37.5 | 12 | 22             | 22             | 27             | 7.0         | <b>WAL374054</b> |
|        |              | 12                  | M 18 x 1.5 | <b>P-RVZ 12 SM-WD</b> | 18.7       | 23.9 | 55.5           | 47             | 39.5 | 12 | 24             | 24             | 27             | 7.5         | <b>WAL374055</b> |
|        |              | 14                  | M 20 x 1.5 | <b>P-RVZ 14 SM-WD</b> | 24.5       | 25.9 | 59.5           | 50             | 42   | 14 | 27             | 27             | 32             | 10.0        | <b>WAL374056</b> |
|        | 250 (3626)   | 16                  | M 22 x 1.5 | <b>P-RVZ 16 SM-WD</b> | 29.1       | 26.9 | 62.5           | 53             | 44.5 | 14 | 27             | 30             | 32             | 11.0        | <b>WAL374057</b> |
|        |              | 20                  | M 27 x 2   | <b>P-RVZ 20 SM-WD</b> | 55.3       | 31.9 | 73             | 62             | 51.5 | 16 | 46**           | 36             | 41**           | 16.0        | <b>WAL374058</b> |
|        |              | 25                  | M 33 x 2   | <b>P-RVZ 25 SM-WD</b> | 80.5       | 39.9 | 77             | 65             | 53   | 18 | 46**           | 46             | 41**           | 18.5        | <b>WAL374059</b> |
|        |              | 30                  | M 42 x 2   | <b>P-RVZ 30 SM-WD</b> | 105.3      | 49.9 | 87             | 74             | 60.5 | 20 | 50             | 50             | 55             | 24.0        | <b>WAL374060</b> |
|        |              | 38                  | M 48 x 2   | <b>P-RVZ 38 SM-WD</b> | 200.4      | 54.9 | 96             | 81.5           | 65.5 | 22 | 60             | 60             | 70             | 29.0        | <b>WAL374061</b> |

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*For FPM (e.g. Viton) see price list / available on request

RSZ ... M-WD



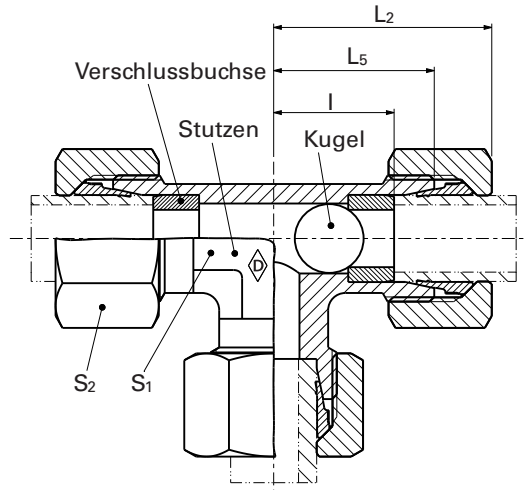
G

| Series | PN bar (psi) | Tube outer diameter | M          | Model        | kg/100 pc. | Art. no.  | System nuts for supplementing the stud (for technical data, see part D of this catalog) |                    |
|--------|--------------|---------------------|------------|--------------|------------|-----------|---|--------------------|
|        |              |                     |            |              |            |           | Stud RSZ ... M-WD   | Walring W-R ... VI |
| L      | 400 (5801)   | 6                   | M 10 x 1   | RSZ 6 LM-WD  | 12.0       | WAL615471 | WAL624607   | WAL625940          |
|        |              | 8                   | M 12 x 1.5 | RSZ 8 LM-WD  | 12.1       | WAL067925 | WAL624608   | WAL625941          |
|        |              | 10                  | M 14 x 1.5 | RSZ 10 LM-WD | 11.0       | WAL602599 | WAL624609   | WAL625942          |
|        |              | 12                  | M 16 x 1.5 | RSZ 12 LM-WD | 14.0       | WAL370765 | WAL624610   | WAL625943          |
|        |              | 15                  | M 18 x 1.5 | RSZ 15 LM-WD | 18.5       | WAL602432 | WAL624611   | WAL625944          |
|        |              | 18                  | M 22 x 1.5 | RSZ 18 LM-WD | 23.0       | WAL371162 | WAL624612   | WAL625945          |
|        | 250 (3626)   | 22                  | M 26 x 1.5 | RSZ 22 LM-WD | 47.0       | WAL068991 | WAL624613   | WAL625946          |
|        |              | 28                  | M 33 x 2   | RSZ 28 LM-WD | 52.5       | WAL604405 | WAL624614   | WAL625947          |
|        |              | 35                  | M 42 x 2   | RSZ 35 LM-WD | 132.0      | WAL067533 | WAL624615   | WAL625948          |
|        |              | 42                  | M 48 x 2   | RSZ 42 LM-WD | 140.0      | WAL615472 | WAL624616   | WAL625949          |
| S      | 400 (5801)   | 6                   | M 12 x 1.5 | RSZ 6 SM-WD  | 13.0       | WAL615473 | WAL624617   | WAL625950          |
|        |              | 8                   | M 14 x 1.5 | RSZ 8 SM-WD  | 11.9       | WAL602874 | WAL624618   | WAL625951          |
|        |              | 10                  | M 16 x 1.5 | RSZ 10 SM-WD | 13.5       | WAL371694 | WAL624619   | WAL625952          |
|        |              | 12                  | M 18 x 1.5 | RSZ 12 SM-WD | 15.5       | WAL371461 | WAL624620   | WAL625953          |
|        |              | 14                  | M 20 x 1.5 | RSZ 14 SM-WD | 19.5       | WAL615474 |   |                    |
|        |              | 16                  | M 22 x 1.5 | RSZ 16 SM-WD | 23.0       | WAL371043 | WAL624621   | WAL625954          |
|        | 250 (3626)   | 20                  | M 27 x 2   | RSZ 20 SM-WD | 47.0       | WAL610390 | WAL624622   | WAL625955          |
|        |              | 25                  | M 33 x 2   | RSZ 25 SM-WD | 54.0       | WAL068992 | WAL624623   | WAL625956          |
|        |              | 30                  | M 42 x 2   | RSZ 30 SM-WD | 86.0       | WAL615278 | WAL624624   | WAL625957          |
|        |              | 38                  | M 48 x 2   | RSZ 38 SM-WD | 143.5      | WAL612045 | WAL624625   | WAL625958          |

## Shuttle valve

### P-TWV ...

- Shuttle valve



G

|        |                  |                           |                  |                |                |    |                |                | Walpro<br>P-TWV ... |
|--------|------------------|---------------------------|------------------|----------------|----------------|----|----------------|----------------|---------------------|
| Series | PB*<br>bar (psi) | Tube<br>outer<br>diameter | Model            | L <sub>5</sub> | L <sub>2</sub> | l  | S <sub>1</sub> | S <sub>2</sub> | Art. no.            |
| L      | 250<br>(3626)    | 8                         | <b>P-TWV 8L</b>  | 21             | 29             | 14 | 14             | 17             | <b>WAL613224</b>    |
|        |                  | 10                        | <b>P-TWV 10L</b> | 22             | 30             | 15 | 17             | 19             | <b>WAL613225</b>    |
|        |                  | 12                        | <b>P-TWV 12L</b> | 24             | 32             | 17 | 19             | 22             | <b>WAL613226</b>    |
|        |                  | 15                        | <b>P-TWV 15L</b> | 28             | 36             | 21 | 19             | 27             |                     |

L<sub>5</sub> = approximate dimension if the union nut is tightened

\*With a safety factor of 1.5

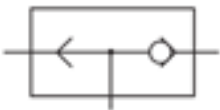
### Material

Steel

### Application

For use as an automatic diverter valve for hydraulic fluids within a closed hydraulic circuit. To ensure the functionality of the valve in each case, please specify the medium, where necessary also the concentration level, the maximum operating pressure including pressure peaks, the temperature and the frequency of valve actuation. Only suitable for connections that fit closely against the tube stop of the body.

### Operating mode

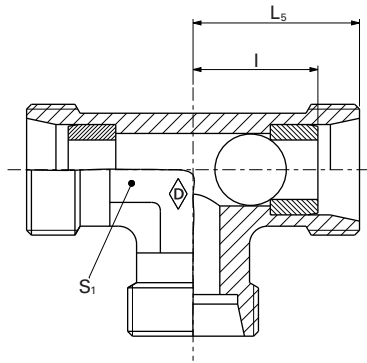


The port through which pressurized oil is applied (either A or B) must be connected to port C.  
The port that is not pressurized will be closed by means of a movable ball that acts as a metal-to-metal seal.

### Operating temperature

Temperature range of -40 °C to +120 °C

**TWS ...**

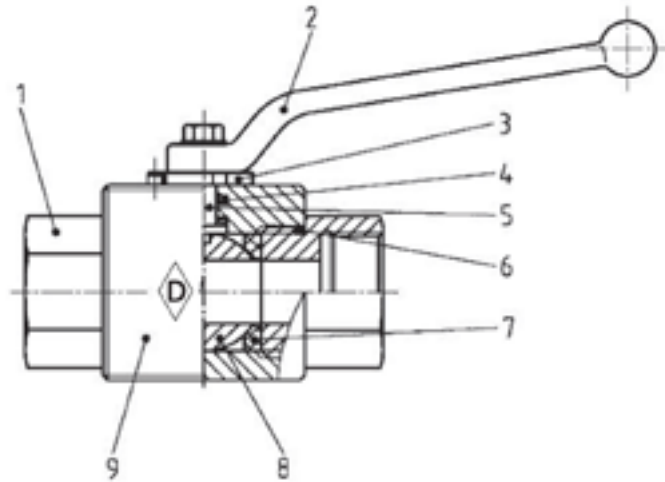


**G**

| Series | PB*<br>bar (psi) | Tube<br>outer diameter | Model          | Stud<br>TWS ...  | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                        |
|--------|------------------|------------------------|----------------|------------------|--|------------------------|
|        |                  |                        |                |                  | Walring<br>W-R ... VI  | Walform<br>WF-M ... VI |
|        |                  |                        |                | Art. no.         | Art. no.   | Art. no.               |
| L      | 250<br>(3626)    | 8                      | <b>TWS 8L</b>  | <b>WAL611086</b> | <b>WAL624608</b>   | <b>WAL625941</b>       |
|        |                  | 10                     | <b>TWS 10L</b> | <b>WAL612901</b> | <b>WAL624609</b>   | <b>WAL625942</b>       |
|        |                  | 12                     | <b>TWS 12L</b> | <b>WAL612902</b> | <b>WAL624610</b>   | <b>WAL625943</b>       |
|        |                  | 15                     | <b>TWS 15L</b> | <b>WAL624877</b> | <b>WAL624611</b>   | <b>WAL625944</b>       |

## Technical information

1. Adapter
2. Handle
3. Stop plate
4. O-ring
5. Selector shaft
6. O-ring
7. Sealing element
8. Ball
9. Body



G

### Application

For use with hydraulic applications. For compressed air applications up to an operating pressure (PB) of 16 bar. Ball valves are available on request for compressed air applications above 16 bar.

### Design and construction

The ball seal is pre-loaded, which ensures tight sealing even at lower pressures. Owing to the ball's floating position, any rise in pressure will progressively push the ball closer to the seal. Handles can be fitted in any position at 45° angles.

### Safety

The operating pressures of the ball valves are designed with a safety factor of 1.5 under static load conditions, including pressure peaks. Ball valves are subject to a maximum storage period of 6 months.

### Materials

Standard version:

|                         |                       |
|-------------------------|-----------------------|
| Body                    | – galvanized steel    |
| Ball and selector shaft | – steel               |
| Ball seal               | – POM (e.g. Delrin)   |
| O-rings                 | – NBR (e.g. Perbunan) |

Special body and sealing materials available on request

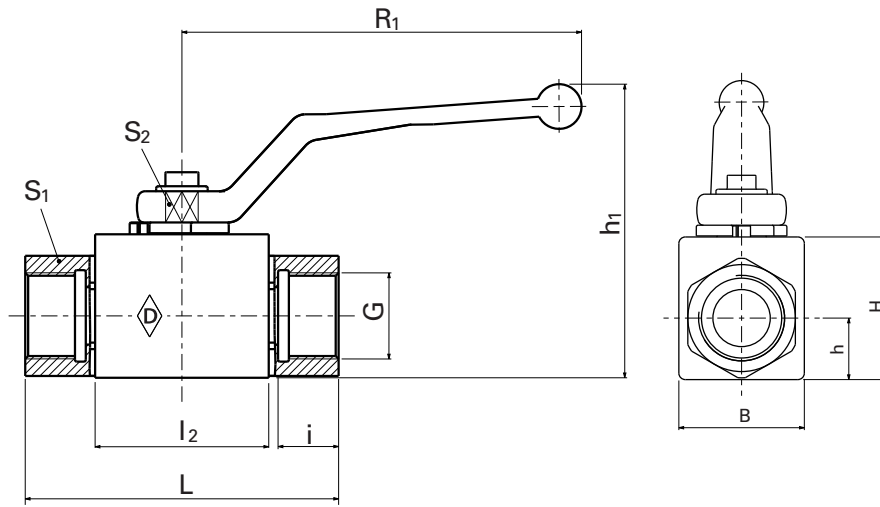
### Operating temperature

Temperature range of -20 °C to +60 °C



**KH-R ...**

- Whitworth thread


**G**

|                  |                                      |                           |    |      |       |             |       |       |    |       |       |       |    | Stud<br>KH-R ... |
|------------------|--------------------------------------|---------------------------|----|------|-------|-------------|-------|-------|----|-------|-------|-------|----|------------------|
| PB*<br>bar (psi) | DIN-ISO 228 (R<br>..., DIN 259)<br>G | Model                     | B  | H    | h     | $h_1 \pm 5$ | L     | $l_2$ | i  | $S_1$ | $S_2$ | $R_1$ | DN | Art. no.         |
| 500<br>(7252)    | G 1/8                                | <b>KH-R 1/8/NW 4</b>      | 26 | 32   | 12.8  | 72          | 69    | 36.2  | 8  | 22    | 9     | 107   | 4  | <b>WAL029293</b> |
|                  | G 1/4                                | <b>KH-R 1/4/NW 6</b>      | 26 | 32   | 12.8  | 72          | 69    | 36.2  | 12 | 22    | 9     | 107   | 6  | <b>WAL029294</b> |
|                  | G 3/8                                | <b>KH-R 3/8/NW 10</b>     | 32 | 38   | 16.25 | 78          | 73    | 43.2  | 12 | 27    | 9     | 107   | 10 | <b>WAL029295</b> |
| 400 (5801)       | G 1/2                                | <b>KH-R 1/2/NW 13</b>     | 35 | 40   | 17.25 | 80          | 85    | 48.2  | 14 | 30    | 9     | 107   | 13 | <b>WAL029296</b> |
|                  | G 3/4                                | <b>KH-R 3/4/NW 20</b>     | 49 | 57   | 24.5  | 135         | 96.5  | 62.2  | 16 | 41    | 14    | 165   | 20 | <b>WAL029298</b> |
| 350<br>(5076)    | G 1                                  | <b>KH-R 1/NW 25</b>       | 54 | 60   | 26.5  | 139         | 113.5 | 66.2  | 18 | 46    | 14    | 165   | 24 | <b>WAL029299</b> |
|                  | G 1 1/4                              | <b>KH-R 1 1/4/NW 32</b>   | 80 | 85.4 | 39.5  | 160         | 121.5 | 80    | 20 | 60    | 17    | 210   | 24 | <b>WAL029300</b> |
|                  | G 1 1/4                              | <b>KH-R 1 1/4/NW 32**</b> | 80 | 85.4 | 39.5  | 160         | 110   | 80    | 20 | 60    | 17    | 210   | 32 | <b>WAL061806</b> |
|                  | G 1 1/2                              | <b>KH-R 1 1/2/NW 40**</b> | 84 | 92.4 | 42    | 164         | 120   | 85    | 22 | 70    | 17    | 210   | 38 | <b>WAL029301</b> |

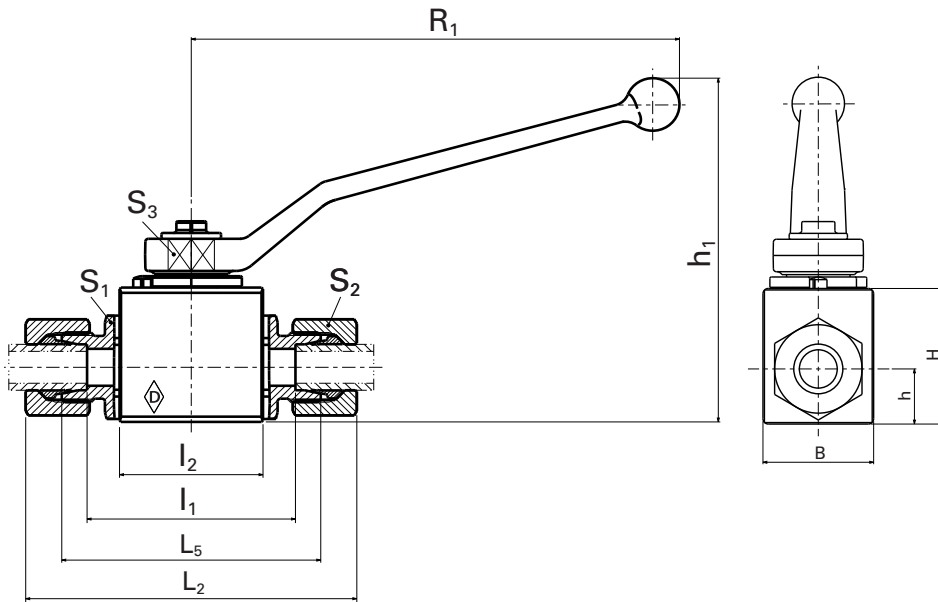
\*With a safety factor of 1.5

\*\*With forged body

**P-KHV ...**

- Tube connection at both ends
- Threads are available with runout or with undercut according to DIN 3853

G



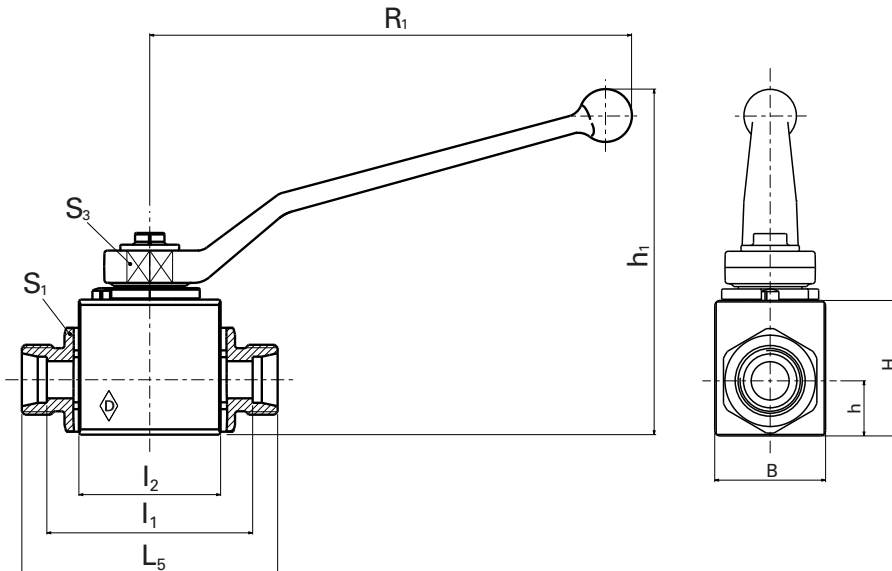
|        |                  |                           |                    |                  |      |       |             |       |       |       |       |       |       |       |       |     | Walpro<br>P-KHV... |           |
|--------|------------------|---------------------------|--------------------|------------------|------|-------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-----|--------------------|-----------|
| Series | PB*<br>bar (psi) | Tube<br>outer<br>diameter | Model              | B                | H    | h     | $h_1 \pm 5$ | $I_2$ | $I_1$ | $L_2$ | $L_5$ | $S_1$ | $S_2$ | $S_3$ | $R_1$ | DN  | Art. no.           |           |
| L      | 400<br>(5801)    | 6                         | P-KHV 6 L/NW 4     | 26               | 32   | 12.8  | 72          | 36    | 62    | 82    | 67    | 22    | 14    | 9     | 107   | 5   | WAL374081          |           |
|        |                  | 8                         | P-KHV 8 L/NW 6     | 26               | 32   | 12.8  | 72          | 36    | 53    | 82    | 67    | 22    | 17    | 9     | 107   | 6   | WAL374082          |           |
|        |                  | 10                        | P-KHV 10 L/NW 8    | 26               | 32   | 12.8  | 72          | 36    | 57    | 86    | 71    | 22    | 19    | 9     | 107   | 8   | WAL374083          |           |
|        |                  | 12                        | P-KHV 12 L/NW 10   | 32               | 38   | 16.25 | 78          | 43    | 61    | 90    | 75    | 27    | 22    | 9     | 107   | 10  | WAL374084          |           |
|        |                  | 15                        | P-KHV 15 L/NW 13   | 35               | 40   | 17.25 | 80          | 48    | 68.6  | 99.5  | 84    | 30    | 27    | 9     | 107   | 13  | WAL374085          |           |
|        |                  | 18                        | P-KHV 18 L/NW 16   | 38               | 46   | 18.7  | 124         | 48    | 68    | 101   | 83    | 32    | 32    | 12    | 165   | 15  | WAL374086          |           |
| L      | 250<br>(3626)    | 22                        | P-KHV 22 L/NW 20   | 49               | 57   | 24.5  | 135         | 62    | 87    | 119   | 102   | 41    | 36    | 14    | 165   | 20  | WAL374087          |           |
|        |                  | 28                        | P-KHV 28 L/NW 25   | 54               | 60   | 26.5  | 139         | 66    | 93    | 126   | 108   | 46    | 41    | 14    | 165   | 24  | WAL374088          |           |
|        |                  | 35                        | P-KHV 35 L/NW 25   | 54               | 60   | 26.5  | 139         | 66    | 93    | 136   | 114   | 50    | 50    | 14    | 165   | 24  | WAL374089          |           |
| L      | 210 (3046)       | 42                        | P-KHV 42 L/NW 40** | 84               | 92.4 | 42    | 164         | 80    | 111   | 157   | 133   | 70    | 60    | 17    | 210   | 38  | WAL374091          |           |
| S      | 500<br>(7252)    | 8                         | P-KHV 8 S/NW 4     | 26               | 32   | 12.8  | 72          | 36    | 59    | 88    | 73    | 22    | 19    | 9     | 107   | 5   | WAL374092          |           |
|        |                  | 10                        | P-KHV 10 S/NW 6    | 26               | 32   | 12.8  | 72          | 36    | 58    | 90    | 73    | 22    | 22    | 9     | 107   | 6   | WAL374093          |           |
|        |                  | 12                        | P-KHV 12 S/NW 8    | 26               | 32   | 12.8  | 72          | 36    | 61    | 93    | 77    | 22    | 24    | 9     | 107   | 8   | WAL374094          |           |
|        |                  | 14                        | P-KHV 14 S/NW 10   | 32               | 38   | 16.25 | 78          | 43    | 68    | 103   | 84    | 27    | 27    | 9     | 107   | 10  | WAL374095          |           |
|        | S                | 400 (5801)                | 16                 | P-KHV 16 S/NW 13 | 35   | 40    | 17.25       | 80    | 48    | 70    | 106   | 87    | 30    | 30    | 9     | 107 | 13                 | WAL374096 |
|        |                  |                           | 20                 | P-KHV 20 S/NW 16 | 38   | 46    | 18.7        | 124   | 48    | 70    | 112   | 90    | 32    | 32    | 12    | 165 | 15                 | WAL374097 |
|        |                  |                           | 25                 | P-KHV 25 S/NW 20 | 49   | 57    | 24.5        | 135   | 62    | 88    | 134   | 110   | 41    | 46    | 14    | 165 | 20                 | WAL374098 |
|        |                  |                           | 30                 | P-KHV 30 S/NW 25 | 54   | 60    | 26.5        | 139   | 66    | 93    | 146   | 120   | 46    | 50    | 14    | 165 | 24                 | WAL374099 |
| S      | 315 (4569)       | 38                        | P-KHV 38 S/NW 32** | 80               | 85.4 | 39.5  | 160         | 80    | 108   | 170   | 140   | 60    | 60    | 17    | 210   | 32  | WAL374101          |           |

$L_2$  = approximate dimension if the union nut is tightened

\*With a safety factor of 1.5

\*\*With forged body

## KHS ...



G

| Series | PB*<br>bar (psi) | Tube<br>outer<br>diameter | Model          | DN               | Stud<br>KHS... | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                        |           |
|--------|------------------|---------------------------|----------------|------------------|----------------|--|------------------------|-----------|
|        |                  |                           |                |                  |                | Walring<br>W-R ... VI  | Walform<br>WF-M ... VI |           |
|        |                  |                           |                |                  | Art. no.       | Art. no.   | Art. no.               |           |
| L      | 400<br>(5801)    | 6                         | KHS 6 L/NW 4   | 4                | WAL029274      | WAL624607  | WAL625940              |           |
|        |                  | 8                         | KHS 8 L/NW 6   | 6                | WAL029275      | WAL624608  | WAL625941              |           |
|        |                  | 10                        | KHS 10 L/NW 8  | 8                | WAL029276      | WAL624609  | WAL625942              |           |
|        |                  | 12                        | KHS 12 L/NW 10 | 10               | WAL029277      | WAL624610  | WAL625943              |           |
|        |                  | 15                        | KHS 15 L/NW 13 | 13               | WAL029278      | WAL624611  | WAL625944              |           |
|        | 250<br>(3626)    | 18                        | KHS 18 L/NW 16 | 16               | WAL029279      | WAL624612  | WAL625945              |           |
|        |                  | 22                        | KHS 22 L/NW 20 | 20               | WAL029280      | WAL624613  | WAL625946              |           |
|        |                  | 28                        | KHS 28 L/NW 25 | 25               | WAL029281      | WAL624614  | WAL625947              |           |
|        |                  | 35                        | KHS 35 L/NW 25 | 25               | WAL029282      | WAL624615  | WAL625948              |           |
|        |                  | 210 (3046)                | 42             | KHS 42 L/NW 40** | 40             | WAL029283  | WAL624616              | WAL625949 |
| S      | 500<br>(7252)    | 8                         | KHS 8 S/NW 4   | 4                | WAL029284      | WAL624618  | WAL625951              |           |
|        |                  | 10                        | KHS 10 S/NW 6  | 6                | WAL029285      | WAL624619  | WAL625952              |           |
|        |                  | 12                        | KHS 12 S/NW 8  | 8                | WAL029286      | WAL624620  | WAL625953              |           |
|        |                  | 14                        | KHS 14 S/NW 10 | 10               | WAL029287      | WAL624620  | WAL625953              |           |
|        |                  | 16                        | KHS 16 S/NW 13 | 13               | WAL029288      | WAL624621  | WAL625954              |           |
|        | 400<br>(5801)    | 20                        | KHS 20 S/NW 16 | 16               | WAL029289      | WAL624622  | WAL625955              |           |
|        |                  | 25                        | KHS 25 S/NW 20 | 20               | WAL029290      | WAL624623  | WAL625955              |           |
|        |                  | 315<br>(4569)             | 30             | KHS 30 S/NW 25   | 25             | WAL029291  | WAL624624              | WAL625957 |
|        |                  |                           | 38             | KHS 38 S/NW 32** | 32             | WAL061810  | WAL624625              | WAL625958 |

 $L_2$  = approximate dimension if the union nut is tightened

\*With a safety factor of 1.5

\*\*With forged body

## Compact diverter valve

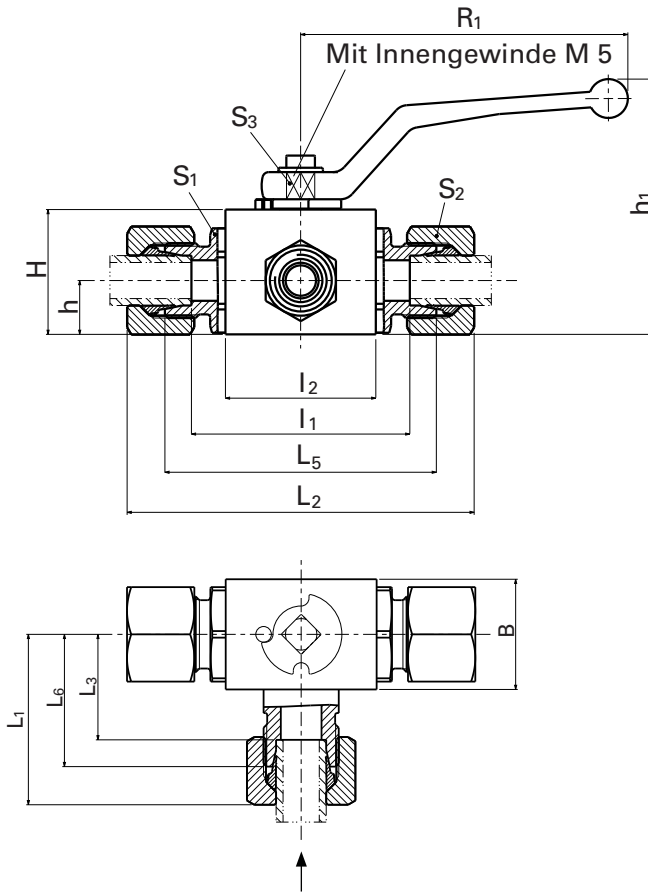
### P-KH3KV ...

- L or T port
- Port type



The required port type should be indicated after the model name.

- With female M5 thread
- Threads are available with runout or with undercut according to DIN 3853



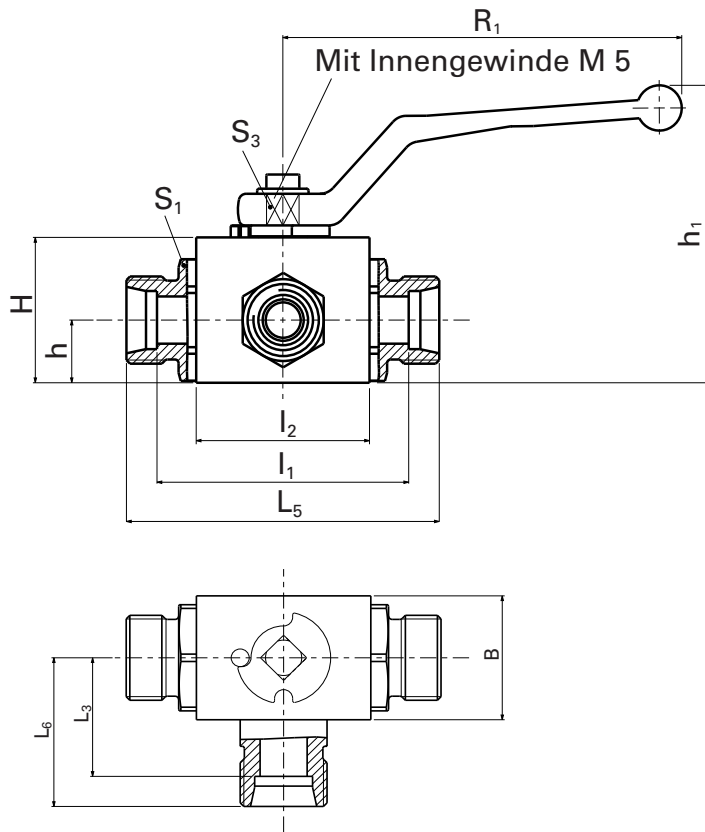
- This port must always be in the open position.
- Pressure may only be applied from this side. Pressurization from the other ports is not permissible and will lead to malfunctions!

|        |                  |                           |                      |    |    |      |                  |       |       |       |       |       |       |       |       |       |       |       |    | Walpro<br>P-KH3KV... |  |
|--------|------------------|---------------------------|----------------------|----|----|------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|----------------------|--|
| Series | PB*<br>bar (psi) | Tube<br>outer<br>diameter | Model                | B  | H  | h    | $h_1$<br>$\pm 5$ | $I_1$ | $I_2$ | $L_1$ | $L_2$ | $L_3$ | $L_5$ | $L_6$ | $S_1$ | $S_2$ | $S_3$ | $R_1$ | DN | Art. no.             |  |
| L      | 400<br>(5801)    | 8                         | P-KH3KV 8 L/NW 6-L   | 26 | 32 | 13   | 72               | 53    | 36    | 41    | 82    | 25    | 67    | 32    | 22    | 17    | 9     | 107   | 6  | WAL374620            |  |
|        |                  | 8                         | P-KH3KV 8 L/NW 6-T   | 26 | 32 | 13   | 72               | 53    | 36    | 41    | 82    | 25    | 67    | 32    | 22    | 17    | 9     | 107   | 6  | WAL374621            |  |
|        |                  | 10                        | P-KH3KV 10 L/NW 8-L  | 26 | 32 | 13   | 72               | 57    | 36    | 44.5  | 86    | 25    | 71    | 32    | 22    | 19    | 9     | 107   | 8  | WAL374622            |  |
|        |                  | 10                        | P-KH3KV 10 L/NW 8-T  | 26 | 32 | 13   | 72               | 57    | 36    | 44.5  | 86    | 25    | 71    | 32    | 22    | 19    | 9     | 107   | 8  | WAL374623            |  |
|        | 350<br>(5076)    | 12                        | P-KH3KV 12 L/NW 10-L | 32 | 38 | 16.5 | 78               | 57    | 43    | 44.5  | 90    | 33    | 75    | 35    | 27    | 22    | 9     | 107   | 10 | WAL374624            |  |
|        |                  | 12                        | P-KH3KV 12 L/NW 10-T | 32 | 38 | 16.5 | 78               | 57    | 43    | 44.5  | 90    | 33    | 75    | 35    | 27    | 22    | 9     | 107   | 10 | WAL374625            |  |
|        |                  | 15                        | P-KH3KV 15 L/NW 13-L | 35 | 40 | 17.5 | 80               | 63    | 48    | 49.5  | 100   | 33    | 84    | 42    | 30    | 27    | 9     | 107   | 13 | WAL374626            |  |
|        |                  | 15                        | P-KH3KV 15 L/NW 13-T | 35 | 40 | 17.5 | 80               | 63    | 48    | 49.5  | 100   | 33    | 84    | 42    | 30    | 27    | 9     | 107   | 13 | WAL374627            |  |

$L_2$  = approximate dimension if the union nut is tightened

\*With a safety factor of 1.5

**KH3KS ...**



**G**

| Series | PB*<br>bar<br>(psi) | Tube<br>outer<br>diameter | Model              | Stud<br>KH3KS... | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                        |
|--------|---------------------|---------------------------|--------------------|------------------|--|------------------------|
|        |                     |                           |                    |                  | Walring<br>W-R ... VI  | Walform<br>WF-M ... VI |
|        |                     |                           |                    | Art. no.         | Art. no.   | Art. no.               |
| L      | 400<br>(5801)       | 8                         | KH3KS 8 L/NW 6-L   | WAL062623        | WAL624608  | WAL625941              |
|        |                     | 8                         | KH3KS 8 L/NW 6-T   | WAL062635        | WAL624608  | WAL625941              |
|        |                     | 10                        | KH3KS 10 L/NW 8-L  | WAL062624        | WAL624609  | WAL625942              |
|        |                     | 10                        | KH3KS 10 L/NW 8-T  | WAL062636        | WAL624609  | WAL625942              |
|        | 350<br>(5076)       | 12                        | KH3KS 12 L/NW 10-L | WAL062625        | WAL624610  | WAL625943              |
|        |                     | 12                        | KH3KS 12 L/NW 10-T | WAL062637        | WAL624610  | WAL625943              |
|        |                     | 15                        | KH3KS 15L/NW 13-L  | WAL062626        | WAL624611  | WAL625944              |
|        |                     | 15                        | KH3KS 15 L/NW 13-T | WAL062638        | WAL624611  | WAL625944              |

L<sub>2</sub> = approximate dimension if the union nut is tightened  
 \*With a safety factor of 1.5

## Compact diverter valve (stud)

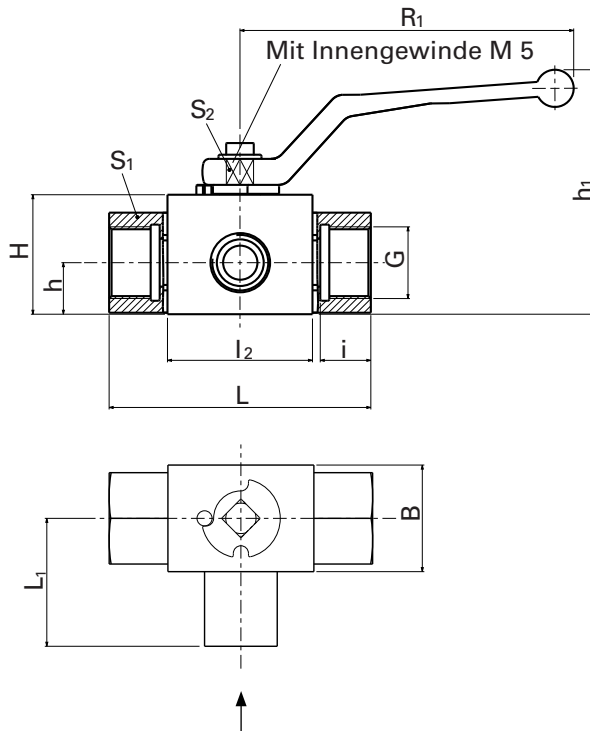
### KH3KS-R ...

- L or T port Whitworth thread
- Port type



The required port type should be indicated after the model name.

- With female M5 thread



- This port must always be in the open position.
- Pressure may only be applied from this side. Pressurization from the other ports is not permissible and will lead to malfunctions!

|                     |                                      |                             |    |    |      |             |    |       |       |    |       |       |       |    |                  | Stud<br>KH3KS-R... |
|---------------------|--------------------------------------|-----------------------------|----|----|------|-------------|----|-------|-------|----|-------|-------|-------|----|------------------|--------------------|
| PB*<br>bar<br>(psi) | DIN-ISO 228<br>(R ..., DIN 259)<br>G | Model                       | B  | H  | h    | $h_1 \pm 5$ | L  | $L_1$ | $L_2$ | i  | $S_1$ | $S_2$ | $R_1$ | DN | Art. no.         |                    |
| 400<br>(5801)       | G1/4                                 | <b>KH3KS-R 1/4 /NW 6-L</b>  | 26 | 32 | 13   | 82          | 69 | 32    | 36    | 14 | 22    | 9     | 136   | 6  | <b>WAL062615</b> |                    |
|                     | G1/4                                 | <b>KH3KS-R 1/4 /NW 6-T</b>  | 26 | 32 | 13   | 82          | 69 | 32    | 36    | 14 | 22    | 9     | 136   | 6  | <b>WAL062619</b> |                    |
|                     | G3/8                                 | <b>KH3KS-R 3/8 /NW 10-L</b> | 32 | 38 | 16.5 | 88          | 73 | 35    | 43    | 14 | 27    | 9     | 136   | 10 | <b>WAL062616</b> |                    |
|                     | G3/8                                 | <b>KH3KS-R 3/8 /NW 10-T</b> | 32 | 38 | 16.5 | 88          | 73 | 35    | 43    | 14 | 27    | 9     | 136   | 10 | <b>WAL062620</b> |                    |
| 350<br>(5076)       | G1/2                                 | <b>KH3KS-R 1/2 /NW 13-L</b> | 35 | 40 | 17.5 | 90          | 85 | 37    | 48    | 16 | 30    | 9     | 136   | 13 | <b>WAL062617</b> |                    |
|                     | G1/2                                 | <b>KH3KS-R 1/2 /NW 13-T</b> | 35 | 40 | 17.5 | 90          | 85 | 37    | 48    | 16 | 30    | 9     | 136   | 13 | <b>WAL062621</b> |                    |

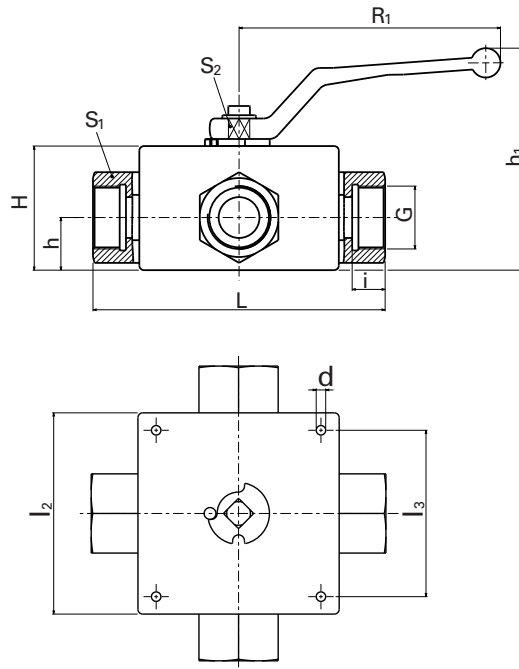
\*With a safety factor of 1.5

**KH3S-R ...**

- L or T port Whitworth thread
- Port type



The required port type should be indicated after the model name.



G

|                  |                                 |                           |                |    |      |                |     |                |     |    |                |                |                | Stud<br>KH3S-R... |                  |
|------------------|---------------------------------|---------------------------|----------------|----|------|----------------|-----|----------------|-----|----|----------------|----------------|----------------|-------------------|------------------|
| PB*<br>bar (psi) | DIN-ISO 228<br>(R ..., DIN 259) | Model                     | l <sub>1</sub> | H  | h    | h <sub>1</sub> | L   | l <sub>3</sub> | d   | i  | S <sub>1</sub> | S <sub>2</sub> | R <sub>1</sub> | DN                | Art. no.         |
|                  | G                               |                           |                |    |      |                |     |                |     |    |                |                |                |                   |                  |
| 500<br>(7252)    | G1/4                            | <b>KH3S-R 1/4/NW 6-L</b>  | 70             | 52 | 26.5 | 110            | 100 | 55             | 6.5 | 14 | 27             | 12             | 164            | 6                 | <b>WAL062647</b> |
|                  | G1/4                            | <b>KH3S-R 1/4/NW 6-T</b>  | 70             | 52 | 26.5 | 110            | 100 | 55             | 6.5 | 14 | 27             | 12             | 164            | 6                 | <b>WAL062653</b> |
|                  | G3/8                            | <b>KH3S-R 3/8/NW 10-L</b> | 80             | 55 | 28   | 116            | 115 | 65             | 6.7 | 14 | 30             | 14             | 164            | 10                | <b>WAL062648</b> |
|                  | G3/8                            | <b>KH3S-R 3/8/NW 10-T</b> | 80             | 55 | 28   | 116            | 115 | 65             | 6.7 | 14 | 30             | 14             | 164            | 10                | <b>WAL062654</b> |
| 400<br>(5801)    | G1/2                            | <b>KH3S-R 1/2/NW 13-L</b> | 100            | 60 | 30   | 121            | 134 | 80             | 8.7 | 16 | 36             | 14             | 164            | 13                | <b>WAL062649</b> |
|                  | G1/2                            | <b>KH3S-R 1/2/NW 13-T</b> | 100            | 60 | 30   | 121            | 134 | 80             | 8.7 | 16 | 36             | 14             | 164            | 13                | <b>WAL062655</b> |
|                  | G3/4                            | <b>KH3S-R 3/4/NW 20-L</b> | 114            | 71 | 37   | 133            | 148 | 85             | 8.7 | 18 | 41             | 17             | 193            | 20                | <b>WAL062650</b> |
| 315<br>(4569)    | G3/4                            | <b>KH3S-R 3/4/NW 20-T</b> | 114            | 71 | 37   | 133            | 148 | 85             | 8.7 | 18 | 41             | 17             | 193            | 20                | <b>WAL062656</b> |
|                  | G1                              | <b>KH3S-R 1/NW 25-L</b>   | 127            | 79 | 42.5 | 141            | 172 | 105            | 11  | 20 | 50             | 19             | 200            | 25                | <b>WAL062651</b> |
|                  | G1                              | <b>KH3S-R 1/NW 25-T</b>   | 127            | 79 | 42.5 | 141            | 172 | 105            | 11  | 20 | 50             | 19             | 200            | 25                | <b>WAL062657</b> |

\*With a safety factor of 1.5



H

**Reducer** studs, **flange** studs,  
**female** studs, **gauge** couplings



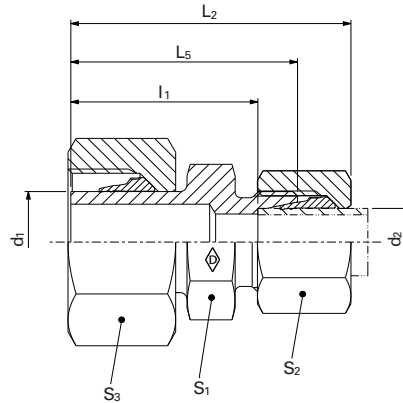
|  | <b>Figure Fitting</b>   | <b>Figure Stud</b>  | <b>Model</b>                | <b>Page</b> |
|--|---|---|-----------------------------|-------------|
| Reducer fittings / reducer studs                 |    |    | P-REDV / P-REDS ... -SV     | H3 / H4     |
|  |    |    | P-REDVDN / REDSDN ... / ... | H5 - H12    |
| Reducing adapter with soft seal                  |   |    | RED ... -WD/...             | H13         |
|  |   |    | RED ... -WD/...             | H14         |
| Straight flange fittings / straight flange studs |    |    | P-GFV / GFS ...             | H15 / H16   |
| Elbow flange fittings / elbow flange studs       |    |    | P-WFV / WFS ...             | H17 / H18   |
| Straight female fittings / straight female studs |    |    | P-GAV / GAS ... R           | H19 / H20   |
|  |   |   | P-GAV / GAS ... M           | H21 / H22   |
| Adjustable gauge couplings                       |   |  | EMASD ...                   | H23         |
| Gauge couplings (fittings / studs)               |  |  | P-MAV / MAS ... R           | H25 / H26   |

## Reducer fittings

### P-REDV....-SV

#### P-REDV ...-SV-1.4571

- L series
- Pre-assembled standpipe



H

| PN<br>bar (psi) | $d_1$ | Tube outer<br>diameter<br>$d_2$ | Model             | kg/<br>100<br>pc. | $L_2$ | $L_5$ | $I_1$ | $S_1$ | $S_2$ | $S_3$ | Walpro<br>P-REDV....SV | Walpro<br>Stainless steel (1.4571)<br>P-REDV ... SV-1.4571* |
|-----------------|-------|---------------------------------|-------------------|-------------------|-------|-------|-------|-------|-------|-------|------------------------|---|
|                 |       |                                 |                   |                   |       |       |       |       |       |       | Art. no.               | Art. no.  |
| 500<br>(7252)   | 8     | 6                               | P-REDV 8/6 L-SV   | 3.9               | 43    | 34.5  | 27.5  | 12    | 14    | 17    | WAL374192              | WAL620250   |
|                 |       | 6                               | P-REDV 10/6 L-SV  | 5.1               | 43    | 35.5  | 28.5  | 12    | 14    | 19    | WAL374193              | WAL620251   |
|                 |       | 8                               | P-REDV 10/8 L-SV  | 5.8               | 43    | 35.5  | 28.5  | 14    | 17    | 19    | WAL374194              | WAL620227   |
| 400<br>(5801)   | 12    | 6                               | P-REDV 12/6 L-SV  | 6.1               | 42.5  | 35    | 28    | 14    | 14    | 22    | WAL374195              | WAL620185   |
|                 |       | 8                               | P-REDV 12/8 L-SV  | 7.0               | 43.5  | 36    | 29    | 14    | 17    | 22    | WAL374196              | WAL620199   |
|                 |       | 10                              | P-REDV 12/10 L-SV | 8.1               | 44.5  | 37    | 30    | 17    | 19    | 22    | WAL374197              | WAL620252   |
|                 | 15    | 6                               | P-REDV 15/6 L-SV  | 8.9               | 43    | 35    | 28    | 17    | 14    | 27    | WAL374198              | WAL620505   |
|                 |       | 8                               | P-REDV 15/8 L-SV  | 8.7               | 44    | 36    | 29    | 17    | 17    | 27    | WAL374199              | WAL620495   |
|                 |       | 10                              | P-REDV 15/10 L-SV | 9.4               | 45    | 37    | 30    | 17    | 19    | 27    | WAL374200              | WAL620459   |
| 250<br>(3626)   | 22    | 12                              | P-REDV 15/12 L-SV | 12.1              | 46    | 38    | 31    | 19    | 22    | 27    | WAL374201              | WAL620385   |
|                 |       | 6                               | P-REDV 18/6 L-SV  | 11.8              | 45    | 37    | 30    | 19    | 14    | 32    | WAL374202              | WAL620711   |
|                 |       | 8                               | P-REDV 18/8 L-SV  | 12.3              | 46    | 38    | 31    | 19    | 17    | 32    | WAL374203              | WAL620253   |
|                 |       | 10                              | P-REDV 18/10 L-SV | 12.9              | 47    | 39    | 32    | 19    | 19    | 32    | WAL374204              | WAL620229   |
|                 |       | 12                              | P-REDV 18/12 L-SV | 14.1              | 48    | 40    | 33    | 19    | 22    | 32    | WAL374205              | WAL620243   |
| 250<br>(3626)   | 22    | 15                              | P-REDV 18/15 L-SV | 16.6              | 49    | 41    | 34    | 24    | 27    | 32    | WAL374206              | WAL620430   |
|                 |       | 6                               | P-REDV 22/6 L-SV  | 16.1              | 47    | 39    | 32    | 24    | 14    | 36    | WAL374207              | WAL620393   |
|                 |       | 8                               | P-REDV 22/8 L-SV  | 17.0              | 48    | 40    | 33    | 24    | 17    | 36    | WAL374208              | WAL620528   |
|                 |       | 10                              | P-REDV 22/10 L-SV | 17.5              | 49    | 41    | 34    | 24    | 19    | 36    | WAL374209              | WAL620244   |
|                 |       | 12                              | P-REDV 22/12 L-SV | 18.6              | 50    | 42    | 35    | 24    | 22    | 36    | WAL374210              | WAL620327   |
|                 |       | 15                              | P-REDV 22/15 L-SV | 20.6              | 51    | 43    | 36    | 24    | 27    | 36    | WAL374211              | WAL620400   |
|                 |       | 18                              | P-REDV 22/18 L-SV | 24.1              | 53    | 44    | 36.5  | 27    | 32    | 36    | WAL374212              | WAL620254   |

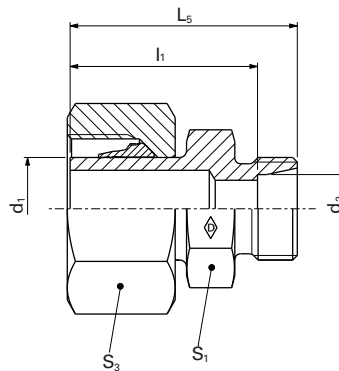
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*For complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list.

$L_2$  = approximate dimension if the union nut is tightened

**P-REDS...-SV**

**P-REDS ...-SV-1.4571**



H

System nuts for supplementing the stud  
(for technical data, see part D of this catalog)

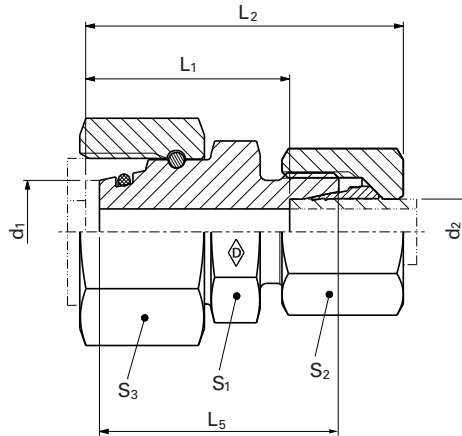
| PN<br>bar (psi) | d <sub>1</sub> | Tube outer<br>diameter<br>d <sub>2</sub> | Model             | kg/<br>100 pc. | Stud<br>P-REDS...-SV<br>Art. no. | Stud<br>Stainless steel<br>(1.4571)<br>P-REDS ...-SV-1.4571 | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless<br>steel<br>WF-M ... VI-1.4571* |
|-----------------|----------------|--|-------------------|----------------|----------------------------------|---|-----------------------|------------------------|---|
|                 |                |  |                   |                |                                  | Art. no.  | Art. no.              | Art. no.               | Art. no.  |
| 500<br>(7252)   | 8              | 6  | P-REDS 8/6 L-SV   | 3.0            | WAL604589                        | WAL621262   | WAL624607             | WAL625940              | WAL625980   |
|                 |                | 10                                       | P-REDS 10/6 L-SV  | 4.0            | WAL602458                        | WAL620345   | WAL624607             | WAL625940              | WAL625980   |
|                 | 12             | 8  | P-REDS 10/8 L-SV  | 4.0            | WAL602753                        | WAL620908   | WAL624608             | WAL625941              | WAL625981   |
|                 |                | 6  | P-REDS 12/6 L-SV  | 5.5            | WAL602691                        | WAL620600   | WAL624607             | WAL625940              | WAL625980   |
|                 |                | 8  | P-REDS 12/8 L-SV  | 5.5            | WAL602585                        | WAL621263   | WAL624608             | WAL625941              | WAL625981   |
|                 |                | 10                                       | P-REDS 12/10 L-SV | 5.5            | WAL602433                        | WAL620577   | WAL624609             | WAL625942              | WAL625982   |
| 400<br>(5801)   | 15             | 6  | P-REDS 15/6 L-SV  | 7.5            | WAL602992                        | WAL621264   | WAL624607             | WAL625940              | WAL625980   |
|                 |                | 8  | P-REDS 15/8 L-SV  | 8.5            | WAL602930                        | WAL621265   | WAL624608             | WAL625941              | WAL625981   |
|                 |                | 10                                       | P-REDS 15/10 L-SV | 8.5            | WAL602586                        | WAL620611   | WAL624609             | WAL625942              | WAL625982   |
|                 | 18             | 12                                       | P-REDS 15/12 L-SV | 8.5            | WAL602539                        | WAL621266   | WAL624610             | WAL625943              | WAL625983   |
|                 |                | 6  | P-REDS 18/6 L-SV  | 10.5           | WAL602993                        | WAL620582   | WAL624607             | WAL625940              | WAL625980   |
|                 |                | 8  | P-REDS 18/8 L-SV  | 11.0           | WAL602434                        | WAL621267   | WAL624608             | WAL625941              | WAL625981   |
| 250<br>(3626)   | 22             | 10                                       | P-REDS 18/10 L-SV | 12.5           | WAL602461                        | WAL620583   | WAL624609             | WAL625942              | WAL625982   |
|                 |                | 12                                       | P-REDS 18/12 L-SV | 12.0           | WAL602462                        | WAL621268   | WAL624610             | WAL625943              | WAL625983   |
|                 |                | 15                                       | P-REDS 18/15 L-SV | 13.0           | WAL602931                        | WAL621269   | WAL624611             | WAL625944              | WAL625984   |
|                 |                | 6  | P-REDS 22/6 L-SV  | 13.0           | WAL612581                        | WAL621270   | WAL624607             | WAL625940              | WAL625980   |
|                 |                | 8  | P-REDS 22/8 L-SV  | 14.5           | WAL604260                        | WAL621271   | WAL624608             | WAL625941              | WAL625981   |
|                 |                | 10                                       | P-REDS 22/10 L-SV | 15.5           | WAL604256                        | WAL621272   | WAL624609             | WAL625942              | WAL625982   |
|                 |                | 12                                       | P-REDS 22/12 L-SV | 15.0           | WAL602932                        | WAL621273   | WAL624610             | WAL625943              | WAL625983   |
|                 |                | 15                                       | P-REDS 22/15 L-SV | 17.5           | WAL602435                        | WAL621274   | WAL624611             | WAL625944              | WAL625984   |
|                 |                | 18                                       | P-REDS 22/18 L-SV | 18.0           | WAL602463                        | WAL621275   | WAL624612             | WAL625945              | WAL625985   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-REDVDN ... / ...**

**P-REDVD ... / ...-1.4571**

- L series
- With soft seal made from NBR\*\* (e.g. Perbunan) for steel
- With soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)



H

| PN bar (psi) | d <sub>1</sub> | Tube outer diameter d <sub>2</sub> | Model            | kg/100 pc. | L <sub>5</sub> | L <sub>2</sub> | L <sub>1</sub> | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | *O-ring | Walpro P-REDVDN... | Walpro Stainless steel (1.4571) P-REDVD ... / ... -VI-1.4571* |
|--------------|----------------|------------------------------------|------------------|------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|--------------------|---|
| 500 (7252)   | 8              | 6                                  | P-REDVDN 8/6 L   | 4.5        | 29.0           | 37.5           | 23.5           | 12             | 14             | 17             | 6x1.5   | WAL619570          | WAL621368   |
|              |                | 10                                 | P-REDVDN 10/6 L  | 5.4        | 31.0           | 39.0           | 25.0           | 14             | 14             | 19             | 8.5x1.5 | WAL619120          | WAL621369   |
|              | 12             | 8                                  | P-REDVDN 10/8 L  | 6.0        | 31.0           | 39.5           | 25.0           | 14             | 17             | 19             | 8.5x1.5 | WAL619121          | WAL621370   |
|              |                | 6                                  | P-REDVDN 12/6 L  | 6.0        | 31.0           | 39.0           | 25.0           | 14             | 14             | 17             | 10x1.5  | WAL619122          | WAL621371   |
|              |                | 8                                  | P-REDVDN 12/8 L  | 7.5        | 31.0           | 39.5           | 25.0           | 17             | 17             | 22             | 10x1.5  | WAL619123          | WAL621372   |
|              |                | 10                                 | P-REDVDN 12/10 L | 7.5        | 32.0           | 40.5           | 26.0           | 19             | 19             | 22             | 10x1.5  | WAL619124          | WAL621373   |
| 400 (5801)   | 15             | 6                                  | P-REDVDN 15/6 L  | 10.3       | 34.5           | 42.5           | 28.5           | 14             | 14             | 17             | 12x2    | WAL619125          | WAL621374   |
|              |                | 8                                  | P-REDVDN 15/8 L  | 11.9       | 34.5           | 43.0           | 28.5           | 17             | 17             | 27             | 12x2    | WAL619126          | WAL621375   |
|              |                | 10                                 | P-REDVDN 15/10 L | 11.5       | 35.5           | 44.0           | 29.5           | 19             | 19             | 27             | 12x2    | WAL619127          | WAL621376   |
|              | 18             | 12                                 | P-REDVDN 15/12 L | 12.0       | 35.5           | 43.5           | 29.5           | 22             | 22             | 27             | 12x2    | WAL619128          | WAL621377   |
|              |                | 6                                  | P-REDVDN 18/6 L  | 12.4       | 33.5           | 42.0           | 28.0           | 14             | 14             | 17             | 15x2    | WAL619129          | WAL621378   |
|              |                | 8                                  | P-REDVDN 18/8 L  | 13.5       | 33.5           | 42.5           | 28.0           | 17             | 17             | 27             | 15x2    | WAL619130          | WAL621379   |
| 250 (3626)   | 22             | 10                                 | P-REDVDN 18/10 L | 13.4       | 34.5           | 43.5           | 29.0           | 24             | 19             | 32             | 15x2    | WAL619131          | WAL621380   |
|              |                | 12                                 | P-REDVDN 18/12 L | 15.2       | 34.5           | 43.0           | 29.0           | 22             | 22             | 27             | 15x2    | WAL619132          | WAL621381   |
|              |                | 15                                 | P-REDVDN 18/15 L | 17.2       | 35.5           | 45.0           | 30.0           | 27             | 27             | 36             | 15x2    | WAL619133          | WAL621382   |
|              | 28             | 6                                  | P-REDVDN 22/6 L  | 16.5       | 37.5           | 46.0           | 32.0           | 14             | 14             | 17             | 20x2    | WAL619134          | WAL621383   |
|              |                | 8                                  | P-REDVDN 22/8 L  | 17.5       | 37.5           | 46.5           | 32.0           | 17             | 17             | 27             | 20x2    | WAL619135          | WAL621384   |
|              |                | 10                                 | P-REDVDN 22/10 L | 18.0       | 38.5           | 47.5           | 33.0           | 19             | 19             | 36             | 20x2    | WAL619136          | WAL621385   |
| 250 (3626)   | 22             | 12                                 | P-REDVDN 22/12 L | 19.0       | 38.5           | 47.0           | 33.0           | 22             | 22             | 36             | 20x2    | WAL619137          | WAL621386   |
|              |                | 15                                 | P-REDVDN 22/15 L | 23.8       | 39.5           | 49.0           | 34.0           | 27             | 27             | 36             | 20x2    | WAL619138          | WAL621387   |
|              |                | 18                                 | P-REDVDN 22/18 L | 24.5       | 39.5           | 49.5           | 33.5           | 32             | 32             | 36             | 20x2    | WAL619139          | WAL621388   |
|              | 28             | 6                                  | P-REDVDN 28/6 L  | 30.5       | 39.5           | 48.0           | 34.0           | 14             | 14             | 17             | 26x2    | WAL619140          | WAL621389   |
|              |                | 8                                  | P-REDVDN 28/8 L  | 30.5       | 39.5           | 48.5           | 34.0           | 17             | 17             | 27             | 26x2    | WAL619141          | WAL621390   |
|              |                | 10                                 | P-REDVDN 28/10 L | 30.0       | 40.5           | 49.5           | 35.0           | 19             | 19             | 36             | 26x2    | WAL619142          | WAL621391   |
| 250 (3626)   | 28             | 12                                 | P-REDVDN 28/12 L | 31.0       | 40.5           | 49.0           | 35.0           | 36             | 22             | 46             | 26x2    | WAL619143          | WAL621392   |
|              |                | 15                                 | P-REDVDN 28/15 L | 33.4       | 41.5           | 51.0           | 36.0           | 27             | 27             | 36             | 26x2    | WAL619144          | WAL621393   |
|              | 28             | 18                                 | P-REDVDN 28/18 L | 35.5       | 41.5           | 51.5           | 35.5           | 32             | 32             | 36             | 26x2    | WAL619145          | WAL621394   |
|              |                | 22                                 | P-REDVDN 28/22 L | 38.2       | 43.5           | 53.5           | 37.5           | 36             | 36             | 36             | 26x2    | WAL619146          | WAL621395   |

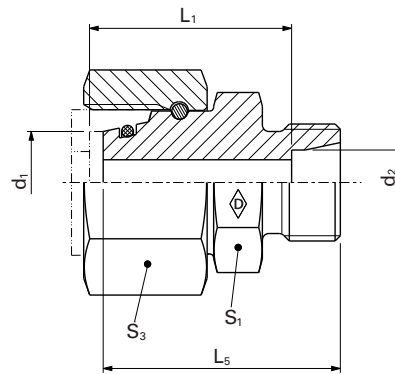
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*For complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*\*FPM (e.g. Viton) see price list / available on request

**RESDSN ... / ...**  
**RESDSD ... / ...-1.4571**



H

System nuts for supplementing the stud  
 (for technical data, see part D of this catalog)

| PN<br>bar (psi) | d <sub>1</sub> | Tube outer<br>diameter<br>d <sub>2</sub> | Model          | kg/<br>100 pc. | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |  |                       |                        |  |           |
|-----------------|----------------|--|----------------|----------------|--|--|-----------------------|------------------------|--|-----------|
|                 |                |  |                |                | Stud<br>RESDSN ... / ...   | Stud<br>Stainless steel (1.4571)<br>P-RESDSD ... / ...-1.4571* | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless steel<br>WF-M ... VI-1.4571* |           |
|                 |                |  | Art. no.       | Art. no.       | Art. no.   | Art. no.   | Art. no.              | Art. no.               |  |           |
| 500<br>(7252)   | 8              | 6  | RESDSN 8/6 L   | 3.2            | WAL619030  | WAL618337  | WAL624607             | WAL625940              | WAL625980                                      |           |
|                 |                | 6  | RESDSN 10/6 L  | 4.0            | WAL619031  | WAL618338  | WAL624607             | WAL625940              | WAL625980                                      |           |
|                 | 10             | 8  | RESDSN 10/8 L  | 4.0            | WAL619032  | WAL618339  | WAL624608             | WAL625941              | WAL625981                                      |           |
|                 |                | 6  | RESDSN 12/6 L  | 6.0            | WAL619033  | WAL618340  | WAL624607             | WAL625940              | WAL625980                                      |           |
|                 | 400<br>(5801)  | 12                                       | 8              | RESDSN 12/8 L  | 5.5  | WAL619034  | WAL618341             | WAL624608              | WAL625941                                      | WAL625981 |
|                 |                |  | 10             | RESDSN 12/10 L | 5.5  | WAL619035  | WAL618342             | WAL624609              | WAL625942                                      | WAL625982 |
| 15              |                | 6  | RESDSN 15/6 L  | 8.5            | WAL619036  | WAL618343  | WAL624607             | WAL625940              | WAL625980                                      |           |
|                 |                | 8  | RESDSN 15/8 L  | 9.5            | WAL619037  | WAL618344  | WAL624608             | WAL625941              | WAL625981                                      |           |
| 250<br>(3626)   |                | 18                                       | 10             | RESDSN 15/10 L | 9.0  | WAL619038  | WAL618345             | WAL624609              | WAL625942                                      | WAL625982 |
|                 |                |  | 12             | RESDSN 15/12 L | 9.0  | WAL619039  | WAL618346             | WAL624610              | WAL625943                                      | WAL625983 |
|                 | 22             | 6  | RESDSN 18/6 L  | 11.2           | WAL619040  | WAL618347  | WAL624607             | WAL625940              | WAL625980                                      |           |
|                 |                | 8  | RESDSN 18/8 L  | 11.5           | WAL619041  | WAL618348  | WAL624608             | WAL625941              | WAL625981                                      |           |
|                 | 28             | 10                                       | 10             | RESDSN 18/10 L | 13.0   | WAL619042  | WAL618349             | WAL624609              | WAL625942                                      | WAL625982 |
|                 |                |  | 12             | RESDSN 18/12 L | 15.5   | WAL619043  | WAL618350             | WAL624610              | WAL625943                                      | WAL625983 |
| 15              |                | 15                                       | RESDSN 18/15 L | 12.2           | WAL619044  | WAL618351  | WAL624611             | WAL625944              | WAL625984                                      |           |
|                 |                | 6  | RESDSN 22/6 L  | 16.0           | WAL619045  | WAL618352  | WAL624607             | WAL625940              | WAL625980                                      |           |
| 28              |                | 22                                       | 8              | RESDSN 22/8 L  | 16.0   | WAL619046  | WAL618353             | WAL624608              | WAL625941                                      | WAL625981 |
|                 |                |  | 10             | RESDSN 22/10 L | 16.0   | WAL619047  | WAL618354             | WAL624609              | WAL625942                                      | WAL625982 |
|                 | 18             | 12                                       | RESDSN 22/12 L | 16.0           | WAL619048  | WAL618355  | WAL624610             | WAL625943              | WAL625983                                      |           |
|                 |                | 15                                       | RESDSN 22/15 L | 18.5           | WAL619049  | WAL618356  | WAL624611             | WAL625944              | WAL625984                                      |           |
|                 | 28             | 18                                       | 18             | RESDSN 22/18 L | 18.0   | WAL619050  | WAL618357             | WAL624612              | WAL625945                                      | WAL625985 |
|                 |                |  | 6              | RESDSN 28/6 L  | 29.0   | WAL619051  | WAL618358             | WAL624607              | WAL625940                                      | WAL625980 |
| 28              |                | 8  | RESDSN 28/8 L  | 29.0           | WAL619052  | WAL618359  | WAL624608             | WAL625941              | WAL625981                                      |           |
|                 |                | 10                                       | RESDSN 28/10 L | 27.5           | WAL619053  | WAL618360  | WAL624609             | WAL625942              | WAL625982                                      |           |
| 28              |                | 12                                       | RESDSN 28/12 L | 28.0           | WAL619054  | WAL618361  | WAL624610             | WAL625943              | WAL625983                                      |           |
|                 |                | 15                                       | RESDSN 28/15 L | 28.0           | WAL619055  | WAL618362  | WAL624611             | WAL625944              | WAL625984                                      |           |
|                 |                | 18                                       | RESDSN 28/18 L | 28.5           | WAL619056  | WAL618363  | WAL624612             | WAL625945              | WAL625985                                      |           |
|                 |                | 22                                       | RESDSN 28/22 L | 31.0           | WAL619057  | WAL618364  | WAL624613             | WAL625946              | WAL625986                                      |           |

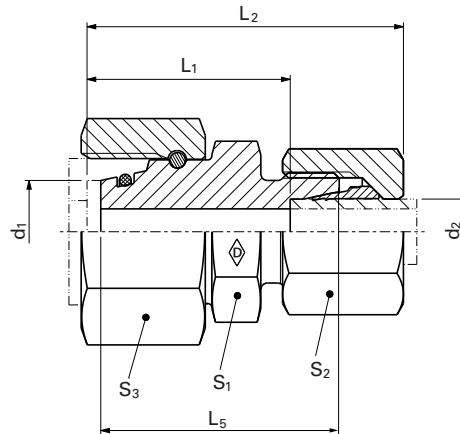
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

## Reducer fittings

### P-REDVDN ... / ...

#### P-REDVD ... / ...-1.4571

- L series
- With soft seal made from NBR\*\* (e.g. Perbunan) for steel
- With soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)



H

| PN bar (psi) | d <sub>1</sub> | Tube outer diameter d <sub>2</sub> | Model            | kg/100 pc. | L <sub>5</sub> | L <sub>2</sub> | L <sub>1</sub> | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | *O-ring   | Walpro P-REDVDN...  | Art. no.  | Art. no.  |           |
|--------------|----------------|------------------------------------|------------------|------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------|---|-----------|-----------|-----------|
| 35           |                | 6                                  | P-REDVDN 35/6 L  | 37.4       | 41.0           | 51.0           | 37.0           | 46             | 14             | 50             | 32x2.5    | Walpro Stainless steel (1.4571) P-REDVD ... / ... -VI-1.4571* | WAL619147 | WAL621396 |           |
|              |                | 8                                  | P-REDVDN 35/8 L  | 36.8       | 41.0           | 51.5           | 37.0           |                |                |                |           |   | 17        | WAL619148 | WAL621397 |
|              |                | 10                                 | P-REDVDN 35/10 L | 37.5       | 42.0           | 52.5           | 38.0           |                |                |                |           |   | 19        | WAL619149 | WAL621398 |
|              |                | 12                                 | P-REDVDN 35/12 L | 36.5       | 42.0           | 52.0           | 38.0           |                |                |                |           |   | 22        | WAL619150 | WAL621399 |
|              |                | 15                                 | P-REDVDN 35/15 L | 40.0       | 43.0           | 54.0           | 39.0           |                |                |                |           |   | 27        | WAL619151 | WAL621400 |
|              |                | 18                                 | P-REDVDN 35/18 L | 42.0       | 43.0           | 54.5           | 38.5           |                |                |                |           |   | 32        | WAL619152 | WAL621401 |
|              |                | 22                                 | P-REDVDN 35/22 L | 44.0       | 45.0           | 56.5           | 40.5           |                |                |                |           |   | 36        | WAL619153 | WAL621402 |
| 250 (3626)   |                | 28                                 | P-REDVDN 35/28 L | 49.0       | 45.0           | 56.5           | 40.5           | 41             | WAL619154      | WAL621403      |           |   |           |           |           |
|              |                | 6                                  | P-REDVDN 42/6 L  | 54.2       | 44.0           | 54.5           | 40.5           | 14             | WAL619155      | WAL623091      |           |   |           |           |           |
|              |                | 8                                  | P-REDVDN 42/8 L  | 51.0       | 44.0           | 55.0           | 40.5           | 17             | WAL619156      | WAL623093      |           |   |           |           |           |
|              |                | 10                                 | P-REDVDN 42/10 L | 52.0       | 45.0           | 56.0           | 41.5           | 19             | WAL619157      | WAL621404      |           |   |           |           |           |
|              |                | 12                                 | P-REDVDN 42/12 L | 56.2       | 45.0           | 55.5           | 41.5           | 22             | WAL619158      | WAL621405      |           |   |           |           |           |
|              |                | 15                                 | P-REDVDN 42/15 L | 51.0       | 46.0           | 57.5           | 52.5           | 27             | 60             | 38x2.5         | WAL619159 | WAL621406   |           |           |           |
|              |                | 18                                 | P-REDVDN 42/18 L | 53.5       | 46.0           | 58.0           | 42.0           | 32             | WAL619160      | WAL621407      |           |   |           |           |           |
|              |                | 22                                 | P-REDVDN 42/22 L | 57.5       | 48.0           | 60.0           | 44.0           | 36             | WAL619161      | WAL621408      |           |   |           |           |           |
|              |                | 28                                 | P-REDVDN 42/28 L | 59.5       | 48.0           | 60.0           | 44.0           | 41             | WAL619162      | WAL621409      |           |   |           |           |           |
|              |                | 35                                 | P-REDVDN 42/35 L | 66.8       | 50.0           | 63.5           | 43.0           | 50             | WAL619163      | WAL621410      |           |   |           |           |           |

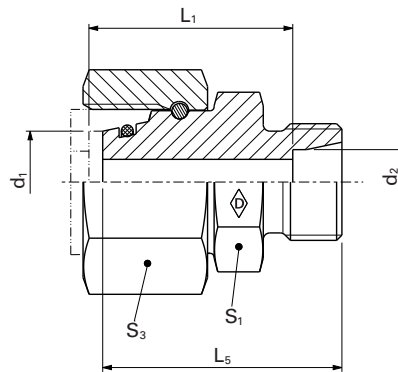
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*Complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*\*FPM (e.g. Viton) see price list / available on request

**RESDSN ... / ...**  
**RESD ... / ...-1.4571**



H

System nuts for supplementing the stud  
 (for technical data, see part D of this catalog)

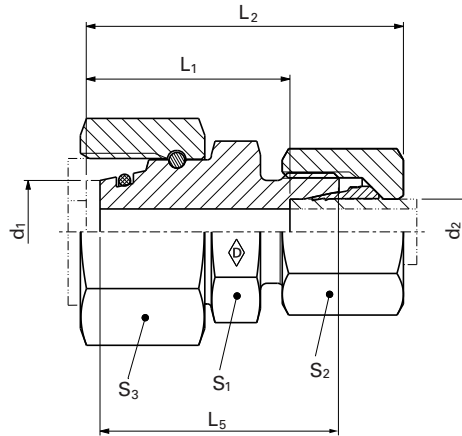
| PN<br>bar (psi) | $d_1$ | Tube outer<br>diameter<br>$d_2$ | Model          | kg/<br>100 pc. | Stud<br>RESDSN ... / ...<br>Art. no. | Stud<br>Stainless steel (1.4571)<br>P-RESD ... / ...<br>VI-1.4571*<br>Art. no. | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                                    |   |
|-----------------|-------|---------------------------------|----------------|----------------|--------------------------------------|--|--|------------------------------------|---|
|                 |       |                                 |                |                |                                      |  | Walring<br>W-R ... VI<br>Art. no.  | Walform<br>WF-M ... VI<br>Art. no. | Walform stainless<br>steel<br>WF-M ... VI-1.4571*<br>Art. no. |
| 250<br>(3626)   | 35    | 6                               | RESDSN 35/6 L  | 35.0           | WAL619058                            | WAL618365  | WAL624607  | WAL625940                          | WAL625980   |
|                 |       | 8                               | RESDSN 35/8 L  | 32.4           | WAL619059                            | WAL618366  | WAL624608  | WAL625941                          | WAL625981   |
|                 |       | 10                              | RESDSN 35/10 L | 36.0           | WAL619060                            | WAL618367  | WAL624609  | WAL625942                          | WAL625982   |
|                 |       | 12                              | RESDSN 35/12 L | 33.5           | WAL619061                            | WAL618368  | WAL624610  | WAL625943                          | WAL625983   |
|                 |       | 15                              | RESDSN 35/15 L | 34.0           | WAL619062                            | WAL618369  | WAL624611  | WAL625944                          | WAL625984   |
|                 |       | 18                              | RESDSN 35/18 L | 34.5           | WAL619063                            | WAL618370  | WAL624612  | WAL625945                          | WAL625985   |
|                 |       | 22                              | RESDSN 35/22 L | 35.0           | WAL619064                            | WAL618371  | WAL624613  | WAL625946                          | WAL625986   |
|                 | 28    | RESDSN 35/28 L                  | 37.0           | WAL619065      | WAL618372                            | WAL624614  | WAL625947  | WAL625987                          |   |
|                 | 42    | 6                               | RESDSN 42/6 L  | 49.5           | WAL619066                            | WAL623092  | WAL624607  | WAL625940                          | WAL625980   |
|                 |       | 8                               | RESDSN 42/8 L  | 51.8           | WAL619067                            | WAL623094  | WAL624608  | WAL625941                          | WAL625981   |
|                 |       | 10                              | RESDSN 42/10 L | 50.0           | WAL619068                            | WAL618373  | WAL624609  | WAL625942                          | WAL625982   |
|                 |       | 12                              | RESDSN 42/12 L | 50.0           | WAL619069                            | WAL618374  | WAL624610  | WAL625943                          | WAL625983   |
|                 |       | 15                              | RESDSN 42/15 L | 46.0           | WAL619070                            | WAL618375  | WAL624611  | WAL625944                          | WAL625984   |
|                 |       | 18                              | RESDSN 42/18 L | 46.5           | WAL619071                            | WAL618376  | WAL624612  | WAL625945                          | WAL625985   |
| 22              |       | RESDSN 42/22 L                  | 48.5           | WAL619072      | WAL618377                            | WAL624613  | WAL625946  | WAL625986                          |   |
|                 | 28    | RESDSN 42/28 L                  | 49.0           | WAL619073      | WAL618378                            | WAL624614  | WAL625947  | WAL625987                          |   |
|                 | 35    | RESDSN 42/35 L                  | 55.0           | WAL619074      | WAL618379                            | WAL624615  | WAL625948  | WAL625988                          |   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-REDVDN ... / ...**

**P-REDVD ... / ...-1.4571**

- S series
- With soft seal made from NBR\*\* (e.g. Perbunan) for steel
- With soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)



H

| PN<br>bar (psi) | d <sub>1</sub>          | Tube outer<br>diameter<br>d <sub>2</sub> | Model                   | kg/<br>100<br>pc.       | L <sub>5</sub> | L <sub>2</sub> | L <sub>1</sub>   | S <sub>1</sub>   | S <sub>2</sub> | S <sub>3</sub> | *O-ring          | Walpro P-REDVDN... |                  |                  |
|-----------------|-------------------------|--|-------------------------|-------------------------|----------------|----------------|------------------|------------------|----------------|----------------|------------------|--------------------|------------------|------------------|
|                 |                         |  |                         |                         |                |                |                  |                  |                |                |                  | Art. no.           | Art. no.         |                  |
| 800<br>(11603)  | 8                       | 6  | <b>P-REDVDN 8/6 S</b>   | 6.5                     | 32.5           | 41.5           | 27.0             | 14               | 17             | 19             | 6x1.5            | <b>WAL619164</b>   | <b>WAL621411</b> |                  |
|                 |                         | 6  | <b>P-REDVDN 10/6 S</b>  | 7.7                     | 33.0           | 42.0           | 27.5             | 17               | 17             | 22             | 8.5x1.5          | <b>WAL619165</b>   | <b>WAL621412</b> |                  |
|                 | 8                       | <b>P-REDVDN 10/8 S</b>                   | 9.0                     | 33.0                    | 42.0           | 27.5           | 19               |                  | 19             | 24             |                  | <b>WAL619166</b>   | <b>WAL621413</b> |                  |
| 630<br>(9137)   | 12                      | 6  | <b>P-REDVDN 12/6 S</b>  | 10.0                    | 35.5           | 44.5           | 30.0             | 19               | 17             | 10x1.5         | <b>WAL619167</b> | <b>WAL621414</b>   |                  |                  |
|                 |                         | 8  | <b>P-REDVDN 12/8 S</b>  | 9.4                     | 35.5           | 44.5           | 30.0             |                  | 19             |                | 24               | <b>WAL619168</b>   | <b>WAL621415</b> |                  |
|                 |                         | 10                                       | <b>P-REDVDN 12/10 S</b> | 11.5                    | 35.5           | 45.0           | 29.5             |                  | 22             |                | <b>WAL619169</b> | <b>WAL621416</b>   |                  |                  |
|                 | 14                      | 6  | <b>P-REDVDN 14/6 S</b>  | 10.2                    | 36.5           | 46.0           | 31.5             | 22               | 17             | 12x2           | <b>WAL619170</b> | <b>WAL621417</b>   |                  |                  |
|                 |                         | 8  | <b>P-REDVDN 14/8 S</b>  | 11.1                    | 36.5           | 46.0           | 31.5             |                  | 19             |                | 27               | <b>WAL619171</b>   | <b>WAL621418</b> |                  |
|                 |                         | 10                                       | <b>P-REDVDN 14/10 S</b> | 13.4                    | 36.5           | 46.5           | 31.0             |                  | 22             |                | 27               | <b>WAL619172</b>   | <b>WAL621419</b> |                  |
|                 | 420<br>(6091)           | 16                                       | 12                      | <b>P-REDVDN 14/12 S</b> | 14.3           | 36.5           | 46.5             | 31.0             | 22             | 24             | 14x2             | <b>WAL619173</b>   | <b>WAL621420</b> |                  |
|                 |                         |  | 6                       | <b>P-REDVDN 16/6 S</b>  | 13.3           | 36.5           | 46.5             | 32.0             |                | 17             |                  | <b>WAL619174</b>   | <b>WAL621421</b> |                  |
|                 |                         |  | 8                       | <b>P-REDVDN 16/8 S</b>  | 14.0           | 36.5           | 46.5             | 32.0             |                | 19             |                  | 30                 | <b>WAL619175</b> | <b>WAL621422</b> |
|                 |                         | 20                                       | 10                      | <b>P-REDVDN 16/10 S</b> | 16.5           | 36.5           | 47.0             | 31.5             | 24             | 22             | 17.3x2.4         | <b>WAL619176</b>   | <b>WAL621423</b> |                  |
|                 |                         |  | 12                      | <b>P-REDVDN 16/12 S</b> | 17.0           | 36.5           | 47.0             | 31.5             |                | 24             |                  | 30                 | <b>WAL619177</b> | <b>WAL621424</b> |
|                 |                         |  | 14                      | <b>P-REDVDN 16/14 S</b> | 18.3           | 38.5           | 50.5             | 33.0             |                | 27             |                  | 30                 | <b>WAL619178</b> | <b>WAL621425</b> |
| 420<br>(6091)   | 20                      | 6  | <b>P-REDVDN 20/6 S</b>  | 18.0                    | 40.0           | 50.5           | 36.0             | 27               | 17             | 17.3x2.4       | <b>WAL619179</b> | <b>WAL621426</b>   |                  |                  |
|                 |                         | 8  | <b>P-REDVDN 20/8 S</b>  | 21.0                    | 40.0           | 50.5           | 36.0             |                  | 19             |                | 36               | <b>WAL619180</b>   | <b>WAL621427</b> |                  |
|                 |                         | 10                                       | <b>P-REDVDN 20/10 S</b> | 24.3                    | 40.0           | 51.0           | 35.5             |                  | 22             |                | 36               | <b>WAL619181</b>   | <b>WAL621428</b> |                  |
|                 | 25                      | 12                                       | <b>P-REDVDN 20/12 S</b> | 23.0                    | 40.0           | 51.0           | 35.5             | 36               | 24             | 22.3x2.4       | <b>WAL619182</b> | <b>WAL621429</b>   |                  |                  |
|                 |                         | 14                                       | <b>P-REDVDN 20/14 S</b> | 25.2                    | 42.0           | 54.5           | 37.0             |                  | 27             |                | <b>WAL619183</b> | <b>WAL621430</b>   |                  |                  |
|                 |                         | 16                                       | <b>P-REDVDN 20/16 S</b> | 26.6                    | 42.0           | 54.5           | 38.5             |                  | 30             |                | <b>WAL619184</b> | <b>WAL621431</b>   |                  |                  |
|                 | 420<br>(6091)           | 25                                       | 6                       | <b>P-REDVDN 25/6 S</b>  | 34.9           | 41.0           | 53.0             | 38.5             | 36             | 17             | 22.3x2.4         | <b>WAL619185</b>   | <b>WAL621432</b> |                  |
|                 |                         |  | 8                       | <b>P-REDVDN 25/8 S</b>  | 35.0           | 41.0           | 53.0             | 38.5             |                | 19             |                  | <b>WAL619186</b>   | <b>WAL621433</b> |                  |
|                 |                         |  | 10                      | <b>P-REDVDN 25/10 S</b> | 36.5           | 41.0           | 53.5             | 38.0             |                | 22             |                  | <b>WAL619187</b>   | <b>WAL621434</b> |                  |
|                 |                         | 25                                       | 12                      | <b>P-REDVDN 25/12 S</b> | 37.0           | 41.0           | 53.5             | 38.0             | 36             | 24             | 22.3x2.4         | <b>WAL619188</b>   | <b>WAL621435</b> |                  |
|                 |                         |  | 14                      | <b>P-REDVDN 25/14 S</b> | 40.5           | 43.0           | 57.0             | 39.5             |                | 27             |                  | <b>WAL619189</b>   | <b>WAL621436</b> |                  |
|                 |                         |  | 16                      | <b>P-REDVDN 25/16 S</b> | 41.0           | 43.0           | 57.0             | 39.0             |                | 30             |                  | <b>WAL619190</b>   | <b>WAL621437</b> |                  |
| 20              | <b>P-REDVDN 25/20 S</b> | 47.5                                     | 45.0                    | 60.0                    | 39.0           | 36             | <b>WAL619191</b> | <b>WAL621438</b> |                |                |                  |                    |                  |                  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

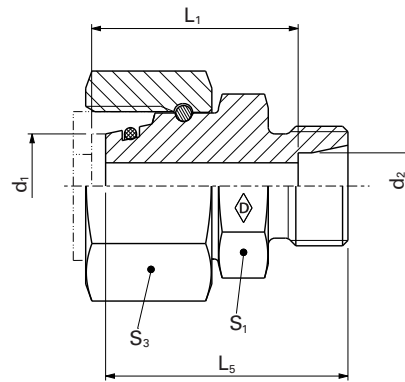
\*For complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub> = approximate dimension if the union nut is tightened

\*\*FPM (e.g. Viton) see price list / available on request



**RESDSN ... / ...**  
**RESDSD ... / ...-1.4571**



H

System nuts for supplementing the stud  
 (for technical data, see part D of this catalog)

| PN<br>bar (psi) | d1 | Tube outer<br>diameter<br>d <sub>2</sub> | Model          | kg/<br>100 pc. | Art. no.  | Art. no.  | Waling<br>W-R ... VI | Walform<br>WF-M ... VI | Art. no.  | Art. no. | Stud<br>RESDSN ... / ... | Stud<br>Stainless steel<br>(1.4571)<br>RESDSD ... / ...<br>VI-1.4571* | Waling<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless steel<br>WF-M ... VI-1.4571* |
|-----------------|----|--|----------------|----------------|-----------|-----------|----------------------|------------------------|-----------|----------|--------------------------|---|----------------------|------------------------|--|
|                 |    |  |                |                |           |           |                      |                        |           |          |                          |   |                      |                        |  |
| 800<br>(11603)  | 8  | 6  | RESDSN 8/6 S   | 4.5            | WAL619075 | WAL618425 | WAL624617            | WAL625950              | WAL625990 |          |                          |   |                      |                        |  |
|                 |    | 6  | RESDSN 10/6 S  | 6.5            | WAL619076 | WAL618426 | WAL624617            | WAL625950              | WAL625990 |          |                          |   |                      |                        |  |
|                 |    | 8  | RESDSN 10/8 S  | 6.5            | WAL619077 | WAL618427 | WAL624618            | WAL625951              | WAL625991 |          |                          |   |                      |                        |  |
|                 | 12 | 6  | RESDSN 12/6 S  | 8.5            | WAL619078 | WAL618428 | WAL624617            | WAL625950              | WAL625990 |          |                          |   |                      |                        |  |
|                 |    | 8  | RESDSN 12/8 S  | 8.5            | WAL619079 | WAL618429 | WAL624618            | WAL625951              | WAL625991 |          |                          |   |                      |                        |  |
|                 |    | 10                                       | RESDSN 12/10 S | 8.5            | WAL619080 | WAL618430 | WAL624619            | WAL625952              | WAL625992 |          |                          |   |                      |                        |  |
| 630<br>(9137)   | 14 | 6  | RESDSN 14/6 S  | 11.1           | WAL619081 | WAL618431 | WAL624617            | WAL625950              | WAL625990 |          |                          |   |                      |                        |  |
|                 |    | 8  | RESDSN 14/8 S  | 11.5           | WAL619082 | WAL618432 | WAL624618            | WAL625951              | WAL625991 |          |                          |   |                      |                        |  |
|                 |    | 10                                       | RESDSN 14/10 S | 10.2           | WAL619083 | WAL618433 | WAL624619            | WAL625952              | WAL625992 |          |                          |   |                      |                        |  |
|                 | 16 | 12                                       | RESDSN 14/12 S | 10.8           | WAL619084 | WAL618434 | WAL624620            | WAL625953              | WAL625993 |          |                          |   |                      |                        |  |
|                 |    | 6  | RESDSN 16/6 S  | 11.5           | WAL619085 | WAL618435 | WAL624617            | WAL625950              | WAL625990 |          |                          |   |                      |                        |  |
|                 |    | 8  | RESDSN 16/8 S  | 12.0           | WAL619086 | WAL618436 | WAL624618            | WAL625951              | WAL625991 |          |                          |   |                      |                        |  |
| 420<br>(6091)   | 20 | 10                                       | RESDSN 16/10 S | 13.0           | WAL619087 | WAL618437 | WAL624619            | WAL625952              | WAL625992 |          |                          |   |                      |                        |  |
|                 |    | 12                                       | RESDSN 16/12 S | 13.0           | WAL619088 | WAL618438 | WAL624620            | WAL625953              | WAL625993 |          |                          |   |                      |                        |  |
|                 |    | 14                                       | RESDSN 16/14 S | 19.2           | WAL619089 | WAL618439 |                      |                        |           |          |                          |   |                      |                        |  |
|                 | 25 | 6  | RESDSN 20/6 S  | 16.2           | WAL619090 | WAL618440 | WAL624617            | WAL625950              | WAL625990 |          |                          |   |                      |                        |  |
|                 |    | 8  | RESDSN 20/8 S  | 18.5           | WAL619091 | WAL618441 | WAL624618            | WAL625951              | WAL625991 |          |                          |   |                      |                        |  |
|                 |    | 10                                       | RESDSN 20/10 S | 18.5           | WAL619092 | WAL618442 | WAL624619            | WAL625952              | WAL625992 |          |                          |   |                      |                        |  |
| 420<br>(6091)   | 20 | 12                                       | RESDSN 20/12 S | 19.0           | WAL619093 | WAL067812 | WAL624620            | WAL625953              | WAL625993 |          |                          |   |                      |                        |  |
|                 |    | 14                                       | RESDSN 20/14 S | 24.0           | WAL619094 | WAL618443 |                      |                        |           |          |                          |   |                      |                        |  |
|                 |    | 16                                       | RESDSN 20/16 S | 19.2           | WAL619095 | WAL067813 | WAL624621            | WAL625954              | WAL625994 |          |                          |   |                      |                        |  |
|                 | 25 | 6  | RESDSN 25/6 S  | 33.0           | WAL619096 | WAL618444 | WAL624617            | WAL625950              | WAL625990 |          |                          |   |                      |                        |  |
|                 |    | 8  | RESDSN 25/8 S  | 33.0           | WAL619097 | WAL618445 | WAL624618            | WAL625951              | WAL625991 |          |                          |   |                      |                        |  |
|                 |    | 10                                       | RESDSN 25/10 S | 33.0           | WAL619098 | WAL618446 | WAL624619            | WAL625952              | WAL625992 |          |                          |   |                      |                        |  |
| 25              | 12 | RESDSN 25/12 S                           | 33.5           | WAL619099      | WAL618447 | WAL624620 | WAL625953            | WAL625993              |           |          |                          |   |                      |                        |  |
|                 | 14 | RESDSN 25/14 S                           | 34.0           | WAL619100      | WAL618448 |           |                      |                        |           |          |                          |   |                      |                        |  |
|                 | 16 | RESDSN 25/16 S                           | 34.0           | WAL619101      | WAL067814 | WAL624621 | WAL625954            | WAL625994              |           |          |                          |   |                      |                        |  |
|                 | 20 | RESDSN 25/20 S                           | 35.0           | WAL619102      | WAL618449 | WAL624622 | WAL625955            | WAL625995              |           |          |                          |   |                      |                        |  |

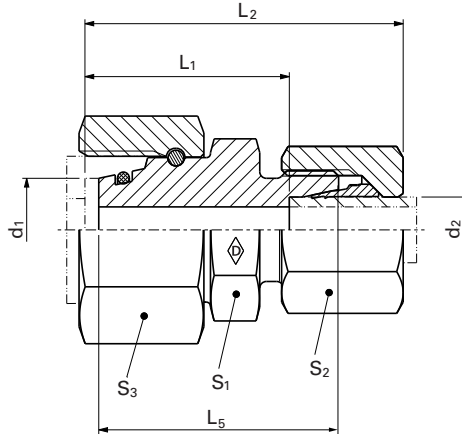
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

## Reducer fittings

### P-REDVDN ... / ...

#### P-REDVD ... / ...-1.4571

- S series
- With soft seal made from NBR\*\* (e.g. Perbunan) for steel
- With soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)



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| PN<br>bar (psi) | d <sub>1</sub> | Tube outer<br>diameter<br>d <sub>2</sub> | Model                   | kg/<br>100<br>pc. | L <sub>3</sub> | L <sub>2</sub> | L <sub>1</sub> | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | *O-ring  | Art. no.         | Art. no.         | Walpro<br>P-REDVDN ... / ... | Walpro<br>Stainless steel<br>(1.4571)<br>P-REDVD ... / ...<br>VI-1.4571* |
|-----------------|----------------|--|-------------------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------|------------------|------------------|------------------------------|--|
|                 |                |  |                         |                   |                |                |                |                |                |                |          |                  |                  |                              |  |
| 30              | 6              |  | <b>P-REDVDN 30/6 S</b>  | 43.0              | 45.0           | 58.5           | 44.0           |                | 17             |                |          | <b>WAL619192</b> | <b>WAL621439</b> |                              |  |
|                 | 8              |  | <b>P-REDVDN 30/8 S</b>  | 43.0              | 45.0           | 58.5           | 44.0           |                | 19             |                |          | <b>WAL619193</b> | <b>WAL621440</b> |                              |  |
|                 | 10             |  | <b>P-REDVDN 30/10 S</b> | 44.0              | 45.0           | 59.0           | 43.5           |                | 22             |                |          | <b>WAL619194</b> | <b>WAL621441</b> |                              |  |
|                 | 12             |  | <b>P-REDVDN 30/12 S</b> | 46.1              | 45.0           | 59.0           | 43.5           |                | 24             |                |          | <b>WAL619195</b> | <b>WAL621442</b> |                              |  |
|                 | 14             |  | <b>P-REDVDN 30/14 S</b> | 47.9              | 47.0           | 62.5           | 45.0           | 41             | 27             | 50             | 27.3x2.4 | <b>WAL619196</b> | <b>WAL621443</b> |                              |  |
|                 | 16             |  | <b>P-REDVDN 30/16 S</b> | 46.1              | 47.0           | 62.5           | 44.5           |                | 30             |                |          | <b>WAL619197</b> | <b>WAL621444</b> |                              |  |
|                 | 20             |  | <b>P-REDVDN 30/20 S</b> | 53.9              | 49.0           | 65.5           | 44.5           |                | 36             |                |          | <b>WAL619198</b> | <b>WAL621445</b> |                              |  |
| 420<br>(6091)   | 25             |  | <b>P-REDVDN 30/25 S</b> | 65.9              | 51.0           | 68.5           | 45.0           |                | 46             |                |          | <b>WAL619199</b> | <b>WAL621446</b> |                              |  |
|                 | 6              |  | <b>P-REDVDN 38/6 S</b>  | 60.0              | 46.0           | 62.0           | 47.5           |                | 17             |                |          | <b>WAL619200</b> | <b>WAL621447</b> |                              |  |
|                 | 8t             |  | <b>P-REDVDN 38/8 S</b>  | 60.0              | 46.0           | 62.0           | 47.5           |                | 19             |                |          | <b>WAL619201</b> | <b>WAL621448</b> |                              |  |
|                 | 10             |  | <b>P-REDVDN 38/10 S</b> | 60.5              | 46.0           | 62.5           | 47.0           |                | 22             |                |          | <b>WAL619202</b> | <b>WAL621449</b> |                              |  |
|                 | 12             |  | <b>P-REDVDN 38/12 S</b> | 63.1              | 46.0           | 62.5           | 47.0           |                | 24             |                |          | <b>WAL619203</b> | <b>WAL621450</b> |                              |  |
|                 | 14             |  | <b>P-REDVDN 38/14 S</b> | 66.7              | 48.0           | 66.0           | 48.5           | 50             | 27             | 60             | 35x2.5   | <b>WAL619204</b> | <b>WAL621451</b> |                              |  |
|                 | 16             |  | <b>P-REDVDN 38/16 S</b> | 68.0              | 48.0           | 66.0           | 48.0           |                | 30             |                |          | <b>WAL619205</b> | <b>WAL621452</b> |                              |  |
| 38              | 20             |  | <b>P-REDVDN 38/20 S</b> | 70.0              | 50.0           | 69.0           | 48.0           |                | 36             |                |          | <b>WAL619206</b> | <b>WAL621453</b> |                              |  |
|                 | 25             |  | <b>P-REDVDN 38/25 S</b> | 82.5              | 52.0           | 72.0           | 48.5           |                | 46             |                |          | <b>WAL619207</b> | <b>WAL621454</b> |                              |  |
|                 | 30             |  | <b>P-REDVDN 38/30 S</b> | 87.8              | 54.0           | 75.0           | 49.0           |                | 50             |                |          | <b>WAL619208</b> | <b>WAL621455</b> |                              |  |

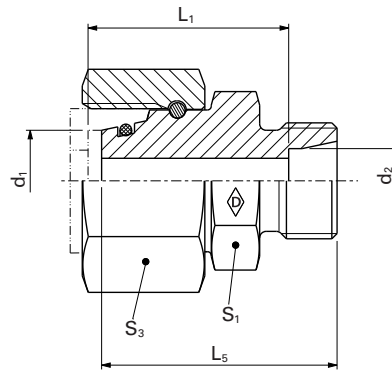
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*For complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

L<sub>2</sub>= approximate dimension if the union nut is tightened

\*\*FPM (e.g. Viton) see price list / available on request

**RESDSN ... / ...**  
**RESD ... / ...-1.4571**



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System nuts for supplementing the stud  
 (for technical data, see part D of this catalog)

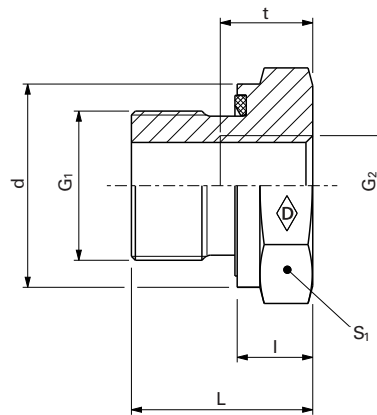
| PN<br>bar (psi) | d1             | Tube outer<br>diameter<br>d <sub>2</sub> | Model          | kg/ 100<br>pc. | Art. no.  | Stud<br>RESDSN ... / ...<br><br>Stud<br>Stainless steel<br>(1.4571)<br>RESD ... / ...<br>VI-1.4571* | Walring<br>W-R ... VI | Walform<br>WF-M ... VI | Walform stainless<br>steel<br>WF-M ... VI-1.4571* |
|-----------------|----------------|--|----------------|----------------|-----------|---|-----------------------|------------------------|---|
|                 |                |  |                |                |           |   |                       |                        |   |
| 420<br>(6091)   | 30             | 6  | RESDSN 30/6 S  | 40.5           | WAL619103 | WAL618450   | WAL624617             | WAL625950              | WAL625990   |
|                 |                | 8  | RESDSN 30/8 S  | 41.0           | WAL619104 | WAL618451   | WAL624618             | WAL625951              | WAL625991   |
|                 |                | 10                                       | RESDSN 30/10 S | 41.5           | WAL619105 | WAL618452   | WAL624619             | WAL625952              | WAL625992   |
|                 |                | 12                                       | RESDSN 30/12 S | 41.5           | WAL619106 | WAL618453   | WAL624620             | WAL625953              | WAL625993   |
|                 |                | 14                                       | RESDSN 30/14 S | 47.0           | WAL619107 | WAL618454   |                       |                        |   |
|                 |                | 16                                       | RESDSN 30/16 S | 41.5           | WAL619108 | WAL618455   | WAL624621             | WAL625954              | WAL625994   |
|                 | 20             | RESDSN 30/20 S                           | 43.0           | WAL619109      | WAL067815 | WAL624622   | WAL625955             | WAL625995              |   |
|                 | 25             | RESDSN 30/25 S                           | 46.0           | WAL619110      | WAL618456 | WAL624623   | WAL625956             | WAL625996              |   |
|                 | 38             | 6  | RESDSN 38/6 S  | 57.0           | WAL619111 | WAL618457   | WAL624617             | WAL625950              | WAL625990   |
|                 |                | 8  | RESDSN 38/8 S  | 57.5           | WAL619112 | WAL618458   | WAL624618             | WAL625951              | WAL625991   |
| 10              |                | RESDSN 38/10 S                           | 58.0           | WAL619113      | WAL618459 | WAL624619   | WAL625952             | WAL625992              |   |
| 12              |                | RESDSN 38/12 S                           | 57.5           | WAL619114      | WAL618460 | WAL624620   | WAL625953             | WAL625993              |   |
| 14              |                | RESDSN 38/14 S                           | 67.2           | WAL619115      | WAL618461 |   |                       |                        |   |
| 16              |                | RESDSN 38/16 S                           | 58.5           | WAL619116      | WAL618462 | WAL624621   | WAL625954             | WAL625994              |   |
| 20              |                | RESDSN 38/20 S                           | 59.0           | WAL619117      | WAL618463 | WAL624622   | WAL625955             | WAL625995              |   |
| 25              | RESDSN 38/25 S | 61.0                                     | WAL619118      | WAL618464      | WAL624623 | WAL625956   | WAL625996             |                        |   |
| 30              | RESDSN 38/30 S | 67.5                                     | WAL619119      | WAL067816      | WAL624624 | WAL625957   | WAL625997             |                        |   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

## RED ... -WD/...

### RED ... -WD/...-1.4571

- With soft seal made from NBR\*\* (e.g. Perbunan) for steel
- With soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)
- Inch studs type E to DIN EN ISO 1179-2



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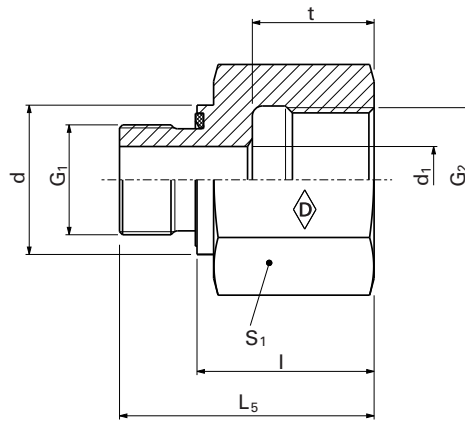
| PN<br>bar (psi) | DIN - ISO 228<br>(R..., DIN 259)<br>G <sub>1</sub> | G <sub>2</sub> | Model                | kg/<br>100<br>pc. | L    | l    | d    | t  | S <sub>1</sub> | Stud<br>RED ... -WD/... | Stud<br>Stainless steel (1.4571)<br>RED ... -WD/...VI-1.4571 |
|-----------------|--|----------------|----------------------|-------------------|------|------|------|----|----------------|-------------------------|--|
|                 |  |                |                      |                   |      |      |      |    |                | Art. no.                | Art. no.   |
| 630<br>(9137)   | G 3/8 A  | G 1/8          | RED-R 3/8-WD/R 1/8   | 4.0               | 22.5 | 10.5 | 21.9 | 8  | 22             | WAL606600               | WAL612428  |
|                 |  | G 1/8          | RED-R 1/2-WD/R 1/8   | 6.6               | 24   | 10   | 26.9 | 8  | 27             | WAL606601               | WAL617813  |
|                 | G 1/2 A  | G 1/4          | RED-R 1/2-WD/R 1/4   | 6.0               | 24   | 10   | 26.9 | 12 | 27             | WAL606602               | WAL610622  |
| 400<br>(5801)   | G 3/4 A  | G 1/4          | RED-R 3/4-WD/R 1/4   | 9.5               | 26   | 10   | 31.9 | 12 | 32             | WAL606603               | WAL611180  |
|                 |  | G 3/8          | RED-R 3/4-WD/R 3/8   | 9.0               | 26   | 10   | 31.9 | 12 | 32             | WAL606604               | WAL612089  |
|                 | G 1 A  | G 1/4          | RED-R 1 - WD/R 1/4   | 20.0              | 29   | 11   | 39.9 | 12 | 41             | WAL606605               | WAL615116  |
|                 |  | G 3/8          | RED-R 1 - WD/R 3/8   | 18.0              | 29   | 11   | 39.9 | 12 | 41             | WAL606606               | WAL617814  |
|                 |  | G 1/2          | RED-R 1 - WD/R 1/2   | 16.0              | 29   | 11   | 39.9 | 14 | 41             | WAL606607               | WAL611254  |
|                 | G 1 1/4 A  | G 1/2          | RED-R 1 1/4-WD/R 1/2 | 31.0              | 32   | 12   | 49.9 | 14 | 50             | WAL606608               | WAL613813  |
|                 |  | G 3/4          | RED-R 1 1/4-WD/R 3/4 | 27.0              | 32   | 12   | 49.9 | 16 | 50             | WAL606609               | WAL612044  |
|                 | G 1 1/2 A  | G 1/2          | RED-R 1 1/2-WD/R 1/2 | 47.0              | 36   | 12   | 54.9 | 14 | 55             | WAL606610               | WAL613127  |
|                 |  | G 3/4          | RED-R 1 1/2-WD/R 3/4 | 43.0              | 36   | 14   | 54.9 | 16 | 55             | WAL606611               | WAL615258  |
|                 |  | G 1            | RED-R 1 1/2-WD/R 1   | 34.5              | 36   | 14   | 54.9 | 18 | 55             | WAL606612               | WAL612103  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*\*FPM (e.g. Viton) see price list / available on request

**RED ... -WD/...**
**RED ... -WD/...-1.4571**

- With soft seal made from NBR\*\* (e.g. Perbunan) for steel
- With soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)
- Inch studs type E to DIN EN ISO 1179-2


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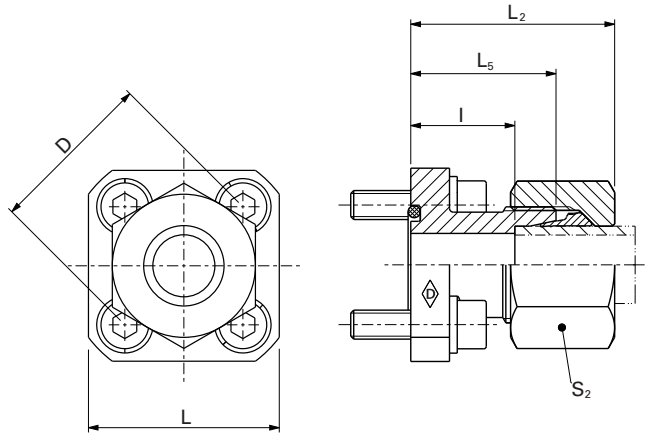
| PN<br>bar (psi) | DIN - ISO 228<br>(R..., DIN 259)<br>G <sub>1</sub> | G <sub>2</sub>       | Model                  | kg/<br>100<br>pc. | L  | l    | d    | d <sub>1</sub> | t    | S <sub>1</sub> | Stud<br>RED ... -WD/... | Stud<br>Stainless steel (1.4571)<br>RED ... -WD/...VI-1.4571 |
|-----------------|--|----------------------|------------------------|-------------------|----|------|------|----------------|------|----------------|-------------------------|--|
|                 |  |                      |                        |                   |    |      |      |                |      |                | Art. no.                | Art. no.   |
| 400<br>(5801)   | G 1/8 A  | G 1/4                | RED-R 1/8-WD/R 1/4     | 3.6               | 31 | 23   | 13.9 | 4              | 17   | 19             | WAL606613               | WAL612430  |
|                 |  | G 3/8                | RED-R 1/8-WD/R 3/8     | 4.5               | 32 | 24   | 13.9 | 4              | 17   | 24             | WAL606614               | WAL612431  |
|                 | G 1/4 A  | G 1/8                | RED-R 1/4-WD/R 1/8     | 3.6               | 29 | 17   | 18.9 | 5              | 12   | 19             | WAL606615               | WAL615402  |
|                 |  | G 3/8                | RED-R 1/4-WD/R 3/8     | 6.6               | 36 | 24   | 18.9 | 5              | 17   | 24             | WAL606616               | WAL610621  |
|                 | G 1/2 A  | G 1/2                | RED-R 1/4-WD/R 1/2     | 8.5               | 40 | 28   | 18.9 | 5              | 20   | 30             | WAL606617               | WAL610620  |
|                 |  | G 3/4                | RED-R 1/4-WD/R 3/4     | 17.3              | 43 | 31   | 18.9 | 5              | 22   | 36             | WAL606618               | WAL617815  |
|                 | G 3/8 A  | G 1/4                | RED-R 3/8-WD/R 1/4     | 3.0               | 36 | 24   | 21.9 | 8              | 17   | 22             | WAL606619               | WAL615403  |
|                 |  | G 1/2                | RED-R 3/8-WD/R 1/2     | 9.0               | 41 | 29   | 21.9 | 8              | 20   | 30             | WAL606620               | WAL612429  |
|                 |  | G 3/4                | RED-R 3/8-WD/R 3/4     | 17.5              | 44 | 32   | 21.9 | 8              | 22   | 36             | WAL606621               | WAL615482  |
|                 | G 1/2 A  | G 3/8                | RED-R 1/2-WD/R 3/8     | 9.5               | 37 | 23   | 26.9 | 12             | 17   | 27             | WAL606622               | WAL612095  |
|                 |  | G 3/4                | RED-R 1/2-WD/R 3/4     | 18.0              | 46 | 32   | 26.9 | 12             | 22   | 36             | WAL606623               | WAL611320  |
|                 | G 1  | G 1                  | RED-R 1/2-WD/R 1       | 22.5              | 49 | 35   | 26.9 | 12             | 24.5 | 41             | WAL606624               | WAL612928  |
| G 1 1/4         |  | RED-R 1/2-WD/R 1 1/4 | 47.0                   | 53                | 39 | 26.9 | 12   | 26.5           | 55   | WAL606625      | WAL615487               |  |
| 250<br>(3626)   | G 1/2 A  | G 1/2                | RED-R 3/4-WD/R 1/2     | 15.0              | 43 | 27   | 31.9 | 16             | 20   | 32             | WAL606626               | WAL612017  |
| 400<br>(5801)   |  | G 1                  | RED-R 3/4-WD/R 1       | 23.5              | 51 | 35   | 31.9 | 16             | 24.5 | 41             | WAL606627               | WAL615220  |
| 250<br>(3626)   | G 3/4 A  | G 1 1/4              | RED-R 3/4-WD/R 1 1/4   | 48.3              | 55 | 39   | 31.9 | 16             | 26.5 | 55             | WAL606628               | WAL615412  |
|                 |  | G 1 1/2              | RED-R 3/4-WD/R 1 1/2   | 54.5              | 57 | 41   | 31.9 | 16             | 28.5 | 60             | WAL606629               | WAL615508  |
| 400<br>(5801)   | G 1 A  | G 3/4                | RED-R 1 -WD/R 3/4      | 28.0              | 49 | 31   | 39.9 | 20             | 22   | 41             | WAL606630               | WAL611989  |
| 250<br>(3626)   | G 1 A  | G 1 1/4              | RED-R 1 -WD/R 1 1/4    | 51.0              | 57 | 39   | 39.9 | 20             | 26.5 | 55             | WAL606631               | WAL611321  |
|                 |  | G 1 1/2              | RED-R 1 -WD/R 1 1/2    | 56.5              | 59 | 41   | 39.9 | 20             | 28.5 | 60             | WAL606632               | WAL615411  |
| 400<br>(5801)   | G 1 1/4 A  | G 1                  | RED-R 1 1/4-WD/R 1     | 45.5              | 53 | 33   | 49.9 | 25             | 24.5 | 50             | WAL606633               | WAL611629  |
| 250<br>(3626)   | G 1 1/4 A  | G 1 1/2              | RED-R 1 1/4-WD/R 1 1/2 | 58.0              | 60 | 40   | 49.9 | 25             | 28.5 | 60             | WAL606634               | WAL615483  |
|                 | G 1 1/2 A  | G 1 1/4              | RED-R 1 1/2-WD/R 1 1/4 | 53.0              | 58 | 36   | 54.9 | 32             | 26.5 | 55             | WAL606635               | WAL615231  |

**△ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*\*FPM (e.g. Viton) see price list / available on request

### P-GFV ...

- For four-hole mounting



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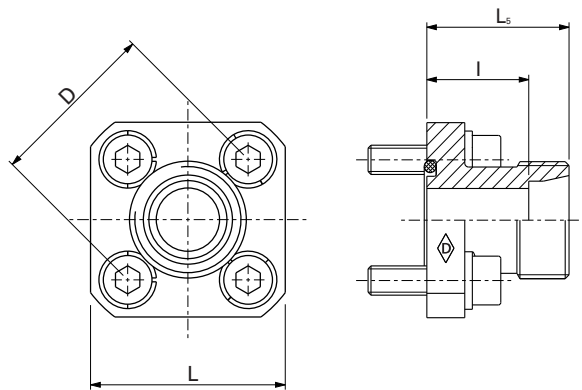
|    |        |              |                     |                      |             |    |                |                |      |                | Walpro<br>P-GFV... |
|----|--------|--------------|---------------------|----------------------|-------------|----|----------------|----------------|------|----------------|--------------------|
| D  | Series | PN bar (psi) | Tube outer diameter | Model                | kg/ 100 pc. | L  | L <sub>2</sub> | L <sub>5</sub> | l    | S <sub>2</sub> | Art. no.           |
| 35 | L      | 315 (4569)   | 10                  | <b>P-GFV 10 L-35</b> | 13.5        | 39 | 37.5           | 30             | 23   | 19             | <b>WAL374282</b>   |
|    |        |              | 12                  | <b>P-GFV 12 L-35</b> | 14.4        | 39 | 37.5           | 30             | 23   | 22             | <b>WAL374283</b>   |
|    | S      | 250 (3626)   | 15                  | <b>P-GFV 15 L-35</b> | 16.3        | 39 | 38             | 30             | 23   | 27             | <b>WAL374284</b>   |
|    |        |              | 16                  | <b>P-GFV 16 S-35</b> | 20.0        | 39 | 39.5           | 30             | 21.5 | 30             | <b>WAL374285</b>   |
| 40 | L      | 100 (1450)   | 15                  | <b>P-GFV 15 L-40</b> | 18.6        | 42 | 43             | 35             | 28   | 27             | <b>WAL374286</b>   |
|    |        |              | 18                  | <b>P-GFV 18 L-40</b> | 23.1        | 42 | 43.5           | 35             | 27.5 | 32             | <b>WAL374287</b>   |
|    |        |              | 22                  | <b>P-GFV 22 L-40</b> | 23.8        | 42 | 43.5           | 35             | 27.5 | 36             | <b>WAL374288</b>   |
|    |        |              | 28                  | <b>P-GFV 28 L-40</b> | 25.2        | 41 | 51             | 42             | 34.5 | 41             | <b>WAL374717</b>   |
| 55 | S      | 250 (3626)   | 20                  | <b>P-GFV 20 S-55</b> | 52.5        | 55 | 51             | 40             | 29.5 | 36             | <b>WAL374718</b>   |

L<sub>2</sub> = approximate dimension if the union nut is tightened.

Accessories such as hexagon socket screws, spring washers and O-rings are included in the delivery but come unassembled.

### GFS ...

- For four-hole mounting



H

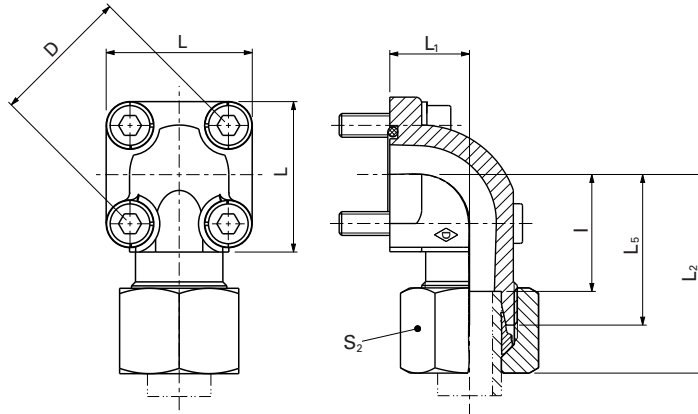
| D  | Series | PN bar (psi) | Tube outer diameter | Model              | Stud GFS...      | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                    |
|----|--------|--------------|---------------------|--------------------|------------------|--|--------------------|
|    |        |              |                     |                    |                  | Art. no.   | Walring W-R ... VI |
| 35 | L      | 315 (4569)   | 10                  | <b>GFS 10 L-35</b> | <b>WAL064121</b> | <b>WAL624609</b>   | <b>WAL625942</b>   |
|    |        |              | 12                  | <b>GFS 12 L-35</b> | <b>WAL064122</b> | <b>WAL624610</b>   | <b>WAL625943</b>   |
|    | S      | 250 (3626)   | 15                  | <b>GFS 15 L-35</b> | <b>WAL064123</b> | <b>WAL624611</b>   | <b>WAL625944</b>   |
|    |        |              | 16                  | <b>GFS 16 S-35</b> | <b>WAL064125</b> | <b>WAL624621</b>   | <b>WAL625954</b>   |
| 40 | L      | 100 (1450)   | 15                  | <b>GFS 15 L-40</b> | <b>WAL064124</b> | <b>WAL624611</b>   | <b>WAL625944</b>   |
|    |        |              | 18                  | <b>GFS 18 L-40</b> | <b>WAL064126</b> | <b>WAL624612</b>   | <b>WAL625945</b>   |
|    |        |              | 22                  | <b>GFS 22 L-40</b> | <b>WAL064128</b> | <b>WAL624613</b>   | <b>WAL625946</b>   |
|    |        |              | 28                  | <b>GFS 28 L-40</b> | <b>WAL064129</b> | <b>WAL624614</b>   | <b>WAL625947</b>   |
| 55 | S      | 250 (3626)   | 20                  | <b>GFS 20 S-55</b> | <b>WAL064127</b> | <b>WAL624622</b>   | <b>WAL625955</b>   |

### Accessory parts

| D  | Tube outer diameter | Model              | O-ring     |                  | Spring washer |                  | Hexagon socket screw |                  |
|----|---------------------|--------------------|------------|------------------|---------------|------------------|----------------------|------------------|
|    |                     |                    | Dimensions | Art. no.         | Dimensions    | Art. no.         | Dimensions           | Art. no.         |
| 35 | 10                  | <b>GFS 10 L-35</b> | 20x2.5     | <b>WAL610519</b> | B 6           | <b>WAL020102</b> | M6x22                | <b>WAL020309</b> |
|    | 12                  | <b>GFS 12 L-35</b> | 20x2.5     | <b>WAL610519</b> | B 6           | <b>WAL020102</b> | M6x22                | <b>WAL020309</b> |
|    | 15                  | <b>GFS 15 L-35</b> | 20x2.5     | <b>WAL610519</b> | B 6           | <b>WAL020102</b> | M6x22                | <b>WAL020309</b> |
|    | 16                  | <b>GFS 16 S-35</b> | 20x2.5     | <b>WAL610519</b> | B 6           | <b>WAL020102</b> | M6x22                | <b>WAL020309</b> |
| 40 | 15                  | <b>GFS 15 L-40</b> | 26x2.5     | <b>WAL610499</b> | B 6           | <b>WAL020102</b> | M6x22                | <b>WAL020309</b> |
|    | 18                  | <b>GFS 18 L-40</b> | 26x2.5     | <b>WAL610499</b> | B 6           | <b>WAL020102</b> | M6x22                | <b>WAL020309</b> |
|    | 22                  | <b>GFS 22 L-40</b> | 26x2.5     | <b>WAL610499</b> | B 6           | <b>WAL020102</b> | M6x22                | <b>WAL020309</b> |
|    | 28                  | <b>GFS 28 L-40</b> | 26x2.5     | <b>WAL610499</b> | B 6           | <b>WAL020102</b> | M6x22                | <b>WAL020309</b> |
| 55 | 20                  | <b>GFS 20 S-55</b> | 33x2.5     | <b>WAL610500</b> | B 8           | <b>WAL020104</b> | M8x25                | <b>WAL020324</b> |

**P-WFV ...**

- For four-hole mounting



H

|    |        |               |                     |                        |            |    |                |                |                |                |                | Walpro<br>P-WFV... |
|----|--------|---------------|---------------------|------------------------|------------|----|----------------|----------------|----------------|----------------|----------------|--------------------|
| D  | Series | PN bar (psi)  | Tube outer diameter | Model                  | kg/100 pc. | L  | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | S <sub>2</sub> | Art. no.           |
| 35 | L      | 315<br>(4569) | 10                  | <b>P-WFV 10 L-35*</b>  | 19.8       | 39 | 16.5           | 44.5           | 37.5           | 30.5           | 19             | <b>WAL374289</b>   |
|    |        |               | 12                  | <b>P-WFV 12 L-35*</b>  | 20.2       | 39 | 16.5           | 44.5           | 37.5           | 30.5           | 22             | <b>WAL374290</b>   |
|    | S      | 250 (3626)    | 15                  | <b>P-WFV 15 L-35*</b>  | 21.9       | 39 | 16.5           | 45             | 37             | 30             | 27             | <b>WAL374291</b>   |
|    |        |               | 16                  | <b>P-WFV 16 S-35**</b> | 26.2       | 39 | 20             | 47.5           | 38             | 29.5           | 30             | <b>WAL374292</b>   |
| 40 | L      | 100<br>(1450) | 20                  | <b>P-WFV 20 S-35**</b> | 39.4       | 39 | 25             | 56             | 45             | 34.5           | 36             | <b>WAL374293</b>   |
|    |        |               | 15                  | <b>P-WFV 15 L-40*</b>  | 23.3       | 42 | 22.5           | 45             | 37             | 30             | 27             | <b>WAL374294</b>   |
|    |        |               | 18                  | <b>P-WFV 18 L-40*</b>  | 25.3       | 42 | 22.5           | 46.5           | 38             | 30.5           | 32             | <b>WAL374295</b>   |
|    |        |               | 22                  | <b>P-WFV 22 L-40**</b> | 27.5       | 42 | 22.5           | 46.5           | 38             | 30.5           | 36             | <b>WAL374296</b>   |
|    |        |               | 28                  | <b>P-WFV 28 L-40**</b> | 37.1       | 42 | 28             | 49             | 40             | 32.5           | 41             | <b>WAL374297</b>   |
| 55 | S      | 250 (3626)    | 35                  | <b>P-WFV 35 L-40**</b> | 51.6       | 42 | 34             | 52             | 41             | 30.5           | 50             | <b>WAL374298</b>   |
|    |        |               | 20                  | <b>P-WFV 20 S-40**</b> | 34.4       | 42 | 22.5           | 51             | 40             | 29.5           | 36             | <b>WAL374299</b>   |
| 55 | L      | 100<br>(1450) | 22                  | <b>P-WFV 22 L-55**</b> | 60.5       | 58 | 24             | 52             | 43             | 35.5           | 36             | <b>WAL374719</b>   |
|    |        |               | 35                  | <b>P-WFV 35 L-55**</b> | 68.8       | 58 | 32             | 60             | 49             | 35.5           | 50             | <b>WAL374300</b>   |
|    |        |               | 42                  | <b>P-WFV 42 L-55**</b> | 90.9       | 58 | 40             | 60.5           | 49             | 38             | 60             | <b>WAL374301</b>   |
|    | S      | 250<br>(3626) | 20                  | <b>P-WFV 20 S-55**</b> | 58.5       | 58 | 24             | 56             | 45             | 34.5           | 36             | <b>WAL374302</b>   |
|    |        |               | 25                  | <b>P-WFV 25 S-55*</b>  | 78.4       | 58 | 30             | 61             | 49             | 37             | 46             | <b>WAL374303</b>   |
|    |        |               | 30                  | <b>P-WFV 30 S-55**</b> | 77.1       | 58 | 32             | 62             | 49             | 35.5           | 50             | <b>WAL374304</b>   |

L<sub>4</sub> = approximate dimension if the union nut is tightened

Accessories such as hexagon socket screws, spring washers and O-rings are included in the delivery but come unassembled.

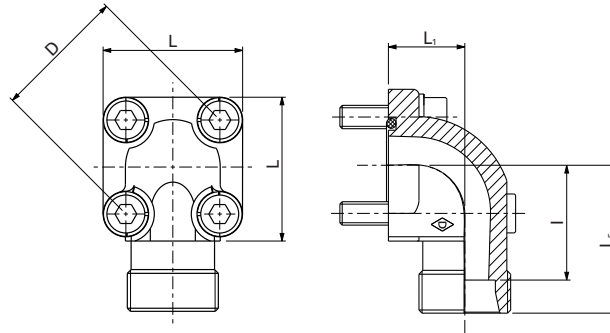
\*Forged part

\*\*Cast part



**WFS ...**

- For four-hole mounting


**H**

| D  | Series     | PN bar (psi) | Tube outer diameter | Model         | kg/100 pc. | Stud WFS ...<br>Art. no. | System nuts for supplementing the stud<br>(for technical data, see part D of this catalog) |                                 |
|----|------------|--------------|---------------------|---------------|------------|--------------------------|--|---------------------------------|
|    |            |              |                     |               |            |                          | Walring W-R ... VI<br>Art. no.   | Walform WF-M ... VI<br>Art. no. |
| 35 | L          | 315 (4569)   | 10                  | WFS 10 L-35*  | 21.0       | WAL064131                | WAL624609  | WAL625942                       |
|    |            |              | 12                  | WFS 12 L-35*  | 17.3       | WAL064132                | WAL624610  | WAL625943                       |
|    | S          | 250 (3626)   | 15                  | WFS 15 L-35*  | 17.3       | WAL064135                | WAL624611  | WAL625944                       |
|    |            |              | 16                  | WFS 16 S-35** | 20.0       | WAL064137                | WAL624621  | WAL625954                       |
|    |            |              | 20                  | WFS 20 S-35** | 28.8       | WAL064139                | WAL624622  | WAL625955                       |
| 40 | L          | 100 (1450)   | 15                  | WFS 15 L-40*  | 18.0       | WAL064136                | WAL624611  | WAL625944                       |
|    |            |              | 18                  | WFS 18 L-40*  | 18.6       | WAL064138                | WAL624612  | WAL625945                       |
|    |            |              | 22                  | WFS 22 L-40** | 21.5       | WAL064142                | WAL624613  | WAL625946                       |
|    |            |              | 28                  | WFS 28 L-40** | 27.9       | WAL064145                | WAL624614  | WAL625947                       |
|    |            |              | 35                  | WFS 35 L-40** | 36.3       | WAL064147                | WAL624615  | WAL625948                       |
| 55 | S          | 250 (3626)   | 20                  | WFS 20 S-40** | 25.5       | WAL064140                | WAL624622  | WAL625955                       |
|    |            |              | 22                  | WFS 22 L-55** | 57.0       | WAL064143                | WAL624613  | WAL625946                       |
|    | L          | 100 (1450)   | 35                  | WFS 35 L-55** | 45.5       | WAL064148                | WAL624615  | WAL625948                       |
|    |            |              | 42                  | WFS 42 L-55** | 84.0       | WAL064149                | WAL624616  | WAL625949                       |
|    |            |              | 20                  | WFS 20 S-55** | 56.0       | WAL064141                | WAL624622  | WAL625955                       |
| S  | 250 (3626) | 25           | WFS 25 S-55*        | 48.5          | WAL064144  | WAL624623                | WAL625956  |                                 |
|    |            | 30           | WFS 30 S-55**       | 54.9          | WAL064146  | WAL624624                | WAL625957  |                                 |

\*Forged part

\*\*Cast part

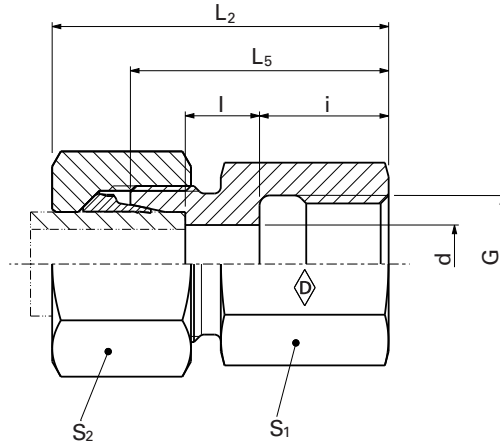
**Accessory parts**

| D  | Tube outer diameter | Model         | O-ring        |           | Spring washer |           | Hexagon socket screw |            |           |           |            |           |           |              |               |               |           |           |           |           |           |           |           |           |           |
|----|---------------------|---------------|---------------|-----------|---------------|-----------|----------------------|------------|-----------|-----------|------------|-----------|-----------|--------------|---------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|    |                     |               | Dimensions    | Art. no.  | Dimensions    | Art. no.  | Pc.                  | Dimensions | Art. no.  | Pc.       | Dimensions | Art. no.  |           |              |               |               |           |           |           |           |           |           |           |           |           |
| 35 | L                   | 10            | WFS 10 L-35*  | 20x2.5    | WAL610519     | B 6       | WAL020102            | 2          | M 6x35    | WAL020313 | 2          | M 6x22    | WAL020309 |              |               |               |           |           |           |           |           |           |           |           |           |
|    |                     |               |               |           |               |           |                      |            |           |           |            |           |           | 12           | WFS 12 L-35*  | 20x2.5        | WAL610519 | B 6       | WAL020102 | 2         | M 6x35    | WAL020313 | 2         | M 6x22    | WAL020309 |
|    | S                   | 15            | WFS 15 L-35*  | 20x2.5    | WAL610519     | B 6       | WAL020102            | 2          | M 6x40    | WAL021785 | 2          | M 6x22    | WAL020309 |              |               |               |           |           |           |           |           |           |           |           |           |
|    |                     |               |               |           |               |           |                      |            |           |           |            |           |           | 16           | WFS 16 S-35** | 20x2.5        | WAL610519 | B 6       | WAL020102 | 2         | M 6x40    | WAL021785 | 2         | M 6x22    | WAL020309 |
|    |                     |               |               |           |               |           |                      |            |           |           |            |           |           |              |               |               |           |           |           |           |           |           |           |           |           |
| 40 | L                   | 15            | WFS 15 L-40*  | 26x2.5    | WAL610499     | B 6       | WAL020102            | 2          | M 6x45    | WAL021956 | 2          | M 6x22    | WAL020309 |              |               |               |           |           |           |           |           |           |           |           |           |
|    |                     |               |               |           |               |           |                      |            |           |           |            |           |           | 18           | WFS 18 L-40*  | 26x2.5        | WAL610499 | B 6       | WAL020102 | 2         | M 6x45    | WAL021956 | 2         | M 6x22    | WAL020309 |
|    |                     |               |               |           |               |           |                      |            |           |           |            |           |           |              |               |               |           |           |           |           |           |           |           |           |           |
|    |                     |               |               |           |               |           |                      |            |           |           |            |           |           | 28           | WFS 28 L-40** | 26x2.5        | WAL610499 | B 6       | WAL020102 | 2         | M 6x50    | WAL021786 | 2         | M 6x22    | WAL020309 |
|    |                     |               |               |           |               |           |                      |            |           |           |            |           |           |              |               |               |           |           |           |           |           |           |           |           |           |
| 55 | S                   | 20            | WFS 20 S-40** | 26x2.5    | WAL610499     | B 6       | WAL020102            | 2          | M 6x45    | WAL021956 | 2          | M 6x22    | WAL020309 |              |               |               |           |           |           |           |           |           |           |           |           |
|    |                     |               |               |           |               |           |                      |            |           |           |            |           |           | L            | 22            | WFS 22 L-55** | 32x2.5    | WAL020775 | B 8       | WAL020104 | 2         | M 8x50    | WAL020331 | 2         | M 8x25    |
|    | 35                  | WFS 35 L-55** | 32x2.5        | WAL020775 | B 8           | WAL020104 | 2                    | M 8x60     | WAL021793 | 2         | M 8x25     | WAL020324 |           |              |               |               |           |           |           |           |           |           |           |           |           |
|    |                     |               |               |           |               |           |                      |            |           |           |            |           | 42        |              |               |               |           |           |           |           |           |           |           |           |           |
|    | S                   | 20            | WFS 20 S-55** | 32x2.5    | WAL020775     | B 8       | WAL020104            | 2          | M 8x50    | WAL020331 | 2          | M 8x25    | WAL020324 |              |               |               |           |           |           |           |           |           |           |           |           |
| 25 |                     |               |               |           |               |           |                      |            |           |           |            |           |           | WFS 25 S-55* | 33x2.5        | WAL020775     | B 8       | WAL020104 | 2         | M 8x55    | WAL023977 | 2         | M 8x25    | WAL020324 |           |
|    |                     |               |               |           |               |           |                      |            |           |           |            |           |           |              |               |               |           |           |           |           |           |           |           |           | 30        |

## P-GAV ... R

### P-GAV ... R-1.4571

• Inch thread



H

| Series | PN bar (psi) | Tube outer diameter | DIN-ISO 228 (R ...), DIN 259) G | Model                  | kg/100 pc.         | L <sub>2</sub> | L <sub>5</sub> | l    | i    | d  | S <sub>1</sub> | S <sub>2</sub>   | Art. no.         | Art. no.         |                  |
|--------|--------------|---------------------|---------------------------------|------------------------|--------------------|----------------|----------------|------|------|----|----------------|------------------|------------------|------------------|------------------|
| L      | 250 (3626)   | 6                   | G 1/8                           | <b>P-GAV 6 LR</b>      | 2.0                | 34             | 26             | 7    | 12   | 4  | 14             | 14               | <b>WAL374305</b> | <b>WAL621217</b> |                  |
|        |              | 8                   | G 1/4                           | <b>P-GAV 8 LR</b>      | 4.0                | 39             | 31             | 7    | 17   | 6  | 19             | 17               | <b>WAL374306</b> | <b>WAL620364</b> |                  |
|        |              | 10                  | G 1/4                           | <b>P-GAV 10 LR</b>     | 4.5                | 40             | 32             | 8    | 17   | 8  | 19             | 19               | <b>WAL374307</b> | <b>WAL620241</b> |                  |
|        | 400 (5801)   | 12                  | G 1/4                           | <b>P-GAV 12 LR 1/4</b> | 5.3                | 40             | 32             | 8    | 17   | 8  | 19             | 22               | <b>WAL374308</b> | <b>WAL620365</b> |                  |
|        | 250 (3626)   | 12                  | G 3/8                           | <b>P-GAV 12 LR</b>     | 6.0                | 41             | 33             | 9    | 17   | 10 | 24             | 22               | <b>WAL374309</b> | <b>WAL620284</b> |                  |
|        |              | 15                  | G 1/2                           | <b>P-GAV 15 LR</b>     | 10.5               | 46             | 38             | 11   | 20   | 12 | 30             | 27               | <b>WAL374310</b> | <b>WAL620201</b> |                  |
|        |              | 160 (2321)          | 18                              | G 1/2                  | <b>P-GAV 18 LR</b> | 12.5           | 47             | 38   | 10.5 | 20 | 15             | 27               | 32               | <b>WAL374311</b> | <b>WAL620278</b> |
|        |              |                     | 22                              | G 3/4                  | <b>P-GAV 22 LR</b> | 17.5           | 52             | 43   | 13.5 | 22 | 19             | 36               | 36               | <b>WAL374312</b> | <b>WAL620219</b> |
|        | 100 (1450)   | 28                  | G 1                             | <b>P-GAV 28 LR</b>     | 25.5               | 55             | 45.5           | 13.5 | 24.5 | 24 | 41             | 41               | <b>WAL374313</b> | <b>WAL620281</b> |                  |
|        |              | 35                  | G 1 1/4                         | <b>P-GAV 35 LR</b>     | 42.0               | 63             | 51.5           | 14.5 | 26.5 | 30 | 55             | 50               | <b>WAL374314</b> | <b>WAL620494</b> |                  |
| 42     |              | G 1 1/2             | <b>P-GAV 42 LR</b>              | 43.5                   | 65                 | 53.5           | 14             | 28.5 | 36   | 60 | 60             | <b>WAL374315</b> | <b>WAL620722</b> |                  |                  |
| S      | 630 (9137)   | 6                   | G 1/4                           | <b>P-GAV 6 SR</b>      | 4.0                | 41             | 33             | 9    | 17   | 4  | 19             | 17               | <b>WAL374316</b> | <b>WAL620000</b> |                  |
|        |              | 8                   | G 1/4                           | <b>P-GAV 8 SR</b>      | 5.0                | 41             | 33             | 9    | 17   | 5  | 19             | 19               | <b>WAL374317</b> | <b>WAL620308</b> |                  |
|        | 12           | G 3/8               | <b>P-GAV 10 SR</b>              | 8.5                    | 43                 | 34             | 9.5            | 17   | 7    | 24 | 22             | <b>WAL374318</b> | <b>WAL620233</b> |                  |                  |
|        |              | G 3/8               | <b>P-GAV 12 SR</b>              | 9.0                    | 43                 | 34             | 9.5            | 17   | 8    | 24 | 24             | <b>WAL374319</b> | <b>WAL620309</b> |                  |                  |
|        |              | G 1/2               | <b>P-GAV 14 SR</b>              | 12.5                   | 50                 | 40             | 12             | 20   | 10   | 27 | 27             | <b>WAL374320</b> | <b>WAL620531</b> |                  |                  |
|        | 400 (5801)   | 16                  | G 1/2                           | <b>P-GAV 16 SR</b>     | 14.0               | 50             | 40             | 11.5 | 20   | 12 | 30             | 30               | <b>WAL374321</b> | <b>WAL620293</b> |                  |
|        |              | 20                  | G 3/4                           | <b>P-GAV 20 SR</b>     | 24.0               | 56             | 45             | 12.5 | 22   | 16 | 36             | 36               | <b>WAL374322</b> | <b>WAL620323</b> |                  |
|        |              | 25                  | G 1                             | <b>P-GAV 25 SR</b>     | 46                 | 62             | 49.5           | 13   | 24.5 | 20 | 41             | 46               | <b>WAL374323</b> | <b>WAL620342</b> |                  |
|        | 250 (3626)   | 30                  | G 1 1/4                         | <b>P-GAV 30 SR</b>     | 54.5               | 69             | 55.5           | 15.5 | 26.5 | 25 | 55             | 50               | <b>WAL374324</b> | <b>WAL620723</b> |                  |
|        |              | 38                  | G 1 1/2                         | <b>P-GAV 38 SR</b>     | 86.0               | 74             | 59.5           | 15   | 28.5 | 32 | 60             | 60               | <b>WAL374325</b> | <b>WAL620724</b> |                  |

Walpro  
P-GAV ... R  
Walpro  
Stainless steel  
(1.4571)  
P-GAV ... -1.4571\*

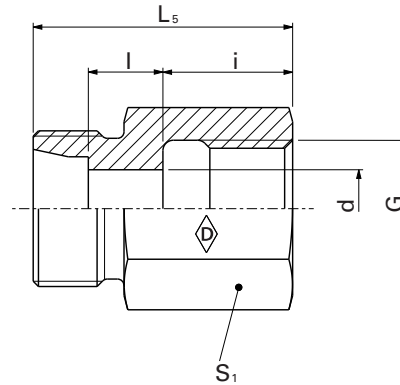
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*For complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price lists

L<sub>2</sub> = approximate dimension if the union nut is tightened

# GAS ... R

## GAS ... R-1.4571



H

System nuts for supplementing the stud  
(for technical data, see part D of this catalog)

Stud  
GAS ... R

Stud  
Stainless steel  
(1.4571)  
GAS ... R-1.4571\*

Walring  
W-R ... VI

Walform  
WF-M ... VI

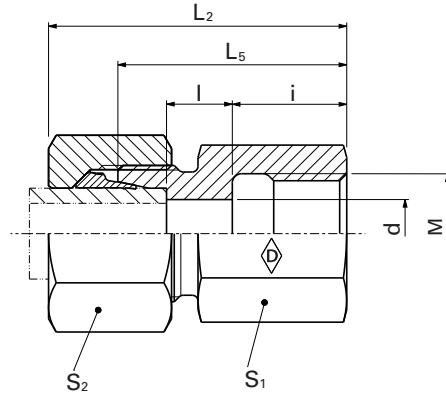
Walform stainless steel  
WF-M ... VI-1.4571\*

| Series | PN<br>bar (psi) | Tube outer<br>diameter | G                | Model                | kg/<br>100<br>pc. | Art. no.         | Art. no.         | Art. no.         | Art. no.         | Art. no.         |                  |
|--------|-----------------|------------------------|------------------|----------------------|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| L      | 250 (3626)      | 6                      | G 1/8            | <b>GAS 6 LR</b>      | 1.9               | <b>WAL038084</b> | <b>WAL061994</b> | <b>WAL624607</b> | <b>WAL625940</b> | <b>WAL625980</b> |                  |
|        |                 | 8                      | G 1/4            | <b>GAS 8 LR</b>      | 3.8               | <b>WAL038085</b> | <b>WAL060717</b> | <b>WAL624608</b> | <b>WAL625941</b> | <b>WAL625981</b> |                  |
|        |                 | 10                     | G 1/4            | <b>GAS 10 LR</b>     | 3.9               | <b>WAL038086</b> | <b>WAL065914</b> | <b>WAL624609</b> | <b>WAL625942</b> | <b>WAL625982</b> |                  |
|        | 400 (5801)      | 12                     | G 1/4            | <b>GAS 12 LR 1/4</b> | 4.4               | <b>WAL038087</b> | <b>WAL065915</b> | <b>WAL624610</b> | <b>WAL625943</b> | <b>WAL625983</b> |                  |
|        | 250 (3626)      | 12                     | G 3/8            | <b>GAS 12 LR</b>     | 6.2               | <b>WAL038088</b> | <b>WAL060759</b> | <b>WAL624610</b> | <b>WAL625943</b> | <b>WAL625983</b> |                  |
|        |                 | 15                     | G 1/2            | <b>GAS 15 LR</b>     | 8.6               | <b>WAL038089</b> | <b>WAL065916</b> | <b>WAL624611</b> | <b>WAL625944</b> | <b>WAL625984</b> |                  |
|        |                 | 18                     | G 1/2            | <b>GAS 18 LR</b>     | 8.9               | <b>WAL038090</b> | <b>WAL063099</b> | <b>WAL624612</b> | <b>WAL625945</b> | <b>WAL625985</b> |                  |
|        |                 | 160 (2321)             | 22               | G 3/4                | <b>GAS 22 LR</b>  | 8.9              | <b>WAL038091</b> | <b>WAL065917</b> | <b>WAL624613</b> | <b>WAL625946</b> | <b>WAL625986</b> |
|        |                 |                        | 28               | G 1                  | <b>GAS 28 LR</b>  | 20.9             | <b>WAL038092</b> | <b>WAL065918</b> | <b>WAL624614</b> | <b>WAL625947</b> | <b>WAL625987</b> |
|        | 100 (1450)      | 35                     | G 1 1/4          | <b>GAS 35 LR</b>     | 46.3              | <b>WAL038093</b> | <b>WAL065919</b> | <b>WAL624615</b> | <b>WAL625948</b> | <b>WAL625988</b> |                  |
| 42     |                 | G 1 1/2                | <b>GAS 42 LR</b> | 52.8                 | <b>WAL038094</b>  | <b>WAL065920</b> | <b>WAL624616</b> | <b>WAL625949</b> | <b>WAL625989</b> |                  |                  |
| S      | 630 (9137)      | 6                      | G 1/4            | <b>GAS 6 SR</b>      | 4.2               | <b>WAL038095</b> | <b>WAL024001</b> | <b>WAL624617</b> | <b>WAL625950</b> | <b>WAL625990</b> |                  |
|        |                 | 8                      | G 1/4            | <b>GAS 8 SR</b>      | 4.4               | <b>WAL038096</b> | <b>WAL065921</b> | <b>WAL624618</b> | <b>WAL625951</b> | <b>WAL625991</b> |                  |
|        |                 | 10                     | G 3/8            | <b>GAS 10 SR</b>     | 6.9               | <b>WAL038097</b> | <b>WAL061840</b> | <b>WAL624619</b> | <b>WAL625952</b> | <b>WAL625992</b> |                  |
|        |                 | 12                     | G 3/8            | <b>GAS 12 SR</b>     | 7.2               | <b>WAL038098</b> | <b>WAL024535</b> | <b>WAL624620</b> | <b>WAL625953</b> | <b>WAL625993</b> |                  |
|        |                 | 14                     | G 1/2            | <b>GAS 14 SR</b>     | 9.7               | <b>WAL038099</b> | <b>WAL065922</b> |                  |                  |                  |                  |
|        | 400 (5801)      | 16                     | G 1/2            | <b>GAS 16 SR</b>     | 9.4               | <b>WAL038100</b> | <b>WAL061007</b> | <b>WAL624621</b> | <b>WAL625954</b> | <b>WAL625994</b> |                  |
|        |                 | 20                     | G 3/4            | <b>GAS 20 SR</b>     | 19.3              | <b>WAL038101</b> | <b>WAL065923</b> | <b>WAL624622</b> | <b>WAL625955</b> | <b>WAL625995</b> |                  |
|        |                 | 25                     | G 1              | <b>GAS 25 SR</b>     | 24.2              | <b>WAL038102</b> | <b>WAL065924</b> | <b>WAL624623</b> | <b>WAL625956</b> | <b>WAL625996</b> |                  |
|        |                 | 30                     | G 1 1/4          | <b>GAS 30 SR</b>     | 50.1              | <b>WAL038103</b> | <b>WAL065925</b> | <b>WAL624624</b> | <b>WAL625957</b> | <b>WAL625997</b> |                  |
|        |                 | 38                     | G 1 1/2          | <b>GAS 38 SR</b>     | 58.4              | <b>WAL038104</b> | <b>WAL065926</b> | <b>WAL624625</b> | <b>WAL625958</b> | <b>WAL625998</b> |                  |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

## P-GAV ... M

- Metric thread

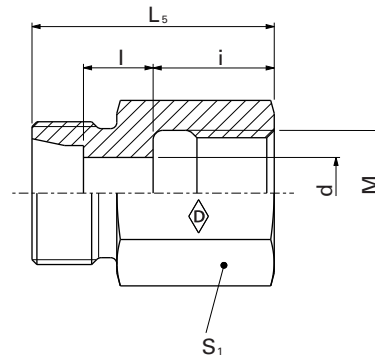


H

|        |              |                     |                               |                    |                    |       |       |      |      |     |       |       | Walpro<br>P-GAV ... M |
|--------|--------------|---------------------|-------------------------------|--------------------|--------------------|-------|-------|------|------|-----|-------|-------|-----------------------|
| Series | PN bar (psi) | Tube outer diameter | DIN-ISO 228 (R..., DIN 259) M | Model              | kg/100 pc.         | $L_2$ | $L_5$ | $l$  | $i$  | $d$ | $S_1$ | $S_2$ | Art. no.              |
| L      | 250 (3626)   | 6                   | M 10x1                        | <b>P-GAV 6 LM</b>  | 2.5                | 34    | 26.5  | 7    | 12.5 | 4   | 14    | 14    | <b>WAL602627</b>      |
|        |              | 8                   | M 12x1.5                      | <b>P-GAV 8 LM</b>  | 4.0                | 39    | 31    | 7    | 17   | 6   | 17    | 17    | <b>WAL604351</b>      |
|        |              | 10                  | M 14x1.5                      | <b>P-GAV 10 LM</b> | 5.0                | 40    | 32    | 8    | 17   | 8   | 19    | 19    | <b>WAL604132</b>      |
|        |              | 12                  | M 16x1.5                      | <b>P-GAV 12 LM</b> | 8.0                | 41    | 33    | 9    | 17   | 10  | 22    | 22    | <b>WAL602936</b>      |
|        |              | 15                  | M 18x1.5                      | <b>P-GAV 15 LM</b> | 10.1               | 43    | 35    | 11   | 17   | 12  | 24    | 27    | <b>WAL602628</b>      |
|        |              | 160 (2321)          | 18                            | M 22x1.5           | <b>P-GAV 18 LM</b> | 17.1  | 46    | 37   | 10.5 | 19  | 15    | 30    | 32                    |
| S      | 630 (9137)   | 22                  | M 26x1.5                      | <b>P-GAV 22 LM</b> | 18.1               | 51    | 42    | 13.5 | 21   | 19  | 32    | 36    | <b>WAL604366</b>      |
|        |              | 6                   | M 12x1.5                      | <b>P-GAV 6 SM</b>  | 4.5                | 41    | 33    | 9    | 17   | 4   | 17    | 17    | <b>WAL603940</b>      |
|        |              | 8                   | M 14x1.5                      | <b>P-GAV 8 SM</b>  | 6.2                | 41    | 33    | 9    | 17   | 5   | 19    | 19    | <b>WAL604572</b>      |
|        |              | 10                  | M 16x1.5                      | <b>P-GAV 10 SM</b> | 8.0                | 43    | 34    | 9.5  | 17   | 7   | 22    | 22    | <b>WAL604328</b>      |
|        |              | 12                  | M 18x1.5                      | <b>P-GAV 12 SM</b> | 10.5               | 44    | 35    | 10.5 | 17   | 8   | 24    | 24    | <b>WAL602664</b>      |
|        |              | 400 (5801)          | 14                            | M 20x1.5           | <b>P-GAV 14 SM</b> | 13.5  | 49    | 39   | 12   | 19  | 10    | 27    | 27                    |
|        |              | 16                  | M 22x1.5                      | <b>P-GAV 16 SM</b> | 18.5               | 49    | 39    | 11.5 | 19   | 12  | 30    | 30    | <b>WAL604596</b>      |
|        |              | 20                  | M 27x2                        | <b>P-GAV 20 SM</b> | 25.5               | 56    | 45    | 12.5 | 22   | 16  | 36    | 36    | <b>WAL604441</b>      |

$L_2$  = approximate dimension if the union nut is tightened  
Stainless steel (1.4571) studs and fittings available on request

**GAS ... M**



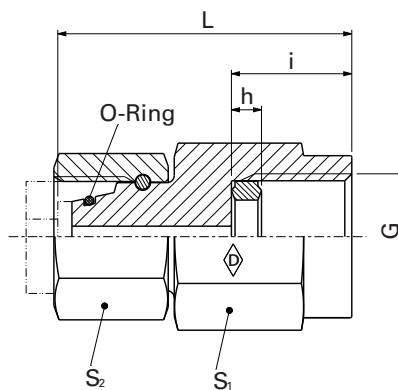
**H**

| Series | PN bar (psi) | Tube outer diameter | DIN-ISO 228 (R ..., DIN 259) M | Model            | kg/100 pc. | Art. no.         | System nuts for supplementing the stud (for technical data, see part D of this catalog) |                    |
|--------|--------------|---------------------|--------------------------------|------------------|------------|------------------|---|--------------------|
|        |              |                     |                                |                  |            |                  | Stud GAS ... M  | Walring W-R ... VI |
| L      | 250 (3626)   | 6                   | M 10x1                         | <b>GAS 6 LM</b>  | 1.9        | <b>WAL060046</b> | <b>WAL624607</b>  | <b>WAL625940</b>   |
|        |              | 8                   | M 12x1.5                       | <b>GAS 8 LM</b>  | 3.1        | <b>WAL061084</b> | <b>WAL624608</b>  | <b>WAL625941</b>   |
|        |              | 10                  | M 14x1.5                       | <b>GAS 10 LM</b> | 3.8        | <b>WAL060213</b> | <b>WAL624609</b>  | <b>WAL625942</b>   |
|        |              | 12                  | M 16x1.5                       | <b>GAS 12 LM</b> | 5.2        | <b>WAL025317</b> | <b>WAL624610</b>  | <b>WAL625943</b>   |
|        |              | 15                  | M 18x1.5                       | <b>GAS 15 LM</b> | 6.7        | <b>WAL024357</b> | <b>WAL624611</b>  | <b>WAL625944</b>   |
|        |              | 18                  | M 22x1.5                       | <b>GAS 18 LM</b> | 10.9       | <b>WAL062966</b> | <b>WAL624612</b>  | <b>WAL625945</b>   |
|        | 160 (2321)   | 22                  | M 26x1.5                       | <b>GAS 22 LM</b> | 12.1       | <b>WAL061612</b> | <b>WAL624613</b>  | <b>WAL625946</b>   |
|        |              | 6                   | M 12x1.5                       | <b>GAS 6 SM</b>  | 3.6        | <b>WAL066876</b> | <b>WAL624617</b>  | <b>WAL625950</b>   |
| S      | 630 (9137)   | 8                   | M 14x1.5                       | <b>GAS 8 SM</b>  | 4.2        | <b>WAL061634</b> | <b>WAL624618</b>  | <b>WAL625951</b>   |
|        |              | 10                  | M 16x1.5                       | <b>GAS 10 SM</b> | 5.7        | <b>WAL060704</b> | <b>WAL624619</b>  | <b>WAL625952</b>   |
|        |              | 12                  | M 18x1.5                       | <b>GAS 12 SM</b> | 6.9        | <b>WAL060069</b> | <b>WAL624620</b>  | <b>WAL625953</b>   |
|        |              | 14                  | M 20x1.5                       | <b>GAS 14 SM</b> | 9.3        | <b>WAL066855</b> |   |                    |
|        |              | 16                  | M 22x1.5                       | <b>GAS 16 SM</b> | 11.4       | <b>WAL067979</b> | <b>WAL624621</b>  | <b>WAL625954</b>   |
|        |              | 20                  | M 27x2                         | <b>GAS 20 SM</b> | 15.2       | <b>WAL065147</b> | <b>WAL624622</b>  | <b>WAL625955</b>   |

## EMASD ...

### EMASD ...-1.4571

- Inch thread
- with taper and O-ring made from NBR\* (e.g. Perbunan)
- with taper and O-ring made from FKM (e.g. Viton) for stainless steel (1.4571)



H

| Series | PN bar (psi) | Tube outer diameter | DIN-ISO 228 (R ..., DIN 259) G | Model              | kg/100 pc. | L <sub>2</sub> | i    | h   | S <sub>1</sub> | S <sub>2</sub> | *O-ring | Art. no.         | Art. no.         |
|--------|--------------|---------------------|--------------------------------|--------------------|------------|----------------|------|-----|----------------|----------------|---------|------------------|------------------|
| L      | 500 (7252)   | 6                   | G 1/4                          | <b>EMASD 6 LR</b>  | 5.7        | 38             | 14.5 | 4.5 | 19             | 14             | 4.5x1.5 | <b>WAL605748</b> | <b>WAL615259</b> |
|        |              | 8                   | G 1/4                          | <b>EMASD 8 LR</b>  | 7.0        | 38             | 14.5 | 4.5 | 19             | 17             | 6x1.5   | <b>WAL066353</b> | <b>WAL617825</b> |
|        |              | 10                  | G 1/4                          | <b>EMASD 10 LR</b> | 7.2        | 39.5           | 14.5 | 4.5 | 19             | 19             | 8.5x1.5 | <b>WAL605749</b> | <b>WAL617826</b> |
| S      | 400 (5801)   | 12                  | G 1/4                          | <b>EMASD 12 LR</b> | 8.0        | 40.5           | 14.5 | 4.5 | 19             | 22             | 10x1.5  | <b>WAL605750</b> | <b>WAL614847</b> |
|        |              | 6                   | G 1/2                          | <b>EMASD 6 SR</b>  | 11.5       | 45             | 20   | 5   | 27             | 17             | 4.5x1.5 | <b>WAL605751</b> | <b>WAL617827</b> |
|        |              | 8                   | G 1/2                          | <b>EMASD 8 SR</b>  | 11.4       | 45             | 20   | 5   | 27             | 19             | 6x1.5   | <b>WAL605752</b> | <b>WAL615584</b> |
|        |              | 10                  | G 1/2                          | <b>EMASD 10 SR</b> | 13.4       | 47             | 20   | 5   | 27             | 22             | 8.5x1.5 | <b>WAL605753</b> | <b>WAL615441</b> |
|        |              | 12                  | G 1/2                          | <b>EMASD 12 SR</b> | 12.9       | 47.5           | 20   | 5   | 27             | 24             | 10x1.5  | <b>WAL066313</b> | <b>WAL617828</b> |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

L<sub>2</sub> = approximate dimension if the union nut is tightened

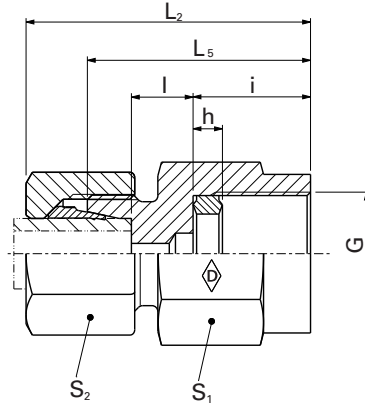
\*\*FPM (e.g. Viton) see price list / available on request



## P-MAV ... R

### P-MAV ... R-1.4571

- Inch studs type B to DIN EN ISO 1179-4



H

| Series | PN bar (psi) | Tube outer diameter | DIN-ISO 228 (R ..., DIN 259) G | Model              | kg/100 pc. | $L_2$ | $L_5$ | $l$  | $i$  | $h$ | $S_1$ | $S_2$ | Walpro P-MAV...R Art. no. | Walpro Stainless steel (1.4571) P-MAV ... R-1.4571* Art. no. |
|--------|--------------|---------------------|--------------------------------|--------------------|------------|-------|-------|------|------|-----|-------|-------|---------------------------|--|
| L      | 500(7252)    | 6                   | G 1/4                          | <b>P-MAV 6 LR</b>  | 4.6        | 37    | 14.5  | 7.5  | 14.5 | 4.5 | 19    | 14    | <b>WAL374334</b>          | <b>WAL620112</b>   |
|        |              | 8                   | G 1/4                          | <b>P-MAV 8 LR</b>  | 5.3        | 37    | 14.5  | 7.5  | 14.5 | 4.5 | 19    | 17    | <b>WAL374335</b>          | <b>WAL620113</b>   |
|        |              | 10                  | G 1/4                          | <b>P-MAV 10 LR</b> | 6.2        | 38    | 15.5  | 8.5  | 14.5 | 4.5 | 19    | 19    | <b>WAL374336</b>          | <b>WAL620114</b>   |
|        | 400 (5801)   | 12                  | G 1/4                          | <b>P-MAV 12 LR</b> | 7.0        | 38    | 15.5  | 8.5  | 14.5 | 4.5 | 19    | 22    | <b>WAL374337</b>          | <b>WAL620115</b>   |
| S      | 800 (11603)  | 6                   | G 1/2                          | <b>P-MAV 6 SR</b>  | 10.5       | 46    | 18    | 11   | 20   | 5   | 27    | 17    | <b>WAL374338</b>          | <b>WAL620116</b>   |
|        |              | 8                   | G 1/2                          | <b>P-MAV 8 SR</b>  | 10.7       | 46    | 18    | 11   | 20   | 5   | 27    | 19    | <b>WAL374339</b>          | <b>WAL620117</b>   |
|        |              | 10                  | G 1/2                          | <b>P-MAV 10 SR</b> | 12.5       | 47    | 18    | 10.5 | 20   | 5   | 27    | 22    | <b>WAL374340</b>          | <b>WAL620118</b>   |
|        | 630 (9137)   | 12                  | G 1/2                          | <b>P-MAV 12 SR</b> | 13.4       | 47    | 18    | 10.5 | 20   | 5   | 27    | 24    | <b>WAL374341</b>          | <b>WAL620119</b>   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

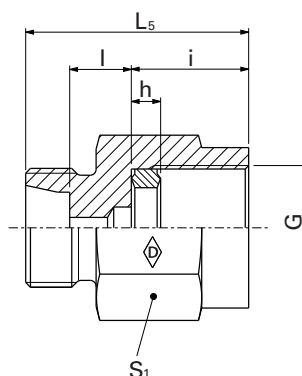
\*For complete stainless steel fittings (1.4571) with silver-plated nut (AG/AGP), see price list

$L_2$ = approximate dimension if the union nut is tightened



## MAS ... R

MAS ... R-1.4571



H

System nuts for supplementing the stud  
(for technical data, see part D of this catalog)

Stud  
Stainless steel  
(1.4571)  
MAS ... R-1.4571\*

Walring  
W-R ... VI

Walform  
WF-M ... VI

Walform stainless  
steel WF-M ...  
VI-1.4571\*







| Series | PN<br>bar (psi) | Tube outer<br>diameter | DIN-ISO 228<br>(R..., DIN<br>259) G | Model     | kg/<br>100 pc. | Art. no.  | Art. no.  | Art. no.  | Art. no.  | Art. no.  |
|--------|-----------------|------------------------|-------------------------------------|-----------|----------------|-----------|-----------|-----------|-----------|-----------|
| L      | 500 (7252)      | 6                      | G 1/4                               | MAS 6 LR  | 3.8            | WAL066939 | WAL067383 | WAL624607 | WAL625940 | WAL625980 |
|        |                 | 8                      | G 1/4                               | MAS 8 LR  | 3.6            | WAL066940 | WAL067387 | WAL624608 | WAL625941 | WAL625981 |
|        | 400 (5801)      | 10                     | G 1/4                               | MAS 10 LR | 4.0            | WAL067370 | WAL067372 | WAL624609 | WAL625942 | WAL625982 |
|        |                 | 12                     | G 1/4                               | MAS 12 LR | 6.3            | WAL066941 | WAL067378 | WAL624610 | WAL625943 | WAL625983 |
| S      | 800 (11603)     | 6                      | G 1/2                               | MAS 6 SR  | 9.4            | WAL066942 | WAL067385 | WAL624617 | WAL625950 | WAL625990 |
|        |                 | 8                      | G 1/2                               | MAS 8 SR  | 9.0            | WAL066943 | WAL067389 | WAL624618 | WAL625951 | WAL625991 |
|        | 630 (9137)      | 10                     | G 1/2                               | MAS 10 SR | 9.0            | WAL066944 | WAL067374 | WAL624619 | WAL625952 | WAL625992 |
|        |                 | 12                     | G 1/2                               | MAS 12 SR | 9.5            | WAL066945 | WAL067380 | WAL624620 | WAL625953 | WAL625993 |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

I

## **37° flared flanges** to SAE J518 / ISO6162

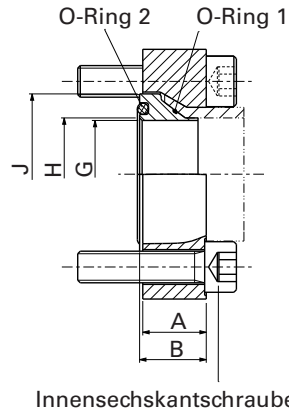
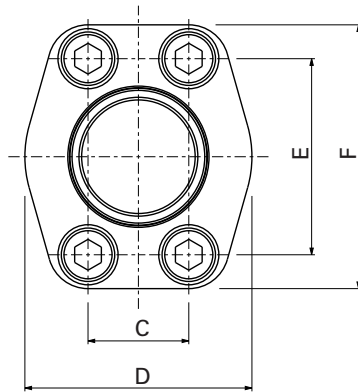


|   |                             | Figure    | Model   | Page            |           |
|---|-----------------------------|-----------|---|-----------------|-----------|
| 37° flared flanges to SAE J518 / ISO 6162 | Flange assembly             | 3,000 psi |  | BO-FK 3000 ...  | 13 - 14   |
|   | Flange counterpart assembly | 3,000 psi |  | BO-FGK 3000 ... | 15 - 16   |
|   | Flange connector assembly   | 3,000 psi |  | BO-FVK 3000 ... | 17        |
|   | Flange assembly             | 6,000 psi |  | BO-FK 6000 ...  | 19 - 110  |
|   | Flange counterpart assembly | 6,000 psi |  | BO-FGK 6000 ... | 111 - 112 |
|   | Flange connector assembly   | 6,000 psi |  | BO-FVK 6000 ... | 113       |



### BO-FK 3000 ...

- Flange assembly



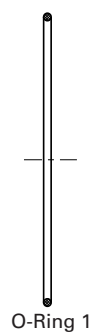
|            |                   |                                    |    |    |       |    |       |     |      |    |      | Flange BO-FK 3000 ... |
|------------|-------------------|------------------------------------|----|----|-------|----|-------|-----|------|----|------|-----------------------|
| SAE flange | PB**<br>bar (psi) | Model                              | A  | B* | C     | D  | E     | F   | G    | H  | J    | Art. no.              |
| 1/2        | 350<br>(5000)     | <b>BO-FK 3000- 1/2-16 x 2.0</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 10   | 13 | 30   | <b>WAL613637</b>      |
|            |                   | <b>BO-FK 3000- 1/2-16 x 2.5</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 9    | 13 | 30   | <b>WAL613638</b>      |
|            |                   | <b>BO-FK 3000- 1/2-20 x 2.0</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 14   |    | 30   | <b>WAL613639</b>      |
|            |                   | <b>BO-FK 3000- 1/2-20 x 2.5</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 13   |    | 30   | <b>WAL613640</b>      |
|            |                   | <b>BO-FK 3000- 1/2-20 x 3.0</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 12   | 13 | 30   | <b>WAL613641</b>      |
|            |                   | <b>BO-FK 3000- 1/2-22 x 2.0</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 16   |    | 30   | <b>WAL613642</b>      |
| 3/4        | 350<br>(5000)     | <b>BO-FK 3000- 3/4-20 x 2.0</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 14   | 19 | 38   | <b>WAL613643</b>      |
|            |                   | <b>BO-FK 3000- 3/4-20 x 2.5</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 13   | 19 | 38   | <b>WAL613644</b>      |
|            |                   | <b>BO-FK 3000- 3/4-20 x 3.0</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 12   | 19 | 38   | <b>WAL613645</b>      |
|            |                   | <b>BO-FK 3000- 3/4-25 x 2.5</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 18   | 19 | 38   | <b>WAL613646</b>      |
|            |                   | <b>BO-FK 3000- 3/4-25 x 3.0</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 17   | 19 | 38   | <b>WAL613647</b>      |
|            |                   | <b>BO-FK 3000- 3/4-25 x 4.0</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 15   | 19 | 38   | <b>WAL613648</b>      |
| 1          | 350<br>(5000)     | <b>BO-FK 3000- 3/4-28 x 3.0</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 20   |    | 38   | <b>WAL613649</b>      |
|            |                   | <b>BO-FK 3000-1 -25 x 2.5</b>      | 19 | 20 | 26.19 | 60 | 52.37 | 71  | 18   | 25 | 44.5 | <b>WAL613650</b>      |
|            |                   | <b>BO-FK 3000-1 -25 x 3.0</b>      | 19 | 20 | 26.19 | 60 | 52.37 | 71  | 17   | 25 | 44.5 | <b>WAL613651</b>      |
|            |                   | <b>BO-FK 3000-1 -25 x 4.0</b>      | 19 | 20 | 26.19 | 60 | 52.37 | 71  | 15   | 25 | 44.5 | <b>WAL613652</b>      |
|            |                   | <b>BO-FK 3000-1 -30 x 4.0</b>      | 19 | 20 | 26.19 | 60 | 52.37 | 71  | 20   | 25 | 44.5 | <b>WAL613653</b>      |
| 1 1/4      | 250<br>(3570)     | <b>BO-FK 3000-1 -35 x 3.0</b>      | 19 | 20 | 26.19 | 60 | 52.37 | 71  | 27   |    | 44.5 | <b>WAL613654</b>      |
|            |                   | <b>BO-FK 3000-1 1/4-38 x 4.0</b>   | 20 | 21 | 30.18 | 68 | 58.72 | 79  | 28   | 32 | 50.8 | <b>WAL613655</b>      |
|            |                   | <b>BO-FK 3000-1 1/4-38 x 5.0</b>   | 20 | 21 | 30.18 | 68 | 58.72 | 79  | 26   | 32 | 50.8 | <b>WAL613656</b>      |
|            |                   | <b>BO-FK 3000-1 1/4-42 x 3.0</b>   | 20 | 21 | 30.18 | 68 | 58.72 | 79  | 34   |    | 50.8 | <b>WAL613657</b>      |
| 1 1/2      | 210<br>(3000)     | <b>BO-FK 3000-1 1/4-42 x 4.0</b>   | 20 | 21 | 30.18 | 68 | 58.72 | 79  | 32   |    | 50.8 | <b>WAL613658</b>      |
|            |                   | <b>BO-FK 3000-1 1/2-38 x 4.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 28   | 38 | 60   | <b>WAL613659</b>      |
|            |                   | <b>BO-FK 3000-1 1/2-38 x 5.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 26   | 38 | 60   | <b>WAL613660</b>      |
|            |                   | <b>BO-FK 3000-1 1/2-42 x 3.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 34   | 38 | 60   | <b>WAL613661</b>      |
|            |                   | <b>BO-FK 3000-1 1/2-42 x 4.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 32   | 38 | 60   | <b>WAL613662</b>      |
|            |                   | <b>BO-FK 3000-1 1/2-48.3 x 3.2</b> | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 38   |    | 60   | <b>WAL613663</b>      |
|            |                   | <b>BO-FK 3000-1 1/2-50 x 2.5</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 42.4 |    | 60   | <b>WAL613664</b>      |
|            |                   | <b>BO-FK 3000-1 1/2-50 x 3.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 41.4 |    | 60   | <b>WAL613665</b>      |
| 2          | 210<br>(3000)     | <b>BO-FK 3000-1 1/2-50 x 5.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 37.4 |    | 60   | <b>WAL613666</b>      |
|            |                   | <b>BO-FK 3000-2 -60 x 3.0</b>      | 24 | 25 | 42.88 | 90 | 77.77 | 102 | 51.4 |    | 71.3 | <b>WAL613667</b>      |
|            |                   | <b>BO-FK 3000-2 -60.3 x 3.6</b>    | 24 | 25 | 42.88 | 90 | 77.77 | 102 | 50.5 |    | 71.3 | <b>WAL613668</b>      |
|            |                   | <b>BO-FK 3000-2 -60.3 x 5.6</b>    | 24 | 25 | 42.88 | 90 | 77.77 | 102 | 46.5 | 51 | 71.3 | <b>WAL613669</b>      |
|            |                   | <b>BO-FK 3000-2 -60/60.3 x 8.0</b> | 24 | 25 | 42.88 | 90 | 77.77 | 102 | 41.4 | 51 | 71.3 | <b>WAL613670</b>      |

\*B = approximate dimension if the hexagon socket screws are tightened

\*\*with a safety factor of 2.5

**Spare parts**

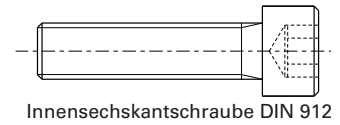
• DIN 912



O-Ring 1



O-Ring 2

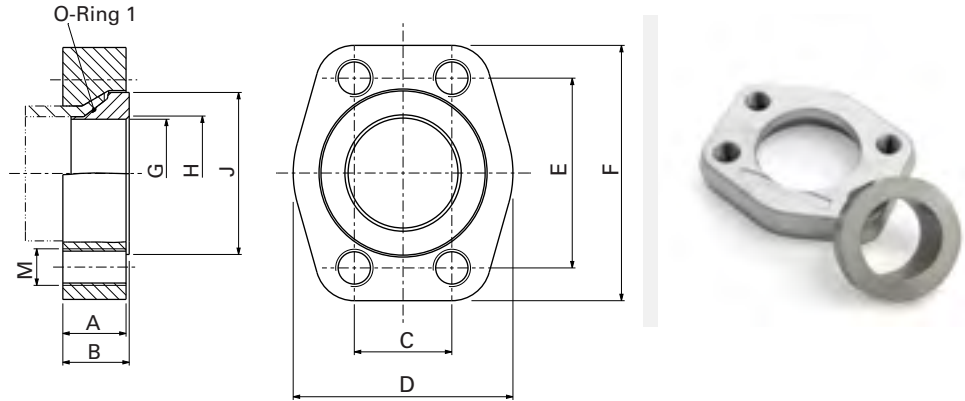


Innensechskantschraube DIN 912

| Model                       | O-ring 1     |           | O-ring 2     |           | DIN 912 hexagon socket screw |           |
|-----------------------------|--------------|-----------|--------------|-----------|------------------------------|-----------|
|                             | Dimensions   | Art. no.  | Dimensions   | Art. no.  | Dimensions                   | Art. no.  |
| BO-FK 3000- 1/2-16 x 2.0    | 12,5 x 1     | WAL374756 | 18,64 x 3,53 | WAL613769 | M8 x 30                      | WAL021790 |
| BO-FK 3000- 1/2-16 x 2.5    | 12,5 x 1     | WAL374756 | 18,64 x 3,53 | WAL613769 | M8 x 30                      | WAL021790 |
| BO-FK 3000- 1/2-20 x 2.0    | 16 x 1       | WAL261058 | 18,64 x 3,53 | WAL613769 | M8 x 30                      | WAL021790 |
| BO-FK 3000- 1/2-20 x 2.5    | 16 x 1       | WAL261058 | 18,64 x 3,53 | WAL613769 | M8 x 30                      | WAL021790 |
| BO-FK 3000- 1/2-20 x 3.0    | 15 x 1       | WAL304305 | 18,64 x 3,53 | WAL613769 | M8 x 30                      | WAL021790 |
| BO-FK 3000- 1/2-22 x 2.0    | 15 x 1       | WAL304305 | 18,64 x 3,53 | WAL613769 | M8 x 30                      | WAL021790 |
| BO-FK 3000- 3/4-20 x 2.0    | 16 x 1       | WAL261058 | 25 x 3,53    | WAL611016 | M10 x 35                     | WAL021801 |
| BO-FK 3000- 3/4-20 x 2.5    | 16 x 1       | WAL261058 | 25 x 3,53    | WAL611016 | M10 x 35                     | WAL021801 |
| BO-FK 3000- 3/4-20 x 3.0    | 15 x 1       | WAL304305 | 25 x 3,53    | WAL611016 | M10 x 35                     | WAL021801 |
| BO-FK 3000- 3/4-25 x 2.5    | 20 x 1       | WAL304307 | 25 x 3,53    | WAL611016 | M10 x 35                     | WAL021801 |
| BO-FK 3000- 3/4-25 x 3.0    | 20 x 1       | WAL304307 | 25 x 3,53    | WAL611016 | M10 x 35                     | WAL021801 |
| BO-FK 3000- 3/4-25 x 4.0    | 18 x 1       | WAL304306 | 25 x 3,53    | WAL611016 | M10 x 35                     | WAL021801 |
| BO-FK 3000- 3/4-28 x 3.0    | 23 x 1       | WAL304310 | 25 x 3,53    | WAL611016 | M10 x 35                     | WAL021801 |
| BO-FK 3000-1 -25 x 2.5      | 20 x 1       | WAL304307 | 32,92 x 3,53 | WAL610404 | M10 x 35                     | WAL021801 |
| BO-FK 3000-1 -25 x 3.0      | 20 x 1       | WAL304307 | 32,92 x 3,53 | WAL610404 | M10 x 35                     | WAL021801 |
| BO-FK 3000-1 -25 x 4.0      | 18 x 1       | WAL304306 | 32,92 x 3,53 | WAL610404 | M10 x 35                     | WAL021801 |
| BO-FK 3000-1 -30 x 4.0      | 23 x 1       | WAL304310 | 32,92 x 3,53 | WAL610404 | M10 x 35                     | WAL021801 |
| BO-FK 3000-1 -35 x 3.0      | 28 x 1       | WAL304273 | 32,92 x 3,53 | WAL610404 | M10 x 35                     | WAL021801 |
| BO-FK 3000-1 1/4-38 x 4.0   | 32 x 1,78    | WAL261131 | 37,69 x 3,53 | WAL610405 | M10 x 40                     | WAL615362 |
| BO-FK 3000-1 1/4-38 x 5.0   | 32 x 1,78    | WAL261131 | 37,69 x 3,53 | WAL610405 | M10 x 40                     | WAL615362 |
| BO-FK 3000-1 1/4-42 x 3.0   | 37 x 1       | WAL374749 | 37,69 x 3,53 | WAL610405 | M10 x 40                     | WAL615362 |
| BO-FK 3000-1 1/4-42 x 4.0   | 37 x 1       | WAL374749 | 37,69 x 3,53 | WAL610405 | M10 x 40                     | WAL615362 |
| BO-FK 3000-1 1/2-38 x 4.0   | 32 x 1,78    | WAL261131 | 47,22 x 3,53 | WAL611425 | M12 x 40                     | WAL613632 |
| BO-FK 3000-1 1/2-38 x 5.0   | 32 x 1,78    | WAL261131 | 47,22 x 3,53 | WAL611425 | M12 x 40                     | WAL613632 |
| BO-FK 3000-1 1/2-42 x 3.0   | 37 x 1       | WAL374749 | 47,22 x 3,53 | WAL611425 | M12 x 40                     | WAL613632 |
| BO-FK 3000-1 1/2-42 x 4.0   | 37 x 1       | WAL374749 | 47,22 x 3,53 | WAL611425 | M12 x 40                     | WAL613632 |
| BO-FK 3000-1 1/2-48.3 x 3.2 | 44,17 x 1,78 | WAL611929 | 47,22 x 3,53 | WAL611425 | M12 x 40                     | WAL613632 |
| BO-FK 3000-1 1/2-50 x 2.5   | 44,17 x 1,78 | WAL611929 | 47,22 x 3,53 | WAL611425 | M12 x 40                     | WAL613632 |
| BO-FK 3000-1 1/2-50 x 3.0   | 44,17 x 1,78 | WAL611929 | 47,22 x 3,53 | WAL611425 | M12 x 40                     | WAL613632 |
| BO-FK 3000-1 1/2-50 x 5.0   | 44,17 x 1,78 | WAL611929 | 47,22 x 3,53 | WAL611425 | M12 x 40                     | WAL613632 |
| BO-FK 3000-2 -60 x 3.0      | 53,7 x 1,78  | WAL612146 | 56,74 x 3,53 | WAL612145 | M12 x 45                     | WAL613633 |
| BO-FK 3000-2 -60.3 x 3.6    | 53,7 x 1,78  | WAL612146 | 56,74 x 3,53 | WAL612145 | M12 x 45                     | WAL613633 |
| BO-FK 3000-2 -60.3 x 5.6    | 50,52 x 1,78 | WAL612147 | 56,74 x 3,53 | WAL612145 | M12 x 45                     | WAL613633 |
| BO-FK 3000-2 -60/60.3 x 8.0 | 44,17 x 1,78 | WAL611929 | 56,74 x 3,53 | WAL612145 | M12 x 45                     | WAL613633 |

**BO-FGK 3000 ...**

- Flange counterpart assembly

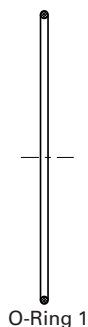


|            |                   |                                     |    |    |       |    |       |     |      |    |      | Flange BO-FGK 3000 ... |
|------------|-------------------|-------------------------------------|----|----|-------|----|-------|-----|------|----|------|------------------------|
| SAE flange | PB**<br>bar (psi) | Model                               | A  | B* | C     | D  | E     | F   | G    | H  | J    | Art. no.               |
| 1/2        | 350<br>(5000)     | <b>BO-FGK 3000- 1/2-16 x 2.0</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 10   | 13 | 30   | <b>WAL614860</b>       |
|            |                   | <b>BO-FGK 3000- 1/2-16 x 2.5</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 9    | 13 | 30   | <b>WAL614861</b>       |
|            |                   | <b>BO-FGK 3000- 1/2-20 x 2.0</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 14   |    | 30   | <b>WAL614862</b>       |
|            |                   | <b>BO-FGK 3000- 1/2-20 x 2.5</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 13   |    | 30   | <b>WAL614863</b>       |
|            |                   | <b>BO-FGK 3000- 1/2-20 x 3.0</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 12   | 13 | 30   | <b>WAL614864</b>       |
|            |                   | <b>BO-FGK 3000- 1/2-22 x 2.0</b>    | 16 | 17 | 17.48 | 48 | 38.1  | 56  | 16   |    | 30   | <b>WAL614865</b>       |
| 3/4        | 350<br>(5000)     | <b>BO-FGK 3000- 3/4-20 x 2.0</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 14   | 19 | 38   | <b>WAL614866</b>       |
|            |                   | <b>BO-FGK 3000- 3/4-20 x 2.5</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 13   | 19 | 38   | <b>WAL614867</b>       |
|            |                   | <b>BO-FGK 3000- 3/4-20 x 3.0</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 12   | 19 | 38   | <b>WAL614868</b>       |
|            |                   | <b>BO-FGK 3000- 3/4-25 x 2.5</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 18   | 19 | 38   | <b>WAL614869</b>       |
|            |                   | <b>BO-FGK 3000- 3/4-25 x 3.0</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 17   | 19 | 38   | <b>WAL614870</b>       |
|            |                   | <b>BO-FGK 3000- 3/4-25 x 4.0</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 15   | 19 | 38   | <b>WAL614871</b>       |
|            |                   | <b>BO-FGK 3000- 3/4-28 x 3.0</b>    | 17 | 18 | 22.23 | 50 | 47.63 | 65  | 20   | 25 | 38   | <b>WAL614872</b>       |
| 1          | 350<br>(5000)     | <b>BO-FGK 3000-1 -25 x 2.5</b>      | 19 | 20 | 26.19 | 60 | 52.37 | 71  | 18   | 25 | 44.5 | <b>WAL614873</b>       |
|            |                   | <b>BO-FGK 3000-1 -25 x 3.0</b>      | 19 | 20 | 26.19 | 60 | 52.37 | 71  | 17   | 25 | 44.5 | <b>WAL614874</b>       |
|            |                   | <b>BO-FGK 3000-1 -25 x 4.0</b>      | 19 | 20 | 26.19 | 60 | 52.37 | 71  | 15   | 25 | 44.5 | <b>WAL614875</b>       |
|            |                   | <b>BO-FGK 3000-1 -30 x 4.0</b>      | 19 | 20 | 26.19 | 60 | 52.37 | 71  | 20   | 25 | 44.5 | <b>WAL614876</b>       |
|            |                   | <b>BO-FGK 3000-1 -35 x 3.0</b>      | 19 | 20 | 26.19 | 60 | 52.37 | 71  | 27   |    | 44.5 | <b>WAL614877</b>       |
| 1 1/4      | 250<br>(3570)     | <b>BO-FGK 3000-1 1/4-38 x 4.0</b>   | 20 | 21 | 30.18 | 68 | 58.72 | 79  | 28   | 32 | 50.8 | <b>WAL614878</b>       |
|            |                   | <b>BO-FGK 3000-1 1/4-38 x 5.0</b>   | 20 | 21 | 30.18 | 68 | 58.72 | 79  | 26   | 32 | 50.8 | <b>WAL614879</b>       |
|            |                   | <b>BO-FGK 3000-1 1/4-42 x 3.0</b>   | 20 | 21 | 30.18 | 68 | 58.72 | 79  | 34   |    | 50.8 | <b>WAL614880</b>       |
|            |                   | <b>BO-FGK 3000-1 1/4-42 x 4.0</b>   | 20 | 21 | 30.18 | 68 | 58.72 | 79  | 32   |    | 50.8 | <b>WAL614881</b>       |
| 1 1/2      | 210<br>(3000)     | <b>BO-FGK 3000-1 1/2-38 x 4.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 28   | 38 | 60   | <b>WAL614882</b>       |
|            |                   | <b>BO-FGK 3000-1 1/2-38 x 5.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 26   | 38 | 60   | <b>WAL614883</b>       |
|            |                   | <b>BO-FGK 3000-1 1/2-42 x 3.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 34   | 38 | 60   | <b>WAL614884</b>       |
|            |                   | <b>BO-FGK 3000-1 1/2-42 x 4.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 32   | 38 | 60   | <b>WAL614885</b>       |
|            |                   | <b>BO-FGK 3000-1 1/2-48.3 x 3.2</b> | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 38   |    | 60   | <b>WAL614886</b>       |
|            |                   | <b>BO-FGK 3000-1 1/2-50 x 2.5</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 42.4 |    | 60   | <b>WAL614887</b>       |
|            |                   | <b>BO-FGK 3000-1 1/2-50 x 3.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 41.4 |    | 60   | <b>WAL614888</b>       |
|            |                   | <b>BO-FGK 3000-1 1/2-50 x 5.0</b>   | 22 | 23 | 35.71 | 78 | 69.85 | 93  | 37.4 |    | 60   | <b>WAL614889</b>       |
| 2          | 210<br>(3000)     | <b>BO-FGK 3000-2 -60 x 3.0</b>      | 22 | 23 | 42.88 | 90 | 77.77 | 102 | 51.4 |    | 71.3 | <b>WAL614890</b>       |
|            |                   | <b>BO-FGK 3000-2 -60.3 x 3.6</b>    | 22 | 23 | 42.88 | 90 | 77.77 | 102 | 50.5 |    | 71.3 | <b>WAL614891</b>       |
|            |                   | <b>BO-FGK 3000-2 -60.3 x 5.6</b>    | 22 | 23 | 42.88 | 90 | 77.77 | 102 | 46.5 | 51 | 71.3 | <b>WAL614892</b>       |
|            |                   | <b>BO-FGK 3000-2 -60/60.3 x 8.0</b> | 22 | 23 | 42.88 | 90 | 77.77 | 102 | 41.4 | 51 | 71.3 | <b>WAL614893</b>       |

\*B = approximate dimension if the hexagon socket screws are tightened

\*\*with a safety factor of 2.5

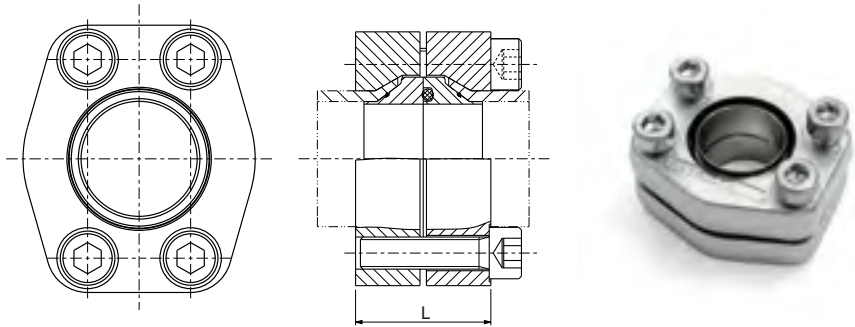
## Spare parts



| Model                        | Dimensions   | Art. no.  |
|------------------------------|--------------|-----------|
| BO-FGK 3000- 1/2-16 x 2.0    | 12,5 x 1     | WAL374756 |
| BO-FGK 3000- 1/2-16 x 2.5    | 12,5 x 1     | WAL374756 |
| BO-FGK 3000- 1/2-20 x 2.0    | 16 x 1       | WAL261058 |
| BO-FGK 3000- 1/2-20 x 2.5    | 16 x 1       | WAL261058 |
| BO-FGK 3000- 1/2-20 x 3.0    | 15 x 1       | WAL304305 |
| BO-FGK 3000- 1/2-22 x 2.0    | 15 x 1       | WAL304305 |
| BO-FGK 3000- 3/4-20 x 2.0    | 16 x 1       | WAL261058 |
| BO-FGK 3000- 3/4-20 x 2.5    | 16 x 1       | WAL261058 |
| BO-FGK 3000- 3/4-20 x 3.0    | 15 x 1       | WAL304305 |
| BO-FGK 3000- 3/4-25 x 2.5    | 20 x 1       | WAL304307 |
| BO-FGK 3000- 3/4-25 x 3.0    | 20 x 1       | WAL304307 |
| BO-FGK 3000- 3/4-25 x 4.0    | 18 x 1       | WAL304306 |
| BO-FGK 3000- 3/4-28 x 3.0    | 23 x 1       | WAL304310 |
| BO-FGK 3000-1 -25 x 2.5      | 20 x 1       | WAL304307 |
| BO-FGK 3000-1 -25 x 3.0      | 20 x 1       | WAL304307 |
| BO-FGK 3000-1 -25 x 4.0      | 18 x 1       | WAL304306 |
| BO-FGK 3000-1 -30 x 4.0      | 23 x 1       | WAL304310 |
| BO-FGK 3000-1 -35 x 3.0      | 28 x 1       | WAL304273 |
| BO-FGK 3000-1 1/4-38 x 4.0   | 32 x 1.78    | WAL261131 |
| BO-FGK 3000-1 1/4-38 x 5.0   | 32 x 1.78    | WAL261131 |
| BO-FGK 3000-1 1/4-42 x 3.0   | 37 x 1       | WAL374749 |
| BO-FGK 3000-1 1/4-42 x 4.0   | 37 x 1       | WAL374749 |
| BO-FGK 3000-1 1/2-38 x 4.0   | 32 x 1.78    | WAL261131 |
| BO-FGK 3000-1 1/2-38 x 5.0   | 32 x 1.78    | WAL261131 |
| BO-FGK 3000-1 1/2-42 x 3.0   | 37 x 1       | WAL374749 |
| BO-FGK 3000-1 1/2-42 x 4.0   | 37 x 1       | WAL374749 |
| BO-FGK 3000-1 1/2-48.3 x 3.2 | 44.17 x 1.78 | WAL611929 |
| BO-FGK 3000-1 1/2-50 x 2.5   | 44.17 x 1.78 | WAL611929 |
| BO-FGK 3000-1 1/2-50 x 3.0   | 44.17 x 1.78 | WAL611929 |
| BO-FGK 3000-1 1/2-50 x 5.0   | 44.17 x 1.78 | WAL611929 |
| BO-FGK 3000-2 -60 x 3.0      | 53.7 x 1.78  | WAL612146 |
| BO-FGK 3000-2 -60.3 x 3.6    | 53.7 x 1.78  | WAL612146 |
| BO-FGK 3000-2 -60.3 x 5.6    | 50.52 x 1.78 | WAL612147 |
| BO-FGK 3000-2 -60/60.3 x 8.0 | 44.17 x 1.78 | WAL611929 |

### BO-FVK 3000 ...

- Flange connector assembly



| Flange BO-FVK 3000 |                   |    |                              |           |
|--------------------|-------------------|----|------------------------------|-----------|
| SAE flange         | PB**<br>bar (psi) | L* | Model                        | Art. no.  |
| 1/2                | 350<br>(5000)     | 34 | BO-FVK 3000- 1/2-16 x 2.0    | WAL613701 |
|                    |                   | 34 | BO-FVK 3000- 1/2-16 x 2.5    | WAL613702 |
|                    |                   | 34 | BO-FVK 3000- 1/2-20 x 2.0    | WAL613703 |
|                    |                   | 34 | BO-FVK 3000- 1/2-20 x 2.5    | WAL613704 |
|                    |                   | 34 | BO-FVK 3000- 1/2-20 x 3.0    | WAL613705 |
|                    |                   | 34 | BO-FVK 3000- 1/2-22 x 2.0    | WAL613706 |
| 3/4                | 350<br>(5000)     | 36 | BO-FVK 3000- 3/4-20 x 2.0    | WAL613707 |
|                    |                   | 36 | BO-FVK 3000- 3/4-20 x 2.5    | WAL613708 |
|                    |                   | 36 | BO-FVK 3000- 3/4-20 x 3.0    | WAL613709 |
|                    |                   | 36 | BO-FVK 3000- 3/4-25 x 2.5    | WAL613710 |
|                    |                   | 36 | BO-FVK 3000- 3/4-25 x 3.0    | WAL613711 |
|                    |                   | 36 | BO-FVK 3000- 3/4-25 x 4.0    | WAL613712 |
|                    |                   | 36 | BO-FVK 3000- 3/4-28 x 3.0    | WAL613713 |
| 1                  | 350<br>(5000)     | 40 | BO-FVK 3000-1 -25 x 2.5      | WAL613714 |
|                    |                   | 40 | BO-FVK 3000-1 -25 x 3.0      | WAL613715 |
|                    |                   | 40 | BO-FVK 3000-1 -25 x 4.0      | WAL613716 |
|                    |                   | 40 | BO-FVK 3000-1 -30 x 4.0      | WAL613717 |
|                    |                   | 40 | BO-FVK 3000-1 -35 x 3.0      | WAL613718 |
| 1 1/4              | 250<br>(3570)     | 42 | BO-FVK 3000-1 1/4-38 x 4.0   | WAL613719 |
|                    |                   | 42 | BO-FVK 3000-1 1/4-38 x 5.0   | WAL613720 |
|                    |                   | 42 | BO-FVK 3000-1 1/4-42 x 3.0   | WAL613721 |
|                    |                   | 42 | BO-FVK 3000-1 1/4-42 x 4.0   | WAL613722 |
| 1 1/2              | 210<br>(3000)     | 46 | BO-FVK 3000-1 1/2-38 x 4.0   | WAL613723 |
|                    |                   | 46 | BO-FVK 3000-1 1/2-38 x 5.0   | WAL613724 |
|                    |                   | 46 | BO-FVK 3000-1 1/2-42 x 3.0   | WAL613725 |
|                    |                   | 46 | BO-FVK 3000-1 1/2-42 x 4.0   | WAL613726 |
|                    |                   | 46 | BO-FVK 3000-1 1/2-48.3 x 3.2 | WAL613727 |
|                    |                   | 46 | BO-FVK 3000-1 1/2-50 x 2.5   | WAL613728 |
|                    |                   | 46 | BO-FVK 3000-1 1/2-50 x 3.0   | WAL613729 |
|                    |                   | 46 | BO-FVK 3000-1 1/2-50 x 5.0   | WAL613730 |
| 2                  | 210<br>(3000)     | 50 | BO-FVK 3000-2 -60 x 3.0      | WAL613731 |
|                    |                   | 50 | BO-FVK 3000-2 -60.3 x 3.6    | WAL613732 |
|                    |                   | 50 | BO-FVK 3000-2 -60.3 x 5.6    | WAL613733 |
|                    |                   | 50 | BO-FVK 3000-2 -60/60.3 x 8.0 | WAL613734 |

\*B = approximate dimension if the hexagon socket screws are tightened

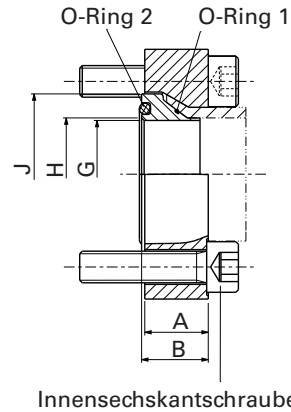
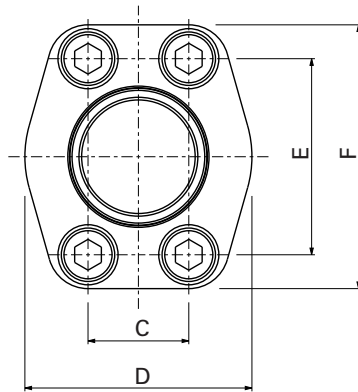
\*\*with a safety factor of 2.5





**BO-FK 6000 ...**

- Flange assembly



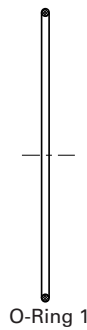
|            |                   |                                     |      |      |       |     |       |     |      |    |      | Flange BO-FK 6000 |
|------------|-------------------|-------------------------------------|------|------|-------|-----|-------|-----|------|----|------|-------------------|
| SAE flange | PB**<br>bar (psi) | Model                               | A    | B*   | C     | D   | E     | F   | G    | H  | J    | Art. no.          |
| 1/2        | 420<br>(6000)     | <b>BO-FK 6000- 1/2-16 x 2.5</b>     | 16   | 17   | 18.24 | 48  | 40.49 | 56  | 9    | 13 | 30   | <b>WAL613671</b>  |
|            |                   | <b>BO-FK 6000- 1/2-16 x 3.0</b>     | 16   | 17   | 18.24 | 48  | 40.49 | 56  | 8    | 13 | 30   | <b>WAL613672</b>  |
|            |                   | <b>BO-FK 6000- 1/2-20 x 2.5</b>     | 16   | 17   | 18.24 | 48  | 40.49 | 56  | 13   |    | 30   | <b>WAL613673</b>  |
|            |                   | <b>BO-FK 6000- 1/2-20 x 3.0</b>     | 16   | 17   | 18.24 | 48  | 40.49 | 56  | 12   | 13 | 30   | <b>WAL613674</b>  |
|            |                   | <b>BO-FK 6000- 1/2-20 x 3.5</b>     | 16   | 17   | 18.24 | 48  | 40.49 | 56  | 11   | 13 | 30   | <b>WAL613675</b>  |
| 3/4        | 420<br>(6000)     | <b>BO-FK 6000- 3/4-20 x 2.5</b>     | 19   | 20   | 23.8  | 60  | 50.8  | 71  | 13   | 19 | 38   | <b>WAL613676</b>  |
|            |                   | <b>BO-FK 6000- 3/4-20 x 3.0</b>     | 19   | 20   | 23.8  | 60  | 50.8  | 71  | 12   | 19 | 38   | <b>WAL613677</b>  |
|            |                   | <b>BO-FK 6000- 3/4-20 x 3.5</b>     | 19   | 20   | 23.8  | 60  | 50.8  | 71  | 11   | 19 | 38   | <b>WAL613678</b>  |
|            |                   | <b>BO-FK 6000- 3/4-20 x 4.0</b>     | 19   | 20   | 23.8  | 60  | 50.8  | 71  | 10   | 19 | 38   | <b>WAL613679</b>  |
|            |                   | <b>BO-FK 6000- 3/4-25 x 3.0</b>     | 19   | 20   | 23.8  | 60  | 50.8  | 71  | 17   | 19 | 38   | <b>WAL613680</b>  |
| 1          | 420<br>(6000)     | <b>BO-FK 6000-1 -25 x 2.5</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 18   | 25 | 44.5 | <b>WAL613682</b>  |
|            |                   | <b>BO-FK 6000-1 -25 x 3.0</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 17   | 25 | 44.5 | <b>WAL613683</b>  |
|            |                   | <b>BO-FK 6000-1 -25 x 4.0</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 15   | 25 | 44.5 | <b>WAL613684</b>  |
|            |                   | <b>BO-FK 6000-1 -30 x 4.0</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 20   | 25 | 44.5 | <b>WAL613685</b>  |
|            |                   | <b>BO-FK 6000-1 -30 x 5.0</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 18   | 25 | 44.5 | <b>WAL613686</b>  |
|            |                   | <b>BO-FK 6000-1 -34 x 4.5</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 23   | 25 | 44.5 | <b>WAL613687</b>  |
| 1 1/4      | 420<br>(6000)     | <b>BO-FK 6000-1 -38 x 5.0</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 26   |    | 44.5 | <b>WAL613688</b>  |
|            |                   | <b>BO-FK 6000-1 1/4-30 x 5.0</b>    | 30   | 31   | 31.75 | 78  | 66.68 | 95  | 18   | 32 | 50.8 | <b>WAL614776</b>  |
|            |                   | <b>BO-FK 6000-1 1/4-38 x 4.0</b>    | 30   | 31   | 31.75 | 78  | 66.68 | 95  | 28   | 32 | 50.8 | <b>WAL613689</b>  |
|            |                   | <b>BO-FK 6000-1 1/4-38 x 5.0</b>    | 30   | 31   | 31.75 | 78  | 66.68 | 95  | 26   | 32 | 50.8 | <b>WAL613690</b>  |
|            |                   | <b>BO-FK 6000-1 1/4-38 x 6.0</b>    | 30   | 31   | 31.75 | 78  | 66.68 | 95  | 24   | 32 | 50.8 | <b>WAL613691</b>  |
| 1 1/2      | 420<br>(6000)     | <b>BO-FK 6000-1 1/4-43 x 5.5</b>    | 30   | 31   | 31.75 | 78  | 66.68 | 95  | 30   | 32 | 50.8 | <b>WAL613692</b>  |
|            |                   | <b>BO-FK 6000-1 1/2-38 x 5.0</b>    | 32   | 33   | 36.5  | 96  | 79.38 | 113 | 26   | 38 | 60   | <b>WAL613693</b>  |
|            |                   | <b>BO-FK 6000-1 1/2-38 x 6.0</b>    | 32   | 33   | 36.5  | 96  | 79.38 | 113 | 24   | 38 | 60   | <b>WAL613694</b>  |
|            |                   | <b>BO-FK 6000-1 1/2-50 x 5.0</b>    | 32   | 33   | 36.5  | 96  | 79.38 | 113 | 37.4 |    | 60   | <b>WAL613695</b>  |
| 2          | 420<br>(6000)     | <b>BO-FK 6000-1 1/2-50 x 6.0</b>    | 32   | 33   | 36.5  | 96  | 79.38 | 113 | 35.4 | 38 | 60   | <b>WAL613696</b>  |
|            |                   | <b>BO-FK 6000-1 1/2-50 x 8.0</b>    | 32   | 33   | 36.5  | 96  | 79.38 | 113 | 31.4 | 38 | 60   | <b>WAL613697</b>  |
|            |                   | <b>BO-FK 6000-2 x 6.0</b>           | 32   | 33   | 44.45 | 114 | 96.82 | 134 | 45.4 | 51 | 71.3 | <b>WAL613698</b>  |
|            |                   | <b>BO-FK 6000-2-60 /60.3 x 8.0</b>  | 32   | 33   | 44.45 | 114 | 96.82 | 134 | 41.4 | 51 | 71.3 | <b>WAL613765</b>  |
|            |                   | <b>BO-FK 6000-2-60 /60.3 x 10.0</b> | 32   | 33   | 44.45 | 114 | 96.82 | 134 | 37.4 | 51 | 71.3 | <b>WAL613766</b>  |

\*B = approximate dimension if the hexagon socket screws are tightened

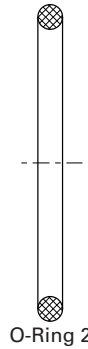
\*\*with a safety factor of 2.5

**Spare parts**

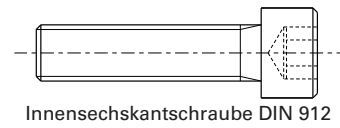
• DIN 912



O-Ring 1



O-Ring 2

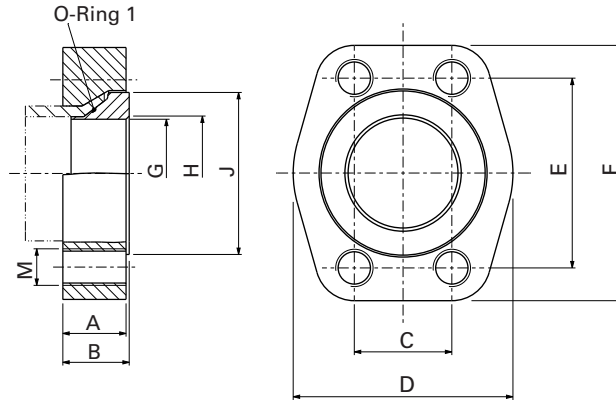


Innensechskantschraube DIN 912

|                              | O-ring 1     |           | O-ring 2     |           | Hexagon socket screw |           |
|------------------------------|--------------|-----------|--------------|-----------|----------------------|-----------|
| Model                        | Dimensions   | Art. no.  | Dimensions   | Art. no.  | Dimensions           | Art. no.  |
| BO-FK 6000- 1/2-16 x 2.5     | 12,5 x 1     | WAL374756 | 18.64 x 3.53 | WAL613769 | M8 x 30              | WAL021790 |
| BO-FK 6000- 1/2-16 x 3.0     | 11 x 1       | WAL374750 | 18.64 x 3.53 | WAL613769 | M8 x 30              | WAL021790 |
| BO-FK 6000- 1/2-20 x 2.5     | 16 x 1       | WAL261058 | 18.64 x 3.53 | WAL613769 | M8 x 30              | WAL021790 |
| BO-FK 6000- 1/2-20 x 3.0     | 15 x 1       | WAL304305 | 18.64 x 3.53 | WAL613769 | M8 x 30              | WAL021790 |
| BO-FK 6000- 1/2-20 x 3.5     | 15 x 1       | WAL304305 | 18.64 x 3.53 | WAL613769 | M8 x 30              | WAL021790 |
| BO-FK 6000- 3/4-20 x 2.5     | 16 x 1       | WAL261058 | 25 x 3.53    | WAL611016 | M10 x 35             | WAL021801 |
| BO-FK 6000- 3/4-20 x 3.0     | 15 x 1       | WAL304305 | 25 x 3.53    | WAL611016 | M10 x 35             | WAL021801 |
| BO-FK 6000- 3/4-20 x 3.5     | 15 x 1       | WAL304305 | 25 x 3.53    | WAL611016 | M10 x 35             | WAL021801 |
| BO-FK 6000- 3/4-20 x 4.0     | 15 x 1       | WAL304305 | 25 x 3.53    | WAL611016 | M10 x 35             | WAL021801 |
| BO-FK 6000- 3/4-25 x 3.0     | 20 x 1       | WAL304307 | 25 x 3.53    | WAL611016 | M10 x 35             | WAL021801 |
| BO-FK 6000- 3/4-25 x 4.0     | 18 x 1       | WAL304306 | 25 x 3.53    | WAL611016 | M10 x 35             | WAL021801 |
| BO-FK 6000-1 -25 x 2.5       | 20 x 1       | WAL304307 | 32.92 x 3.53 | WAL610404 | M12 x 45             | WAL613633 |
| BO-FK 6000-1 -25 x 3.0       | 20 x 1       | WAL304307 | 32.92 x 3.53 | WAL610404 | M12 x 45             | WAL613633 |
| BO-FK 6000-1 -25 x 4.0       | 18 x 1       | WAL304306 | 32.92 x 3.53 | WAL610404 | M12 x 45             | WAL613633 |
| BO-FK 6000-1 -30 x 4.0       | 23 x 1       | WAL304310 | 32.92 x 3.53 | WAL610404 | M12 x 45             | WAL613633 |
| BO-FK 6000-1 -30 x 5.0       | 23 x 1       | WAL304310 | 32.92 x 3.53 | WAL610404 | M12 x 45             | WAL613633 |
| BO-FK 6000-1 -34 x 4.5       | 28 x 1       | WAL304273 | 32.92 x 3.53 | WAL610404 | M12 x 45             | WAL613633 |
| BO-FK 6000-1 -38 x 5.0       | 32 x 1.78    | WAL261131 | 32.92 x 3.53 | WAL610404 | M12 x 45             | WAL613633 |
| BO-FK 6000-1 1/4-30 x 5.0    | 23 x 1       | WAL304310 | 37.69 x 3.53 | WAL610405 | M14 x 55             | WAL613634 |
| BO-FK 6000-1 1/4-38 x 4.0    | 32 x 1.78    | WAL261131 | 37.69 x 3.53 | WAL610405 | M14 x 55             | WAL613634 |
| BO-FK 6000-1 1/4-38 x 5.0    | 32 x 1.78    | WAL261131 | 37.69 x 3.53 | WAL610405 | M14 x 55             | WAL613634 |
| BO-FK 6000-1 1/4-38 x 6.0    | 32 x 1.78    | WAL261131 | 37.69 x 3.53 | WAL610405 | M14 x 55             | WAL613634 |
| BO-FK 6000-1 1/4-43 x 5.5    | 32 x 1.78    | WAL261131 | 37.69 x 3.53 | WAL610405 | M14 x 55             | WAL613634 |
| BO-FK 6000-1 1/2-38 x 5.0    | 32 x 1.78    | WAL261131 | 47.22 x 3.53 | WAL611425 | M16 x 60             | WAL614454 |
| BO-FK 6000-1 1/2-38 x 6.0    | 32 x 1.78    | WAL261131 | 47.22 x 3.53 | WAL611425 | M16 x 60             | WAL614454 |
| BO-FK 6000-1 1/2-50 x 5.0    | 44.17 x 1.78 | WAL611929 | 47.22 x 3.53 | WAL611425 | M16 x 60             | WAL614454 |
| BO-FK 6000-1 1/2-50 x 6.0    | 37.82 x 1.78 | WAL612739 | 47.22 x 3.53 | WAL611425 | M16 x 60             | WAL614454 |
| BO-FK 6000-1 1/2-50 x 8.0    | 37.82 x 1.78 | WAL612739 | 47.22 x 3.53 | WAL611425 | M16 x 60             | WAL614454 |
| BO-FK 6000-2 x 6.0           | 50.52 x 1.78 | WAL612147 | 56.74 x 3.53 | WAL612145 | M20 x 60             | WAL613636 |
| BO-FK 6000-2-60 /60.3 x 8.0  | 44.17 x 1.78 | WAL611929 | 56.74 x 3.53 | WAL612145 | M20 x 60             | WAL613636 |
| BO-FK 6000-2-60 /60.3 x 10.0 | 44.17 x 1.78 | WAL611929 | 56.74 x 3.53 | WAL612145 | M20 x 60             | WAL613636 |

**BO-FGK 6000 ...**

- Flange counterpart assembly

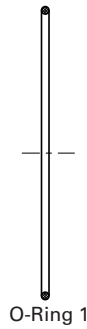


|            |                   |                                      |      |      |       |     |       |     |      |    |      |     | Flange BO-FGK 6000 |
|------------|-------------------|--------------------------------------|------|------|-------|-----|-------|-----|------|----|------|-----|--------------------|
| SAE flange | PB**<br>bar (psi) | Model                                | A    | B*   | C     | D   | E     | F   | G    | H  | J    | M   | Art. no.           |
| 1/2        | 420<br>(6000)     | <b>BO-FGK 6000- 1/2-16 x 2.5</b>     | 16   | 17   | 18.24 | 48  | 40.49 | 56  | 9    | 13 | 30   | M8  | <b>WAL614913</b>   |
|            |                   | <b>BO-FGK 6000- 1/2-16 x 3.0</b>     | 16   | 17   | 18.24 | 48  | 40.49 | 56  | 8    | 13 | 30   | M8  | <b>WAL614914</b>   |
|            |                   | <b>BO-FGK 6000- 1/2-20 x 2.5</b>     | 16   | 17   | 18.24 | 48  | 40.49 | 56  | 13   |    | 30   | M8  | <b>WAL614915</b>   |
|            |                   | <b>BO-FGK 6000- 1/2-20 x 3.0</b>     | 16   | 17   | 18.24 | 48  | 40.49 | 56  | 12   | 13 | 30   | M8  | <b>WAL614916</b>   |
|            |                   | <b>BO-FGK 6000- 1/2-20 x 3.5</b>     | 16   | 17   | 18.24 | 48  | 40.49 | 56  | 11   | 13 | 30   | M8  | <b>WAL614917</b>   |
| 3/4        | 420<br>(6000)     | <b>BO-FGK 6000- 3/4-20 x 2.5</b>     | 19   | 20   | 23.8  | 60  | 50.8  | 71  | 13   | 19 | 38   | M10 | <b>WAL614918</b>   |
|            |                   | <b>BO-FGK 6000- 3/4-20 x 3.0</b>     | 19   | 20   | 23.8  | 60  | 50.8  | 71  | 12   | 19 | 38   | M10 | <b>WAL614919</b>   |
|            |                   | <b>BO-FGK 6000- 3/4-20 x 3.5</b>     | 19   | 20   | 23.8  | 60  | 50.8  | 71  | 11   | 19 | 38   | M10 | <b>WAL614920</b>   |
|            |                   | <b>BO-FGK 6000- 3/4-20 x 4.0</b>     | 19   | 20   | 23.8  | 60  | 50.8  | 71  | 10   | 19 | 38   | M10 | <b>WAL614921</b>   |
|            |                   | <b>BO-FGK 6000- 3/4-25 x 3.0</b>     | 19   | 20   | 23.8  | 60  | 50.8  | 71  | 17   | 19 | 38   | M10 | <b>WAL614922</b>   |
| 1          | 420<br>(6000)     | <b>BO-FGK 6000- 3/4-25 x 4.0</b>     | 19   | 20   | 23.8  | 60  | 50.8  | 71  | 15   | 19 | 38   | M10 | <b>WAL614923</b>   |
|            |                   | <b>BO-FGK 6000-1 -25 x 2.5</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 18   | 25 | 44.5 | M12 | <b>WAL614924</b>   |
|            |                   | <b>BO-FGK 6000-1 -25 x 3.0</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 17   | 25 | 44.5 | M12 | <b>WAL614925</b>   |
|            |                   | <b>BO-FGK 6000-1 -25 x 4.0</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 15   | 25 | 44.5 | M12 | <b>WAL614926</b>   |
|            |                   | <b>BO-FGK 6000-1 -30 x 4.0</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 20   | 25 | 44.5 | M12 | <b>WAL614927</b>   |
| 1 1/4      | 420<br>(6000)     | <b>BO-FGK 6000-1 -30 x 5.0</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 18   | 25 | 44.5 | M12 | <b>WAL614928</b>   |
|            |                   | <b>BO-FGK 6000-1 -34 x 4.5</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 23   | 25 | 44.5 | M12 | <b>WAL614929</b>   |
|            |                   | <b>BO-FGK 6000-1 -38 x 5.0</b>       | 24.5 | 25.5 | 27.76 | 70  | 57.15 | 81  | 26   |    | 44.5 | M12 | <b>WAL614930</b>   |
|            |                   | <b>BO-FGK 6000-1 1/4-30 x 5.0</b>    | 30   | 31   | 31.75 | 78  | 66.68 | 95  | 18   | 32 | 50.8 | M14 | <b>WAL614931</b>   |
|            |                   | <b>BO-FGK 6000-1 1/4-38 x 4.0</b>    | 30   | 31   | 31.75 | 78  | 66.68 | 95  | 28   | 32 | 50.8 | M14 | <b>WAL614932</b>   |
| 1 1/2      | 420<br>(6000)     | <b>BO-FGK 6000-1 1/4-38 x 5.0</b>    | 30   | 31   | 31.75 | 78  | 66.68 | 95  | 26   | 32 | 50.8 | M14 | <b>WAL614933</b>   |
|            |                   | <b>BO-FGK 6000-1 1/4-38 x 6.0</b>    | 30   | 31   | 31.75 | 78  | 66.68 | 95  | 24   | 32 | 50.8 | M14 | <b>WAL614934</b>   |
|            |                   | <b>BO-FGK 6000-1 1/4-43 x 5.5</b>    | 30   | 31   | 31.75 | 78  | 66.68 | 95  | 30   | 32 | 50.8 | M14 | <b>WAL614935</b>   |
|            |                   | <b>BO-FGK 6000-1 1/2-38 x 5.0</b>    | 32   | 33   | 36.5  | 96  | 79.38 | 113 | 26   | 38 | 60   | M16 | <b>WAL614936</b>   |
|            |                   | <b>BO-FGK 6000-1 1/2-38 x 6.0</b>    | 32   | 33   | 36.5  | 96  | 79.38 | 113 | 24   | 38 | 60   | M16 | <b>WAL614937</b>   |
| 2          | 420<br>(6000)     | <b>BO-FGK 6000-1 1/2-50 x 5.0</b>    | 32   | 33   | 36.5  | 96  | 79.38 | 113 | 37.4 |    | 60   | M16 | <b>WAL614938</b>   |
|            |                   | <b>BO-FGK 6000-1 1/2-50 x 6.0</b>    | 32   | 33   | 36.5  | 96  | 79.38 | 113 | 35.4 | 38 | 60   | M16 | <b>WAL614939</b>   |
|            |                   | <b>BO-FGK 6000-1 1/2-50 x 8.0</b>    | 32   | 33   | 36.5  | 96  | 79.38 | 113 | 31.4 | 38 | 60   | M16 | <b>WAL614940</b>   |
|            |                   | <b>BO-FGK 6000-2 x 6.0</b>           | 32   | 33   | 44.45 | 114 | 96.82 | 134 | 45.4 | 51 | 71.3 | M20 | <b>WAL614941</b>   |
|            |                   | <b>BO-FGK 6000-2-60 /60.3 x 8.0</b>  | 32   | 33   | 44.45 | 114 | 96.82 | 134 | 41.4 | 51 | 71.3 | M20 | <b>WAL614942</b>   |
|            |                   | <b>BO-FGK 6000-2-60 /60.3 x 10.0</b> | 32   | 33   | 44.45 | 114 | 96.82 | 134 | 37.4 | 51 | 71.3 | M20 | <b>WAL614943</b>   |

\*B = approximate dimension if the hexagon socket screws are tightened

\*\*with a safety factor of 2.5

## Spare parts



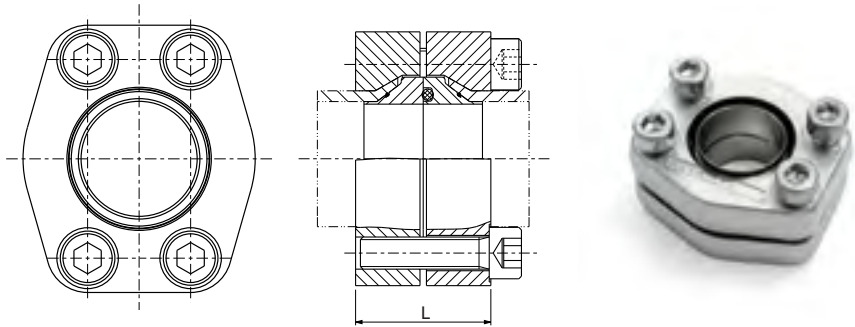
O-Ring 1

O-ring 1

| Model                         | Dimensions   | Art. no.  |
|-------------------------------|--------------|-----------|
| BO-FGK 6000- 1/2-16 x 2.5     | 12,5 x 1     | WAL374756 |
| BO-FGK 6000- 1/2-16 x 3.0     | 11 x 1       | WAL374750 |
| BO-FGK 6000- 1/2-20 x 2.5     | 16 x 1       | WAL261058 |
| BO-FGK 6000- 1/2-20 x 3.0     | 15 x 1       | WAL304305 |
| BO-FGK 6000- 1/2-20 x 3.5     | 15 x 1       | WAL304305 |
| BO-FGK 6000- 3/4-20 x 2.5     | 16 x 1       | WAL261058 |
| BO-FGK 6000- 3/4-20 x 3.0     | 15 x 1       | WAL304305 |
| BO-FGK 6000- 3/4-20 x 3.5     | 15 x 1       | WAL304305 |
| BO-FGK 6000- 3/4-20 x 4.0     | 15 x 1       | WAL304305 |
| BO-FGK 6000- 3/4-25 x 3.0     | 20 x 1       | WAL304307 |
| BO-FGK 6000- 3/4-25 x 4.0     | 18 x 1       | WAL304306 |
| BO-FGK 6000-1 -25 x 2.5       | 20 x 1       | WAL304307 |
| BO-FGK 6000-1 -25 x 3.0       | 20 x 1       | WAL304307 |
| BO-FGK 6000-1 -25 x 4.0       | 18 x 1       | WAL304306 |
| BO-FGK 6000-1 -30 x 4.0       | 23 x 1       | WAL304310 |
| BO-FGK 6000-1 -30 x 5.0       | 23 x 1       | WAL304310 |
| BO-FGK 6000-1 -34 x 4.5       | 28 x 1       | WAL304273 |
| BO-FGK 6000-1 -38 x 5.0       | 32 x 1.78    | WAL261131 |
| BO-FGK 6000-1 1/4-30 x 5.0    | 23 x 1       | WAL304310 |
| BO-FGK 6000-1 1/4-38 x 4.0    | 32 x 1.78    | WAL261131 |
| BO-FGK 6000-1 1/4-38 x 5.0    | 32 x 1.78    | WAL261131 |
| BO-FGK 6000-1 1/4-38 x 6.0    | 32 x 1.78    | WAL261131 |
| BO-FGK 6000-1 1/4-43 x 5.5    | 32 x 1.78    | WAL261131 |
| BO-FGK 6000-1 1/2-38 x 5.0    | 32 x 1.78    | WAL261131 |
| BO-FGK 6000-1 1/2-38 x 6.0    | 32 x 1.78    | WAL261131 |
| BO-FGK 6000-1 1/2-50 x 5.0    | 44.17 x 1.78 | WAL611929 |
| BO-FGK 6000-1 1/2-50 x 6.0    | 37.82 x 1.78 | WAL612739 |
| BO-FGK 6000-1 1/2-50 x 8.0    | 37.82 x 1.78 | WAL612739 |
| BO-FGK 6000-2 x 6.0           | 50.52 x 1.78 | WAL612147 |
| BO-FGK 6000-2-60 /60.3 x 8.0  | 44.17 x 1.78 | WAL611929 |
| BO-FGK 6000-2-60 /60.3 x 10.0 | 44.17 x 1.78 | WAL612147 |

## BO-FVK 6000

Flange connector assembly



| Flange BO-FVK 6000 |                   |    |                                      |                  |
|--------------------|-------------------|----|--------------------------------------|------------------|
| SAE flange         | PB**<br>bar (psi) | L* | Model                                | Art. no.         |
| 1/2                | 420<br>(6000)     | 34 | <b>BO-FVK 6000- 1/2-16 x 2.5</b>     | <b>WAL613735</b> |
|                    |                   | 34 | <b>BO-FVK 6000- 1/2-16 x 3.0</b>     | <b>WAL613736</b> |
|                    |                   | 34 | <b>BO-FVK 6000- 1/2-20 x 2.5</b>     | <b>WAL613737</b> |
|                    |                   | 34 | <b>BO-FVK 6000- 1/2-20 x 3.0</b>     | <b>WAL613738</b> |
|                    |                   | 34 | <b>BO-FVK 6000- 1/2-20 x 3.5</b>     | <b>WAL613739</b> |
| 3/4                | 420<br>(6000)     | 40 | <b>BO-FVK 6000- 3/4-20 x 2.5</b>     | <b>WAL613740</b> |
|                    |                   | 40 | <b>BO-FVK 6000- 3/4-20 x 3.0</b>     | <b>WAL613741</b> |
|                    |                   | 40 | <b>BO-FVK 6000- 3/4-20 x 3.5</b>     | <b>WAL613742</b> |
|                    |                   | 40 | <b>BO-FVK 6000- 3/4-20 x 4.0</b>     | <b>WAL613743</b> |
|                    |                   | 40 | <b>BO-FVK 6000- 3/4-25 x 3.0</b>     | <b>WAL613744</b> |
|                    |                   | 40 | <b>BO-FVK 6000- 3/4-25 x 4.0</b>     | <b>WAL613745</b> |
| 1                  | 420<br>(6000)     | 51 | <b>BO-FVK 6000-1 -25 x 2.5</b>       | <b>WAL613746</b> |
|                    |                   | 51 | <b>BO-FVK 6000-1 -25 x 3.0</b>       | <b>WAL613747</b> |
|                    |                   | 51 | <b>BO-FVK 6000-1 -25 x 4.0</b>       | <b>WAL613748</b> |
|                    |                   | 51 | <b>BO-FVK 6000-1 -30 x 4.0</b>       | <b>WAL613749</b> |
|                    |                   | 51 | <b>BO-FVK 6000-1 -30 x 5.0</b>       | <b>WAL613750</b> |
|                    |                   | 51 | <b>BO-FVK 6000-1 -34 x 4.5</b>       | <b>WAL613751</b> |
|                    |                   | 51 | <b>BO-FVK 6000-1 -38 x 5.0</b>       | <b>WAL613752</b> |
| 1 1/4              | 420<br>(6000)     | 62 | <b>BO-FVK 6000-1 1/4-30 x 5.0</b>    | <b>WAL614777</b> |
|                    |                   | 62 | <b>BO-FVK 6000-1 1/4-38 x 4.0</b>    | <b>WAL613753</b> |
|                    |                   | 62 | <b>BO-FVK 6000-1 1/4-38 x 5.0</b>    | <b>WAL613754</b> |
|                    |                   | 62 | <b>BO-FVK 6000-1 1/4-38 x 6.0</b>    | <b>WAL613755</b> |
|                    |                   | 62 | <b>BO-FVK 6000-1 1/4-43 x 5.5</b>    | <b>WAL613756</b> |
| 1 1/2              | 420<br>(6000)     | 66 | <b>BO-FVK 6000-1 1/2-38 x 5.0</b>    | <b>WAL613757</b> |
|                    |                   | 66 | <b>BO-FVK 6000-1 1/2-38 x 6.0</b>    | <b>WAL613758</b> |
|                    |                   | 66 | <b>BO-FVK 6000-1 1/2-50 x 5.0</b>    | <b>WAL613759</b> |
|                    |                   | 66 | <b>BO-FVK 6000-1 1/2-50 x 6.0</b>    | <b>WAL613760</b> |
|                    |                   | 66 | <b>BO-FVK 6000-1 1/2-50 x 8.0</b>    | <b>WAL613761</b> |
| 2                  | 420<br>(6000)     | 66 | <b>BO-FVK 6000-2 x 6.0</b>           | <b>WAL613762</b> |
|                    |                   | 66 | <b>BO-FVK 6000-2-60 /60.3 x 8.0</b>  | <b>WAL613767</b> |
|                    |                   | 66 | <b>BO-FVK 6000-2-60 /60.3 x 10.0</b> | <b>WAL613768</b> |

\*B = approximate dimension if the hexagon socket screws are tightened

\*\*with a safety factor of 2.5





J

**Blanking plugs, blanking ends, tube inserts, welding nipples, O-rings**



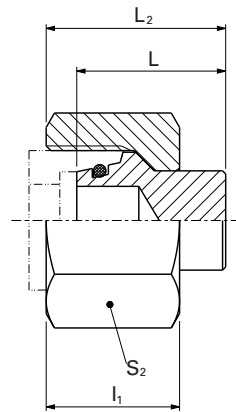


|  | Figure Fitting  | Figure Stud   | Model           | Page      |
|--|---|---|-----------------|-----------|
| System nuts with blanking plug / blanking plug |  |  | VSD-M / VSD ... | J3 / J4   |
| System nuts with blanking end / blanking end   |   |  | P-VSK / VSK ... | J5 / J6   |
| Blanking ends                                  |   |  | VS-R ... -WD    | J7        |
|  |   |   | VS-M ... -WD    | J8        |
|  |   |   | VS- ... M-OR    | J9        |
| Tube inserts                                   |   |  | EH ...          | J11       |
| Welding nipples                                |   |  | SN              | J12       |
| O-rings  |   |   |                 | J13 - J17 |

**VSD-M...**

**VSD-M ... -1.4571**

- with taper and O-ring
- with soft seal made from NBR\* (e.g. Perbunan) for steel
- with soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)



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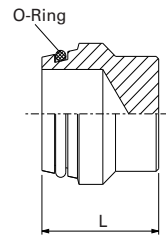
|        |              |                        |                        |                        |            |      |                |                |                  |                  |                  | System nuts with blanking plug<br>VSD-M ... | System nuts with blanking plug<br>Stainless steel (1.4571)<br>VSD-M ... -1.4571 |
|--------|--------------|------------------------|------------------------|------------------------|------------|------|----------------|----------------|------------------|------------------|------------------|---|---|
| Series | PN bar (psi) | Tube outer diameter    | M                      | Model                  | kg/100 pc. | L    | I <sub>1</sub> | L <sub>2</sub> | S <sub>2</sub>   | O-ring           | Art. no.         | Art. no.                                    |   |
| LL     | 100 (1450)   | 4                      | M12 x 1.5              | <b>VSD-M 4 LL A4GS</b> | 1.1        | 13.5 | 11             | 15.36          | 10               | 3 x 1            | <b>WAL626561</b> | <b>WAL626580</b>                            |   |
|        |              | 6                      | M14 x 1.5              | <b>VSD-M 6 LL A4GS</b> | 1.8        | 15   | 11.5           | 15.86          | 12               | 5 x 1            | <b>WAL626562</b> | <b>WAL626581</b>                            |   |
|        |              | 8                      | M16 x 1.5              | <b>VSD-M 8 LL A4GS</b> | 2.6        | 15   | 12             | 16.36          | 14               | 7 x 1            | <b>WAL626563</b> | <b>WAL626582</b>                            |   |
| L      | 800 (11603)  | 6                      | M12 x 1.5              | <b>VSD-M 6 L A4GS</b>  | 1.9        | 17   | 14.5           | 17.4           | 14               | 4.5 x 1.5        | <b>WAL626564</b> | <b>WAL626583</b>                            |   |
|        |              | 8                      | M14 x 1.5              | <b>VSD-M 8 L A4GS</b>  | 2.7        | 17   | 14.5           | 17.4           | 17               | 6 x 1.5          | <b>WAL626565</b> | <b>WAL626584</b>                            |   |
|        |              | 10                     | M16 x 1.5              | <b>VSD-M 10 L A4GS</b> | 3.6        | 20   | 15.5           | 20.9           | 19               | 8.5 x 1.5        | <b>WAL626566</b> | <b>WAL626585</b>                            |   |
|        | 630 (9137)   | 12                     | M18 x 1.5              | <b>VSD-M 12 L A4GS</b> | 4.5        | 21   | 15.5           | 22.9           | 22               | 10 x 1.5         | <b>WAL626558</b> | <b>WAL626586</b>                            |   |
|        | 400 (5801)   | 15                     | M22 x 1.5              | <b>VSD-M 15 L A4GS</b> | 6.3        | 20   | 17             | 22.4           | 27               | 12 x 2           | <b>WAL626567</b> | <b>WAL626587</b>                            |   |
|        | 18           | M26 x 1.5              | <b>VSD-M 18 L A4GS</b> | 9.0                    | 21         | 18   | 23.4           | 32             | 15 x 2           | <b>WAL626568</b> | <b>WAL626588</b> |   |   |
| S      | 250 (3626)   | 22                     | M30 x 2                | <b>VSD-M 22 L A4GS</b> | 12.8       | 23   | 20             | 24.9           | 36               | 20 x 2           | <b>WAL626569</b> | <b>WAL626589</b>                            |   |
|        |              | 28                     | M36 x 2                | <b>VSD-M 28 L A4GS</b> | 17.6       | 23   | 21             | 26.1           | 41               | 26 x 2           | <b>WAL626559</b> | <b>WAL626590</b>                            |   |
|        |              | 35                     | M45 x 2                | <b>VSD-M 35 L A4GS</b> | 30.0       | 29   | 24             | 31.3           | 50               | 32 x 2           | <b>WAL626570</b> | <b>WAL626591</b>                            |   |
|        | 42           | M52 x 2                | <b>VSD-M 42 L A4GS</b> | 43.6                   | 30         | 24   | 30.9           | 60             | 38 x 2.5         | <b>WAL626571</b> | <b>WAL626592</b> |   |   |
|        | 800 (11603)  | 6                      | M14 x 1.5              | <b>VSD-M 6 S A4GS</b>  | 2.5        | 17   | 16.5           | 19.4           | 17               | 4.5 x 1.5        | <b>WAL626572</b> | <b>WAL626593</b>                            |   |
|        | 8            | M16 x 1.5              | <b>VSD-M 8 S A4GS</b>  | 3.0                    | 17         | 16.5 | 19.4           | 19             | 6 x 1.5          | <b>WAL626573</b> | <b>WAL626594</b> |   |   |
| S      | 630 (9137)   | 10                     | M18 x 1.5              | <b>VSD-M 10 S A4GS</b> | 4.6        | 20   | 17.5           | 21.9           | 22               | 8.5 x 1.5        | <b>WAL626574</b> | <b>WAL626595</b>                            |   |
|        |              | 12                     | M20 x 1.5              | <b>VSD-M 12 S A4GS</b> | 5.5        | 21   | 17.5           | 23.9           | 24               | 10 x 1.5         | <b>WAL626545</b> | <b>WAL626596</b>                            |   |
|        |              | 14                     | M22 x 1.5              | <b>VSD-M 14 S A4GS</b> | 7.3        | 23   | 20.5           | 26.9           | 27               | 12 x 2           | <b>WAL626575</b> | <b>WAL626597</b>                            |   |
|        | 16           | M24 x 1.5              | <b>VSD-M 16 S A4GS</b> | 9.2                    | 24         | 20.5 | 28.9           | 30             | 14 x 2           | <b>WAL626546</b> | <b>WAL626598</b> |   |   |
|        | 20           | M30 x 2                | <b>VSD-M 20 S A4GS</b> | 14.5                   | 28         | 24   | 31.0           | 36             | 17.3 x 2.4       | <b>WAL626576</b> | <b>WAL626599</b> |   |   |
|        | 420 (6091)   | 25                     | M36 x 2                | <b>VSD-M 25 S A4GS</b> | 29.7       | 31   | 27             | 35.7           | 46               | 22.3 x 2.4       | <b>WAL626577</b> | <b>WAL626600</b>                            |   |
| 30     | M42 x 2      | <b>VSD-M 30 S A4GS</b> | 35.7                   | 34                     | 29         | 39.7 | 50             | 27.3 x 2.4     | <b>WAL626578</b> | <b>WAL626601</b> |                  |   |   |
| 38     | M52 x 2      | <b>VSD-M 38 S A4GS</b> | 51.5                   | 38                     | 32.5       | 45.5 | 60             | 35 x 2.5       | <b>WAL626579</b> | <b>WAL626602</b> |                  |   |   |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*For FPM (e.g. Viton) see price list / available on request

VSD...

VSD... -1.4571



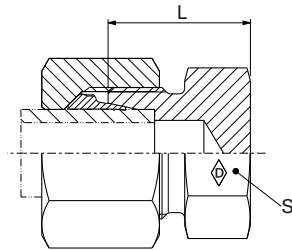
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Blanking plugs  
Stainless steel (1.4571)  
VSD ... -1.4571

| Series | PN bar (psi) | Tube outer diameter | Model            | Art. no.  | Art. no.  |
|--------|--------------|---------------------|------------------|-----------|-----------|
| LL     | 100 (1450)   | 4                   | VSD 4 LL M.MB.   | WAL612327 | WAL618772 |
|        |              | 6                   | VSD 6 LL M.MB.   | WAL612328 | WAL618773 |
|        |              | 8                   | VSD 8 LL M.MB.   | WAL612329 | WAL618774 |
| L      | 800 (11603)  | 6                   | VSD 6 L/S M.MB.  | WAL612330 | WAL618775 |
|        |              | 8                   | VSD 8 L/S M.MB.  | WAL612331 | WAL618776 |
|        |              | 10                  | VSD 10 L/S M.MB. | WAL612332 | WAL618777 |
|        | 630 (9137)   | 12                  | VSD 12 L/S M.MB. | WAL612333 | WAL618778 |
|        |              | 15                  | VSD 15 L M.MB.   | WAL612334 | WAL618779 |
|        | 400 (5801)   | 18                  | VSD 18 L M.MB.   | WAL612335 | WAL618780 |
|        |              | 22                  | VSD 22 L M.MB.   | WAL612336 | WAL618781 |
|        |              | 28                  | VSD 28 L M.MB.   | WAL612337 | WAL618782 |
|        |              | 35                  | VSD 35 L M.MB.   | WAL612338 | WAL618783 |
|        |              | 42                  | VSD 42 L M.MB.   | WAL612339 | WAL618784 |
| S      | 800 (11603)  | 6                   | VSD 6 L/S M.MB.  | WAL612330 | WAL618775 |
|        |              | 8                   | VSD 8 L/S M.MB.  | WAL612331 | WAL618776 |
|        |              | 10                  | VSD 10 L/S M.MB. | WAL612332 | WAL618777 |
|        | 630 (9137)   | 12                  | VSD 12 L/S M.MB. | WAL612333 | WAL618778 |
|        |              | 14                  | VSD 14 S M.MB.   | WAL612340 | WAL618785 |
|        | 420 (6091)   | 16                  | VSD 16 S M.MB.   | WAL612341 | WAL618786 |
|        |              | 20                  | VSD 20 S M.MB.   | WAL612342 | WAL618787 |
|        |              | 25                  | VSD 25 S M.MB.   | WAL612343 | WAL618788 |
|        |              | 30                  | VSD 30 S M.MB.   | WAL612344 | WAL618789 |
|        |              | 38                  | VSD 38 S M.MB.   | WAL612345 | WAL618790 |

**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

**P-VSK ...**

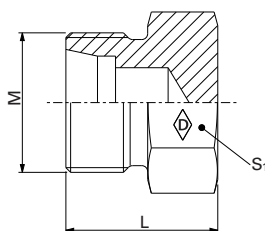


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Blanking ends  
P-VSK...

| Series | PN bar (psi) | Tube outer diameter | M          | Model             | kg/100 pc. | L  | S <sub>1</sub> |                  |
|--------|--------------|---------------------|------------|-------------------|------------|----|----------------|------------------|
| L      | 500 (7252)   | 6                   | M 12 x 1.5 | <b>P-VSK 6 L</b>  | 2.5        | 17 | 14             | <b>WAL608941</b> |
|        |              | 8                   | M 14 x 1.5 | <b>P-VSK 8 L</b>  | 4.1        | 17 | 17             | <b>WAL608942</b> |
|        |              | 10                  | M 16 x 1.5 | <b>P-VSK 10 L</b> | 5.1        | 20 | 17             | <b>WAL608943</b> |
|        |              | 12                  | M 18 x 1.5 | <b>P-VSK 12 L</b> | 6.4        | 21 | 19             | <b>WAL608944</b> |
|        | 400 (5801)   | 15                  | M 22 x 1.5 | <b>P-VSK 15 L</b> | 10.5       | 20 | 24             | <b>WAL608945</b> |
|        |              | 18                  | M 26 x 1.5 | <b>P-VSK 18 L</b> | 14.8       | 21 | 27             | <b>WAL608946</b> |
|        | 250 (3626)   | 22                  | M 30 x 2   | <b>P-VSK 22 L</b> | 20.4       | 23 | 32             | <b>WAL608947</b> |
|        |              | 28                  | M 36 x 2   | <b>P-VSK 28 L</b> | 30.2       | 23 | 41             | <b>WAL608948</b> |
|        |              | 35                  | M 45 x 2   | <b>P-VSK 35 L</b> | 44.5       | 29 | 46             | <b>WAL608949</b> |
|        |              | 42                  | M 52 x 2   | <b>P-VSK 42 L</b> | 68.7       | 30 | 55             | <b>WAL608950</b> |
| S      | 800 (11603)  | 6                   | M 14 x 1.5 | <b>P-VSK 6 S</b>  | 3.6        | 17 | 17             | <b>WAL608951</b> |
|        |              | 8                   | M 16 x 1.5 | <b>P-VSK 8 S</b>  | 4.5        | 17 | 17             | <b>WAL608952</b> |
|        |              | 10                  | M 18 x 1.5 | <b>P-VSK 10 S</b> | 6.9        | 20 | 19             | <b>WAL608953</b> |
|        |              | 12                  | M 20 x 1.5 | <b>P-VSK 12 S</b> | 9.3        | 21 | 22             | <b>WAL608954</b> |
|        | 630 (9137)   | 14                  | M 22 x 1.5 | <b>P-VSK 14 S</b> | 11.8       | 23 | 24             | <b>WAL608955</b> |
|        |              | 16                  | M 24 x 1.5 | <b>P-VSK 16 S</b> | 14.5       | 24 | 27             | <b>WAL608956</b> |
|        | 420 (6091)   | 20                  | M 30 x 2   | <b>P-VSK 20 S</b> | 23.7       | 28 | 32             | <b>WAL608957</b> |
|        |              | 25                  | M 36 x 2   | <b>P-VSK 25 S</b> | 43.9       | 31 | 41             | <b>WAL608958</b> |
|        |              | 30                  | M 42 x 2   | <b>P-VSK 30 S</b> | 53.8       | 34 | 46             | <b>WAL608959</b> |
|        |              | 38                  | M 52 x 2   | <b>P-VSK 38 S</b> | 83.8       | 38 | 55             | <b>WAL608960</b> |

VSK ...



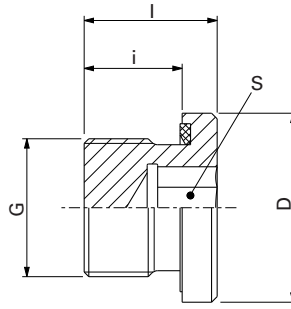
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|        |                   |                     |                 |                | Blanking ends<br>VSK... |
|--------|-------------------|---------------------|-----------------|----------------|-------------------------|
| Series | PN<br>(bar) (psi) | Tube outer diameter | Model           | kg/<br>100 pc. | Art. no.                |
| L      | 500 (7252)        | 6                   | <b>VSK 6 L</b>  | 1.4            | <b>WAL609765</b>        |
|        |                   | 8                   | <b>VSK 8 L</b>  | 2.4            | <b>WAL609766</b>        |
|        |                   | 10                  | <b>VSK 10 L</b> | 2.7            | <b>WAL372285</b>        |
|        | 400 (5801)        | 12                  | <b>VSK 12 L</b> | 3.4            | <b>WAL063311</b>        |
|        |                   | 15                  | <b>VSK 15 L</b> | 5.9            | <b>WAL609767</b>        |
|        |                   | 18                  | <b>VSK 18 L</b> | 8.1            | <b>WAL061866</b>        |
|        |                   | 22                  | <b>VSK 22 L</b> | 11.5           | <b>WAL609768</b>        |
|        |                   | 28                  | <b>VSK 28 L</b> | 20.5           | <b>WAL609769</b>        |
|        | 250 (3626)        | 35                  | <b>VSK 35 L</b> | 29.2           | <b>WAL609770</b>        |
|        |                   | 42                  | <b>VSK 42 L</b> | 44.9           | <b>WAL609771</b>        |
| S      | 800 (11603)       | 6                   | <b>VSK 6 S</b>  | 1.9            | <b>WAL609772</b>        |
|        |                   | 8                   | <b>VSK 8 S</b>  | 2.5            | <b>WAL609773</b>        |
|        |                   | 10                  | <b>VSK 10 S</b> | 3.5            | <b>WAL371395</b>        |
|        | 630 (9137)        | 12                  | <b>VSK 12 S</b> | 5.3            | <b>WAL024051</b>        |
|        |                   | 14                  | <b>VSK 14 S</b> | 6.2            | <b>WAL609774</b>        |
|        |                   | 16                  | <b>VSK 16 S</b> | 7.8            | <b>WAL063859</b>        |
|        |                   | 20                  | <b>VSK 20 S</b> | 13.1           | <b>WAL063400</b>        |
|        | 420 (6091)        | 25                  | <b>VSK 25 S</b> | 22.9           | <b>WAL063312</b>        |
|        |                   | 30                  | <b>VSK 30 S</b> | 30.2           | <b>WAL602420</b>        |
|        |                   | 38                  | <b>VSK 38 S</b> | 50.2           | <b>WAL609775</b>        |

**VS-R ... -WD**

**VS-R ... -WD-1.4571**

- with hexagon socket
- with soft seal made from NBR\* (e.g. Perbunan) for steel
- with soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)
- Inch studs type E to DIN EN ISO 1179-2



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| PN<br>bar (psi) | DIN - ISO 228 (R...,<br>DIN 259) | Model                        | kg/<br>100 pc. | D  | L    | i  | S  | O-ring    | Blanking ends    | Blanking ends                                   |
|-----------------|----------------------------------|------------------------------|----------------|----|------|----|----|-----------|------------------|---|
|                 |                                  |                              |                |    |      |    |    |           | VS-R ... -WD     | Stainless steel (1.4571)<br>VS-R ... -WD-1.4571 |
|                 |                                  |                              |                |    |      |    |    |           | Art. no.         | Art. no.  |
| 400 (5801)      | G 1/8 A                          | <b>VS-R 1/8 -WD</b>          | 0.6            | 14 | 12   | 8  | 5  | 3 x 1     | <b>WAL036856</b> | <b>WAL602800</b>                                |
|                 | G 1/4 A                          | <b>VS-R 1/4 -WD</b>          | 1.4            | 19 | 17   | 12 | 6  | 5 x 1     | <b>WAL036858</b> | <b>WAL374787</b>                                |
|                 | G 3/8 A                          | <b>VS-R 3/8 -WD</b>          | 2.1            | 22 | 17   | 12 | 8  | 7 x 1     | <b>WAL036860</b> | <b>WAL374841</b>                                |
|                 | G 1/2 A                          | <b>VS-R 1/2 -WD</b>          | 4.0            | 27 | 19   | 14 | 10 | 4.5 x 1.5 | <b>WAL036862</b> | <b>WAL372597</b>                                |
|                 | G 3/4 A                          | <b>VS-R 3/4 -WD</b>          | 7.5            | 32 | 21   | 16 | 12 | 6 x 1.5   | <b>WAL036864</b> | <b>WAL602802</b>                                |
|                 | G 1 A                            | <b>VS-R 1 -WD</b>            | 11.8           | 40 | 22.5 | 16 | 17 | 8.5 x 1.5 | <b>WAL036866</b> | <b>WAL374498</b>                                |
| 250 (3626)      | G 1 1/4 A                        | <b>VS-R 1 1/4 -WD</b>        | 18.6           | 50 | 22.5 | 16 | 22 | 10 x 1.5  | <b>WAL036868</b> | <b>WAL371504</b>                                |
|                 | G 1 1/2 A                        | <b>VS-R 1 1/2 -WD</b>        | 24.7           | 55 | 22.5 | 16 | 24 | 12 x 2    | <b>WAL036870</b> | <b>WAL609394</b>                                |
| 400 (5801)      | G 1 1/4 A                        | <b>VS-R 1 1/4 -WD/PN 400</b> | 28.3           | 50 | 28   | 20 | 22 | 15 x 2    | <b>WAL372905</b> |   |
|                 | G 1 1/2 A                        | <b>VS-R 1 1/2 -WD/PN 400</b> | 39.2           | 55 | 30   | 22 | 24 | 20 x 2    | <b>WAL372989</b> |   |

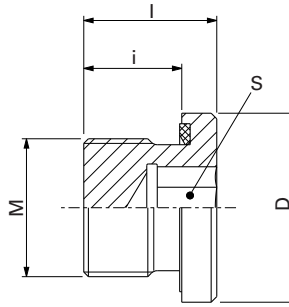
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.

\*For FPM (e.g. Viton) see price list / available on request

**VS-M ... -WD**

**VS-M ... -WD-1.4571**

- with hexagon socket
- with soft seal made from NBR\* (e.g. Perbunan) for steel
- with soft seal made from FKM (e.g. Viton) for stainless steel (1.4571)
- Metric stud type E to DIN EN ISO 9974-2



| PN<br>bar (psi) | M          | Model                         | kg/<br>100 pc. | D  | l    | i  | S  | Blanking ends<br>VS-M ... -WD | Blanking ends<br>Stainless steel (1.4571)<br>VS-M ... -WD-1.4571 |
|-----------------|------------|-------------------------------|----------------|----|------|----|----|-------------------------------|--|
|                 |            |                               |                |    |      |    |    | Art. no.                      | Art. no.   |
| 400 (5801)      | M 10 x 1   | <b>VS-M 10 x 1 -WD</b>        | 0.6            | 14 | 12   | 8  | 5  | <b>WAL028302</b>              | <b>WAL605040</b>   |
|                 | M 12 x 1.5 | <b>VS-M 12 x 1.5 -WD</b>      | 1.1            | 17 | 17   | 12 | 6  | <b>WAL028303</b>              | <b>WAL605042</b>   |
|                 | M 14 x 1.5 | <b>VS-M 14 x 1.5 -WD</b>      | 1.5            | 19 | 17   | 12 | 6  | <b>WAL028304</b>              | <b>WAL374724</b>   |
|                 | M 16 x 1.5 | <b>VS-M 16 x 1.5 -WD</b>      | 1.8            | 22 | 17   | 12 | 8  | <b>WAL028305</b>              | <b>WAL605044</b>   |
|                 | M 18 x 1.5 | <b>VS-M 18 x 1.5 -WD</b>      | 2.8            | 24 | 17   | 12 | 8  | <b>WAL029844</b>              | <b>WAL604532</b>   |
|                 | M 20 x 1.5 | <b>VS-M 20 x 1.5 -WD</b>      | 3.6            | 26 | 19   | 14 | 10 | <b>WAL028306</b>              | <b>WAL609395</b>   |
|                 | M 22 x 1.5 | <b>VS-M 22 x 1.5 -WD</b>      | 4.6            | 27 | 19   | 14 | 10 | <b>WAL028307</b>              | <b>WAL374725</b>   |
|                 | M 26 x 1.5 | <b>VS-M 26 x 1.5 -WD</b>      | 7.2            | 32 | 21   | 16 | 12 | <b>WAL028308</b>              | <b>WAL617296</b>   |
|                 | M 27 x 2   | <b>VS-M 27 x 2 -WD</b>        | 7.5            | 32 | 21   | 16 | 12 | <b>WAL028309</b>              | <b>WAL605284</b>   |
| 250 (3626)      | M 33 x 2   | <b>VS-M 33 x 2 -WD</b>        | 11.8           | 40 | 22.5 | 16 | 17 | <b>WAL028310</b>              | <b>WAL605143</b>   |
|                 | M 42 x 2   | <b>VS-M 42 x 2 -WD</b>        | 18.6           | 50 | 22.5 | 16 | 22 | <b>WAL028311</b>              | <b>WAL617297</b>   |
| 400 (5801)      | M 48 x 2   | <b>VS-M 48 x 2 -WD</b>        | 24.7           | 55 | 22.5 | 16 | 24 | <b>WAL028312</b>              | <b>WAL617298</b>   |
|                 | M 42 x 2   | <b>VS-M 42 x 2 -WD/PN 400</b> | 28.3           | 50 | 28   | 20 | 22 | <b>WAL608445</b>              |  |
|                 | M 48 x 2   | <b>VS-M 48 x 2 -WD/PN 400</b> | 39.2           | 55 | 30   | 22 | 24 | <b>WAL608446</b>              |  |

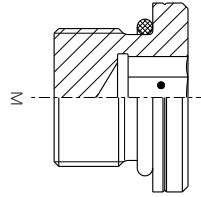
**⚠ Caution:** The pressure specifications refer to the steel version. For the stainless steel version (1.4571), please refer to the pressure specifications on page B5.  
 \*For FPM (e.g. Viton) see price list / available on request

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## Blanking ends

### VS- ... M - OR (ISO 6149)

- with hexagon socket and O-ring made from NBR\* (e.g. Perbunan)
- Metric stud with O-ring to DIN EN ISO 6149-2 and -3



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|                 |           |                         |                |    |      |      |    |            |                  | Blanking ends<br>VS- ... M-OR |
|-----------------|-----------|-------------------------|----------------|----|------|------|----|------------|------------------|-------------------------------|
| PN<br>bar (psi) | M         | Model                   | kg/<br>100 pc. | D  | l    | i    | S  | O-ring     | Art. no.         |                               |
| 420 (5801)      | M10 x 1.5 | <b>VS-M 10 x 1 -OR</b>  | 0.8            | 14 | 13.5 | 9.5  | 5  | 8.1 x 1.6  | <b>WAL625557</b> |                               |
|                 | M12 x 1.5 | <b>VS-M 12 x 1.5-OR</b> | 1.4            | 17 | 15.5 | 11   | 6  | 9.3 x 2.2  | <b>WAL625558</b> |                               |
| 630 (9137)      | M14 x 1.5 | <b>VS-M 14 x 1.5-OR</b> | 2.0            | 19 | 16   | 11   | 6  | 11.3 x 2.2 | <b>WAL625559</b> |                               |
|                 | M16 x 1.5 | <b>VS-M 16 x 1.5-OR</b> | 2.6            | 22 | 17.5 | 12.5 | 8  | 13.3 x 2.2 | <b>WAL625560</b> |                               |
|                 | M18 x 1.5 | <b>VS-M 18 x 1.5-OR</b> | 3.7            | 24 | 19   | 14   | 8  | 15.3 x 2.2 | <b>WAL625561</b> |                               |
|                 | M22 x 1.5 | <b>VS-M 22 x 1.5-OR</b> | 5.8            | 27 | 20   | 15   | 10 | 17.3 x 2.2 | <b>WAL625562</b> |                               |
| 400 (5801)      | M 27 x 2  | <b>VS-M 27 x 2 -OR</b>  | 9.5            | 32 | 23.5 | 18.5 | 12 | 19.3 x 2.2 | <b>WAL625563</b> |                               |
|                 | M 33 x 2  | <b>VS-M 33 x 2 -OR</b>  | 14.2           | 41 | 24.5 | 18.5 | 14 | 23.6 x 2.9 | <b>WAL625564</b> |                               |
| 250 (3626)      | M 42 x 2  | <b>VS-M 42 x 2 -OR</b>  | 22.9           | 50 | 25   | 19   | 17 | 38.6 x 2.9 | <b>WAL625565</b> |                               |
|                 | M 48 x 2  | <b>VS-M 48 x 2 -OR</b>  | 32.8           | 55 | 27.5 | 21.5 | 17 | 44.6 x 2.9 | <b>WAL625566</b> |                               |

\*For FPM (e.g. Viton) see price list / available on request



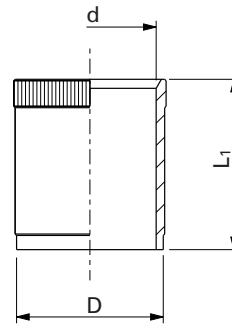


## Tube inserts

### EH ...

#### EH ... -1.4571

· Material: Brass Cu Zn 39 Pb (Ms 58)

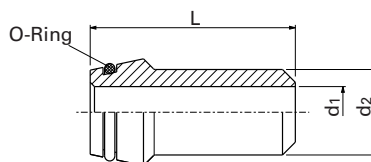


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|         |           |                |      |      |                |           | Tube inserts<br>EH ... | Tube inserts<br>Stainless steel (1.4571)<br>EH ... -1.4571 |
|---------|-----------|----------------|------|------|----------------|-----------|------------------------|--|
| Tube ID | Model     | kg/<br>100 pc. | D    | d    | L <sub>1</sub> | Art. no.  | Art. no.               |  |
| 4       | EH 4 Ms   | 0.08           | 3.8  | 2.5  | 17             | WAL061879 | WAL617300              |  |
| 5       | EH 5 Ms   | 0.11           | 4.8  | 3.5  | 17             | WAL061881 | WAL374722              |  |
| 6       | EH 6 Ms   | 0.13           | 5.8  | 4.5  | 17             | WAL033406 | WAL608321              |  |
| 6.5     | EH 6,5 Ms | 0.14           | 6.3  | 5    | 17             | WAL033407 |                        |  |
| 7       | EH 7 Ms   | 0.17           | 6.8  | 5.5  | 17             | WAL033408 | WAL061199              |  |
| 8       | EH 8 Ms   | 0.22           | 7.8  | 6.5  | 17             | WAL033409 | WAL617301              |  |
| 8.5     | EH 8,5 Ms | 0.23           | 8.3  | 7    | 17             | WAL029008 |                        |  |
| 9       | EH 9 Ms   | 0.24           | 8.8  | 7.5  | 17             | WAL033410 | WAL374723              |  |
| 10      | EH 10 Ms  | 0.26           | 9.8  | 8.5  | 17             | WAL033411 | WAL060690              |  |
| 12      | EH 12 Ms  | 0.36           | 11.8 | 10.5 | 17             | WAL033412 | WAL617302              |  |
| 13      | EH 13 Ms  | 0.4            | 12.8 | 11.5 | 18             | WAL033413 | WAL617303              |  |
| 15      | EH 15 Ms  | 0.5            | 14.8 | 13   | 18             | WAL033415 | WAL615587              |  |
| 16      | EH 16 Ms  | 0.6            | 15.8 | 14   | 18             | WAL033416 | WAL604537              |  |
| 18      | EH 18 Ms  | 0.85           | 17.8 | 16   | 22             | WAL033417 | WAL617304              |  |
| 19      | EH 19 Ms  | 0.85           | 18.8 | 17   | 20             | WAL033418 | WAL615586              |  |
| 20      | EH 20 Ms  | 0.9            | 19.8 | 18   | 20             | WAL033419 | WAL617305              |  |
| 24      | EH 24 Ms  | 1.1            | 23.8 | 22   | 20             | WAL033420 | WAL617306              |  |
| 25      | EH 25 Ms  | 1.15           | 24.8 | 23   | 20             | WAL033800 | WAL617307              |  |
| 31      | EH 31 Ms  | 1.85           | 30.8 | 28   | 23             | WAL029011 | WAL617308              |  |
| 38      | EH 38 Ms  | 2.6            | 37.8 | 35   | 24             | WAL029013 | WAL617310              |  |

**SN ...**

- with O-ring made from NBR\* (e.g. Perbunan)



|                     |              |                    |            |                |      |            | Welding nipple SN... |
|---------------------|--------------|--------------------|------------|----------------|------|------------|----------------------|
| Tube outer diameter | PN bar (psi) | Model              | kg/100 pc. | d <sub>1</sub> | L    | O-ring     | Art. no.             |
| 8                   | 400 (5801)   | <b>SN 8 x 2</b>    | 1.1        | 4              | 31   | 6 x 1.5    | <b>WAL028783</b>     |
| 10                  | 315 (4569)   | <b>SN 10 x 2</b>   | 1.5        | 6              | 32.5 | 7.5 x 1.5  | <b>WAL028784</b>     |
| 12                  | 400 (5801)   | <b>SN 12 x 2.5</b> | 2.2        | 7              | 32.5 | 9 x 1.5    | <b>WAL028785</b>     |
| 16                  | 400 (5801)   | <b>SN 16 x 3</b>   | 3.9        | 10             | 38.5 | 12 x 2     | <b>WAL028788</b>     |
| 20                  | 250 (3626)   | <b>SN 20 x 3</b>   | 6.0        | 14             | 44.5 | 16.3 x 2.4 | <b>WAL028790</b>     |
|                     | 400 (5801)   | <b>SN 20 x 4</b>   | 7.4        | 12             |      |            | <b>WAL068737</b>     |
| 25                  | 250 (3626)   | <b>SN 25 x 3</b>   | 8.7        | 19             | 49.5 | 20.3 x 2.4 | <b>WAL028792</b>     |
|                     | 315 (4569)   | <b>SN 25 x 4</b>   | 10.7       | 17             |      |            | <b>WAL028793</b>     |
| 30                  | 250 (3626)   | <b>SN 30 x 4</b>   | 14.0       | 22             | 52   | 25.3 x 2.4 | <b>WAL028795</b>     |
|                     | 315 (4569)   | <b>SN 30 x 5</b>   | 16.5       | 20             |      |            | <b>WAL028796</b>     |
|                     | 400 (5801)   | <b>SN 30 x 6</b>   | 18.6       | 18             |      |            | <b>WAL604551</b>     |
| 38                  | 160 (2321)   | <b>SN 38 x 4</b>   | 20.4       | 30             | 56.5 | 33.3 x 2.4 | <b>WAL028797</b>     |
|                     | 250 (3626)   | <b>SN 38 x 5</b>   | 23.5       | 28             |      |            | <b>WAL028798</b>     |
|                     | 315 (4569)   | <b>SN 38 x 6</b>   | 27.2       | 26             |      |            | <b>WAL028799</b>     |
|                     | 400 (5801)   | <b>SN 38 x 7</b>   | 30.1       | 24             |      |            | <b>WAL604552</b>     |

\*For FPM (e.g. Viton) see price list / available on request.

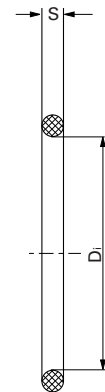
Do not fit the O-ring until after the welding process.

For stainless steel (1.4571), see price list / available on request

## O-rings

### O-rings

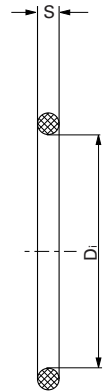
|       |                          |   |         |                                    |   |
|-------|--------------------------|---|---------|------------------------------------|---|
| BO-ZR | Intermediate flare ring  | A | RSWV    | Banjo bolt                         | G |
| SN    | Welding nipple           | B | UNF; UN | Thread                             | H |
| DK    | Taper                    | C | BO-FK   | Complete flared flange             | I |
| VSD   | Blanking plug with taper | D | BO-FGK  | Complete flared flange counterpart | K |
| GFV   | Straight flange fitting  | E | SNV     | Straight fitting                   | L |
| WFV   | Elbow flange fitting     | F |         |                                    |   |



|              |                  | Application               |        |                        |           |
|--------------|------------------|---------------------------|--------|------------------------|-----------|
|              |                  | Material: NBR (Perbunan®) |        | Material: FPM (Viton®) |           |
| Di x S       | Art. no.         | 70 NBR                    | 90 NBR | 75 FPM                 | 85 FPM    |
| 3 x 1        | <b>WAL612346</b> | D                         |        |                        |           |
| 3 x 1        | <b>WAL613311</b> |                           |        |                        | D         |
| 4 x 1.5      | <b>WAL023488</b> | B                         |        |                        |           |
| 4 x 1.5      | <b>WAL023497</b> |                           |        |                        | B/C       |
| 4.4 x 0.8    | <b>WAL374746</b> | A                         |        |                        |           |
| 4.4 x 0.8    | <b>WAL374747</b> |                           |        |                        | A         |
| 4.5 x 1.5    | <b>WAL304287</b> | A/C/D/L                   |        |                        |           |
| 4.5 x 1.5    | <b>WAL304265</b> |                           |        |                        | A/C/D/L   |
| 5 x 1        | <b>WAL612347</b> | D                         |        |                        |           |
| 5 x 1        | <b>WAL613312</b> |                           |        |                        | D         |
| 6 x 0.8      | <b>WAL374737</b> | A                         |        |                        |           |
| 6 x 0.8      | <b>WAL374741</b> |                           |        |                        | A         |
| 6 x 1.5      | <b>WAL023489</b> | A/B/C/D/L                 |        |                        |           |
| 6 x 1.5      | <b>WAL023498</b> |                           |        |                        | A/B/C/D/L |
| 6.5 x 1.5    | <b>WAL605948</b> | G                         |        |                        |           |
| 6.5 x 1.5    | <b>WAL606088</b> |                           |        | G                      |           |
| 7 x 1        | <b>WAL612348</b> | D                         |        |                        |           |
| 7 x 1        | <b>WAL613313</b> |                           |        |                        | D         |
| 7.5 x 0.8    | <b>WAL374738</b> | A                         |        |                        |           |
| 7.5 x 0.8    | <b>WAL374742</b> |                           |        |                        | A         |
| 7.5 x 1.5    | <b>WAL099808</b> | B                         |        |                        |           |
| 7.5 x 1.5    | <b>WAL099803</b> |                           |        |                        | B         |
| 7.65 x 1.63  | <b>WAL099668</b> |                           | H      |                        |           |
| 8.5 x 1.5    | <b>WAL304288</b> | A/C/D/G/L                 |        |                        |           |
| 8.5 x 1.5    | <b>WAL304266</b> |                           |        |                        | A/C/D/G/L |
| 8.92 x 1.83  | <b>WAL304315</b> |                           |        |                        | H         |
| 8.92 x 1.83  | <b>WAL099669</b> |                           | H      |                        |           |
| 9 x 1.5      | <b>WAL099807</b> | B                         |        |                        |           |
| 9 x 1.5      | <b>WAL099802</b> |                           |        |                        | B         |
| 9.4 x 2.1    | <b>WAL606541</b> |                           | H      |                        |           |
| 9.5 x 0.8    | <b>WAL374739</b> | A                         |        |                        |           |
| 9.5 x 0.8    | <b>WAL374743</b> |                           |        |                        | A         |
| 10 x 1.5     | <b>WAL023491</b> | A/C/D/L                   |        |                        |           |
| 10 x 1.5     | <b>WAL023500</b> |                           |        |                        | A/C/D/L   |
| 10 x 2       | <b>WAL020765</b> | B                         |        |                        |           |
| 10 x 2       | <b>WAL099801</b> |                           |        |                        | B         |
| 10.5 x 1.5   | <b>WAL623927</b> | C/D/L                     |        |                        |           |
| 10.52 x 1.83 | <b>WAL613166</b> |                           |        |                        | H         |

**O-rings**

|       |                          |   |         |                                    |   |
|-------|--------------------------|---|---------|------------------------------------|---|
| BO-ZR | Intermediate flare ring  | A | RSWV    | Banjo bolt                         | G |
| SN    | Welding nipple           | B | UNF; UN | Thread                             | H |
| DK    | Taper                    | C | BO-FK   | Complete flared flange             | I |
| VSD   | Blanking plug with taper | D | BO-FGK  | Complete flared flange counterpart | K |
| GFV   | Straight flange fitting  | E | SNV     | Straight fitting                   | L |
| WFV   | Elbow flange fitting     | F |         |                                    |   |



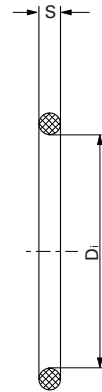
|              |                  | Application               |        |                        |         |
|--------------|------------------|---------------------------|--------|------------------------|---------|
|              |                  | Material: NBR (Perbunan®) |        | Material: FPM (Viton®) |         |
| Di x S       | Art. no.         | 70 NBR                    | 90 NBR | 75 FPM                 | 85 FPM  |
| 10.52 x 1.83 | <b>WAL099670</b> |                           | H      |                        |         |
| 11 x 1       | <b>WAL374750</b> | A/I/K                     |        |                        |         |
| 11 x 1       | <b>WAL374754</b> |                           |        |                        | A       |
| 11 x 2       | <b>WAL023492</b> | G                         |        |                        |         |
| 11 x 2       | <b>WAL606090</b> |                           |        | G                      |         |
| 11.3 x 2.2   | <b>WAL609916</b> |                           | H      |                        |         |
| 11.4 x 2.1   | <b>WAL615165</b> |                           |        |                        | H       |
| 11.4 x 2.1   | <b>WAL606542</b> |                           | H      |                        |         |
| 11.9 x 1.98  | <b>WAL609705</b> |                           |        |                        | H       |
| 11.9 x 1.98  | <b>WAL099671</b> |                           | H      |                        |         |
| 12 x 2       | <b>WAL020766</b> | A/B/C/D                   |        |                        |         |
| 12 x 2       | <b>WAL099800</b> |                           |        |                        | A/B/C/D |
| 12.5 x 0.8   | <b>WAL374740</b> | A                         |        |                        |         |
| 12.5 x 0.8   | <b>WAL374744</b> |                           |        |                        | A       |
| 12.5 x 1     | <b>WAL374756</b> | A/I/K                     |        |                        |         |
| 12.5 x 1     | <b>WAL374757</b> |                           |        |                        | A/I     |
| 13 x 1.5     | <b>WAL304289</b> | A                         |        |                        |         |
| 13 x 1.5     | <b>WAL304267</b> |                           |        |                        | A       |
| 13.4 x 2.1   | <b>WAL606543</b> |                           | H      |                        |         |
| 14 x 1.78    | <b>WAL023589</b> | F                         |        |                        |         |
| 14 x 2       | <b>WAL021629</b> | A/C/D/L                   |        |                        |         |
| 14 x 2       | <b>WAL099795</b> |                           |        |                        | A/C/D/L |
| 14.5 x 2     | <b>WAL605949</b> | G                         |        |                        |         |
| 14.5 x 2     | <b>WAL606091</b> |                           |        | G                      |         |
| 15 x 1       | <b>WAL304305</b> | A/I/K                     |        |                        |         |
| 15 x 1       | <b>WAL374434</b> |                           |        |                        | A/I     |
| 15 x 2       | <b>WAL612804</b> | C/D/L                     |        |                        |         |
| 15 x 2       | <b>WAL609682</b> |                           |        |                        | C/D     |
| 15.3 x 2.2   | <b>WAL611603</b> |                           | H      |                        |         |
| 15.4 x 2.1   | <b>WAL606544</b> |                           | H      |                        |         |
| 16 x 1       | <b>WAL261058</b> | A/I/K                     |        |                        |         |
| 16 x 1       | <b>WAL374435</b> |                           |        |                        | A/I     |
| 16 x 1.5     | <b>WAL304290</b> | A                         |        |                        |         |
| 16 x 1.5     | <b>WAL304268</b> |                           |        |                        | A       |
| 16 x 2.5     | <b>WAL020767</b> | F                         |        |                        |         |
| 16.3 x 2.4   | <b>WAL023605</b> | B                         |        |                        |         |
| 16.3 x 2.4   | <b>WAL099799</b> |                           |        |                        | B/I     |
| 16.36 x 2.2  | <b>WAL304318</b> |                           |        |                        | H       |

**J**

## O-rings

### O-rings

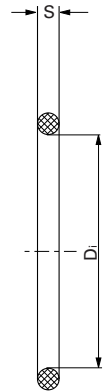
|       |                          |   |         |                                    |   |
|-------|--------------------------|---|---------|------------------------------------|---|
| BO-ZR | Intermediate flare ring  | A | RSWV    | Banjo bolt                         | G |
| SN    | Welding nipple           | B | UNF; UN | Thread                             | H |
| DK    | Taper                    | C | BO-FK   | Complete flared flange             | I |
| VSD   | Blanking plug with taper | D | BO-FGK  | Complete flared flange counterpart | K |
| GFV   | Straight flange fitting  | E | SNV     | Straight fitting                   | L |
| WFV   | Elbow flange fitting     | F |         |                                    |   |



|              |                  | Application               |        |                        |         |
|--------------|------------------|---------------------------|--------|------------------------|---------|
|              |                  | Material: NBR (Perbunan®) |        | Material: FPM (Viton®) |         |
| Di x S       | Art. no.         | 70 NBR                    | 90 NBR | 75 FPM                 | 85 FPM  |
| 16.36 x 2.2  | <b>WAL099672</b> |                           | H      |                        |         |
| 16.5 x 2     | <b>WAL605950</b> | G                         |        |                        |         |
| 16.5 x 2     | <b>WAL606092</b> |                           |        | G                      |         |
| 17 x 1       | <b>WAL608804</b> | A                         |        |                        |         |
| 17.3 x 2.4   | <b>WAL261067</b> | A/C/L                     |        |                        |         |
| 17.3 x 2.4   | <b>WAL304269</b> |                           |        |                        | A/C/D/L |
| 17.4 x 2.1   | <b>WAL606597</b> |                           | H      |                        |         |
| 18 x 1       | <b>WAL304306</b> | A/I/K                     |        |                        |         |
| 18 x 1       | <b>WAL304407</b> |                           |        |                        | A/I     |
| 18 x 2.5     | <b>WAL099794</b> |                           |        |                        | E/F     |
| 18.64 x 3.53 | <b>WAL613769</b> | I                         |        |                        |         |
| 18.64 x 3.53 | <b>WAL614080</b> |                           |        |                        | I       |
| 19.18 x 2.46 | <b>WAL304319</b> |                           |        |                        | H       |
| 19.18 x 2.46 | <b>WAL099636</b> |                           | H      |                        |         |
| 19.4 x 2.1   | <b>WAL606545</b> |                           | H      |                        |         |
| 19.5 x 2     | <b>WAL605951</b> | G                         |        |                        |         |
| 19.5 x 2     | <b>WAL606093</b> |                           |        | G                      |         |
| 20 x 1       | <b>WAL304307</b> | A/I/K                     |        |                        |         |
| 20 x 1       | <b>WAL304402</b> |                           |        |                        | A/I     |
| 20 x 2       | <b>WAL261082</b> | A/C/D/L                   |        |                        |         |
| 20 x 2       | <b>WAL304166</b> |                           |        |                        | A/C/D/L |
| 20 x 2.5     | <b>WAL610519</b> | E/F                       |        |                        |         |
| 20 x 2.5     | <b>WAL612474</b> |                           |        |                        | F       |
| 20.3 x 2.4   | <b>WAL023626</b> | B                         |        |                        |         |
| 20.3 x 2.4   | <b>WAL099798</b> |                           |        |                        | B       |
| 22.3 x 2.4   | <b>WAL261093</b> | A/C/D/L                   |        |                        |         |
| 22.3 x 2.4   | <b>WAL304270</b> |                           |        |                        | A/C/D/L |
| 22.7 x 2.8   | <b>WAL607383</b> |                           | H      |                        |         |
| 23 x 1       | <b>WAL304310</b> | A/I/K                     |        |                        |         |
| 23 x 1       | <b>WAL304409</b> |                           |        |                        | A/I     |
| 23.47 x 2.95 | <b>WAL304320</b> |                           |        |                        | H       |
| 23.47 x 2.95 | <b>WAL099637</b> |                           | H      |                        |         |
| 23.7 x 2.8   | <b>WAL612489</b> |                           | H      |                        |         |
| 24 x 2.5     | <b>WAL099793</b> |                           |        |                        | F       |
| 25 x 1       | <b>WAL374751</b> | A                         |        |                        |         |
| 25 x 1       | <b>WAL374755</b> |                           |        |                        | A       |
| 25 x 3.5     | <b>WAL614081</b> |                           |        |                        | I       |
| 25 x 3.53    | <b>WAL611016</b> | I                         |        |                        |         |

**O-rings**

|       |                          |   |         |                                    |   |
|-------|--------------------------|---|---------|------------------------------------|---|
| BO-ZR | Intermediate flare ring  | A | RSWV    | Banjo bolt                         | G |
| SN    | Welding nipple           | B | UNF; UN | Thread                             | H |
| DK    | Taper                    | C | BO-FK   | Complete flared flange             | I |
| VSD   | Blanking plug with taper | D | BO-FGK  | Complete flared flange counterpart | K |
| GFV   | Straight flange fitting  | E | SNV     | Straight fitting                   | L |
| WFV   | Elbow flange fitting     | F |         |                                    |   |



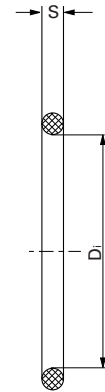
|               |                  | Application               |        |                        |         |
|---------------|------------------|---------------------------|--------|------------------------|---------|
|               |                  | Material: NBR (Perbunan®) |        | Material: FPM (Viton®) |         |
| Di x S        | Art. no.         | 70 NBR                    | 90 NBR | 75 FPM                 | 85 FPM  |
| 25.3 x 2.4    | <b>WAL099806</b> | B/F                       |        |                        |         |
| 25.3 x 2.4    | <b>WAL099797</b> |                           |        |                        | B/I     |
| 26 x 1.5      | <b>WAL605952</b> | G                         |        |                        |         |
| 26 x 1.5      | <b>WAL606094</b> |                           |        | G                      |         |
| 26 x 2        | <b>WAL261108</b> | A/B/C/D/L                 |        |                        |         |
| 26 x 2        | <b>WAL304167</b> |                           |        |                        | A/C/D/L |
| 26 x 2.5      | <b>WAL610499</b> | E/F                       |        |                        |         |
| 26 x 2.5      | <b>WAL612930</b> |                           |        |                        | F       |
| 27 x 1        | <b>WAL608805</b> | A                         |        |                        |         |
| 27.3 x 2.4    | <b>WAL304293</b> | A/C/D/L                   |        |                        |         |
| 27.3 x 2.4    | <b>WAL304271</b> |                           |        |                        | C/D/L   |
| 28 x 1        | <b>WAL304273</b> | I/K                       |        |                        |         |
| 28 x 1        | <b>WAL612832</b> |                           |        |                        | I       |
| 29.74 x 2.95  | <b>WAL304322</b> |                           |        |                        | H       |
| 29.74 x 2.95  | <b>WAL099639</b> |                           | H      |                        |         |
| 29.828 x 2.62 | <b>WAL614724</b> |                           |        |                        | I       |
| 30 x 1        | <b>WAL374748</b> | A                         |        |                        |         |
| 30 x 1        | <b>WAL374752</b> |                           |        |                        | A       |
| 31 x 2        | <b>WAL250258</b> | G                         |        |                        |         |
| 31 x 2        | <b>WAL606095</b> |                           |        | G                      |         |
| 32 x 1.78     | <b>WAL261131</b> | A/I/K                     |        |                        |         |
| 32 x 1.78     | <b>WAL374745</b> |                           |        |                        | A/I     |
| 32 x 2.5      | <b>WAL020775</b> | A/C/D/L                   |        |                        |         |
| 32 x 2.5      | <b>WAL304168</b> |                           |        |                        | A/C/D/L |
| 32.92 x 3.53  | <b>WAL610404</b> | I                         |        |                        |         |
| 32.92 x 3.53  | <b>WAL614082</b> |                           |        |                        | I       |
| 33 x 2.5      | <b>WAL610500</b> | E/F                       |        |                        |         |
| 33.3 x 2.4    | <b>WAL023683</b> | B                         |        |                        |         |
| 33.3 x 2.4    | <b>WAL099796</b> |                           |        |                        | B       |
| 34.5 x 2.65   | <b>WAL614725</b> |                           |        |                        | I       |
| 35 x 2.5      | <b>WAL261138</b> | A/C/D/L                   |        |                        |         |
| 35 x 2.5      | <b>WAL304272</b> |                           |        |                        | C/D/L   |
| 37 x 1        | <b>WAL374749</b> | A/I/K                     |        |                        |         |
| 37 x 1        | <b>WAL374753</b> |                           |        |                        | A/I     |
| 37.46 x 3     | <b>WAL304323</b> |                           |        |                        | H       |
| 37.46 x 3     | <b>WAL099640</b> |                           | H      |                        |         |
| 37.69 x 3.53  | <b>WAL610405</b> | E/F/I                     |        |                        |         |
| 37.69 x 3.53  | <b>WAL614083</b> |                           |        |                        | I       |

**J**

## O-rings

### O-rings

|       |                          |   |         |                                    |   |
|-------|--------------------------|---|---------|------------------------------------|---|
| BO-ZR | Intermediate flare ring  | A | RSWV    | Banjo bolt                         | G |
| SN    | Welding nipple           | B | UNF; UN | Thread                             | H |
| DK    | Taper                    | C | BO-FK   | Complete flared flange             | I |
| VSD   | Blanking plug with taper | D | BO-FGK  | Complete flared flange counterpart | K |
| GFV   | Straight flange fitting  | E | SNV     | Straight fitting                   | L |
| WFV   | Elbow flange fitting     | F |         |                                    |   |



J

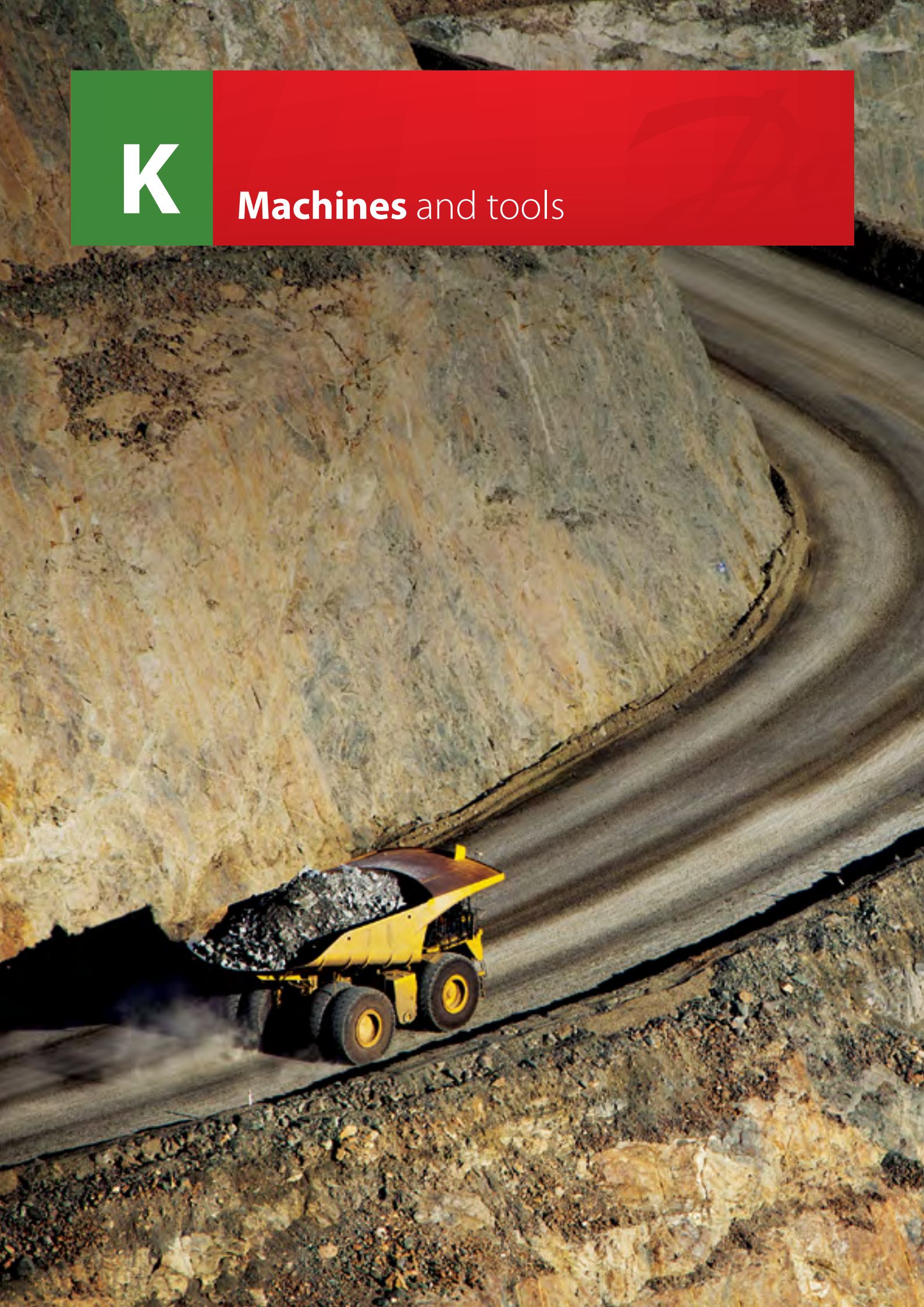
|               |                  | Application               |        |                        |        |
|---------------|------------------|---------------------------|--------|------------------------|--------|
|               |                  | Material: NBR (Perbunan®) |        | Material: FPM (Viton®) |        |
| Di x S        | Art. no.         | 70 NBR                    | 90 NBR | 75 FPM                 | 85 FPM |
| 37.82 x 1.78  | <b>WAL612739</b> | I/K                       |        |                        |        |
| 37.82 x 1.78  | <b>WAL614076</b> |                           |        |                        | I      |
| 38 x 2.5      | <b>WAL099804</b> | A/C/D/L                   |        |                        |        |
| 38 x 2.5      | <b>WAL099791</b> |                           |        |                        | C/D/L  |
| 40 x 2        | <b>WAL261157</b> | G                         |        |                        |        |
| 40 x 2        | <b>WAL606096</b> |                           |        | G                      |        |
| 43.69 x 3     | <b>WAL099641</b> |                           | H      |                        |        |
| 44.17 x 1.78  | <b>WAL611929</b> | I/K                       |        |                        |        |
| 44.17 x 1.78  | <b>WAL614077</b> |                           |        |                        | I/K    |
| 46 x 2        | <b>WAL605953</b> | G                         |        |                        |        |
| 46 x 2        | <b>WAL606097</b> |                           |        | G                      |        |
| 47.22 x 3.53  | <b>WAL611425</b> | I                         |        |                        |        |
| 47.22 x 3.53  | <b>WAL614084</b> |                           |        |                        | I      |
| 50.52 x 1.78  | <b>WAL612147</b> | I/K                       |        |                        |        |
| 50.52 x 1.78  | <b>WAL614078</b> |                           |        |                        | I      |
| 53.67 x 1.78  | <b>WAL614079</b> |                           |        |                        | I/K    |
| 53.7 x 1.78   | <b>WAL612146</b> | I/K                       |        |                        |        |
| 56.52 x 5.33  | <b>WAL614138</b> |                           |        |                        | I      |
| 56.74 x 3.53  | <b>WAL612145</b> | I                         |        |                        |        |
| 56.74 x 3.53  | <b>WAL614085</b> |                           |        |                        | I      |
| 56.82 x 2.62  | <b>WAL614386</b> | I/K                       |        |                        |        |
| 64.77 x 2.62  | <b>WAL614385</b> | I/K                       |        |                        |        |
| 64.77 x 2.62  | <b>WAL614424</b> |                           |        |                        | I      |
| 69.22 x 5.33  | <b>WAL614139</b> |                           |        |                        | I      |
| 69.44 x 3.53  | <b>WAL614389</b> | I                         |        |                        |        |
| 69.44 x 3.53  | <b>WAL614419</b> |                           |        |                        | I      |
| 69.52 x 2.62  | <b>WAL614384</b> | I/K                       |        |                        |        |
| 69.52 x 2.62  | <b>WAL614423</b> |                           |        |                        | I/K    |
| 82.22 x 2.62  | <b>WAL614387</b> | I/K                       |        |                        |        |
| 82.22 x 2.62  | <b>WAL614426</b> |                           |        |                        | I/K    |
| 85.32 x 3.53  | <b>WAL614390</b> | I                         |        |                        |        |
| 85.32 x 3.53  | <b>WAL614420</b> |                           |        |                        | I      |
| 88.27 x 5.33  | <b>WAL614140</b> |                           |        |                        | I      |
| 98.02 x 3.53  | <b>WAL614391</b> | I                         |        |                        |        |
| 98.02 x 3.53  | <b>WAL614421</b> |                           |        |                        | I      |
| 110.49 x 5.33 | <b>WAL614141</b> |                           |        |                        | I      |
| 110.72 x 3.53 | <b>WAL614392</b> | I                         |        |                        |        |
| 110.72 x 3.53 | <b>WAL614422</b> |                           |        |                        | I      |





**K**

**Machines** and tools



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| Machines and tools - overview .....                                    | 3  |
| Cutting-ring assembly using the M-R7 assembly machine .....            | 5  |
| Cutting-ring assembly using the MHH-R manual pre-assembly device ..... | 7  |
| Cutting-ring assembly using the manual pre-assembly adapter .....      | 8  |
| M-WF385 <i>plus</i> WalformPlus machine .....                          | 9  |
| WalformPlus tools for steel .....                                      | 10 |
| WalformPlus tools for stainless steel (1.4571) .....                   | 11 |
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| M-WF385X/BO WalformPlus / flaring machine .....                        | 13 |
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| Tube bending tools .....   | 16 |
| Replacement tools for machine type MEG-R .....                         | 17 |
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### Special machine assembly

Fast and reliable assembly is crucial for tube-fitting systems. Yet the results may vary due to human error during the assembly process.

To ensure superior performance, the best solution is to automate the cutting-ring assembly and tube reshaping process. For this reason, we have developed tailor-made assembly machines to optimize the assembly of Waltech systems, based on our many years of experience in the field and our holistic approach to in-house value creation, from design to production.

### In-house machine design and production

Based on decades of experience, we develop and produce our assembly machines at our factory in Lohmar, Germany. Our specialized machine design and production department monitors this process throughout - from the design and prototyping phase all the way to testing and optimization.

Over the years, we have incorporated extensive customer feedback into our design process, from large OEM customers that require maximum reliability and low cycle times, to small distributors looking for a high degree of flexibility and a wide range of options.

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Today, we manufacture up to 80 machines each year and offer many options for the servicing and maintenance of older machines. We pride ourselves on manufacturing all our tools in-house, which guarantees stable machine performance and a long service life. In addition, we also offer a large number of machines for rent, to support customer projects and to provide replacements in the event of maintenance.



**Machines**

**M-WF385Xplus**



**Tools**

**Clamping jaws for WalformPlus**



Reshaping adapter with internal support



**M-R7**



**Backing plate**



Complete GE adapter



**K**

**M-WF385X/BO**



**Clamping jaws for flared tube fittings**



Flare fitting and mandrel with mechanically resistant coating



Cutting-ring assembly using the M-R7 assembly machine

## The innovative M-R7 cutting-ring final assembly machine

The new M-R7 machine is designed for the controlled final assembly of our Walpro and Walring systems.

It offers optimized performance and a number of other benefits, including a short tightening rotation and a reduction in the amount of force required during final assembly.



| Model | Art. no.  |
|-------|-----------|
| M-R7  | WAL627627 |



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### Key features and benefits:

- Suitable for processing 180° bent tubes with an outer diameter of R = 1.5 (previously an outer diameter of R = 6.4 x)
- For final assembly of Waltech Walpro and Walring fittings with diameters between 6 and 42 mm
- The production process is efficient and cost-effective
- The process starts automatically when the tube makes contact with the tool
- The machine can process tightly bent and short straight tubes
- Modern RFID technology is used for tool recognition and adjustment of the machining values
- Automatic pressure point detection and rotation control ensure robust, leakage-free and safe tube fittings
- Optimized error detection thanks to preprogrammed tolerance values based on statistical process control
- The assembly parameters can be exported to external devices via a USB port for integration into quality control systems
- Day counter with reset function and series counter
- Intuitive and user-friendly touch panel (7")
- Existing Waltech tools can be retrofitted with RFID technology
- Compact and lightweight tabletop device

### M-R7 technical data:

- Weight: 105 kg
- Dimensions (W x H x D): 770 x 225 x 650 mm
- Standard voltage: 400 V AC
- 3-phase
- Frequency: 50 Hz
- Circuit protection: 16 A
- Plug: CEE 16
- Power consumption: 1.8 kW

| Model  | Art. no.  |
|--|-----------|
| Adapter 1.5 m 5G2.5 400 V 32 A/11 kW to 16 A | WAL626329 |
| Adapter for 32 A networks                    |           |



- Plastic housing
- Input: 1.5 m H07RN-F 5G2.5 with CEE plug (400 V/32 A/5-pole)
- Output: 1 x CEE socket (400 V/16 A/5-pole) with hinged cover
- Circuit protection: 1 circuit breaker, C 16 A, 3-pole, resettable, 400 V/32 A/max. 11 kW

**GE adapter ...**

Adapters for controlled final assembly of Walpro / Walpro-X fittings



**WR adapter ...**

Studs for controlled final assembly of Walring fittings



**BACKING PLATE M-R7 ...**

Backing plate for Walpro / Walpro-X / Walring



| Series | Tube outer diameter | Walpro GE adapter   |                      | Walring W-R adapter  |                            | Backing plate for M-R7       |           |
|--------|---------------------|---------------------|----------------------|----------------------|----------------------------|------------------------------|-----------|
|        |                     | Model               | Art. no.             | Model                | Art. no.                   | Model                        | Art. no.  |
| L      | 6                   | GE adapter 6L M-R7  | WAL627874            | W-R adapter 6L M-R7  | WAL627800                  | Backing plate 6L/S M-R7 KPL  | WAL627894 |
|        | 8                   | GE adapter 8L M-R7  | WAL627875            | W-R adapter 8L M-R7  | WAL627801                  | Backing plate 8L/S M-R7 KPL  | WAL627895 |
|        | 10                  | GE adapter 10L M-R7 | WAL627876            | W-R adapter 10L M-R7 | WAL627802                  | Backing plate 10L/S M-R7 KPL | WAL627896 |
|        | 12                  | GE adapter 12L M-R7 | WAL627877            | W-R adapter 12L M-R7 | WAL627803                  | Backing plate 12L/S M-R7 KPL | WAL627897 |
|        | 15                  | GE adapter 15L M-R7 | WAL627878            | W-R adapter 15L M-R7 | WAL627804                  | Backing plate 15L M-R7 KPL   | WAL627899 |
|        | 18                  | GE adapter 18L M-R7 | WAL627879            | W-R adapter 18L M-R7 | WAL627805                  | Backing plate 18L M-R7 KPL   | WAL627901 |
|        | 22                  | GE adapter 22L M-R7 | WAL627880            | W-R adapter 22L M-R7 | WAL627806                  | Backing plate 22L M-R7 KPL   | WAL627903 |
|        | 28                  | GE adapter 28L M-R7 | WAL627881            | W-R adapter 28L M-R7 | WAL627807                  | Backing plate 28L M-R7 KPL   | WAL627905 |
|        | 35                  | GE adapter 35L M-R7 | WAL627882            | W-R adapter 35L M-R7 | WAL627808                  | Backing plate 35L M-R7 KPL   | WAL627907 |
|        | 42                  | GE adapter 42L M-R7 | WAL627883            | W-R adapter 42L M-R7 | WAL627809                  | Backing plate 42L M-R7 KPL   | WAL627909 |
| S      | 6                   | GE adapter 6S M-R7  | WAL627884            | W-R adapter 6S M-R7  | WAL627810                  | Backing plate 6L/S M-R7 KPL  | WAL627894 |
|        | 8                   | GE adapter 8S M-R7  | WAL627885            | W-R adapter 8S M-R7  | WAL627811                  | Backing plate 8L/S M-R7 KPL  | WAL627895 |
|        | 10                  | GE adapter 10S M-R7 | WAL627886            | W-R adapter 10S M-R7 | WAL627812                  | Backing plate 10L/S M-R7 KPL | WAL627896 |
|        | 12                  | GE adapter 12S M-R7 | WAL627887            | W-R adapter 12S M-R7 | WAL627813                  | Backing plate 12L/S M-R7 KPL | WAL627897 |
|        | 14                  | GE adapter 14S M-R7 | WAL627888            | -                    | -                          | Backing plate 14S M-R7 KPL   | WAL627898 |
|        | 16                  | GE adapter 16S M-R7 | WAL627889            | W-R adapter 16S M-R7 | WAL627814                  | Backing plate 16S M-R7 KPL   | WAL627900 |
|        | 20                  | GE adapter 20S M-R7 | WAL627890            | W-R adapter 20S M-R7 | WAL627815                  | Backing plate 20S M-R7 KPL   | WAL627902 |
|        | 25                  | GE adapter 25S M-R7 | WAL627891            | W-R adapter 25S M-R7 | WAL627816                  | Backing plate 25S M-R7 KPL   | WAL627904 |
|        | 30                  | GE adapter 30S M-R7 | WAL627892            | W-R adapter 30S M-R7 | WAL627817                  | Backing plate 30S M-R7 KPL   | WAL627906 |
| 38     | GE adapter 38S M-R7 | WAL627893           | W-R adapter 38S M-R7 | WAL627818            | Backing plate 38S M-R7 KPL | WAL627908                    |           |

Cutting-ring assembly using the MHH-R manual pre-assembly device

## MHH-R

### Manual pre-assembly device

| Model | Art. no.  |
|-------|-----------|
| MHH-R | WAL624423 |



### Key features and benefits:

- A user-friendly and cost-effective alternative to the M-R7 machine
- The device offers a high degree of flexibility and requires no electricity
- It is easy to transport and especially suitable for use on construction sites
- Suitable for all Waltech cutting-ring systems, thanks to the easy tool change function

| MHH-R technical data:   |                    |
|-------------------------|--------------------|
| Weight:                 | 29 kg              |
| Dimensions (W x H x D): | 400 x 170 x 500 mm |

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### PRE-ASS. AD. P- ...

Pre-assembly adapter for Walpro / Walpro-X



### PRE-ASS. AD. W- ...

Pre-assembly adapter for Walring



### BACKING PLATE ...

Backing plate for Walpro / Walpro-X / Walring



| Series | Tube outer diameter | Walpro pre-assembly adapter    |           | Walring pre-assembly adapter |           | Backing plate        |           |
|--------|---------------------|--------------------------------|-----------|------------------------------|-----------|----------------------|-----------|
|        |                     | Model                          | Art. no.  | Model                        | Art. no.  | Model                | Art. no.  |
| L      | 6                   | PRE-ASSEMBLY ADAPTER P-6 L BRN | WAL028382 | PRE-ASS. AD. W-6 L-GE BRN    | WAL624550 | BACKING PLATE 6 L/S  | WAL608363 |
|        | 8                   | PRE-ASS. AD. P-8 L BRN         | WAL028383 | PRE-ASS. AD. W-8 L-GE BRN    | WAL624551 | BACKING PLATE 8 L/S  | WAL608364 |
|        | 10                  | PRE-ASS. AD. P-10 L BRN        | WAL028384 | PRE-ASS. AD. W-10 L-GE BRN   | WAL624552 | BACKING PLATE 10 L/S | WAL608365 |
|        | 12                  | PRE-ASS. AD. P-12 L BRN        | WAL028385 | PRE-ASS. AD. W-12 L-GE BRN   | WAL624553 | BACKING PLATE 12 L/S | WAL608366 |
|        | 15                  | PRE-ASS. AD. P-15 L BRN        | WAL028386 | PRE-ASS. AD. W-15 L-GE BRN   | WAL624554 | BACKING PLATE 15 L   | WAL608367 |
|        | 18                  | PRE-ASS. AD. P-18 L BRN        | WAL028387 | PRE-ASS. AD. W-18 L-GE BRN   | WAL624555 | BACKING PLATE 18 L   | WAL608368 |
|        | 22                  | PRE-ASS. AD. P-22 L BRN        | WAL028388 | PRE-ASS. AD. W-22 L-GE BRN   | WAL624556 | BACKING PLATE 22 L   | WAL608369 |
|        | 28                  | PRE-ASS. AD. P-28 L BRN        | WAL028389 | PRE-ASS. AD. W-28 L-GE BRN   | WAL624557 | BACKING PLATE 28 L   | WAL608370 |
|        | 35                  | PRE-ASS. AD. P-35 L BRN        | WAL028390 | PRE-ASS. AD. W-35 L-GE BRN   | WAL624558 | BACKING PLATE 35 L   | WAL608371 |
|        | 42                  | PRE-ASS. AD. P-42 L BRN        | WAL028391 | PRE-ASS. AD. W-42 L-GE BRN   | WAL624559 | BACKING PLATE 42 L   | WAL608372 |
| S      | 6                   | PRE-ASS. AD. P-6 S BRN         | WAL028392 | PRE-ASS. AD. W-6 S-GE BRN    | WAL624560 | BACKING PLATE 6 L/S  | WAL608363 |
|        | 8                   | PRE-ASS. AD. P-8 S BRN         | WAL028393 | PRE-ASS. AD. W-8 S-GE BRN    | WAL624561 | BACKING PLATE 8 L/S  | WAL608364 |
|        | 10                  | PRE-ASS. AD. P-10 S BRN        | WAL028394 | PRE-ASS. AD. W-10 S-GE BRN   | WAL624562 | BACKING PLATE 10 L/S | WAL608365 |
|        | 12                  | PRE-ASS. AD. P-12 S BRN        | WAL028395 | PRE-ASS. AD. W-12 S-GE BRN   | WAL624563 | BACKING PLATE 12 L/S | WAL608366 |
|        | 14                  | PRE-ASS. AD. P-14 S BRN        | WAL028396 |                              |           | BACKING PLATE 14 S   | WAL608373 |
|        | 16                  | PRE-ASS. AD. P-16 S BRN        | WAL028397 | PRE-ASS. AD. W-16 S-GE BRN   | WAL624564 | BACKING PLATE 16 S   | WAL608374 |
|        | 20                  | PRE-ASS. AD. P-20 S BRN        | WAL028398 | PRE-ASS. AD. W-20 S-GE BRN   | WAL624565 | BACKING PLATE 20 S   | WAL608375 |
|        | 25                  | PRE-ASS. AD. P-25 S BRN        | WAL028399 | PRE-ASS. AD. W-25 S-GE BRN   | WAL624566 | BACKING PLATE 25 S   | WAL608376 |
|        | 30                  | PRE-ASS. AD. P-30 S BRN        | WAL028400 | PRE-ASS. AD. W-30 S-GE BRN   | WAL624567 | BACKING PLATE 30 S   | WAL608377 |
|        | 38                  | PRE-ASS. AD. P-38 S BRN        | WAL028401 | PRE-ASS. AD. W-38 S-GE BRN   | WAL624568 | BACKING PLATE 38 S   | WAL608378 |

The pre-assembly tools listed above can also be used with the MEG-R6 assembly machine (predecessor model of the M-R7). Tools for controlled final assembly using the MEG-R6 machine can be found at the end of this chapter.



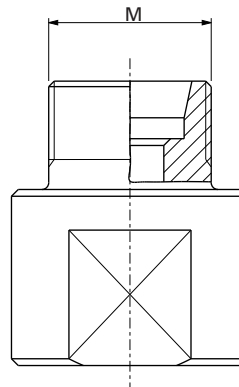
Cutting-ring assembly using the manual pre-assembly adapter

**S-VK ... / P-VK ...**

- Manual pre-assembly adapter for Walpro / Walpro-X

**W-VK ...**

- Manual pre-assembly adapter for Walring



| Series | Tube outer diameter | M          | kg/100 pc. | Walpro Manual pre-assembly adapter |           | Walring Manual pre-assembly adapter |           |
|--------|---------------------|------------|------------|------------------------------------|-----------|-------------------------------------|-----------|
|        |                     |            |            | Model                              | Art. no.  | Model                               | Art. no.  |
| LL     | 4                   | M 8 x 1    | 2.7        | S-VK 4 LL                          | WAL029250 |                                     |           |
|        | 6                   | M 10 x 1   | 2.8        | S-VK 6 LL                          | WAL029252 |                                     |           |
|        | 8                   | M 12 x 1   | 3.9        | S-VK 8 LL                          | WAL029253 |                                     |           |
| L      | 6                   | M 12 x 1.5 | 4.4        | P-VK 6 L                           | WAL029254 | W-VK 6 L                            | WAL624967 |
|        | 8                   | M 14 x 1.5 | 6.4        | P-VK 8 L                           | WAL029255 | W-VK 8 L                            | WAL624969 |
|        | 10                  | M 16 x 1.5 | 6.6        | P-VK 10 L                          | WAL029256 | W-VK 10 L                           | WAL624971 |
|        | 12                  | M 18 x 1.5 | 8.1        | P-VK 12 L                          | WAL029257 | W-VK 12 L                           | WAL624973 |
|        | 15                  | M 22 x 1.5 | 18.0       | P-VK 15 L                          | WAL029258 | W-VK 15 L                           | WAL624974 |
|        | 18                  | M 26 x 1.5 | 21.0       | P-VK 18 L                          | WAL029259 | W-VK 18 L                           | WAL624976 |
|        | 22                  | M 30 x 2   | 30.0       | P-VK 22 L                          | WAL029260 | W-VK 22 L                           | WAL624978 |
|        | 28                  | M 36 x 2   | 44.3       | P-VK 28 L                          | WAL029261 | W-VK 28 L                           | WAL624980 |
|        | 35                  | M 45 x 2   | 63.5       | P-VK 35 L                          | WAL029262 | W-VK 35 L                           | WAL624982 |
|        | 42                  | M 52 x 2   | 91.5       | P-VK 42 L                          | WAL029263 | W-VK 42 L                           | WAL624984 |
| S      | 6                   | M 14 x 1.5 | 6.5        | P-VK 6 S                           | WAL029264 | W-VK 6 S                            | WAL624966 |
|        | 8                   | M 16 x 1.5 | 6.7        | P-VK 8 S                           | WAL029265 | W-VK 8 S                            | WAL624968 |
|        | 10                  | M 18 x 1.5 | 8.2        | P-VK 10 S                          | WAL029266 | W-VK 10 S                           | WAL624970 |
|        | 12                  | M 20 x 1.5 | 18.0       | P-VK 12 S                          | WAL029267 | W-VK 12 S                           | WAL624972 |
|        | 14                  | M 22 x 1.5 | 18.2       | P-VK 14 S                          | WAL029268 |                                     |           |
|        | 16                  | M 24 x 1.5 | 18.7       | P-VK 16 S                          | WAL029269 | W-VK 16 S                           | WAL624975 |
|        | 20                  | M 30 x 2   | 29.0       | P-VK 20 S                          | WAL029270 | W-VK 20 S                           | WAL624977 |
|        | 25                  | M 36 x 2   | 43.0       | P-VK 25 S                          | WAL029271 | W-VK 25 S                           | WAL624979 |
|        | 30                  | M 42 x 2   | 62.3       | P-VK 30 S                          | WAL029272 | W-VK 30 S                           | WAL624981 |
|        | 38                  | M 52 x 2   | 94.0       | P-VK 38 S                          | WAL029273 | W-VK 38 S                           | WAL624983 |

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## Machines and tools

### Walform tube fittings

## The reliable M-WF385Xplus

### Walform machine

- The M-WF385Xplus machine has been designed for the most demanding applications and can be used for tube reshaping with the WalformPlus system (for both steel and stainless steel).



| Model        | Art. no.  |
|--------------|-----------|
| M-WF385Xplus | WAL626385 |

### Key features and benefits:

- For final assembly of Waltech WalformPlus fittings with diameters between 6 and 42 mm
- Fast cycle times ensure efficient and cost-effective production
- Time-saving and easy tool change process
- The compact dimensions and reduced weight simplify transport to the point of use
- The rugged design reduces downtime and ensures a long service life of the machine
- The ability to control the shaping pressure reduces energy consumption and prolongs service life
- More silent operation for reduced noise levels during production
- Color-coded tools help to prevent errors in the reshaping process

### M-WF385Xplus technical data:

|                         |                    |
|-------------------------|--------------------|
| Weight:                 | 280 kg             |
| Dimensions (W x H x D): | 850 x 275 x 990 mm |
| Standard voltage:       | 400 V AC*          |
| Frequency:              | 50 Hz              |
| Circuit protection:     | 16 A               |
| Power consumption:      | 2.8 kW             |

**\*230 V for part number WAL626353; 440 V and 480 V available on request**

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### Accessories and spare parts:

| Model  | Art. no.  |
|--|-----------|
| MW1 assembly trolley (complete)  | WAL626257 |
| Assembly trolley for Walform machine with drawer cabinet and removal tool holder |           |

| Model  | Art. no.  |
|--|-----------|
| MW1 basic version  | WAL626258 |
| Assembly trolley for Walform machine without drawer cabinet or removal tool holder |           |

| Model                   | Art. no.  |
|-------------------------|-----------|
| MW1 removal tool holder | WAL626261 |
| Removal tool holder     |           |

| Model   | Art. no.  |
|---|-----------|
| MW1 drawer cabinet                            | WAL626259 |
| Drawer cabinet, can be positioned as required |           |

| Model                           | Art. no.  |
|---------------------------------|-----------|
| Foot switch                     | WAL609949 |
| Foot switch for Walform machine |           |



| Model  | Art. no.  |
|--|-----------|
| Adapter 1.5 m 5G2.5 400 V 32 A/11 kW to 16 A | WAL626329 |
| Adapter for 32 A networks                    |           |



| Clamping jaws for WalformPlus and WalformPlus-SR steel fittings (E235 and E355) |           |           |           |                         |           |           |           |                         |   |
|---|-----------|-----------|-----------|-------------------------|-----------|-----------|-----------|-------------------------|---|
| Wall thickness (mm)   |           |           |           |                         |           |           |           |                         |   |
| Tube outer diameter (mm)  | 1         | 1.5       | 2         | 2.5                     | 3         | 3.5       | 4         | 5                       | 6 |
| 6   | WAL625294 | WAL615765 |           |                         |           |           |           |                         |   |
| 8   | WAL625295 |           | WAL615766 |                         |           |           |           |                         |   |
| 10  | WAL625296 |           | WAL615767 |                         |           |           |           |                         |   |
| 12  | WAL625297 |           | WAL615768 |                         |           |           |           |                         |   |
| 15  | WAL625298 |           | WAL615769 |                         |           |           |           |                         |   |
| 16 A  |           | WAL625299 |           | WAL615770               |           |           | WAL615770 |                         |   |
| 18  |           | WAL625300 |           | WAL615771               |           |           |           |                         |   |
| 20  |           |           |           | WAL615772* (WAL625814*) |           |           |           |                         |   |
| 22  |           | WAL625301 |           | WAL615773               |           |           |           |                         |   |
| 25  |           |           |           | WAL615774* (WAL625816*) |           |           |           |                         |   |
| 28  |           |           |           | WAL615775               |           |           |           |                         |   |
| 30  |           |           | WAL625302 | WAL615776               |           |           |           | WAL615776* (WAL625489*) |   |
| 35  |           |           | WAL625303 | WAL615777               |           |           |           | WAL615777               |   |
| 38  |           |           |           |                         | WAL615778 |           |           | WAL615778* (WAL625818*) |   |
| 42  |           |           | WAL625304 |                         |           | WAL615779 |           |                         |   |

\*Special clamping jaws must be used with tube material E355. See the part number in brackets.



For tube sizes where standard clamping jaws can also be used with tube material E355, please refer to the notes in chapter C.

| Reshaping adapter for WalformPlus and WalformPlus-SR steel fittings (E235 and E355) |           |           |           |           |           |           |           |           |           |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Wall thickness (mm)   |           |           |           |           |           |           |           |           |           |
| Tube outer diameter (mm)  | 1         | 1.5       | 2         | 2.5       | 3         | 3.5       | 4         | 5         | 6         |
| 6   | WAL625272 | WAL615820 |           |           |           |           |           |           |           |
| 8   | WAL625273 | WAL615821 | WAL615822 | WAL625325 |           |           |           |           |           |
| 10  | WAL625274 | WAL615823 | WAL615824 | WAL615825 | WAL615826 |           |           |           |           |
| 12  | WAL625275 | WAL615827 | WAL615830 | WAL615831 | WAL615832 |           |           |           |           |
| 15  | WAL625276 | WAL615833 | WAL615836 | WAL615839 |           |           |           |           |           |
| 16 A  |           | WAL625277 | WAL615842 | WAL615845 | WAL615848 |           | WAL615849 |           |           |
| 18  |           | WAL625278 | WAL615850 | WAL615853 | WAL615856 |           |           |           |           |
| 20  |           |           | WAL615857 | WAL615860 | WAL615863 |           | WAL615864 |           |           |
| 22  |           | WAL625279 | WAL615865 | WAL615995 | WAL615868 | WAL615869 |           |           |           |
| 25  |           |           | WAL615870 | WAL615873 | WAL615876 | WAL615877 | WAL615878 | WAL615994 |           |
| 28  |           |           | WAL615879 | WAL615882 | WAL615885 |           | WAL615888 |           |           |
| 30  |           |           | WAL625280 | WAL615889 | WAL615892 |           |           | WAL615895 | WAL615896 |
| 35  |           |           | WAL625281 | WAL624009 | WAL615897 |           | WAL615900 | WAL615901 |           |
| 38  |           |           |           |           | WAL615902 |           | WAL615905 |           | WAL615906 |
| 42  |           |           | WAL625282 |           | WAL615908 | WAL615911 | WAL615914 |           |           |

- Reshaping without internal support
- Reshaping with internal support
- Reshaping for WalformPlus-SR (for an overview of the available support rings, see chapter D)

| Model        | Art. no.  | Model         | Art. no.  | Model                           | Art. no.  | Model                                      | Art. no.  |
|--------------|-----------|---------------|-----------|---------------------------------|-----------|--|-----------|
| Removal tool | WAL617090 | Clamping jaws | See table | Reshaping with internal support | See table | Reshaping adapter without internal support | See table |



## Machines and tools

### Walform tube fittings

| Clamping jaws for WalformPlus and Walform-WD-SR stainless steel fittings (1.4571) |           |           |           |           |   |     |           |           |   |
|---|-----------|-----------|-----------|-----------|---|-----|-----------|-----------|---|
| Wall thickness (mm)   |           |           |           |           |   |     |           |           |   |
| Tube outer diameter (mm)  | 1*        | 1.5       | 2         | 2.5       | 3 | 3.5 | 4         | 5         | 6 |
| 6   | WAL610897 | WAL615765 |           |           |   |     |           |           |   |
| 8   | WAL612561 |           | WAL615766 |           |   |     |           |           |   |
| 10  | WAL612562 | WAL615767 |           |           |   |     |           |           |   |
| 12  | WAL612563 | WAL615768 |           |           |   |     |           |           |   |
| 15  |           | WAL615769 |           |           |   |     |           |           |   |
| 16 A  |           |           | WAL615770 |           |   |     |           |           |   |
| 18  |           |           | WAL615771 |           |   |     |           |           |   |
| 20  |           |           | WAL615772 |           |   |     |           |           |   |
| 22  |           |           | WAL615773 |           |   |     |           |           |   |
| 25  |           |           | WAL615774 |           |   |     | WAL615774 |           |   |
| 28  |           |           | WAL615775 |           |   |     |           |           |   |
| 30  |           |           | WAL615776 |           |   |     |           | WAL615776 |   |
| 35  |           |           |           | WAL615777 |   |     |           | WAL615777 |   |
| 38  |           |           |           | WAL615778 |   |     |           | WAL615778 |   |
| 42  |           |           |           | WAL615779 |   |     |           |           |   |

\*WF-WD-SR clamping jaw

| Reshaping adapter for WalformPlus and Walform-WD-SR stainless steel fittings (1.4571) |           |           |           |           |           |     |           |           |   |
|---|-----------|-----------|-----------|-----------|-----------|-----|-----------|-----------|---|
| Wall thickness (mm)   |           |           |           |           |           |     |           |           |   |
| Tube outer diameter (mm)  | 1*        | 1.5       | 2         | 2.5       | 3         | 3.5 | 4         | 5         | 6 |
| 6   | WAL612284 | WAL615917 |           |           |           |     |           |           |   |
| 8   | WAL612903 |           | WAL615918 |           |           |     |           |           |   |
| 10  | WAL612904 | WAL615919 | WAL625036 |           |           |     |           |           |   |
| 12  | WAL612560 | WAL615920 | WAL615921 | WAL625123 |           |     |           |           |   |
| 15  |           | WAL615922 | WAL615925 |           |           |     |           |           |   |
| 16 A  |           |           | WAL615928 | WAL615931 | WAL615934 |     |           |           |   |
| 18  |           |           | WAL615935 | WAL615938 | WAL615941 |     |           |           |   |
| 20  |           |           | WAL615942 | WAL615945 | WAL615948 |     |           |           |   |
| 22  |           |           | WAL615949 | WAL615952 | WAL615955 |     |           |           |   |
| 25  |           |           | WAL624816 | WAL615956 | WAL615959 |     | WAL615960 |           |   |
| 28  |           |           | WAL615961 | WAL615964 | WAL615967 |     |           |           |   |
| 30  |           |           |           | WAL615970 | WAL615973 |     | WAL615976 | WAL615977 |   |
| 35  |           |           |           |           | WAL615978 |     | WAL615981 | WAL615982 |   |
| 38  |           |           |           |           | WAL615983 |     | WAL615986 | WAL615989 |   |
| 42  |           |           |           |           | WAL615991 |     |           |           |   |

\*Removal tool WAL611632 must be used with the WF-WD-SR reshaping adapter.

- Reshaping without internal support
- Reshaping with internal support
- Reshaping for Walform-WD-SR (WF-WD support rings available on request)

| Model        | Art. no.  | Model         | Art. no.  | Model                           | Art. no.  | Model                                      | Art. no.  |
|--------------|-----------|---------------|-----------|---------------------------------|-----------|--|-----------|
| Removal tool | WAL617090 | Clamping jaws | See table | Reshaping with internal support | See table | Reshaping adapter without internal support | See table |



| Clamping jaws for WalformPlus-M steel (E235, E355) and stainless steel (1.4571) fittings |   |     |           |     |           |           |   |           |   |  |
|--|---|-----|-----------|-----|-----------|-----------|---|-----------|---|--|
| Wall thickness (mm)  |   |     |           |     |           |           |   |           |   |  |
| Tube outer diameter (mm)   | 1 | 1.5 | 2         | 2.5 | 3         | 3.5       | 4 | 5         | 6 |  |
| 8  |   |     | WAL615766 |     |           |           |   |           |   |  |
| 10   |   |     | WAL615767 |     |           |           |   |           |   |  |
| 12   |   |     | WAL615768 |     |           |           |   |           |   |  |
| 15   |   |     | WAL615769 |     |           |           |   |           |   |  |
| 16 A   |   |     | WAL615770 |     |           |           |   |           |   |  |
| 18   |   |     | WAL615771 |     |           |           |   |           |   |  |
| 20   |   |     | WAL615772 |     |           |           |   |           |   |  |
| 22   |   |     | WAL615773 |     |           |           |   |           |   |  |
| 25   |   |     | WAL615774 |     |           |           |   |           |   |  |
| 28   |   |     | WAL615775 |     |           |           |   |           |   |  |
| 30   |   |     |           |     |           | WAL615776 |   |           |   |  |
| 35   |   |     |           |     | WAL615777 |           |   | WAL615777 |   |  |
| 38   |   |     |           |     | WAL615778 |           |   | WAL615778 |   |  |
| 42   |   |     |           |     | WAL615779 |           |   | WAL615779 |   |  |

| Model        | Art. no.  |
|--------------|-----------|
| Removal tool | WAL617090 |



| Model         | Art. no.  |
|---------------|-----------|
| Clamping jaws | See table |



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| Reshaping adapter for WalformPlus-M steel fittings (E235, E355) |   |     |           |           |           |           |   |           |   |  |
|---|---|-----|-----------|-----------|-----------|-----------|---|-----------|---|--|
| Wall thickness (mm)   |   |     |           |           |           |           |   |           |   |  |
| Tube outer diameter (mm)  | 1 | 1.5 | 2         | 2.5       | 3         | 3.5       | 4 | 5         | 6 |  |
| 8   |   |     | WAL625706 | WAL625707 |           |           |   |           |   |  |
| 10  |   |     | WAL625708 | WAL625709 |           |           |   |           |   |  |
| 12  |   |     | WAL624536 |           | WAL625710 |           |   |           |   |  |
| 15  |   |     | WAL625711 |           |           |           |   |           |   |  |
| 16 A  |   |     | WAL623406 |           |           |           |   |           |   |  |
| 18  |   |     | WAL625712 |           |           |           |   |           |   |  |
| 20  |   |     | WAL625713 |           |           |           |   |           |   |  |
| 22  |   |     | WAL625714 |           |           |           |   |           |   |  |
| 25  |   |     | WAL625715 |           |           |           |   |           |   |  |
| 28  |   |     | WAL625716 |           |           |           |   |           |   |  |
| 30  |   |     |           |           |           | WAL625717 |   |           |   |  |
| 35  |   |     |           |           |           |           |   | WAL625718 |   |  |
| 38  |   |     |           |           |           |           |   | WAL625719 |   |  |
| 42  |   |     |           |           |           |           |   | WAL625720 |   |  |

| Model                                      | Art. no.  |
|--|-----------|
| Reshaping adapter without internal support | See table |



| Reshaping adapter for WalformPlus-M stainless steel fittings (1.4571) |   |     |           |           |   |     |   |           |   |  |
|---|---|-----|-----------|-----------|---|-----|---|-----------|---|--|
| Wall thickness (mm)   |   |     |           |           |   |     |   |           |   |  |
| Tube outer diameter (mm)  | 1 | 1.5 | 2         | 2.5       | 3 | 3.5 | 4 | 5         | 6 |  |
| 8   |   |     |           | WAL625721 |   |     |   |           |   |  |
| 10  |   |     |           | WAL624548 |   |     |   |           |   |  |
| 12  |   |     | WAL623405 | WAL625722 |   |     |   |           |   |  |
| 15  |   |     | WAL625723 |           |   |     |   |           |   |  |
| 16 A  |   |     | WAL623406 |           |   |     |   |           |   |  |
| 18  |   |     | WAL625724 |           |   |     |   |           |   |  |
| 20  |   |     | WAL623407 |           |   |     |   |           |   |  |
| 22  |   |     | WAL625725 |           |   |     |   |           |   |  |
| 25  |   |     | WAL623408 |           |   |     |   |           |   |  |
| 28  |   |     | WAL625726 |           |   |     |   |           |   |  |
| 30  |   |     | WAL623409 |           |   |     |   |           |   |  |
| 35  |   |     |           | WAL626536 |   |     |   | WAL625727 |   |  |
| 38  |   |     |           | WAL623411 |   |     |   | WAL623429 |   |  |
| 42  |   |     |           | WAL626533 |   |     |   | WAL625720 |   |  |

| Model                           | Art. no.  |
|---------------------------------|-----------|
| Reshaping with internal support | See table |



Reshaping without internal support  
 Reshaping with internal support

## Machines and tools

37° flared tube fittings

### M-WF385X/BO

**Walform / flaring machine (head can be selected)**

| Model                    | Art. no.  |
|--------------------------|-----------|
| M-WF385X/BO without head | WAL623487 |



#### Key features and benefits:

- For flaring steel and stainless steel tubes with a diameter of 16 to 60.3 mm
- Can be easily transported inside the workshop thanks to the compact and lightweight machine design
- For the potentiometer settings, see chapter C
- Also suitable for Walform reshaping if used in conjunction with the WAL612351 reshaping head

#### M-WF385Xplus technical data:

|                         |                    |
|-------------------------|--------------------|
| Weight:                 | 251 kg             |
| Dimensions (W x H x D): | 850 x 275 x 990 mm |
| Standard voltage:       | 400 V AC*          |
| Frequency:              | 50 Hz              |
| Circuit protection:     | 16 A               |
| Power consumption:      | 2.8 kW             |

\*Voltages of 230 V, 440 V and 480 V are available on request

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#### Accessories and spare parts:

| Model  | Art. no.  |
|--|-----------|
| MW1 assembly trolley (complete)  | WAL626257 |
| Assembly trolley for Walform machine with drawer cabinet and removal tool holder |           |

| Model  | Art. no.  |
|--|-----------|
| MW1 basic version  | WAL626258 |
| Assembly trolley for Walform machine without drawer cabinet or removal tool holder |           |

| Model                   | Art. no.  |
|-------------------------|-----------|
| MW1 removal tool holder | WAL626261 |
| Removal tool holder     |           |

| Model   | Art. no.  |
|---|-----------|
| MW1 drawer cabinet                            | WAL626259 |
| Drawer cabinet, can be positioned as required |           |



| Model                           | Art. no.  |
|---------------------------------|-----------|
| Foot switch                     | WAL609949 |
| Foot switch for Walform machine |           |

| Model                           | Art. no.  |
|---------------------------------|-----------|
| Walform head                    | WAL612351 |
| Reshaping head for M-WF385Xplus |           |

| Model                        | Art. no.  |
|------------------------------|-----------|
| Flaring head                 | WAL612350 |
| Flaring head for M-WF385X/BO |           |

| Model  | Art. no.  |
|--|-----------|
| Adapter 1.5 m 5G2.5 400 V 32 A/11 kW to 16 A | WAL626329 |
| Adapter for 32 A networks                    |           |



| M-WF385X/B0 clamping jaws for flared flanges made from steel (E235 and E355) |                     |           |           |           |           |           |           |           |           |           |           |           |
|--|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Tube outer diameter (mm)   | Wall thickness (mm) |           |           |           |           |           |           |           |           |           |           |           |
|  | 2                   | 2.5       | 3         | 3.2       | 3.5       | 3.6       | 4         | 4.5       | 5         | 5.6       | 6         | 8         |
| 16 A   |                     | WAL611740 |           |           |           |           |           |           |           |           |           |           |
| 20   |                     | WAL611741 |           |           | WAL611741 |           | WAL611741 |           |           |           |           |           |
| 22   | WAL613773           |           |           |           |           |           |           |           |           |           |           |           |
| 25   |                     | WAL611382 |           |           |           |           | WAL611382 |           |           |           |           |           |
| 28   |                     |           | WAL613775 |           |           |           |           |           |           |           |           |           |
| 30   |                     |           |           |           |           |           | WAL611743 |           | WAL611743 |           |           |           |
| 34   |                     |           |           |           |           |           |           | WAL611383 |           |           |           |           |
| 35   |                     |           | WAL613777 |           |           |           |           |           | WAL613777 |           |           |           |
| 38   |                     |           |           |           |           |           | WAL611384 |           | WAL611384 |           | WAL611384 |           |
| 42   |                     |           | WAL612148 |           |           |           | WAL612148 |           |           |           |           |           |
| 48.3   |                     |           |           | WAL613771 |           |           |           |           |           |           |           |           |
| 50 Hz  |                     | WAL611386 |           |           |           |           |           |           | WAL611386 |           | WAL611386 |           |
| 60   |                     |           | WAL612149 |           |           |           |           |           | WAL612149 |           | WAL612149 | WAL612149 |
| 60.3   |                     |           |           |           |           | WAL612149 |           |           |           | WAL612149 |           | WAL612149 |

\*Additional sizes available on request



| M-WF385X/B0 flaring mandrel adapter for steel (E235 and E355) |                     |           |           |           |           |           |           |           |           |           |           |           |
|---|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Tube outer diameter (mm)                                      | Wall thickness (mm) |           |           |           |           |           |           |           |           |           |           |           |
|   | 2                   | 2.5       | 3         | 3.2       | 3.5       | 3.6       | 4         | 4.5       | 5         | 5.6       | 6         | 8         |
| 16 A  | WAL611748           | WAL611749 | WAL611750 |           |           |           |           |           |           |           |           |           |
| 20  | WAL611751           | WAL611752 | WAL611753 |           | WAL611754 |           | WAL614086 |           |           |           |           |           |
| 22  | WAL614087           |           |           |           |           |           |           |           |           |           |           |           |
| 25  |                     | WAL611755 | WAL611399 |           |           |           | WAL611757 |           |           |           |           |           |
| 28  |                     |           | WAL614088 |           |           |           |           |           |           |           |           |           |
| 30  |                     |           |           |           |           |           | WAL611758 |           | WAL611759 |           |           |           |
| 34  |                     |           |           |           |           |           |           | WAL611400 |           |           |           |           |
| 35  |                     |           | WAL614089 |           |           |           |           |           | WAL614090 |           |           |           |
| 38  |                     |           |           |           |           |           | WAL611401 |           | WAL611762 |           | WAL611763 |           |
| 42  |                     |           | WAL612150 |           |           |           | WAL614091 |           |           |           |           |           |
| 48.3  |                     |           |           | WAL614092 |           |           |           |           |           |           |           |           |
| 50 Hz   |                     | WAL611765 | WAL612151 |           |           |           |           |           | WAL611766 |           | WAL611403 | WAL611768 |
| 60  |                     |           | WAL612152 |           |           |           |           |           | WAL614802 |           | WAL612153 | WAL614093 |
| 60.3  |                     |           |           |           |           | WAL612152 |           |           |           | WAL614096 |           | WAL614093 |

\*Additional sizes available on request

| Model         | Art. no.  |
|---------------|-----------|
| Clamping jaws | See table |

| Model                   | Art. no.  |
|-------------------------|-----------|
| Flaring mandrel adapter | See table |

| Model           | Art. no.  |
|-----------------|-----------|
| Flaring mandrel | WAL613205 |



| Model                   | Art. no.  |
|-------------------------|-----------|
| Removal tool            | WAL611632 |
| Flaring mandrel adapter |           |

| Model           | Art. no.  |
|-----------------|-----------|
| Removal tool    | WAL613783 |
| Flaring mandrel |           |

37° flared tube fittings

**MHH-BO**
**Manual flaring device**

| Model  | Art. no.  |
|--------|-----------|
| MHH-BO | WAL608250 |


**Key features and benefits:**

- For flaring steel and stainless steel tubes with a diameter of 6 to 42 mm
- A user-friendly and cost-effective alternative to the M-WF385X/BO machine
- The device offers a high degree of flexibility and requires no electricity
- It is easy to transport and especially suitable for use on construction sites

**MHH-BO technical data:**

|                         |                    |
|-------------------------|--------------------|
| Weight:                 | 45 kg              |
| Dimensions (W x H x D): | 500 x 285 x 700 mm |

| Clamping jaws for MHH-BO for 37° flared tube fittings in steel (E235, E355) and stainless steel (1.4571) |                     |     |   |     |   |     |   |   |   |           |             |
|--|---------------------|-----|---|-----|---|-----|---|---|---|-----------|-------------|
| Tube outer diameter (mm)   | Wall thickness (mm) |     |   |     |   |     |   |   |   |           | D (mm)      |
|  | 1                   | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 5 | 6 |           |             |
| 6  | WAL608500           |     |   |     |   |     |   |   |   | 11.6      |             |
| 8  | WAL608501           |     |   |     |   |     |   |   |   | 13.9      |             |
| 10   | WAL608502           |     |   |     |   |     |   |   |   | 15.7      |             |
| 12   | WAL608503           |     |   |     |   |     |   |   |   | 18.0      |             |
| 14   | WAL608504           |     |   |     |   |     |   |   |   | 22.5      |             |
| 15   | WAL608505           |     |   |     |   |     |   |   |   | 23.0      |             |
| 16 A   | WAL608506           |     |   |     |   |     |   |   |   | 25.2      |             |
| 18   | WAL608507           |     |   |     |   |     |   |   |   | 26.8      |             |
| 20   | WAL608508           |     |   |     |   |     |   |   |   | 29.6      |             |
| 22   | WAL608509           |     |   |     |   |     |   |   |   | 29.9      |             |
| 25   | WAL608510           |     |   |     |   |     |   |   |   | 35.7      |             |
| 28   | WAL608511           |     |   |     |   |     |   |   |   | 36.0      |             |
| 30   | WAL608512           |     |   |     |   |     |   |   |   | 42.4      |             |
| 35   | WAL608513           |     |   |     |   |     |   |   |   | 46.0      |             |
| 38   | WAL608514           |     |   |     |   |     |   |   |   | WAL608407 | 52.2 / 55.4 |
| 42   | WAL608515           |     |   |     |   |     |   |   |   | 52.5      |             |

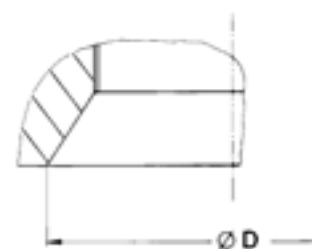
| Model                    | Art. no.  |
|--------------------------|-----------|
| Clamping jaws for MHH-BO | See table |



| Clamping jaws for 37° flared tube fittings to SAE J 514 in steel (E235, E355) and stainless steel (1.4571) |               |           |        |
|--|---------------|-----------|--------|
| Tube outer diameter  | Model         | Art. no.  | D (mm) |
| 6  | BO-SBM 6-SAE  | WAL608516 | 10.7   |
| 8  | BO-SBM 8-SAE  | WAL608517 | 11.6   |
| 10   | BO-SBM 10-SAE | WAL608518 | 13.7   |
| 12   | BO-SBM 12-SAE | WAL608519 | 17.4   |
| 14   | BO-SBM 14-SAE | WAL608408 | 21.0   |
| 15   | BO-SBM 15-SAE | WAL608409 | 21.0   |
| 16 A   | BO-SBM 16-SAE | WAL608520 | 22.0   |
| 18   | BO-SBM 18-SAE | WAL608410 | 26.0   |
| 20   | BO-SBM 20-SAE | WAL608521 | 26.6   |
| 25   | BO-SBM 25-SAE | WAL608522 | 32.7   |
| 30   | BO-SBM 30-SAE | WAL608411 | 41.5   |
| 32   | BO-SBM 32-SAE | WAL608523 | 40.8   |
| 38   | BO-SBM 38-SAE | WAL608524 | 48.6   |

| Model   | Art. no.  |
|---|-----------|
| Flaring mandrel   | WAL604854 |
| Standard mandrel for flaring steel tubes (for use with the MHH-BO device) |           |

| Model  | Art. no.  |
|--|-----------|
| Flaring mandrel  | WAL605100 |
| Mandrel with mechanically resistant coating for flaring steel and stainless steel tubes (for use with the MHH-BO device) |           |







| Model           | Art. no.  |
|-----------------|-----------|
| Removal tool    | WAL611633 |
| Flaring mandrel |           |

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## Tube bending tool

- For tubes with an outer diameter of 6-22 mm

|   | Model   | Art. no.         |
|---|---|------------------|
|  | Tube bending tool<br>For tubes with an outer diameter of 6-12 mm<br>4 replaceable bending rollers   | <b>WAL033012</b> |
|  | Tube bending tool<br>For tubes with an outer diameter of 10-18 mm<br>4 replaceable bending rollers  | <b>WAL033020</b> |
|  | Tube bending tool<br>For tubes with an outer diameter of 10-18 mm<br>4 replaceable bending rollers and 7 clamping jaws<br>10L/S, 12L/S, 15L, 16S, 18L | <b>WAL063805</b> |
|  | Tube bending tool<br>For tubes with an outer diameter of 6-22 mm<br>8 replaceable bending rollers; transport case included                            | <b>WAL615706</b> |



Spare parts for previous machine models

**Spare tools for MEG-R...(this machine has been discontinued)**



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| Series | Tube outer diameter        | Model                                   | Walpro GE adapter<br>Art. no. | Walpro GE adapter Replacement adapter<br>Art. no. | Backing plate<br>Model | Art. no.  |
|--------|----------------------------|---|-------------------------------|---|------------------------|-----------|
| L      | 6                          | PRE-ASS. AD.-3 P-6 L-GE VANADIS4E A4SI  | WAL615319                     | WAL611262   | BACKING PLATE 6 L/S    | WAL608363 |
|        | 8                          | PRE-ASS. AD.-3 P-8 L-GE VANADIS4E A4SI  | WAL615320                     | WAL611263   | BACKING PLATE 8 L/S    | WAL608364 |
|        | 10                         | PRE-ASS. AD.-3 P-10 L-GE VANADIS4E A4SI | WAL615321                     | WAL611264   | BACKING PLATE 10 L/S   | WAL608365 |
|        | 12                         | PRE-ASS. AD.-3 P-12 L-GE VANADIS4E A4SI | WAL615322                     | WAL611265   | BACKING PLATE 12 L/S   | WAL608366 |
|        | 15                         | PRE-ASS. AD.-3 P-15 L-GE VANADIS4E A4SI | WAL615323                     | WAL611266   | BACKING PLATE 15 L     | WAL608367 |
|        | 18                         | PRE-ASS. AD.-3 P-18 L-GE VANADIS4E A4SI | WAL615324                     | WAL611267   | BACKING PLATE 18 L     | WAL608368 |
|        | 22                         | PRE-ASS. AD.-3 P-22 L-GE VANADIS4E A4SI | WAL615325                     | WAL611268   | BACKING PLATE 22 L     | WAL608369 |
|        | 28                         | PRE-ASS. AD.-3 P-28 L-GE VANADIS4E A4SI | WAL615326                     | WAL611269   | BACKING PLATE 28 L     | WAL608370 |
|        | 35                         | PRE-ASS. AD.-3 P-35 L-GE VANADIS4E A4SI | WAL615327                     | WAL611270   | BACKING PLATE 35 L     | WAL608371 |
|        | 42                         | PRE-ASS. AD.-3 P-42 L-GE VANADIS4E A4SI | WAL615328                     | WAL611271   | BACKING PLATE 42 L     | WAL608372 |
| S      | 6                          | PRE-ASS. AD.-3 P-6 S-GE VANADIS4E A4SI  | WAL615329                     | WAL611272   | BACKING PLATE 6 L/S    | WAL608363 |
|        | 8                          | PRE-ASS. AD.-3 P-8 S-GE VANADIS4E A4SI  | WAL615330                     | WAL611273   | BACKING PLATE 8 L/S    | WAL608364 |
|        | 10                         | PRE-ASS. AD.-3 P-10 S-GE VANADIS4E A4SI | WAL615331                     | WAL611274   | BACKING PLATE 10 L/S   | WAL608365 |
|        | 12                         | PRE-ASS. AD.-3 P-12 S-GE VANADIS4E A4SI | WAL615332                     | WAL611275   | BACKING PLATE 12 L/S   | WAL608366 |
|        | 14                         | PRE-ASS. AD.-3 P-14 S-GE VANADIS4E A4SI | WAL615333                     | WAL611276   | BACKING PLATE 14 S     | WAL608373 |
|        | 16 A                       | PRE-ASS. AD.-3 P-16 S-GE VANADIS4E A4SI | WAL615334                     | WAL611277   | BACKING PLATE 16 S     | WAL608374 |
|        | 20                         | PRE-ASS. AD.-3 P-20 S-GE VANADIS4E A4SI | WAL615335                     | WAL611278   | BACKING PLATE 20 S     | WAL608375 |
|        | 25                         | PRE-ASS. AD.-3 P-25 S-GE H              | WAL610657                     | -   | BACKING PLATE 25 S     | WAL608376 |
| 30     | PRE-ASS. AD.-3 P-30 S-GE H | WAL610658                               | -                             | BACKING PLATE 30 S                                | WAL608377              |           |
| 38     | PRE-ASS. AD.-3 P-38 S-GE H | WAL610659                               | -                             | BACKING PLATE 38 S                                | WAL608378              |           |

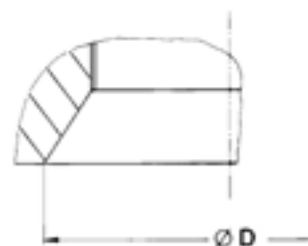
## Spare tools for MEG-BO2 (this machine has been discontinued)

| Clamping jaws for MEG-BO2 for 37° flared tube fittings in steel (E235, E355) and stainless steel 1.4571 |           |     |   |     |   |     |   |   |   |                       |
|---|-----------|-----|---|-----|---|-----|---|---|---|-----------------------|
| Wall thickness (mm)   |           |     |   |     |   |     |   |   |   |                       |
| Tube outer diameter (mm)  | 1         | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 5 | 6 | D (mm)                |
| 6   | WAL608379 |     |   |     |   |     |   |   |   | 11.6                  |
| 8   | WAL608380 |     |   |     |   |     |   |   |   | 13.9                  |
| 10  | WAL608381 |     |   |     |   |     |   |   |   | 15.7                  |
| 12  | WAL608382 |     |   |     |   |     |   |   |   | 18.0                  |
| 14  | WAL608383 |     |   |     |   |     |   |   |   | 22.5                  |
| 15  | WAL608384 |     |   |     |   |     |   |   |   | 23.0                  |
| 16 A  | WAL608385 |     |   |     |   |     |   |   |   | 25.2                  |
| 18  | WAL608386 |     |   |     |   |     |   |   |   | 26.8                  |
| 20  | WAL608387 |     |   |     |   |     |   |   |   | 29.6                  |
| 22  | WAL608388 |     |   |     |   |     |   |   |   | 29.9                  |
| 25  | WAL608389 |     |   |     |   |     |   |   |   | 35.7                  |
| 28  | WAL608390 |     |   |     |   |     |   |   |   | 36.0                  |
| 30  | WAL608391 |     |   |     |   |     |   |   |   | 42.4                  |
| 35  | WAL608392 |     |   |     |   |     |   |   |   | 46.0                  |
| 38  | WAL608393 |     |   |     |   |     |   |   |   | WAL608412 52.2 / 55.4 |
| 42  | WAL608394 |     |   |     |   |     |   |   |   | 52.5                  |

| Model                     | Art. no.  |
|---------------------------|-----------|
| Clamping jaws for MEG-BO2 | See table |


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| Clamping jaws for 37° flared tube fittings to SAE J 514 in steel (E235, E355) and stainless steel (1.4571) |                        |           |        |
|--|------------------------|-----------|--------|
| Tube outer diameter  | Model                  | Art. no.  | D (mm) |
| 6  | BO-SBM 6-SAE COMPLETE  | WAL608395 | 10.7   |
| 8  | BO-SBM 8-SAE COMPLETE  | WAL608396 | 11.6   |
| 10   | BO-SBM 10-SAE COMPLETE | WAL608397 | 13.7   |
| 12   | BO-SBM 12-SAE COMPLETE | WAL608398 | 17.4   |
| 14   | BO-SBM 14-SAE COMPLETE | WAL608413 | 21.0   |
| 15   | BO-SBM 15-SAE COMPLETE | WAL608414 | 21.0   |
| 16 A   | BO-SBM 16-SAE COMPLETE | WAL608399 | 22.0   |
| 18   | BO-SBM 18-SAE COMPLETE | WAL608415 | 26.0   |
| 20   | BO-SBM 20-SAE COMPLETE | WAL608400 | 26.6   |
| 25   | BO-SBM 25-SAE COMPLETE | WAL608401 | 32.7   |
| 30   | BO-SBM 30-SAE COMPLETE | WAL608416 | 41.5   |
| 32   | BO-SBM 32-SAE COMPLETE | WAL608402 | 40.8   |
| 38   | BO-SBM 38-SAE COMPLETE | WAL608403 | 48.6   |



| Model  | Art. no.  |
|--|-----------|
| Flaring mandrel  | WAL604854 |
| Standard mandrel for flaring steel tubes (for use with the MEG-BO2 device) |           |



| Model   | Art. no.  |
|---|-----------|
| Flaring mandrel   | WAL605100 |
| Mandrel with mechanically resistant coating for flaring steel and stainless steel tubes (for use with the MEG-BO2 device) |           |



| Model           | Art. no.  |
|-----------------|-----------|
| Removal tool    | WAL611633 |
| Flaring mandrel |           |

## Machines and tools

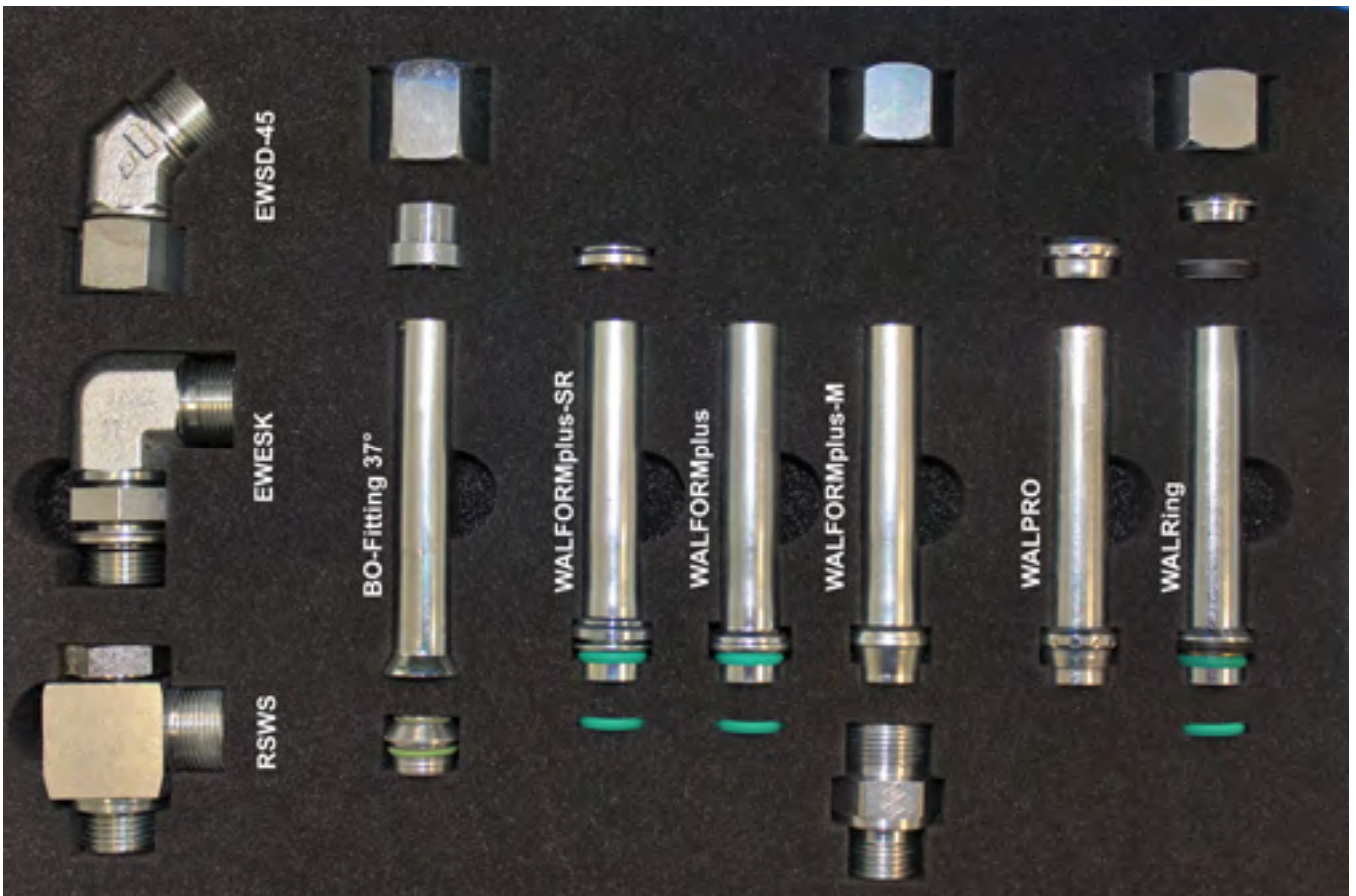
Waltech sample case

### Waltech sample case

| Model           | Art. no.  |
|-----------------|-----------|
| WAL sample case | WAL627400 |

- For easy presentation of the Danfoss Waltech systems
- Includes samples of Walpro, Walring and WalformPlus fittings

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Go to [www.danfoss.com](http://www.danfoss.com) for further product information.

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