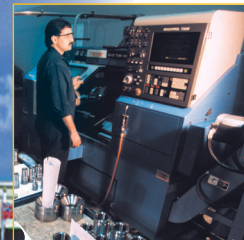


TUBE-MAC®
INDUSTRIES



our company

Tube Mac® Industries is a dynamic company internationally renowned for our products, problem solving and design services. We embrace the challenge to explore and develop improvements over traditional installation methods of piping for hydraulic and lubrication systems.



our goal

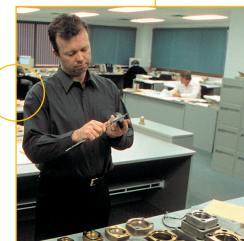
Tube Mac® Industries goal is to maximize our ability to provide the highest quality products and services that meet or exceed industry standards.



our mission

Tube Mac® Industries mission is to provide our customers with a **total quality company**. We maintain a progressive program of research and development for improved methods, processes and materials. Our highly skilled people are trained to fulfill standard or specialized requirements.

Tube Mac® Industries is responsive, innovative, reliable and committed to providing exceptional service along with the highest quality products.



Our future is in our customer's success!



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Manifold Mount Style to Flat Face Component

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TUBE-MAC® Industries

Setting the Standard in Hydraulic/Lube Piping Systems

...Speed

...Cleanliness

**...Total System
Service**

...Quality



50,000 square feet equipped with the very latest machinery and technology ready and able to meet your piping and component needs.

Tube-Mac® Industries, founded in 1977, is a progressive thinking company that is built on quality and integrity. Tube-Mac® is committed to supplying the finest hydraulic/lube piping systems and services on the market today. A complete understanding of hydraulics and an uncompromising dedication to cleanliness are what has propelled Tube-Mac® to the forefront of these type of worldwide piping installations. With the needs of our customers shaping our company, Tube-Mac® is able to stay on the cutting edge of hydraulic/lube piping requirements demanded by today's state-of-the-art machinery.



TUBE-MAC® Industries

Speed:

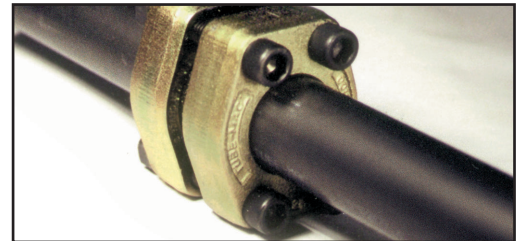
*With construction schedules becoming more and more compacted, today's hydraulic/lube piping installations demand **SPEED**.*

The Tube-Mac® piping systems rise to the challenge, setting a new standard for hydraulic/lube piping installations.

With state-of-the-art, leak-free pipe connections, Tube-Mac® is able to supply solutions for virtually all industrial hydraulic/lube piping applications.

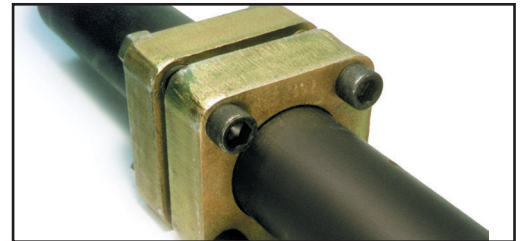
Method 1: Flared System. For medium to high pressures.

This configuration is based on flaring the pipe ends to 37 degrees and inserting either a flat faced cone or an 'o'ring faced cone into the flared pipe. The union is completed by simply bolting together the two flanges that were slid onto the pipe prior to flaring (reference pg. B1).



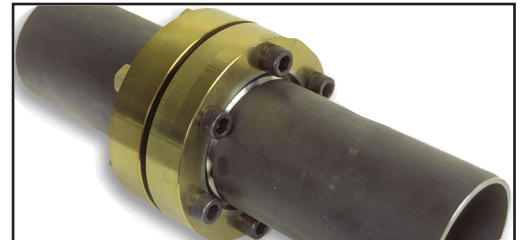
Method 2: Retain Ring System. For very high pressures.

This configuration utilizes heavy wall pipe that has a machined face, along with an annular groove on the outside diameter. After preparation, the flange is slid onto the pipe and a retain ring is installed. The union is completed by inserting an 'o'ring seal retainer and bolting the flanges together (reference pg. C1).



Method 3: Low Pressure Retain Ring System. For low pressures.

This configuration utilizes butt weld adapters with an annular groove on the outside diameter. After pipe preparation, adapter is welded on to the pipe. The flange is slid onto the pipe and a retain ring is installed. The union is completed by inserting an 'o'ring and bolting the flanges together (reference pg. D1).



To speed up construction further, Tube-Mac® utilizes cold bending techniques to install its piping systems.

Because of the non-welded joints and bending philosophy, Tube-Mac® is able to eliminate all the high labour costs and contamination risks associated with typical welded piping. The customer receives a clean, leak-free, easily maintained hydraulic/lube piping system in a surprisingly short period of time.



TUBE-MAC® Industries

Cleanliness:

*For efficient hydraulic/lube system start-ups and longevity, it is essential to insist upon **CLEANLINESS**.*

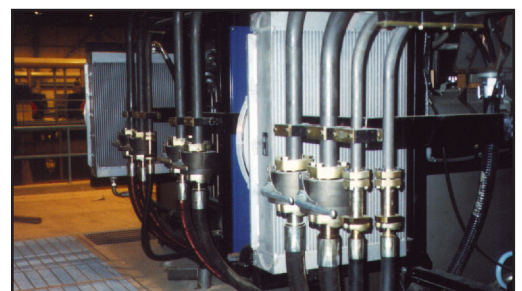
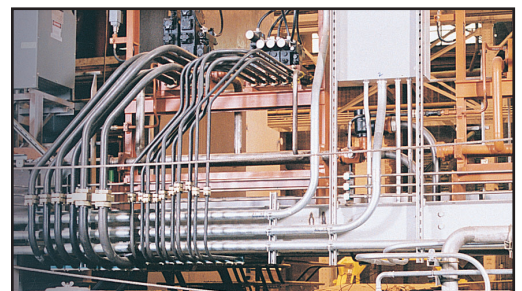
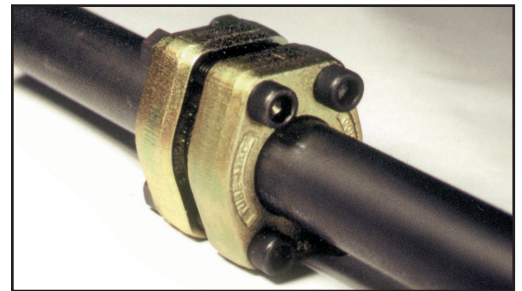
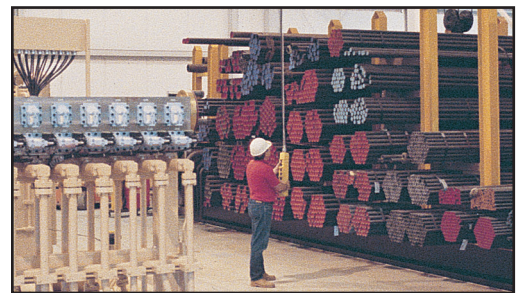
Tube-Mac® keeps cleanliness at the forefront of all hydraulic/lube piping installations. Today's equipment increases the demand for extremely clean piping. Sensitive piston pumps, servo and proportional valves as well as bearings require the cleanest oil because of tight tolerances. Tube-Mac® provides the piping that will meet these demands.

The key to Tube-Mac®'s superior hydraulic cleanliness is our pipe. Our tube quality piping used for working pressure lines is cold drawn during the manufacturing process leaving it internally and externally free of scale. To protect all hydraulic/lube piping, Tube-Mac® has standardized on phosphating. This surface conditioning procedure inhibits rusting, thus maintaining the pipe cleanliness both during storage and installation.

Tube-Mac®'s mechanical joint system eliminates all the contamination pitfalls of a typical welded system. The fear of pipe or weld particle migration is no longer a concern with the Tube-Mac® hydraulic piping system. Expensive pump groups and sensitive servo systems are now more likely to avoid internal failure.

Because of the scale-free, weld-free field installation of the Tube-Mac® piping system, the need for costly internal chemical flushing is a thing of the past. With Tube-Mac® piping, all that is necessary is an independent filtering unit utilizing system fluid for removal of loose contaminants. This method of oil flushing not only removes loose contaminants but at the same time polishes the system fluid. Now, instead of chemical disposal, the customer has a hydraulic system full of clean fluid that is ready for commissioning.

When considering a hydraulic/lube piping installation it is important to think in terms of overall installed economics. Keeping in mind the significant labour savings, the greatly reduced flushing time, and the elimination of hazardous chemical disposal, it is easy to see why a Tube-Mac® piping system installs with an overall cost savings.



TUBE-MAC® Industries

Total System Service:

*With years of applied hydraulics expertise and the latest technologies at our disposal, Tube-Mac® Industries is able to offer **TOTAL PIPING SYSTEM SERVICE**.*

Through continual education and total team effort, Tube-Mac® is able to support all phases of a piping installation before, during, and after construction.

Engineering

Close contact between the field technicians and Tube-Mac® project coordinators is maintained throughout the duration of each project. This interaction provides each project with the immediate service that is required. While utilizing state-of-the-art AutoCAD software, practical engineered piping solutions can also be generated at the design phase, which enhances the installation even further.



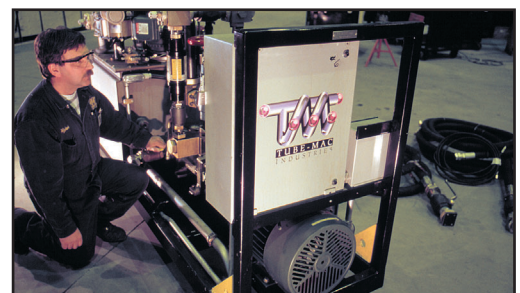
Field Coordination

Tube-Mac® field technicians accompany virtually all piping installations. Each technician is well versed in hydraulic logic and is a qualified instructor on proper bending and installation procedures. While helping to assume the task of crew coordination and total quality assurance, the Tube-Mac® technician is a significant cost saver to the installation contractor.



Flushing and Testing

In the spirit of total piping system commitment, Tube-Mac® has developed the means to flush and pressure test all Tube-Mac® piping installations. This is possible through the use of portable flushing and testing units. Tube-Mac® can filter each piping system to customer specified cleanliness levels, while at the same time, hydrostatically test each system.



Component Sales

Tube-Mac® offers for independent sale a complete line of hydraulic piping accessories from a large inventory allowing for the fastest possible service. After market availability of all Tube-Mac® products has led to worldwide customer satisfaction.



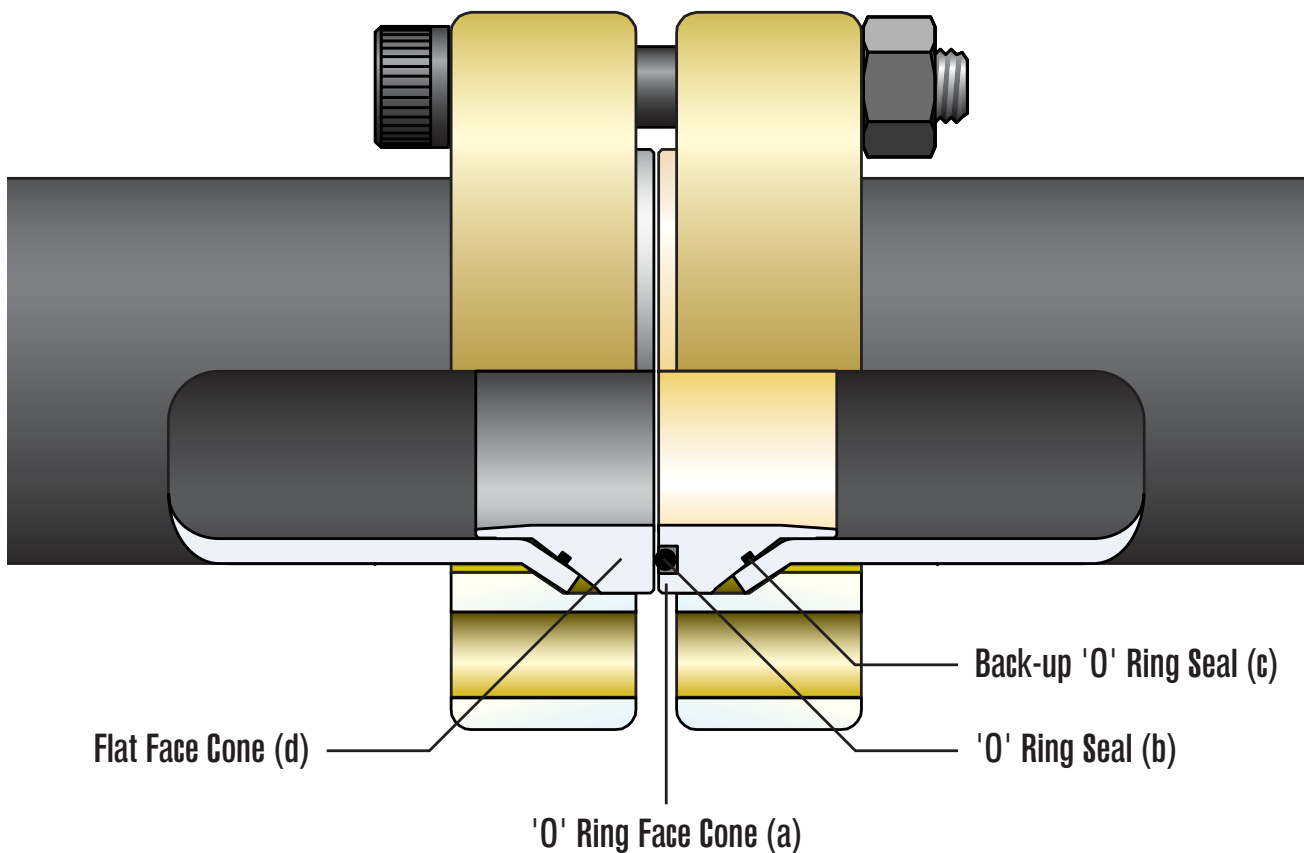


Notes

Lined area for notes.



Flared System



The flared configuration is based on flaring the pipe ends to 37° and utilising flanges and internal cones. 'O'ring face cone (a) with 'o'ring seal (b) mating to flat face cone (d). Both internal cones have back-up 'o'rings (c).

PREPARATION:

The flange is slipped onto the pipe before flaring. After flaring, the cone is located into the pipe. Bolting the flanges together draws the flared pipes and cones in contact with each other providing a leakfree connection.

Standard flare flanges and pipe are available from 1/2" - 3" and pressures to 420 bar.

The standard connection styles offered conform to ISO 4-bolt flanges. Other flange patterns may also be available.

TMI® 37° Flaring and Connection Procedure

The Flare Flange connection consists of pipe suitable for cold forming (reference pages B6-B7), flare flanges, flare cones with elastomer seals and bolting hardware.



Step 1: Cut pipe end square, deburr and clean. Slip flange onto the pipe before flaring. Place pipe into the flaring machine with the correct dies and flaring cone to suit the pipe size.



Step 2: Pipe is to protrude to the stop on the die. Lubricate the flaring cone, start the machine, flare the pipe end until fully formed against the die. Stop the machine, remove the pipe from the die.



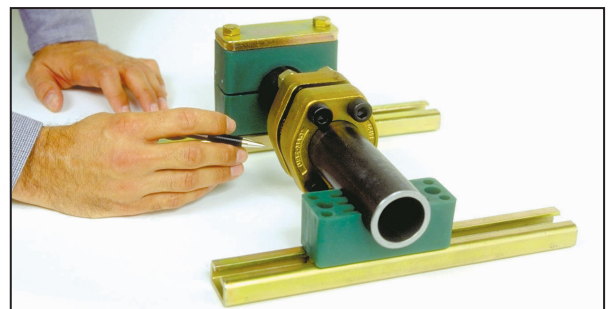
Step 3: Clean and visually inspect the flare. The surface of the flare should be smooth and free of any defects.



(ref. pgs. B4-B5). Insert pipe cone into the flared end of the pipe (use rubber hammer if required).

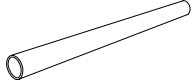
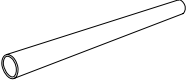
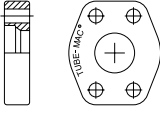
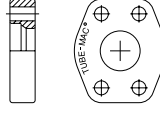
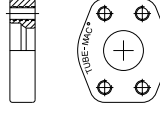
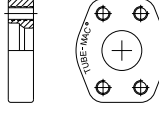
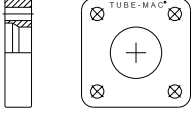

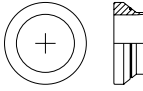
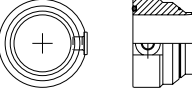
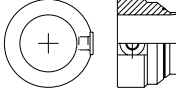
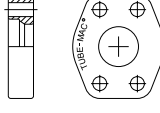
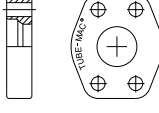
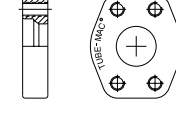
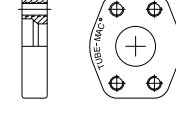


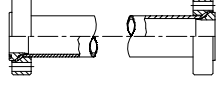
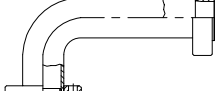
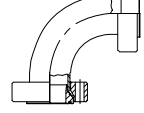


Step 5: Select the required bolting hardware from section Section R of this catalogue.

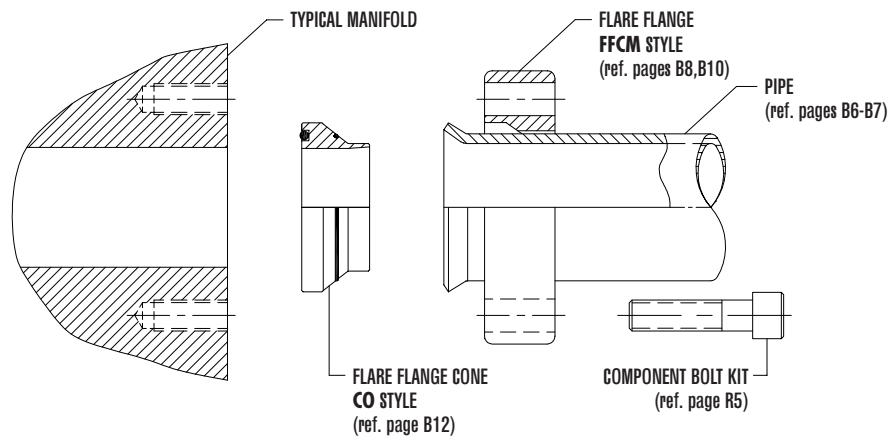
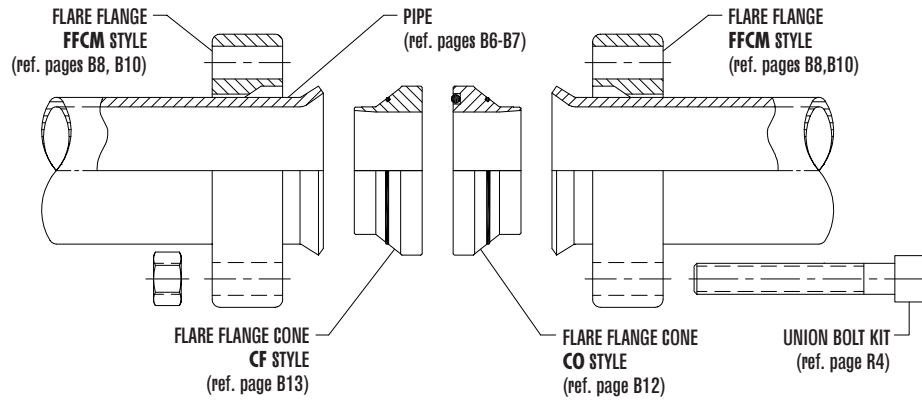


Step 6: Tighten bolts to the torque values specified. Always tighten bolts in a cross-over sequence and ensure that the flanges are parallel.

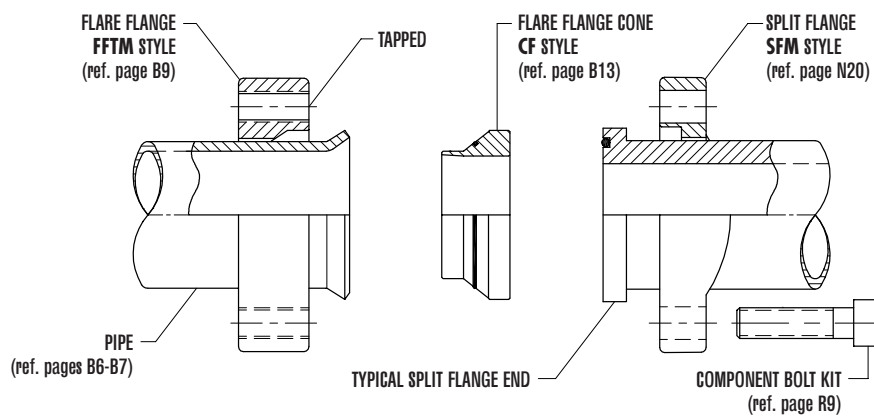
Flared System - Metric Visual Index

PIPES	CARBON STEEL PIPE  $\frac{1}{2}$ " - 3" Page B6	STAINLESS STEEL PIPE  $\frac{1}{2}$ " - 3" Page B7	FLARE FLANGES	FFCM34 ISO 6162-1 WITH CLEARANCE HOLES  $\frac{1}{2}$ " - 3" Page B8
FFCM64 ISO 6162-2 WITH CLEARANCE HOLES  $\frac{1}{2}$ " - 2" Page B8	FFTM34 ISO 6162-1 WITH TAPPED HOLES  $\frac{1}{2}$ " - 3" Page B9	FFTM64 ISO 6162-2 WITH TAPPED HOLES  $\frac{1}{2}$ " - 2" Page B9	FFCM74 ISO 6164 WITH CLEARANCE HOLES  $2\frac{1}{2}$ " - 3" Page B10	
FLARE FLANGE CONES	CO CONE-'O' RING FACE  $\frac{1}{2}$ " - 3" Page B12	CF CONE-FLAT FACE  $\frac{1}{2}$ " - 3" Page B13	COP CONE-'O' RING FACE WITH PILOT PORT  $\frac{1}{2}$ " - 3" Page B14	CFP CONE-FLAT FACE WITH PILOT PORT  $\frac{1}{2}$ " - 3" Page B15
FLARE FLANGES Reducing	FFCRM34 ISO 6162-1 WITH CLEARANCE HOLES  $\frac{1}{2}$ " - 3" Page B16	FFCRM64 ISO 6162-2 WITH CLEARANCE HOLES  $\frac{1}{2}$ " - 2" Page B16	FFTRM34 ISO 6162-1 WITH TAPPED HOLES  $\frac{1}{2}$ " - 3" Page B18	FFTRM64 ISO 6162-2 WITH TAPPED HOLES  $\frac{1}{2}$ " - 2" Page B18
FLARE FLANGE CONES Reducing	COR CONE-'O' RING FACE REDUCING  $\frac{1}{2}$ " - 3" Page B17	CFR CONE-FLAT FACE REDUCING  $\frac{1}{2}$ " - 3" Page B19		
PIPE ASSEMBLY	PAF FLARE FLANGE PIPE ASSEMBLY  $\frac{1}{2}$ " - 3" Page B20-21	BPAF FLARE FLANGE BENT PIPE ASSEMBLY  $\frac{1}{2}$ " - 3" Page B22-23		
FLARE FLANGE ELBOW ASSEMBLY	A/FFEM FLARE FLANGE ELBOW ASSEMBLY  $\frac{1}{2}$ " - 3" Page B24-25			

Typical Flare Union Connection

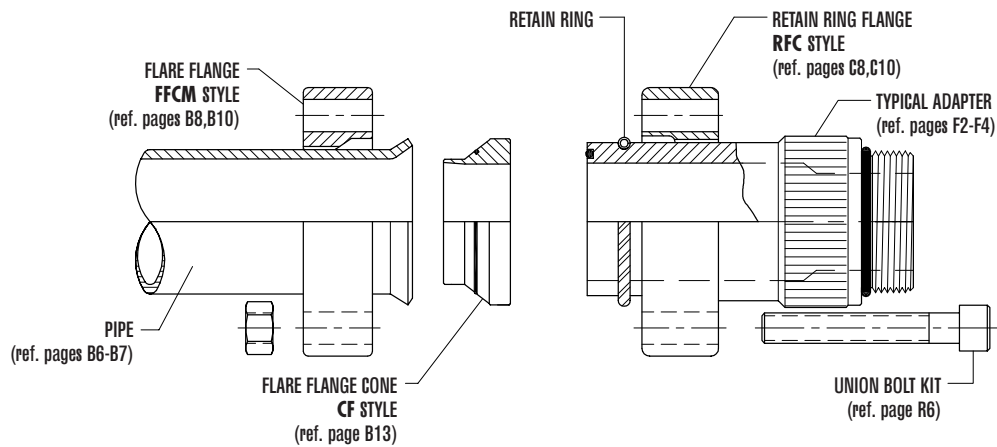


Typical Flare (Flat Face) to Split Flange Connection

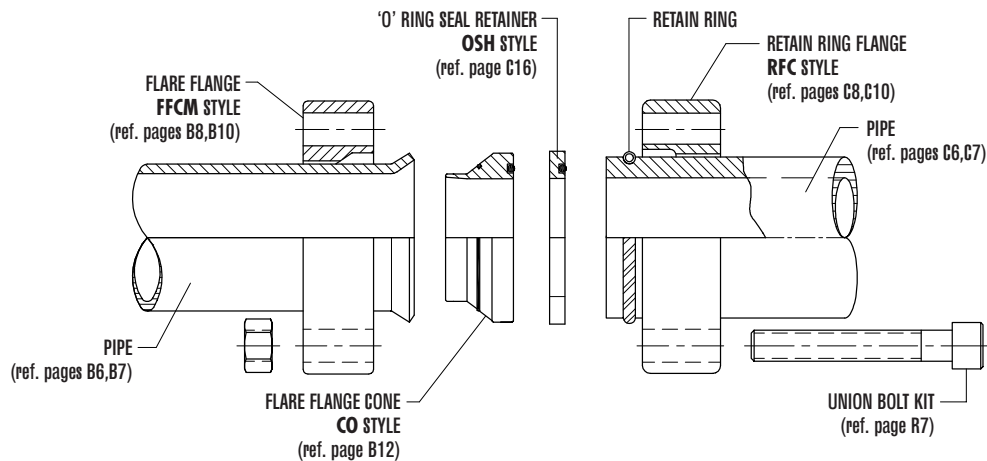


Flare Flange Connections - Metric

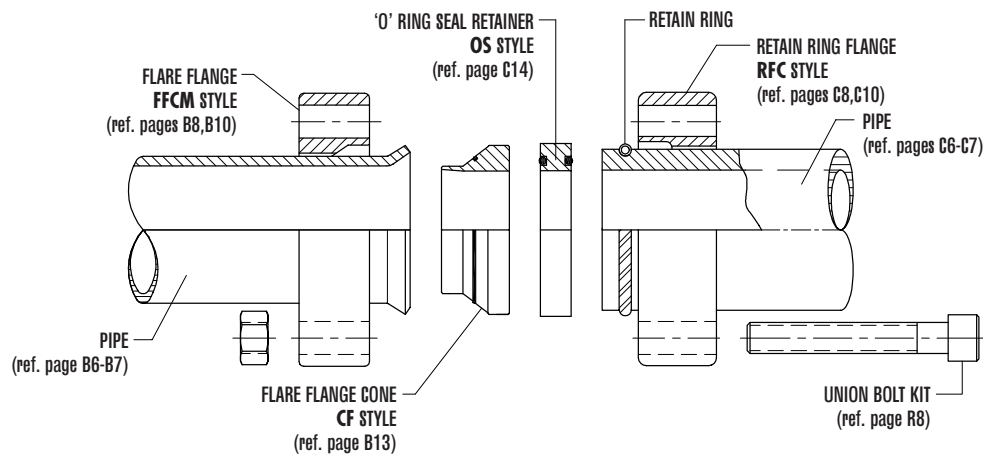
Typical Flare (Flat Face) to 'O' Ring Face Component Connection



Typical Flare ('O' Ring Face) to Retain Ring Pipe Connection

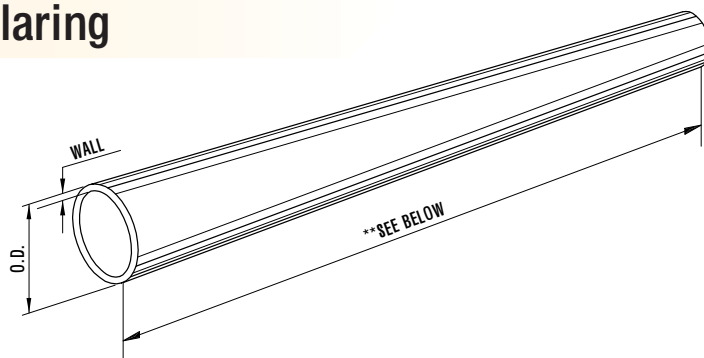


Typical Flare (Flat Face) to Retain Ring Pipe Connection



TMI® Carbon Steel Pipe - Metric

Suitable for Flaring



TMP52CD

DIN, 2391c (DIN 2445) St 52.4 NBK Phosphated High Quality Bendable Cold Drawn Seamless Carbon Steel

Nominal Size	Pipe Part No.	OD x Wall (mm)	Bore Dia. (mm)	WT. Kgs/m	Working Pressure Bar
1/2"	TMP52CD-20x3-050x**	20 x 3	14	1.20	420
3/4"	TMP52CD-25x3-075x**	25 x 3	19	1.60	390
1"	TMP52CD-30x4-100x**	30 x 4	22	2.50	420
1-1/4"	TMP52CD-38x4-125x**	38 x 4	30	3.30	340
1-1/2"	TMP52CD-50x5-150x**	50 x 5	40	5.50	320
2"	TMP52CD-60x5-200x**	60 x 5	50	6.70	265
2-1/2"	TMP52CD-75x5-250x**	75 x 5	65	11.57	210
3"	TMP52CD-90x5-300x**	90 x 5	80	15.40	170

** INDICATE LENGTH (mm), AVAILABLE IN 6m LENGTHS

TMP46CD

DIN, STE460 NBK Phosphated High Quality Bendable Cold Drawn Seamless Carbon Steel

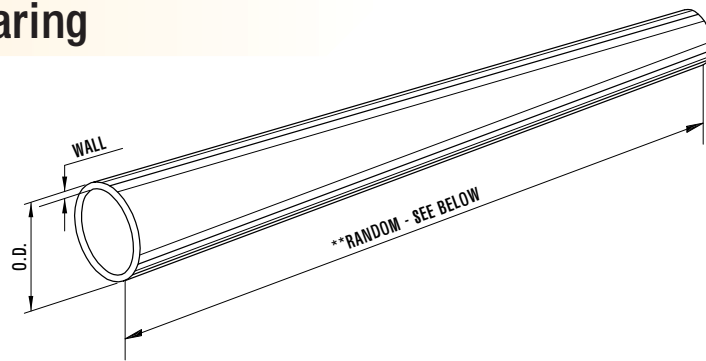
Nominal Size	Pipe Part No.	OD x Wall (mm)	Bore Dia. (mm)	WT. Kgs/m	Working Pressure Bar
1-1/4"	TMP46CD-38x4-125x**	38 x 4	30	3.30	420
1-1/2"	TMP46CD-50x5-150x**	50 x 5	40	5.50	420
2"	TMP46CD-60x5-200x**	60 x 5	50	6.70	375

** INDICATE LENGTH (mm), AVAILABLE IN 6m LENGTHS

- TO ORDER A FLARE FLANGE PIPE ASSEMBLY REFERENCE PAGES B20-B23
- MAXIMUM ALLOWABLE WORKING PRESSURES ARE BASED ON THE LOWER OF THE PIPE RATING PER ANSI B31.3 OR THE CONNECTION RATING

TMI® Stainless Steel Pipe - Metric

Suitable for Flaring



TMP304SS

A269/A312-Seamless Stainless Steel (dual supplied certification ie. 304/304L)

Nominal Size	304/304L Stainless Steel Pipe Part No.	OD x Wall (mm)	Bore Dia. (mm)	WT. Kgs/m	Working Pressure Bar
1/2"	TMP304SS-20x3-050x**	20 x 3	14	1.20	400
3/4"	TMP304SS-25x3-075x**	25 x 3	19	1.60	316
1"	TMP304SS-30x4-100x**	30 x 4	22	2.50	355
1 1/4"	TMP304SS-38x4-125x**	38 x 4	30	3.30	275
1 1/2"	TMP304SS-50x5-150x**	50 x 5	40	5.50	260
2"	TMP304SS-60x5-200x**	60 x 5	50	6.70	214
2 1/2"	TMP304SS-75x5-250x**	75 x 5	65	11.57	170
3"	TMP304SS-90x5-300x**	90 x 5	80	15.40	140

TMP316SS

A269/A312-Seamless Stainless Steel (dual supplied certification ie. 316/316L)

Nominal Size	304/304L Stainless Steel Pipe Part No.	OD x Wall (mm)	Bore Dia. (mm)	WT. Kgs/m	Working Pressure Bar
1/2"	TMP316SS-20x3-050x**	20 x 3	14	1.20	400
3/4"	TMP316SS-25x3-075x**	25 x 3	19	1.60	316
1"	TMP316SS-30x4-100x**	30 x 4	22	2.50	355
1 1/4"	TMP316SS-38x4-125x**	38 x 4	30	3.30	275
1 1/2"	TMP316SS-50x5-150x**	50 x 5	40	5.50	260
2"	TMP316SS-60x5-200x**	60 x 5	50	6.70	214
2 1/2"	TMP316SS-75x5-250x**	75 x 5	65	11.57	170
3"	TMP316SS-90x5-300x**	90 x 5	80	15.40	140

TMP2205SS

TU22CND22-05-03 - Seamless Duplex Stainless Steel

Nominal Size	Pipe Part No.	OD x Wall (mm)	Bore Dia. (mm)	WT. Kgs/m	Working Pressure Bar
1 1/4"	TMP2205SS-38x4-125x**	38 x 4	30	3.30	410
1 1/2"	TMP2205SS-50x5-150x**	50 x 5	40	5.50	390
2"	TMP2205SS-60x5-200x**	60 x 5	50	6.70	320

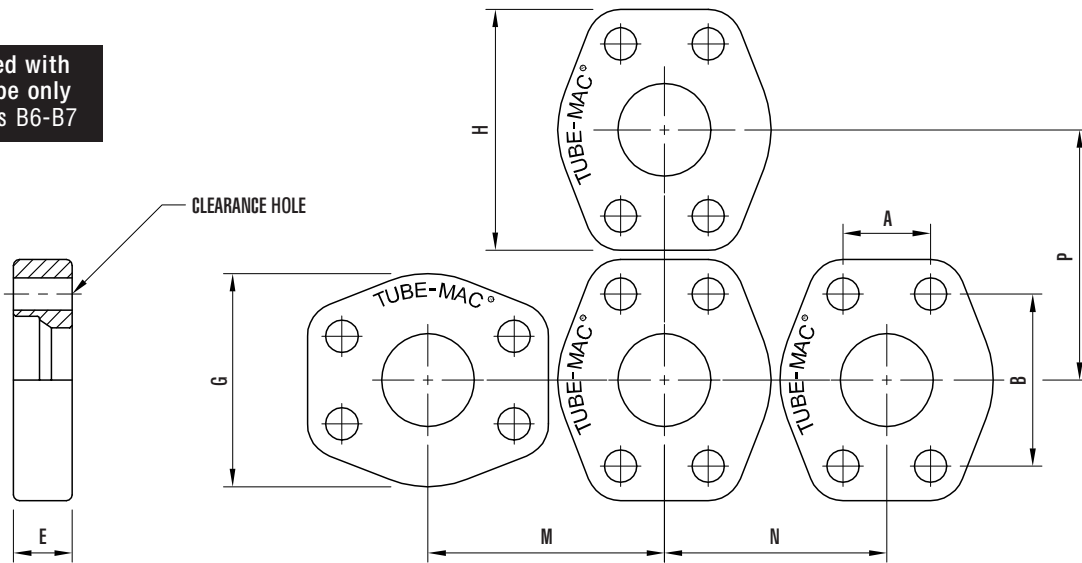
** INDICATE LENGTH (mm), AVAILABLE IN RANDOM LENGTHS UP TO 6000mm

- TO ORDER A FLARE FLANGE PIPE ASSEMBLY REFERENCE PAGES B20-B23
- MAXIMUM ALLOWABLE WORKING PRESSURES ARE BASED ON THE LOWER OF THE PIPE RATING PER ANSI B31.3 OR THE CARBON STEEL CONNECTION RATING
- FOR PIPING SYSTEMS CONSISTING OF ALL STAINLESS STEEL COMPONENTS, PRESSURE RATINGS WILL BE LESS THAN THAT SHOWN ABOVE (CONTACT FACTORY)

Flare Flanges - Metric

ISO 6162 - Metric Flanges with Clearance Holes

To be used with
flared pipe only
Ref. pages B6-B7



FFCM34 Metric Flare Flange - ISO 6162-1 With Clearances

Standard Pressure Series 140-350 bar

Size (inch)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
1/2"	FFCM34-050	17.5	38.1	46.0	54.9	52.1	49.0	58.9	20.6	M8	0.25	350	20-25
3/4"	FFCM34-075	22.4	47.8	52.3	65.0	61.0	55.1	68.1	20.8	M10	0.27	350	55-68
1"	FFCM34-100	26.2	52.3	58.7	70.1	67.1	62.0	72.9	22.1	M10	0.29	350	55-68
1 1/4"	FFCM34-125	30.2	58.7	73.2	79.0	79.0	75.9	82.0	23.1	M10	0.39	275	55-68
1 1/2"	FFCM34-150	35.8	69.9	82.6	93.0	90.9	85.1	96.0	26.9	M12	0.68	210	76-83
2"	FFCM34-200	42.9	77.7	96.8	102.1	102.1	100.1	104.9	31.0	M12	0.99	210	110-125
2 1/2"	FFCM34-250	50.8	88.9	108.7	114.0	114.0	111.0	117.1	35.6	M12	1.40	175	110-125
3"	FFCM34-300	62.0	106.4	131.1	134.1	135.9	133.1	136.9	42.4	M16	2.09	140	150-165

FFCM64 Metric Flare Flange - ISO 6162-2 With Clearance Holes

High Pressure Series 420 bar

Size (inch)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
1/2"	FFCM64-050	18.3	40.4	47.8	56.4	55.9	53.1	58.9	20.6	M8	0.25	420	20-25
3/4"	FFCM64-075	23.9	50.8	60.5	71.4	70.1	68.1	74.9	25.9	M10	0.44	420	55-68
1"	FFCM64-100	27.7	57.2	69.9	81.0	81.0	75.9	85.1	26.2	M12	0.58	420	110-125
1 1/4"	FFCM64-125	31.8	66.8	77.7	95.3	90.9	83.1	99.1	31.8	M12	0.86	420	110-125
1 1/2"	FFCM64-150	36.6	79.5	95.3	112.8	108.0	101.1	116.1	35.1	M16	1.51	420	150-165
2"	FFCM64-200	44.5	96.8	114.3	133.4	128.0	119.9	136.9	42.7	M20	2.27	420	165-175

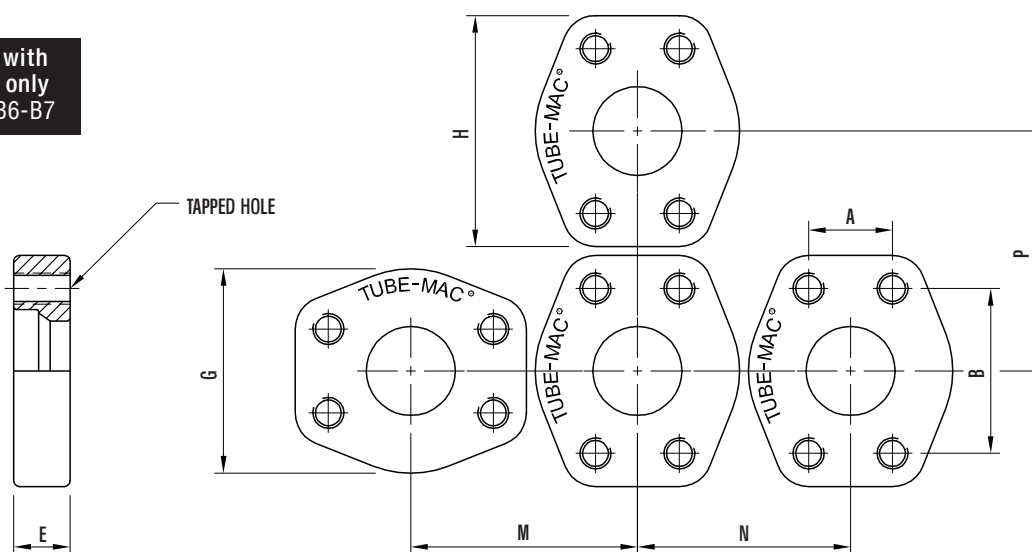
• FOR BOLT KITS - REFERENCE SECTION R

MATERIAL: FORGED CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Flare Flanges - Metric

ISO 6162 - Metric Flanges with Tapped Holes

To be used with
flared pipe only
Ref. pages B6-B7



FFTM34 Metric Flare Flange - ISO 6162-1 With Tapped Holes

Standard Pressure Series 140-350 bar

Size (inch)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
1/2"	FFTM34-050	17.5	38.1	46.0	54.9	52.1	49.0	58.9	20.6	M8 x 1.25	0.25	350	20-25
3/4"	FFTM34-075	22.4	47.8	52.3	65.0	61.0	55.1	68.1	20.8	M10 x 1.50	0.29	350	55-68
1"	FFTM34-100	26.2	52.3	58.7	70.1	67.1	62.0	72.9	22.1	M10 x 1.50	0.31	350	55-68
1 1/4"	FFTM34-125	30.2	58.7	73.2	79.0	79.0	75.9	82.0	23.1	M10 x 1.50	0.41	275	55-68
1 1/2"	FFTM34-150	35.8	69.9	82.6	93.0	90.9	85.1	96.0	26.9	M12 x 1.75	0.71	210	76-83
2"	FFTM34-200	42.9	77.7	96.8	102.1	102.1	100.1	104.9	31.0	M12 x 1.75	1.00	210	110-125
2 1/2"	FFTM34-250	50.8	88.9	108.7	114.0	114.0	111.0	117.1	35.6	M12 x 1.75	1.43	175	110-125
3"	FFTM34-300	62.0	106.4	131.1	134.1	135.9	133.1	136.9	42.4	M16 x 2.00	2.12	140	150-165

FFTM64 Metric Flare Flange - ISO 6162-2 With Tapped Holes

High Pressure Series 420 bar

Size (inch)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
1/2"	FFTM64-050	18.3	40.4	47.8	56.4	55.9	53.1	58.9	20.6	M8 x 1.25	0.25	420	20-25
3/4"	FFTM64-075	23.9	50.8	60.5	71.4	70.1	68.1	74.9	25.9	M10 x 1.50	0.47	420	55-68
1"	FFTM64-100	27.7	57.2	69.9	81.0	81.0	75.9	85.1	26.2	M12 x 1.75	0.63	420	110-125
1 1/4"	FFTM64-125	31.8	66.8	77.7	95.3	90.9	83.1	99.1	31.8	M12 x 1.75	0.95	420	110-125
1 1/2"	FFTM64-150	36.6	79.5	95.3	112.8	108.0	101.1	116.1	35.1	M16 x 2.00	1.75	420	150-165
2"	FFTM64-200	44.5	96.8	114.3	133.4	128.0	119.9	136.9	42.7	M20 x 2.50	2.75	420	165-175

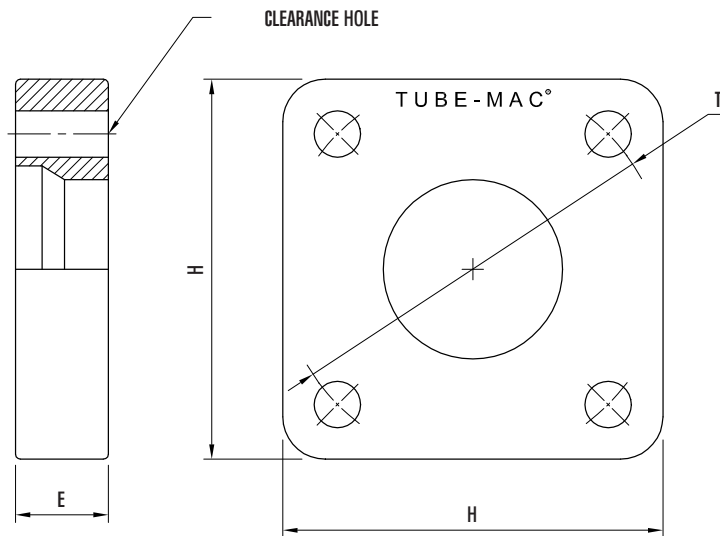
MATERIAL: FORGED CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Flare Flange - Metric

ISO 6164 - Metric Flanges with Clearance Holes

To be used with
flared pipe only
Ref. pages B6-B7



FFCM74 Metric Flare Flange - ISO 6164 With Clearance Holes

High Pressure Series 400 Bar

Size (inch)	Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	H	E				
2 1/2"	FFCM74-250	118.1	119.9	37.6	M20	2.30	400	165-175
3"	FFCM74-300	145.0	150.1	43.9	M24	4.00	400	475-550

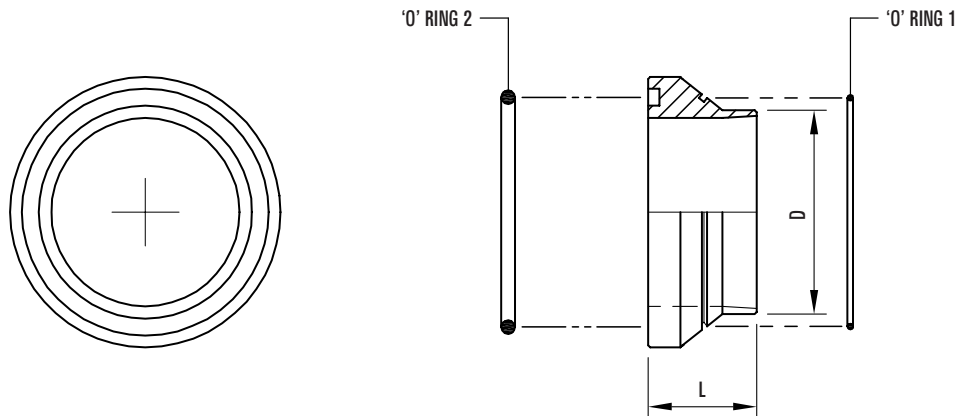
- FOR BOLT KITS - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Flare Flange Cones - Metric

Metric Cone - 'O' Ring Face



CO Metric Cone - 'O' Ring Face

Complete With Nitrile 'O' Rings (Standard)

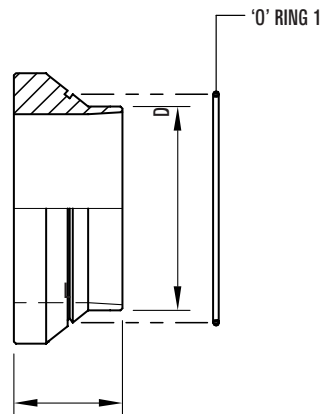
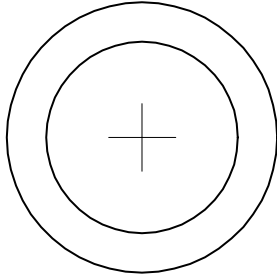
Size (inch)	Cone Part No.	Dimensions (mm)		'O' Ring 1 (Nitrile) Part No.	'O' Ring 2 (Nitrile) Part No.	WT. kgs./pc
		D	L			
1/2"	CO-20x3-050	13.8	24.6	OR*-1715	OR*-2-210	0.05
3/4"	CO-25x3-075	18.8	23.4	OR*-2315	OR*-2-214	0.05
1"	CO-30x4-100	21.8	26.7	OR*-2815	OR*-2-219	0.09
1 1/4"	CO-38x4-125	29.8	27.4	OR*-3515	OR*-2-222	0.11
1 1/2"	CO-50x5-150	39.8	28.4	OR*-4515	OR*-2-225	0.19
2"	CO-60x5-200	49.8	27.9	OR*-5615	OR*-2-228	0.21
2 1/2"	CO-75x5-250	64.8	33.5	OR*-6715	OR*-2-232	0.45
3"	CO-90x5-300	79.8	32.0	OR*-8015	OR*-2-237	0.60

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL STANDARD-316 AVAILABLE)

Flare Flange Cones - Metric

Metric Cone - Flat Face



CF Metric Cone - Flat Face

Complete With Nitrile 'O' Ring (Standard)

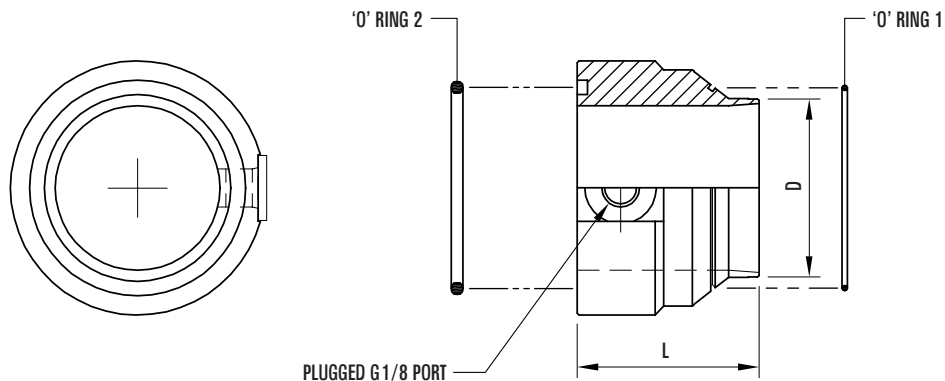
Size (inch)	Cone Part No.	Dimensions (mm)		'O' Ring 1 (Nitrile) Part No.	WT. kgs./pc
		D	L		
1/2"	CF-20x3-050	13.8	24.6	OR*-1715	0.05
3/4"	CF-25x3-075	18.8	23.4	OR*-2315	0.05
1"	CF-30x4-100	21.8	26.7	OR*-2815	0.09
1 1/4"	CF-38x4-125	29.8	27.4	OR*-3515	0.11
1 1/2"	CF-50x5-150	39.8	28.4	OR*-4515	0.19
2"	CF-60x5-200	49.8	27.9	OR*-5615	0.21
2 1/2"	CF-75x5-250	64.8	33.5	OR*-6715	0.45
3"	CF-90x5-300	79.8	32.0	OR*-8015	0.60

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

MATERIAL: CARBON STEEL, BLACK ZINC DICHROMATE PLATED, (STAINLESS STEEL STANDARD-316 AVAILABLE)

Flare Flange Cones - Metric

Metric Cone - 'O' Ring Face With Pilot Port



COP Cone - 'O' Ring Face With Pilot Port

Complete With Nitrile 'O' Rings (Standard) and 1/8 BSPP Port (Plugged)

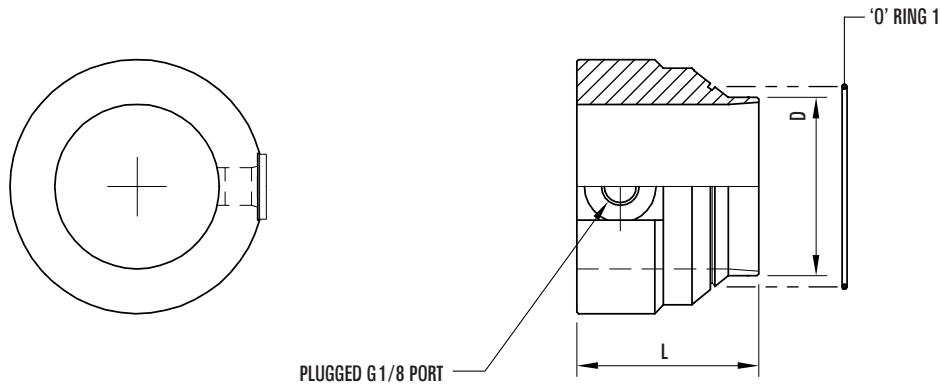
Size (inch)	Cone Part No.	Dimensions (mm)		'O' Ring 1 (Nitrile) Part No.	'O' Ring 2 (Nitrile) Part No.	WT. kgs./pc
		D	L			
1/2"	COP-20x3-050	13.8	50.0	OR*-1715	OR*-2-210	0.07
3/4"	COP-25x3-075	18.8	48.8	OR*-2315	OR*-2-214	0.09
1"	COP-30x4-100	21.8	52.1	OR*-2815	OR*-2-219	0.19
1 1/4"	COP-38x4-125	29.8	52.8	OR*-3515	OR*-2-222	0.20
1 1/2"	COP-50x5-150	39.8	53.8	OR*-4515	OR*-2-225	0.33
2"	COP-60x5-200	49.8	53.3	OR*-5615	OR*-2-228	0.37
2 1/2"	COP-75x5-250	64.8	58.9	OR*-6715	OR*-2-232	1.18
3"	COP-90x5-300	79.8	59.2	OR*-8015	OR*-2-237	1.66

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS AND 'O' RING FOR G 1/8 PLUG

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL STANDARD-316 AVAILABLE)

Flare Flange Cones - Metric

Metric Cone - Flat Face With Pilot Port



CFP Metric Cone - Flat Face With Pilot Port

Complete With Nitrile 'O' Ring (Standard) and 1/8 BSPP Port (Plugged)

Size (inch)	Cone Part No.	Dimensions (mm)		'O' Ring 1 (Nitrile) Part No.	WT. kgs./pc
		D	L		
1/2"	CFP-20x3-050	13.8	50.0	OR*-1715	0.07
3/4"	CFP-25x3-075	18.8	48.8	OR*-2315	0.09
1"	CFP-30x4-100	21.8	52.1	OR*-2815	0.19
1 1/4"	CFP-38x4-125	29.8	52.8	OR*-3515	0.20
1 1/2"	CFP-50x5-150	39.8	53.8	OR*-4515	0.33
2"	CFP-60x5-200	49.8	53.3	OR*-5615	0.37
2 1/2"	CFP-75x5-250	64.8	58.9	OR*-6715	1.26
3"	CFP-90x5-300	79.8	59.2	OR*-8015	1.75

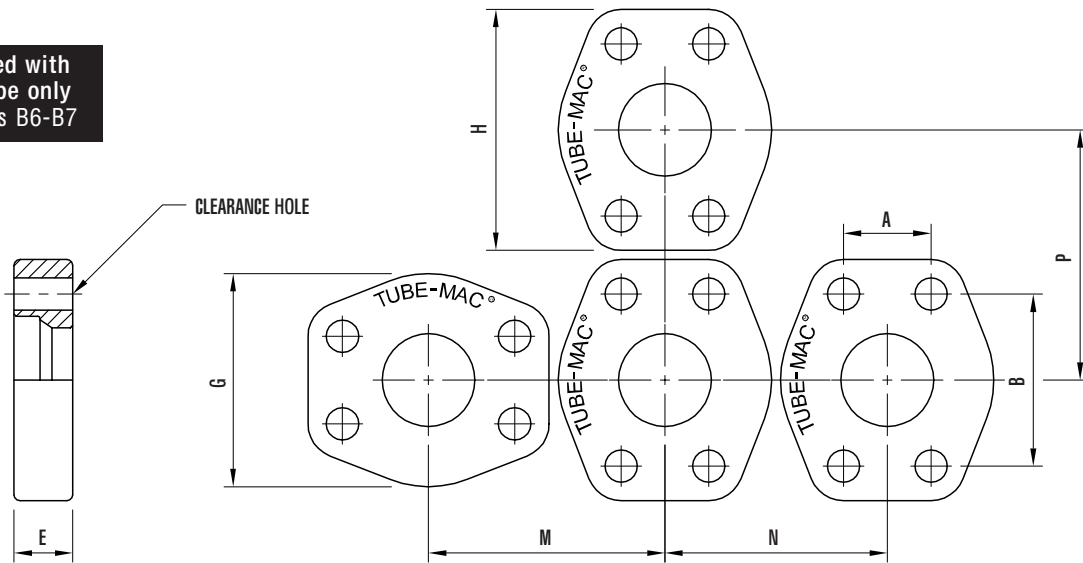
* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING AND 'O' RING FOR G 1/8 PLUG

MATERIAL: CARBON STEEL, BLACK ZINC DICHROMATE PLATED, (STAINLESS STEEL STANDARD-316 AVAILABLE)

Flare Flanges - Metric Reducing

ISO 6162 - Metric Flanges with Clearance Holes

To be used with
flared pipe only
Ref. pages B6-B7



FFCRM34 Reducing Flare Flange - ISO 6162-1 With Clearance Holes

Standard Pressure Series 140-350 bar

Size (inch) (flange x pipe)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
3/4" x 1/2"	FFCRM34-075x050	22.4	47.8	52.3	65.0	61.0	55.1	68.1	20.8	M10	0.34	350	55-68
1" x 3/4"	FFCRM34-100x075	26.2	52.3	58.7	70.1	67.1	62.0	72.9	22.1	M10	0.35	350	55-68
1 1/4" x 1"	FFCRM34-125x100	30.2	58.7	73.2	79.0	79.0	75.9	82.0	23.1	M10	0.46	275	55-68
1 1/2" x 1 1/4"	FFCRM34-150x125	35.8	69.9	82.6	93.0	90.9	85.1	96.0	26.9	M12	0.80	210	76-83
2" x 1 1/2"	FFCRM34-200x150	42.9	77.7	96.8	102.1	102.1	100.1	104.9	31.0	M12	1.10	210	110-125
2 1/2" x 2"	FFCRM34-250x200	50.8	88.9	108.7	114.0	114.0	111.0	117.1	35.6	M12	1.61	175	110-125
3" x 2 1/2"	FFCRM34-300x250	62.0	106.4	131.1	134.1	135.9	133.1	136.9	42.4	M16	2.44	140	150-165

FFCRM64 Metric Reducing Flare Flange - ISO 6162-2 With Clearance Holes

High Pressure Series 420 bar

Size (inch) (flange x pipe)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
3/4" x 1/2"	FFCRM64-075x050	23.9	50.8	60.5	71.4	70.1	68.1	74.9	25.9	M10	0.52	420	55-68
1" x 3/4"	FFCRM64-100x075	27.7	57.2	69.9	81.0	81.0	75.9	85.1	26.2	M12	0.67	420	110-125
1 1/4" x 1"	FFCRM64-125x100	31.8	66.8	77.7	95.3	90.9	83.1	99.1	31.8	M12	1.00	420	110-125
1 1/2" x 1 1/4"	FFCRM64-150x125	36.6	79.5	95.3	112.8	108.0	101.1	116.1	35.1	M16	1.84	420	150-165
2" x 1 1/2"	FFCRM64-200x150	44.5	96.8	114.3	133.4	128.0	119.9	136.9	42.7	M20	2.84	420	165-175

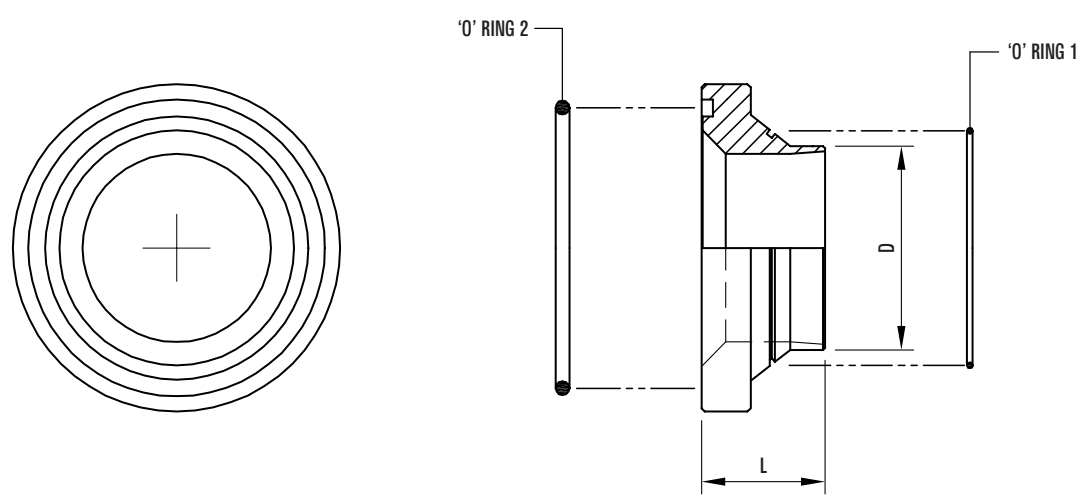
- FOR BOLT KITS - REFERENCE SECTION R
- OTHER REDUCER SIZES ARE AVAILABLE
- TO ORDER COMPLETE ASSEMBLIES REFERENCE PAGES B20-B25

MATERIAL: FORGED CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Flare Flange Cones - Metric Reducing

Metric Reducing Cone - 'O' Ring Face



COR Metric Reducing Cone - 'O' Ring Face

Complete With Nitrile 'O' Rings (Standard)

Size (inch) (flange x pipe)	Cone Part No.	Dimensions (mm)		'O' Ring 1 (Nitrile) Part No.	'O' Ring 2 (Nitrile) Part No.	WT. kgs./pc
		D	L			
3/4" x 1/2"	COR-20x3-075x050	13.8	22.9	OR*-1715	OR*-2-214	0.07
1" x 3/4"	COR-25x3-100x075	18.8	24.6	OR*-2315	OR*-2-219	0.11
1 1/4" x 1"	COR-30x4-125x100	21.8	25.2	OR*-2815	OR*-2-222	0.15
1 1/2" x 1 1/4"	COR-38x4-150x125	29.8	28.7	OR*-3515	OR*-2-225	0.23
2" x 1 1/2"	COR-50x5-200x150	39.8	27.9	OR*-4515	OR*-2-228	0.27
2 1/2" x 2"	COR-60x5-250x200	49.8	33.5	OR*-5615	OR*-2-232	0.53
3" x 2 1/2"	COR-75x5-300x250	64.8	32.0	OR*-6715	OR*-2-237	0.72

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

- OTHER REDUCER SIZES ARE AVAILABLE

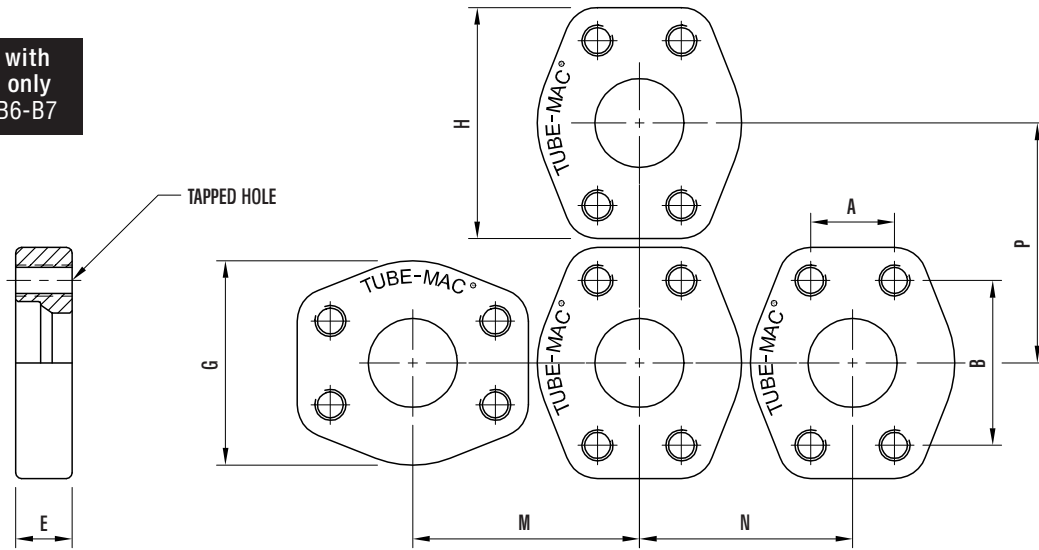
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL STANDARD-316 AVAILABLE)



Flare Flanges - Metric Reducing

ISO 6162 - Metric Flanges with Tapped Holes

To be used with
flared pipe only
Ref. pages B6-B7



FFTRM34 Metric Reducing Flare Flange - ISO 6162-1 With Tapped Holes

Standard Pressure Series 140-350 bar

Size (inch) (flange x pipe)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
3/4" x 1"	FFTRM34-075x050	22.4	47.8	52.3	65.0	61.0	55.1	68.1	20.8	M10 x 1.50	0.34	350	55-68
1" x 3/4"	FFTRM34-100x075	26.2	52.3	58.7	70.1	67.1	62.0	72.9	22.1	M10 x 1.50	0.35	350	55-68
1 1/4" x 1"	FFTRM34-125x100	30.2	58.7	73.2	79.0	79.0	75.9	82.0	23.2	M10 x 1.50	0.46	275	55-68
1 1/2" x 1 1/4"	FFTRM34-150x125	35.8	69.9	82.6	93.0	90.9	85.1	96.0	26.9	M12 x 1.75	0.80	210	76-83
2" x 1 1/2"	FFTRM34-200x150	42.9	77.7	96.8	102.1	102.1	100.1	104.9	31.0	M12 x 1.75	1.10	210	110-125
2 1/2" x 2"	FFTRM34-250x200	50.8	88.9	108.7	114.0	114.0	111.0	117.1	35.6	M12 x 1.75	1.61	175	110-125
3" x 2 1/2"	FFTRM34-300x250	62.0	106.4	131.1	134.1	135.9	133.1	136.9	42.4	M16 x 2.00	2.44	140	150-165

FFTRM64 Metric Reducing Flare Flange - ISO 6162-2 With Tapped Holes

High Pressure Series 420 bar

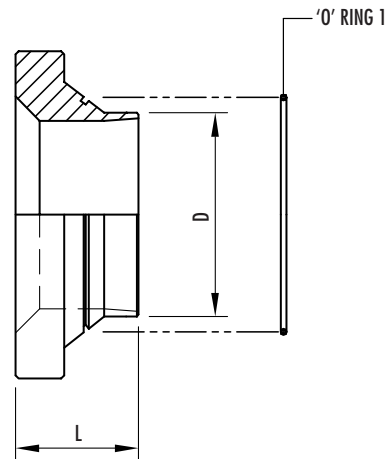
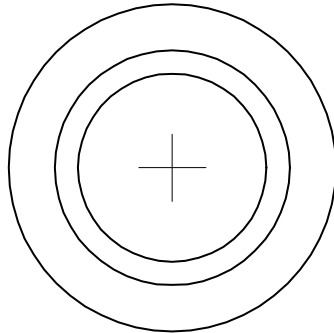
Size (inch) (flange x pipe)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
3/4" x 1"	FFTRM64-075x050	23.9	50.8	60.5	71.4	70.1	68.1	74.9	25.9	M10 x 1.50	0.52	420	55-68
1" x 3/4"	FFTRM64-100x075	27.7	57.2	69.9	81.0	81.0	75.9	85.1	26.2	M12 x 1.75	0.67	420	110-125
1 1/4" x 1"	FFTRM64-125x100	31.8	66.8	77.7	95.3	90.9	83.1	99.1	31.8	M12 x 1.75	1.00	420	110-125
1 1/2" x 1 1/4"	FFTRM64-150x125	36.6	79.5	95.3	112.8	108.0	101.1	116.1	35.1	M16 x 2.00	1.84	420	150-165
2" x 1 1/2"	FFTRM64-200x150	44.5	96.8	114.3	133.4	128.0	94.5	136.9	42.7	M20 x 2.50	2.84	420	165-175

- FOR BOLT KITS - REFERENCE SECTION R
- OTHER REDUCER SIZES ARE AVAILABLE
- TO ORDER COMPLETE ASSEMBLIES REFERENCE PAGES B20-B25

MATERIAL: FORGED CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Flare Flange Cones - Metric Reducing

Metric Reducing Cone - Flat Face



CFR Metric Reducing Cone - Flat Face

Complete With Nitrile 'O' Ring (Standard)

Size (inch) (flange x pipe)	Cone Part No.	Dimensions (mm)		'O' Ring 1 (Nitrile) Part No.	WT. kgs./pc
		D	L		
3/4" x 1/2"	CFR-20x3-075x050	13.8	22.9	OR*-1715	0.08
1" x 3/4"	CFR-25x3-100x075	18.8	24.6	OR*-2315	0.14
1 1/4" x 1"	CFR-30x4-125x100	21.8	25.2	OR*-2815	0.18
1 1/2" x 1 1/4"	CFR-38x4-150x125	29.8	28.7	OR*-3515	0.27
2" x 1 1/2"	CFR-50x5-200x150	39.8	27.9	OR*-4515	0.32
2 1/2" x 2"	CFR-60x5-250x200	49.8	33.5	OR*-5615	0.58
3" x 2 1/2"	CFR-75x5-300x250	64.8	32.0	OR*-6715	0.79

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

• OTHER REDUCER SIZES ARE AVAILABLE

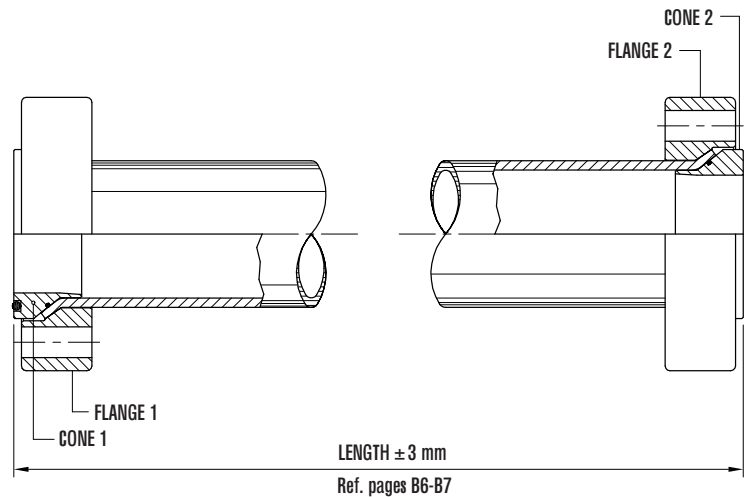
MATERIAL: CARBON STEEL, BLACK ZINC DICHROMATE PLATED, (STAINLESS STEEL STANDARD-316 AVAILABLE)

Flare Flange Pipe Assembly - Metric

Typical PAF Assembly

COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LENGTH OF CLEAN PIPE
(REF. PAGES B6-B7)
- TWO (2) FLARE FLANGES (REF. PAGES B8-B11)
- TWO (2) CONES
(REF. PGS B12-B15 FOR TYPE OF CONE)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL



PART NO. (EXAMPLE): PAF/52 - 20x3-050 - FCM34 - FCM34 - CO - CF - 6000

• REDUCING FLANGES AND CONES ARE AVAILABLE (REFERENCE PAGES B16-B19)

FOR FLARE FLANGE ASSEMBLIES UTILIZING REDUCING FLANGES AND CONES ADD (R) TO FLANGE AND CONE CODE NUMBERS.
ie. ISO 6162-1 flare flange with clearance holes - code number FCM34 would be FFCRM34-(flange size)

REDUCING PART NO. (EXAMPLE): PAF/52 - 20x3-050 - FCRM34-075 - FCM34 - COR - CF - 6000

Consult factory for ordering assistance



Flare Flange Pipe Assembly - Metric

Complete Assembly Part Number

		Code	PAF /	Pipe & Cone Material	Pipe Size & OD x Wall	Flange 1	Flange 2	Cone 1	Cone 2	Length	Options
Pipe Assembly - Flared		A									
Pipe & Cone Material Carbon Steel Ref. page B6	TMP52CD	52									
	♦TMP46CD	46									
Pipe & Cone Material Stainless Steel Ref. page B7	TMP304SS	304									
	TMP316SS	316									
	♦TMP2205SS	2205									
Body Size & Schedule	1/2"	20x3-050									
	3/4"	25x3-075									
	1"	30x4-100									
	1 1/4"	38x4-125									
	1 1/2"	50x5-150									
	2"	60x5-200									
	2 1/2"	75x5-250									
	3"	90x5-300									
Flange Type Carbon Steel Yellow Zinc Dichromate Plated Ref. pages (B8-B11)	FFCM34 ISO 6162-1 W/Metric Clearance Holes	FCM34									
	FTTM34 ISO 6162-1 W/Metric Tapped Holes	FTM34									
	FFCM64 ISO 6162-2 W/Metric Clearance Holes	FCM64									
	FTTM64 ISO 6162-2 W/Metric Tapped Holes	FTM64									
	FFCM74 ISO 6164 W/Metric Clearance Holes	FCM74									
Cone Type Ref. pages (B12-B15)	Cone - Flat Face	CF									
	Cone - 'O' Ring Face	CO									
Length	Specify (mm.)										
Options	Viton	V									
	Painted (Specify)	P									
Complete Stainless Steel Assembly: (including flanges)		SS									

♦ TMP46CD PIPE IS ONLY AVAILABLE IN 1 1/4"-2"
TMP2205SS PIPE IS ONLY AVAILABLE IN 1 1/4"-2"

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

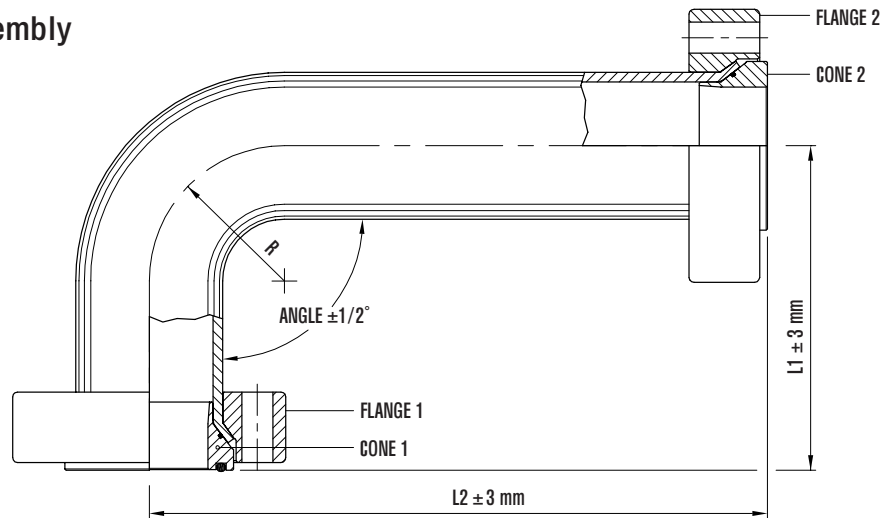
PART NO. (EXAMPLE): PAF/52 - 20x3-050 - FCM34 - FCM34 - CO - CF - 6000

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
- FOR BOLT KITS - REFERENCE SECTION R



Flare Flange Bent Pipe Assembly - Metric

Typical BPAF Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LENGTH OF BENT CLEAN PIPE
(REF. PAGES B6-B7)
- TWO (2) FLARE FLANGES
(REF. PAGES B8-B11)
- TWO (2) CONES
(REF. PGS B12-B15 FOR TYPE OF CONE)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL

PART NO. (EXAMPLE): BPAF/52 - 30x4-100 - FCM34 - FCM34 - CO - CF - R1 - 3125 - 90 - 2115

Size	OD x Wall	R1		R2	
		Field Manufactured		Factory Manufactured	
		Dimensions (mm)		Dimensions (mm)	
		L(min.)	R	L(min.)	R**
1/2"	20 x 3	152	98	127	40
3/4"	25 x 3	165	109	127	50
1"	30 x 4	178	124	127	60
1 1/4"	38 x 4	218	143	152	76
1 1/2"	50 x 5	292	208	165	100
2"	60 x 5	330	240	203	120
2 1/2"	75 x 5	406	318	279	150
3"	90 x 5	483	381	318	180

**OTHER RADII AVAILABLE (CONSULT FACTORY)

- FOR BOLT KITS - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

- **REDUCING METRIC FLANGES AND CONES ARE AVAILABLE (REFERENCE PAGES B16-B19)**

FOR FLARE FLANGE ASSEMBLIES UTILIZING REDUCING FLANGES AND CONES ADD (R) TO FLANGE AND CONE CODE NUMBERS.
ie. ISO 6162-1 metric flare flange with clearance holes - code number FCM34 would be FCRM34-(flange size)

REDUCING PART NO. (EXAMPLE): BPAF/52 - 30x4 - 100 - FCRM34-125 - FCM34 - COR - CF - R1 - 3125 - 90 - 2115

Consult factory for ordering assistance



Flare Flange Bent Pipe Assembly - Metric

Complete Assembly Part Number

		Code	BPAF /	Pipe & Cone Material	-	Pipe Size & OD x Wall	-	Flange 1	-	Flange 2	-	Cone 1	-	Cone 2	-	Radius	-	Length L1	-	Angle	-	Length L2	-	Options
Pipe Assembly - Flared		A																						
Pipe & Cone Material Carbon Steel Ref. page B6	TMP52CD	52																						
	♦TMP46CD	46																						
Pipe & Cone Material Stainless Steel Ref. page B7	TMP304SS	304																						
	TMP316SS	316																						
	♦TMP2205SS	2205																						
Body Size & Schedule	1/2"	20x3-050																						
	3/4"	25x3-075																						
	1"	30x4-100																						
	1 1/4"	38x4-125																						
	1 1/2"	50x5-150																						
	2"	60x5-200																						
	2 1/2"	75x5-250																						
	3"	90x5-300																						
Flange Type Carbon Steel Yellow Zinc Dichromate Plated Ref. pages (B8-B11)	FFCM34 ISO 6162-1 W/Metric Clearance Holes	FCM34																						
	FFTM34 ISO 6162-1 W/Metric Tapped Holes	FTM34																						
	FFCM64 ISO 6162-2 W/Metric Clearance Holes	FCM64																						
	FFTM64 ISO 6162-2 W/Metric Tapped Holes	FTM64																						
	FFCM74 ISO 6164 W/Metric Clearance Holes	FCM74																						
Cone Type Ref. pages (B12-B15)	Cone - Flat Face	CF																						
	Cone - 'O' Ring Face	CO																						
Radius Ref. page (B22)	Field Manufactured	R1																						
	Factory Manufactured	R2																						
Length	L1	Specify (mm.)																						
Length	Max. 90°	Specify (°)																						
Length	L2	Specify (mm.)																						
Options	Viton	V																						
	Painted (Specify)	P																						
Complete Stainless Steel Assembly: (including flanges)		SS																						

♦ TMP46CD PIPE IS ONLY AVAILABLE IN 38x4, 50x5, and 60x5 mm SIZES
TMP2205SS PIPE IS ONLY AVAILABLE IN 38x4, 50x5, and 60x5 mm SIZES

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

PART NO. (EXAMPLE): BPAF/52 - 30x4-100 - FCM34 - FCM34 - CO - CF - R1 - 3125 - 90 -2115

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
- FOR BOLT KITS - REFERENCE SECTION R



Flare Flange Elbow Assembly - Metric

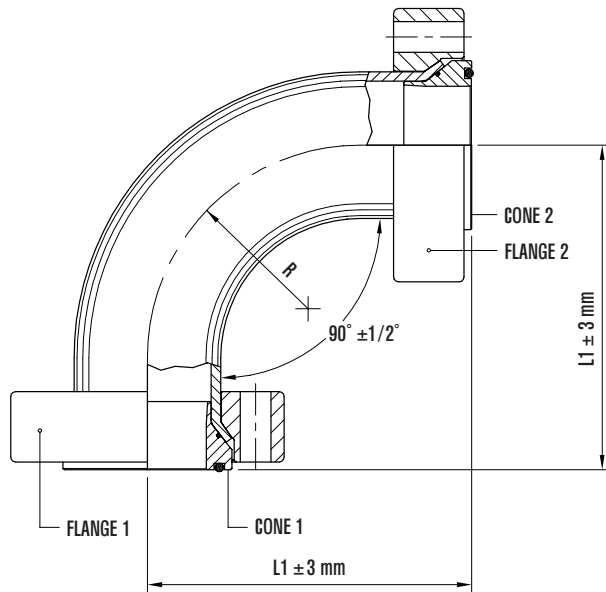
Short Radius Bent Elbow

Typical A/FFEM Assembly

For field bent pipe assemblies
Ref. page B22

COMPLETE ASSEMBLY CONSISTS OF:

- FLARE FLANGE 90° ELBOW BODY
- TWO (2) FLARE FLANGES (REF. PAGES B8-B11)
- TWO (2) CONES
(REF. PAGES B12-B15 FOR TYPE OF CONE)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL



PART NO. (EXAMPLE): A/FFEM - 20x3-050 - FCM34 - FCM34 - CO - CO

FFEM Flare Flange Elbow Body (Metric)

Size	OD x Wall	Dimensions (mm)		WT. *(Body Only) kgs./pc	Working Pressure *(Body Only) bar
		L1	R		
1/2"	20 x 3	127	40	0.28	420
3/4"	25 x 3	127	50	0.36	390
1"	30 x 4	127	60	0.56	420
1 1/4"	38 x 4	152	76	0.89	340
1 1/2"	50 x 5	165	100	1.58	320
2"	60 x 5	203	120	2.38	265
2 1/2"	75 x 5	279	150	5.38	210
3"	90 x 5	318	180	8.10	170

* BODY ONLY CONSISTS OF BENT FLARED PIPE SECTION AND CONES. FOR TOTAL ASSEMBLY WEIGHT, ADD APPROPRIATE FLANGE WEIGHTS TO BODY WEIGHT.

- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE B25
- OTHER RADII AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)

- REDUCING METRIC FLANGES AND CONES ARE AVAILABLE (REFERENCE PAGES B16-B19)

FOR FLARE FLANGE ASSEMBLIES UTILIZING REDUCING FLANGES AND CONES ADD (R) TO FLANGE AND CONE CODE NUMBERS.
ie. ISO 6162-1 metric flare flange with clearance holes - code number FCM34 would be FCRM34-(flange size)

REDUCING PART NO. (EXAMPLE): A/FFEM - 20x3 - FCRM34-075 - FCM34 - COR - CO

Consult factory for ordering assistance



Flare Flange Elbow Assembly - Metric

Complete Assembly Part Number

		Code	A	/	FFEM	-	Body & Cone Material	-	Size & OD x Wall	-	Flange 1	-	Flange 2	-	Cone 1	-	Cone 2	-	Options
Assembly		A																	
Flare Flange Elbow Metric		FFEM																	
Body & Cone Material Carbon Steel (Standard) Ref. page (B24)	No Designation Required																		
Body & Cone Material Stainless Steel (Optional) Ref. page (B7)	TMP304SS	304																	
	TMP316SS	316																	
	TMP2205SS	2205																	
Body Size & Schedule	1/2"	20x3-050																	
	3/4"	25x3-075																	
	1"	30x4-100																	
	1 1/4"	38x4-125																	
	1 1/2"	50x5-150																	
	2"	60x5-200																	
	2 1/2"	75x5-250																	
Flange Type Carbon Steel Yellow Zinc Dichromate Plated Ref. pages (B8-B11)	FFCM34 ISO 6162-1 W/Metric Clearance Holes	FCM34																	
	FFTM34 ISO 6162-1 W/Metric Tapped Holes	FTM34																	
	FFCM64 ISO 6162-2 W/Metric Clearance Holes	FCM64																	
	FFTM64 ISO 6162-2 W/Metric Tapped Holes	FTM64																	
	FFCM74 ISO 6164 W/Metric Clearance Holes	FCM74																	
Cone Type Ref. pages (B12-B15)	Cone - Flat Face	CF																	
	Cone - 'O' Ring Face	CO																	
Options	Viton	V																	
	Painted (Specify)	P																	
Complete Stainless Steel Assembly: (including flanges)		SS																	

♦ TMP2205SS PIPE IS ONLY AVAILABLE IN 38x4, 50x5, and 60x5 mm SIZES

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

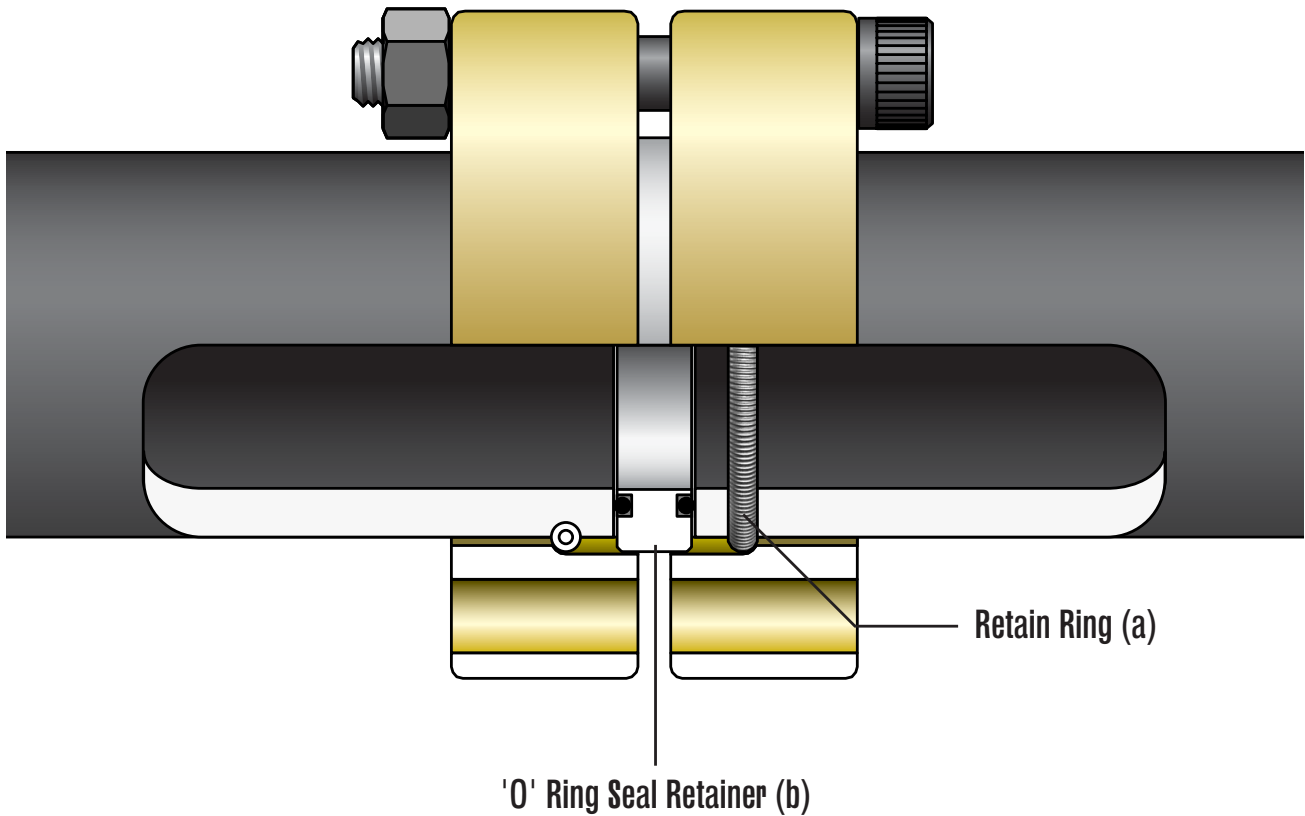
PART NO. (EXAMPLE): A/FFEM - 20x3-050 - FCM34 - FCM34 - CF - CO

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
- FOR BOLT KITS - REFERENCE SECTION R





Retain Ring System



The retain ring configuration uses heavy wall pipe and has a machined butt end face, along with an annular groove on the outside diameter.

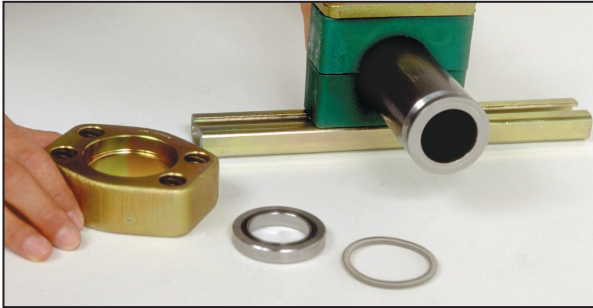
After machining, the flange is slipped onto the pipe and a retain ring (a) which consists of a segmented stainless steel ring bound by a spiral wound stainless steel spring is sprung over the pipe's outside diameter nesting in the annular groove. Bolting the flanges together draws them against the retain rings with the 'o'ring seal retainer (b) captive within the connection.

Pipe sizes 1 1/2" through 8" are available for use with retain ring flanges.

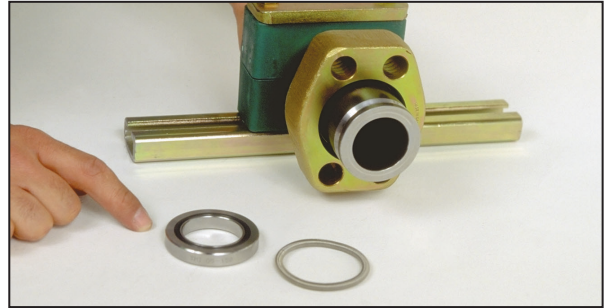
The standard connection styles offered conform to ISO 4-bolt flanges along with Tube-Mac® Industries 8-bolt proprietary flanges. Other flange patterns may also be available.

TMI® Retain Ring Flange Connection Procedure

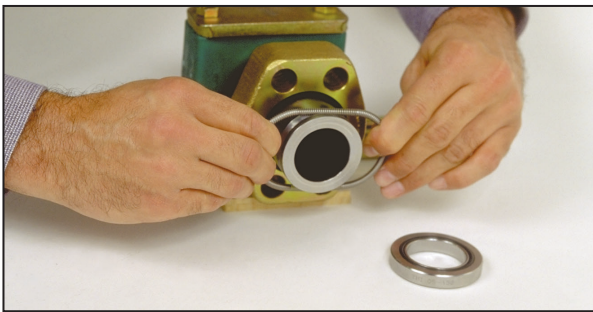
The retain ring flange connection consists of machined pipe, retain ring flanges, retain rings, 'o' ring seal retainer and bolting hardware.



Step 1: Pipe supplied with butt end machined along with an annular groove on the outside diameter.



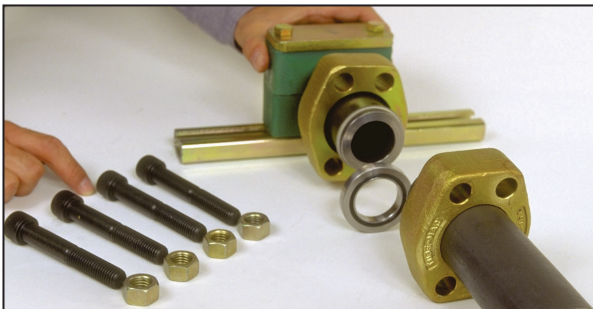
Step 2: Slip flange onto the pipe.



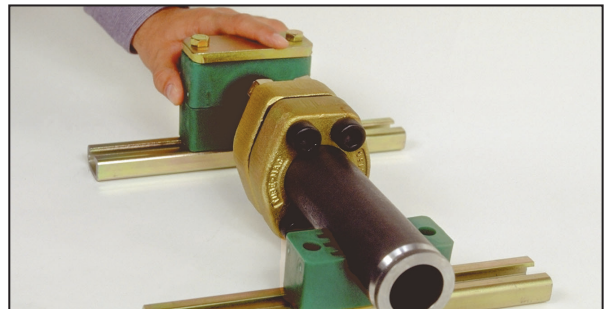
Step 3: Retain ring is sprung over the pipe's outside diameter nesting in the annular groove.



Step 4: Select the correct 'o' ring seal retainer style (reference pages C4 -C5). The 'o' ring provides a seal against the butt end of the pipe.

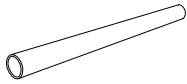
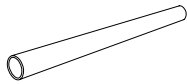
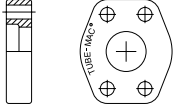
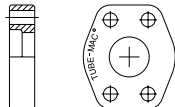
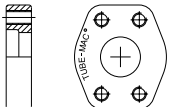
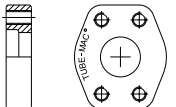
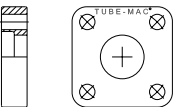
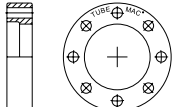
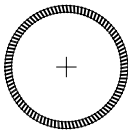
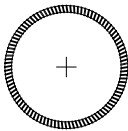
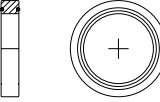
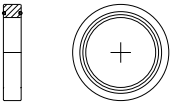
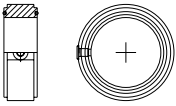
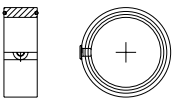
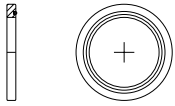
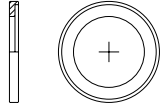
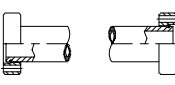
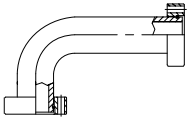
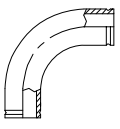
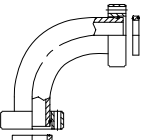
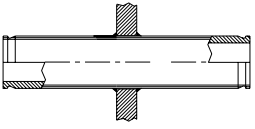
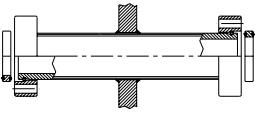


Step 5: Select the required bolting hardware from Section R of this catalogue. Carefully place the 'o' ring seal retainer in between the pipe ends. Slide the flanges forward and the 'o' ring seal retainer becomes captive within the flanges.



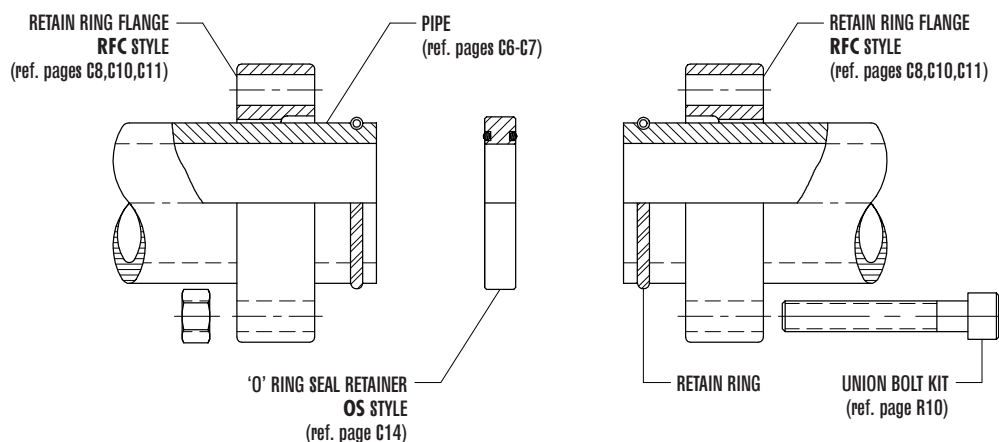
Step 6: Tighten bolts to the torque values specified. Always tighten bolts in a cross-over sequence and ensure that the flanges are parallel.

Retain Ring System - Metric Visual Index

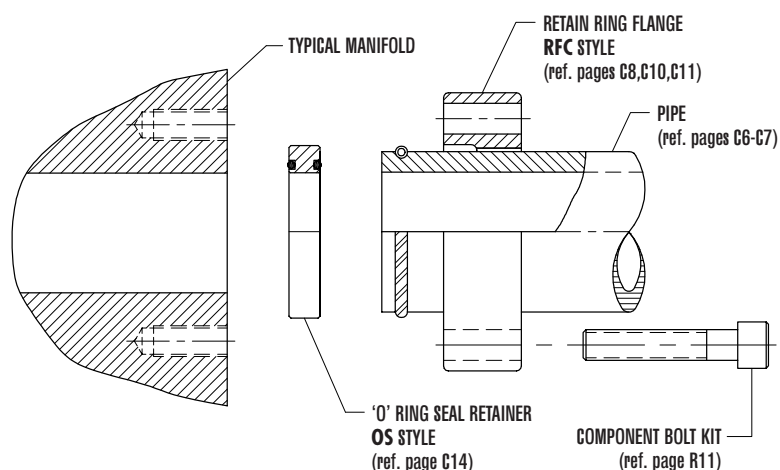
PIPES	CARBON STEEL PIPE  $1\frac{1}{2}" - 8"$ Page C6	STAINLESS STEEL PIPE  $4" - 8"$ Page C7	RETAIN RING FLANGES	RFC34 ISO 6162-1 WITH CLEARANCE HOLES  $1\frac{1}{2}" - 3"$ Page C8
RFC64 ISO 6162-2 WITH CLEARANCE HOLES  $1\frac{1}{2}" - 2"$ Page C8	RFTM34 ISO 6162-1 WITH TAPPED HOLES  $1\frac{1}{2}" - 3"$ Page C9	RFTM64 ISO 6162-2 WITH TAPPED HOLES  $1\frac{1}{2}" - 2"$ Page C9	RFC74 ISO 6164 WITH CLEARANCE HOLES  $2\frac{1}{2}" - 4"$ Page C10	RFAC48 TMI® 8-BOLT WITH CLEARANCE HOLES  $5" - 8"$ Page C11
RETAIN RING	R  $1\frac{1}{2}" - 4"$ Page C13	RA  $5" - 8"$ Page C13	'O' RING SEAL RETAINER	OS  $1\frac{1}{2}" - 4"$ Page C14
OSA  $5" - 8"$ Page C14	OSPM  $1\frac{1}{2}" - 4"$ Page C15	OSAPM  $5" - 8"$ Page C15	OSH  $1\frac{1}{2}" - 4"$ Page C16	
'O' RING CONNECTOR PLATE	OCP  $1\frac{1}{2}" - 4"$ Page C17	PIPE ASSEMBLIES	PAR RETAIN RING FLANGE PIPE ASSEMBLY  $1\frac{1}{2}" - 8"$ Page C18-19	BPAR RETAIN RING FLANGE BENT PIPE ASSEMBLY  $1\frac{1}{2}" - 8"$ Page C20-21
RETAIN RING FLANGE ELBOW	RFE BODY ONLY  $1\frac{1}{2}" - 8"$ Page C22	A/RFE ASSEMBLY  $1\frac{1}{2}" - 8"$ Page C23		
RETAIN RING BULKHEAD	RFBH BODY ONLY  $1\frac{1}{2}" - 4"$ Page C24	A/RFBH ASSEMBLY  $1\frac{1}{2}" - 4"$ Page C25		

Retain Ring Flange Connections - Heavy Wall Pipe

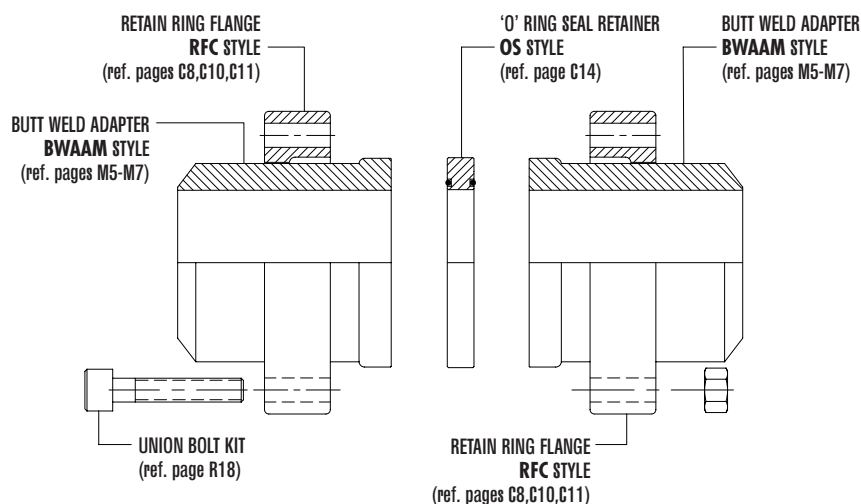
Typical Pipe Union Connection



Typical Pipe to Flat Face Connection

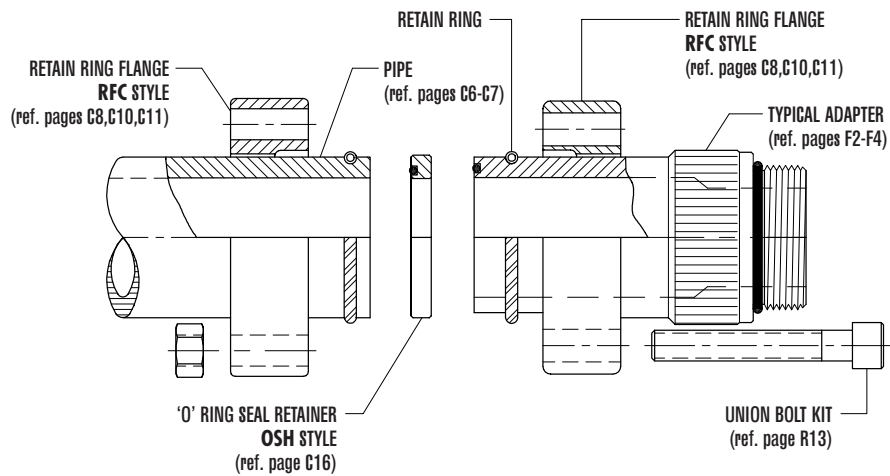


Typical Butt Weld Adapter Union Connection

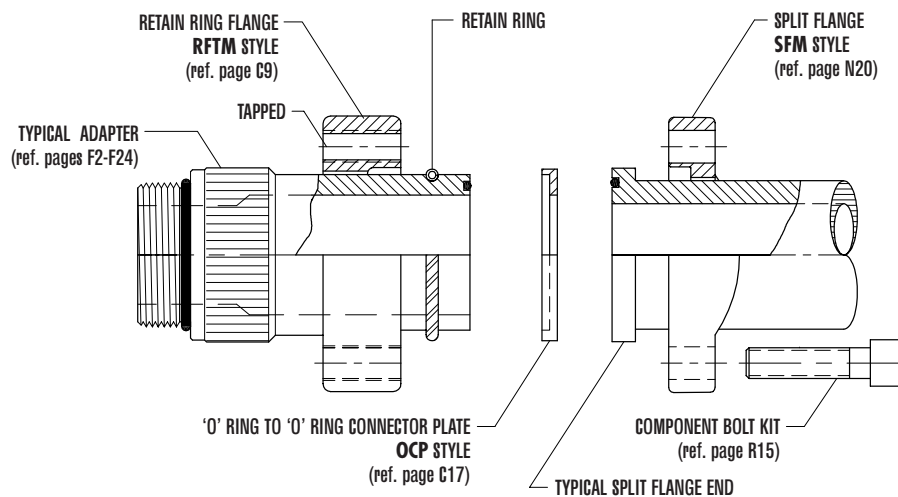


Retain Ring Flange Connections - Heavy Wall Pipe

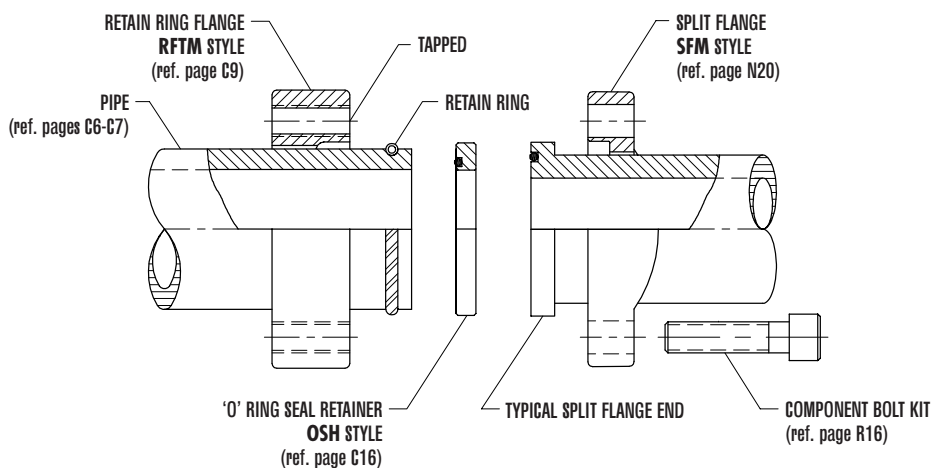
Typical Pipe to 'O' Ring Face Retain Ring Component Connection



Typical 'O' Ring Face Retain Ring Component to ISO 6162 Split Flange Connection



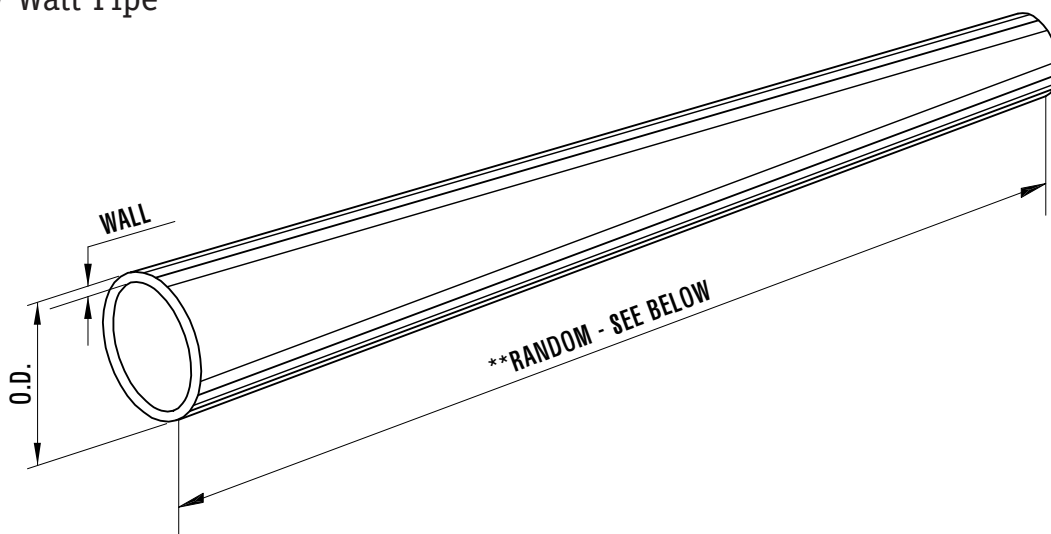
Typical Pipe to ISO 6162 Split Flange Connection



TMI® Carbon Steel Pipe - Metric

Suitable for High Pressure Retain Ring

Heavy Wall Pipe



TMP52CD

A519 - DIN 2391c St 52.4 NBK Phosphated High Quality Bendable Cold Drawn Seamless Carbon Steel

Nominal Size	Pipe Part No.	OD x Wall (mm)	Bore Dia. (mm)	WT. kgs/m	Working Pressure (bar)
1 1/2"	TMP52CD-56x150x**	56 x 8.5	39	10.00	420
2"	TMP52CD-66x200x**	66 x 8.5	49	12.10	420
2 1/2"	TMP52CD-80x250x**	80 x 10	60	17.35	400
3"	TMP52CD-97x300x**	97 x 12	73	25.25	400
4"	TMP52CD-115x400x**	115 x 15	85	37.15	400

**INDICATE LENGTH (MILLIMETERS), AVAILABLE IN RANDOM LENGTHS UP TO 9 METERS

TMP106HR

A106B - Cleaned Seamless Carbon Steel

Schedule XXS/160

Nominal Size	Pipe Part No.	OD x Wall (mm)	Bore Dia. (mm)	WT. kgs/m	Working Pressure (bar)
5"	TMP106HR-SCHXXS-500x**	141.3 x 19.1	103.20	57.40	275
6"	TMP106HR-SCHXXS-600x**	168.3 x 21.9	124.40	79.20	255
8"	TMP106HR-SCH160-800x**	219.1 x 23.0	173.05	111.25	240

• FOR SIZES 10" OR LARGER CONSULT FACTORY

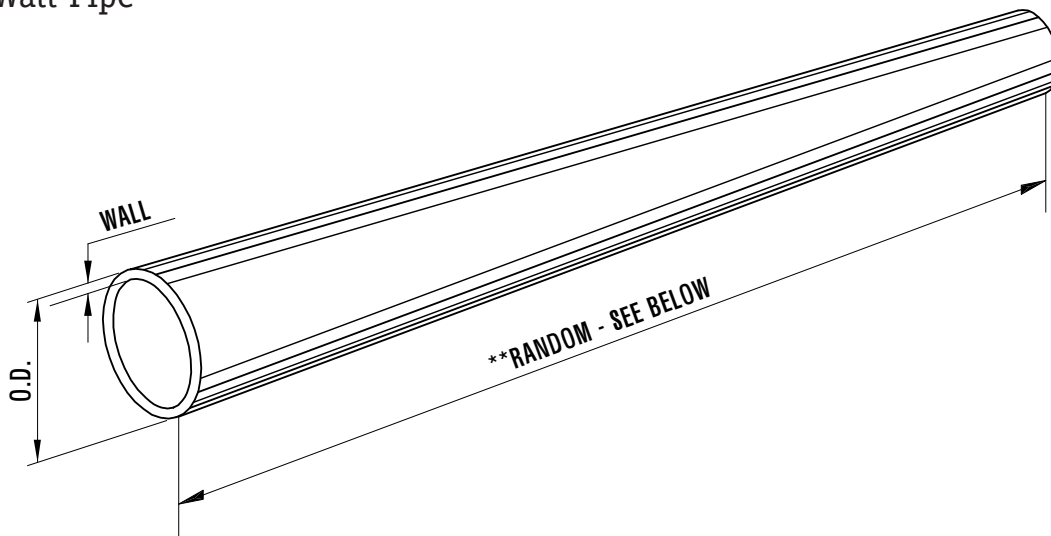
**INDICATE LENGTH (MILLIMETERS), AVAILABLE IN RANDOM LENGTHS UP TO 12 METERS

- TO ORDER A RETAIN RING FLANGE PIPE ASSEMBLY REFERENCE PAGE C18-C21
- MAXIMUM ALLOWABLE WORKING PRESSURES ARE BASED ON THE LOWER OF THE PIPE RATING PER ANSI B31.3 OR THE CONNECTION RATING

TMI® Stainless Steel Pipe - Metric

Suitable for High Pressure Retain Ring

Heavy Wall Pipe



TMP304SS/316SS

A312 - Seamless Stainless Steel (supplied as dual certification ie. 304/304L or 316/316L)

Schedule XXS/160

Nominal Size	304/304L Stainless Steel Pipe Part No.	316/316L Stainless Steel Pipe Part No.	OD x Wall (mm)	Bore Dia. (mm)	WT. kgs/m	Working Pressure (bar)
4"	TMP304SS-SCHXXS-400x**	TMP316SS-SCHXXS-400x**	114.3 x 17.1	80.06	41.05	400
5"	TMP304SS-SCHXXS-500x**	TMP316SS-SCHXXS-500x**	141.3 x 19.1	103.20	51.47	275
6"	TMP304SS-SCHXXS-600x**	TMP316SS-SCHXXS-600x**	168.3 x 21.9	124.40	79.25	255
8"	TMP304SS-SCH160-800x**	TMP316SS-SCH160-800x**	219.1 x 23.0	173.05	111.36	240

- FOR SIZES 10" OR LARGER CONSULT FACTORY

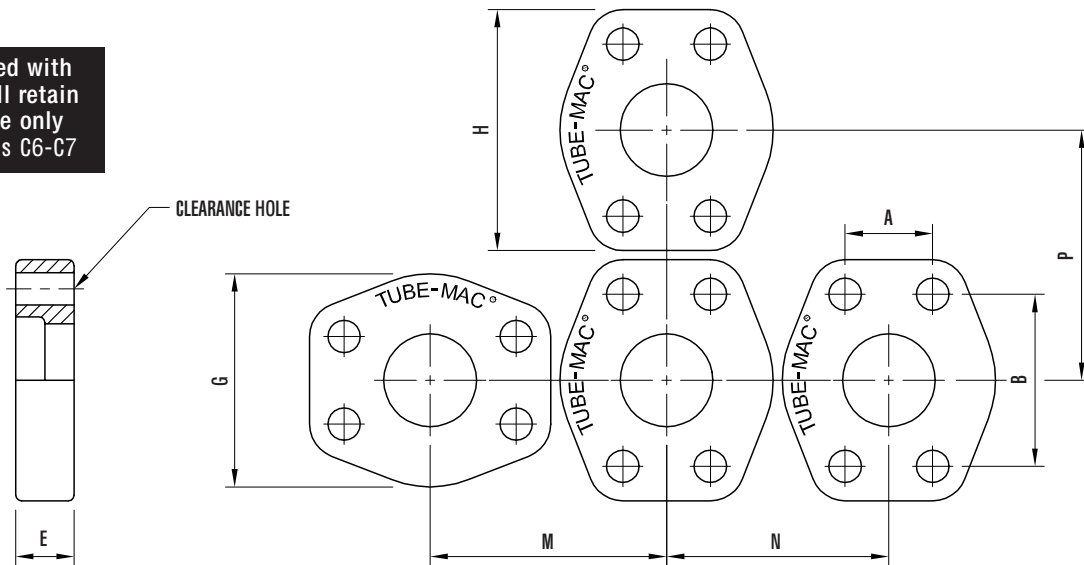
**INDICATE LENGTH (MILLIMETERS), AVAILABLE IN RANDOM LENGTHS UP TO 6 METERS

- TO ORDER A RETAIN RING FLANGE PIPE ASSEMBLY REFERENCE PAGE C18-C21
- MAXIMUM ALLOWABLE WORKING PRESSURES ARE BASED ON THE LOWER OF THE PIPE RATING PER ANSI B31.3 OR THE CARBON STEEL CONNECTION RATING
- FOR PIPING SYSTEMS CONSISTING OF ALL STAINLESS STEEL COMPONENTS, PRESSURE RATINGS WILL BE LESS THAN THAT SHOWN ABOVE (CONTACT FACTORY)

Retain Ring Flanges - Metric

ISO - Flanges with Clearance Holes

To be used with
heavy wall retain
ring pipe only
Ref. pages C6-C7



RFC34 Retain Ring Flange - ISO 6162-1 With Clearance Holes

Standard Pressure Series 140-350 bar

Size (inch)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
1/2"	RFC34-050	17.5	38.1	46.0	54.9	52.1	49.0	58.9	20.6	M8	0.18	350	20-25
3/4"	RFC34-075	22.4	47.8	52.3	65.0	61.0	55.1	68.1	20.8	M10	0.21	350	55-68
1"	RFC34-100	26.2	52.3	58.7	70.1	67.1	62.0	72.9	22.1	M10	0.26	350	55-68
1 1/4"	RFCM34-125	30.2	58.7	73.2	79.0	79.0	75.9	82.0	23.2	M10	0.36	275	55-68
1 1/2"	RFC34-150	35.8	69.9	82.6	93.0	90.9	85.1	96.0	26.9	M12	0.64	210	76-83
2"	RFC34-200	42.9	77.7	96.8	102.1	102.1	100.1	104.9	31.0	M12	0.91	210	110-125
2 1/2"	RFC34-250	50.8	88.9	108.7	114.0	114.0	111.0	117.1	35.6	M12	1.49	175	110-125
3"	RFC34-300	62.0	106.4	131.1	134.1	135.9	133.1	136.9	42.4	M16	2.35	140	150-165

RFC64 Retain Ring Flange - ISO 6162-2 With Clearance Holes

High Pressure Series 420 bar

Size (inch)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
1/2"	RFC64-050	18.3	40.4	47.8	56.4	55.9	53.1	58.9	20.6	M8	0.20	420	20-25
3/4"	RFC64-075	23.9	50.8	60.5	71.4	70.1	68.1	74.9	25.9	M10	0.38	420	55-68
1"	RFCM64-100	27.7	57.2	69.9	81.0	81.0	75.9	85.1	26.2	M12	0.51	420	110-125
1 1/4"	RFC64-125	31.8	66.8	77.7	95.3	90.9	83.1	99.1	31.8	M12	0.85	420	110-125
1 1/2"	RFC64-150	36.6	79.5	95.3	112.8	108.0	101.1	116.1	35.1	M16	1.43	420	150-165
2"	RFC64-200	44.5	96.8	114.3	133.4	128.0	94.5	136.9	42.7	M20	2.19	420	165-175

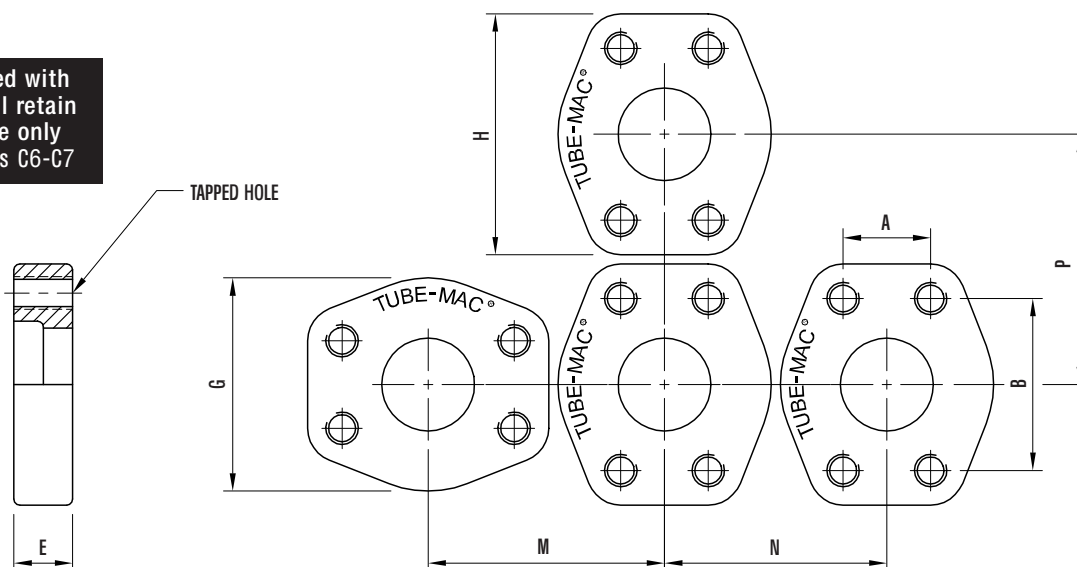
• FOR BOLT KITS - REFERENCE SECTION R

MATERIAL: FORGED CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Retain Ring Flanges - Metric

ISO - Flanges with Tapped Holes

To be used with
heavy wall retain
ring pipe only
Ref. pages C6-C7



RFTM34 Retain Ring Flange - ISO 6162-1 With Tapped Holes

Standard Pressure Series 140-350 bar

Size (inch)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
1/2"	RFTM34-050	17.5	38.1	46.0	54.9	52.1	49.0	58.9	20.6	M8 x 1.25	0.20	350	20-25
3/4"	RFTM34-075	22.4	47.8	52.3	65.0	61.0	55.1	68.1	20.8	M10 x 1.50	0.28	350	55-68
1"	RFTM34-100	26.2	52.3	58.7	70.1	67.1	62.0	72.9	22.1	M10 x 1.50	0.34	350	55-68
1 1/4"	RFTM34-125	30.2	58.7	73.2	79.0	79.0	75.9	82.0	23.2	M10 x 1.50	0.52	275	55-68
1 1/2"	RFTM34-150	35.8	69.9	82.6	93.0	90.9	85.1	96.0	26.9	M12 x 1.75	0.98	210	76-83
2"	RFTM34-200	42.9	77.7	96.8	102.1	102.1	100.1	104.9	31.0	M12 x 1.75	1.20	210	110-125
2 1/2"	RFTM34-250	50.8	88.9	108.7	114.0	114.0	111.0	117.1	35.6	M12 x 1.75	1.70	175	110-125
3"	RFTM34-300	62.0	106.4	131.1	134.1	135.9	133.1	136.9	42.4	M16 x 2.00	2.77	140	150-165

RFTM64 Retain Ring Flange - ISO 6162-2 With Tapped Holes

High Pressure Series 420 bar

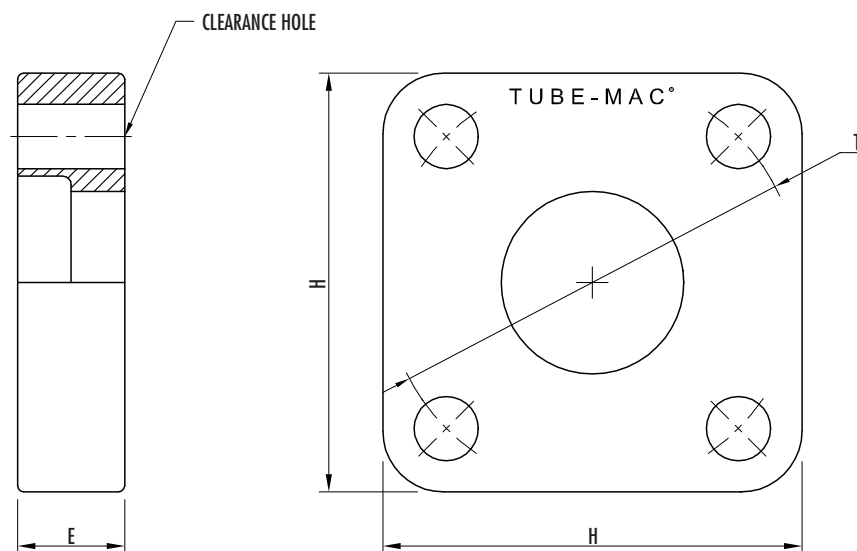
Size (inch)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
1/2"	RFTM64-050	18.3	40.4	47.8	56.4	55.9	53.1	58.9	20.6	M8 x 1.25	0.24	420	20-25
3/4"	RFTM64-075	23.9	50.8	60.5	71.4	70.1	68.1	74.9	25.9	M10 x 1.50	0.36	420	55-68
1"	RFTM64-100	27.7	57.2	69.9	81.0	81.0	75.9	85.1	26.2	M12 x 1.75	0.40	420	110-125
1 1/4"	RFTM64-125	31.8	66.8	77.7	95.3	90.9	83.1	99.1	31.8	M12 x 1.75	0.99	420	110-125
1 1/2"	RFTM64-150	36.6	79.5	95.3	112.8	108.0	101.1	116.1	35.1	M16 x 2.00	1.44	420	150-165
2"	RFTM64-200	44.5	96.8	114.3	133.4	128.0	94.5	136.9	42.7	M20 x 2.50	2.32	420	165-175

MATERIAL: FORGED CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Retain Ring Flanges - Metric

ISO 6164 - Flanges with Clearance Holes

To be used with
heavy wall retain
ring pipe only
Ref. pages C6-C7



RFC74 Retain Ring Flange - ISO 6164 With Clearance Holes

400 bar

Size (inch)	Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	H	E				
2 1/2"	RFC74-250	118.1	119.9	37.6	M20	2.18	400	165-175
3"	RFC74-300	145	150.1	43.9	M24	3.58	400	475-550
4"	RFC74-400	175.0	177.8	50.3	M30	6.55	400	665-730

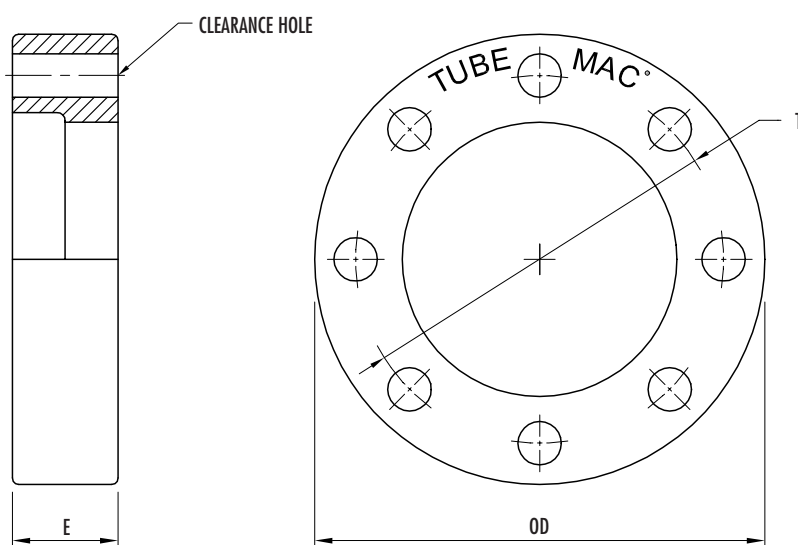
- FOR BOLT KITS - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Retain Ring Flanges - Metric

TMI® 8-Bolt - Flanges with Clearance Holes

To be used with heavy wall retain ring pipe only
Ref. pages C6-C7



RFAC48 Retain Ring Flange - TMI® 8-Bolt With Clearance Holes

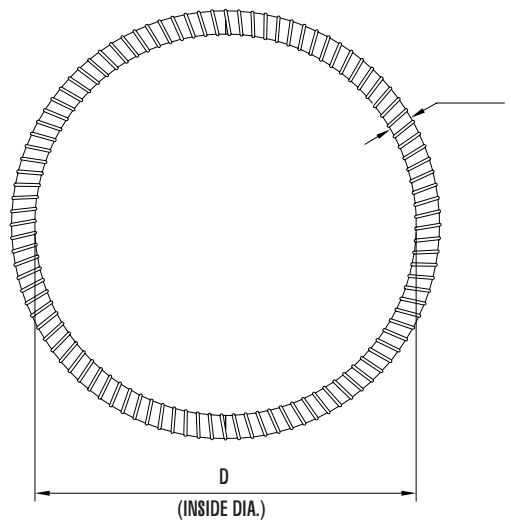
240-275 bar

Size (inch)	Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	OD	E				
5"	RFAC48-500	200.2	245.1	50.8	M24	9.48	275	475-550
6"	RFAC48-600	245.1	300.0	58.7	M24	20.11	255	475-550
8"	RFAC48-800	315.0	384.3	76.2	M36	39.57	240	1460-1595

- FOR SIZES 10" OR LARGER CONSULT FACTORY
- FOR BOLT KITS - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Retain Ring - Metric



R Retain Ring - 1/2" - 4"

RA Retain Ring - 5" - 8"

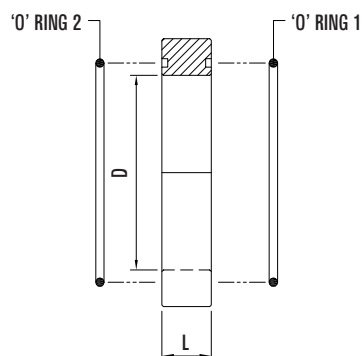
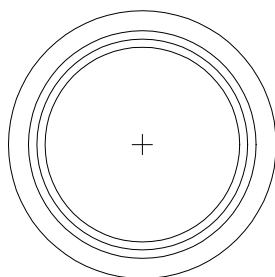
Size (inch)	Retain Ring Part No.	Dimensions (mm)		WT. kgs./pc
		D	t	
1/2"	R-050	21.6	4.1	0.005
3/4"	R-075	31.5	4.1	0.009
1"	R-100	33.5	5.1	0.014
1 1/4"	R-125	40.4	5.1	0.018
1 1/2"	R-150	50.5	5.1	0.023
2"	R-200	60.5	5.1	0.027
2 1/2"	R-250	74.4	5.1	0.032
3"	R-300	90.4	6.1	0.055
4"	R-400	106.4	7.9	0.123
5"	RA-500	132.8	7.9	0.155
6"	RA-600	157.7	9.9	0.291
8"	RA-800	206.5	11.9	0.536

• FOR SIZES 10" OR LARGER CONSULT FACTORY

MATERIAL: STAINLESS STEEL - AISI 302/304 SPRING TEMPER

'O' Ring Seal Retainer - Metric

OS/OSA



OS 'O' Ring Seal Retainer for Retain Ring Pipe - 1/2"-4"
Complete with Nitrile 'O' Rings (Standard)

OSA 'O' Ring Seal Retainer for Retain Ring Pipe - 5"-8"
Complete with Nitrile 'O' Rings (Standard)

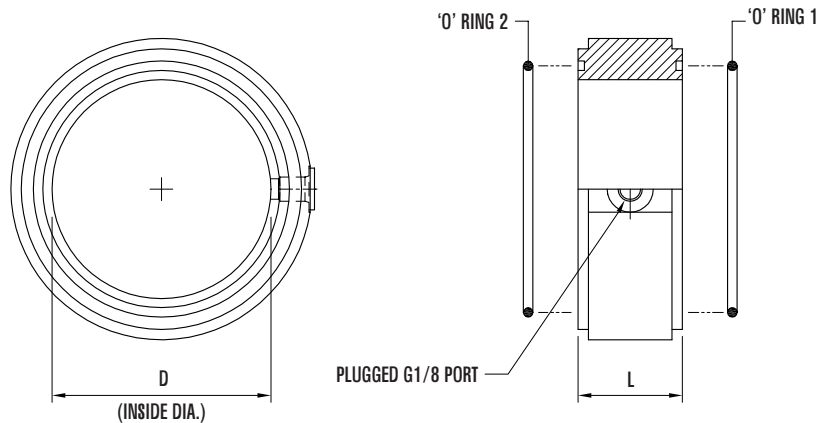
Size (inch)	Retainer Part No.	Dimensions (mm)		'O' Rings 1&2 (Nitrile) Part No.	WT. kgs./pc
		D	L		
1/2"	OS-050-*	14.0	12.7	OR*-3-909	0.04
3/4"	OS-075-*	20.1	12.7	OR*-3-913	0.06
1"	OS-100-*	23.1	12.7	OR*-3-916	0.07
1 1/4"	OS-125-*	30.0	12.7	OR*-3-918	0.09
1 1/2"	OS-150-*	39.1	12.7	OR*-3-924	0.11
2"	OS-200-*	49.0	12.7	OR*-3-928	0.13
2 1/2"	OS-250-*	59.9	25.4	OR*-2-232	0.24
3"	OS-300-*	73.2	25.4	OR*-2-237	0.35
4"	OS-400-*	85.1	25.4	OR*-2-241	0.55
5"	OSA-500-*	103.1	38.1	OR*-2-353	2.60
6"	OSA-600-*	124.5	38.1	OR*-2-359	3.09
8"	OSA-800-*	173.0	38.1	OR*-2-368	4.70

• FOR SIZES 10" OR LARGER CONSULT FACTORY

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

'O' Ring Seal Retainer - Metric

With Pilot Port



OSPM 'O' Ring Seal Retainer with Pilot Port for Retain Ring Pipe - 1/2" - 4"
Complete with Nitrile 'O' Rings (Standard) and G1/8 Port (Plugged)

OSAPM 'O' Ring Seal Retainer with Pilot Port for Retain Ring Pipe - 5" - 8"
Complete with Nitrile 'O' Rings (Standard) and G1/8 Port (Plugged)

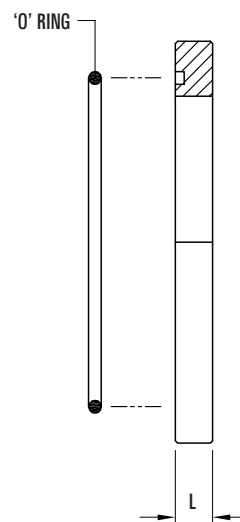
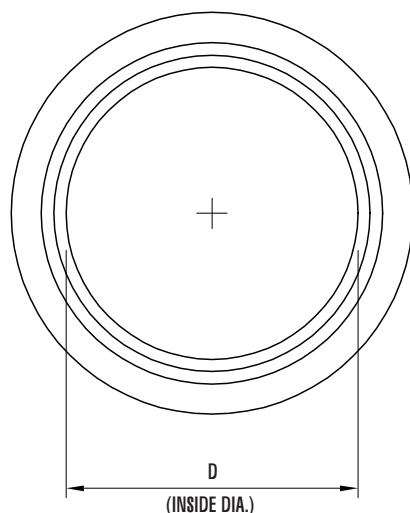
Size (inch)	Retainer Part No.	Dimensions (mm)		'O' Rings 1&2 (Nitrile) Part No.	WT. kgs./pc
		D	L		
1/2"	OSPM-050-*	14.0	38.1	OR*-3-909	0.19
3/4"	OSPM-075-*	20.1	38.1	OR*-3-913	0.30
1"	OSPM-100-*	23.1	38.1	OR*-3-916	0.37
1 1/4"	OSPM-125-*	30.0	38.1	OR*-3-918	0.43
1 1/2"	OSPM-150-*	39.1	38.1	OR*-3-924	0.57
2"	OSPM-200-*	49.0	38.1	OR*-3-928	0.70
2 1/2"	OSPM-250-*	59.9	38.1	OR*-2-232	0.90
3"	OSPM-300-*	73.2	38.1	OR*-2-237	1.27
4"	OSPM-400-*	85.1	38.1	OR*-2-241	2.82
5"	OSAPM-500-*	103.1	38.1	OR*-2-353	3.98
6"	OSAPM-600-*	124.5	38.1	OR*-2-359	5.74
8"	OSAPM-800-*	173.0	38.1	OR*-2-368	8.95

• FOR SIZES 10" OR LARGER CONSULT FACTORY

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

'O' Ring Seal Retainer - Metric



OSH 'O' Ring Seal Retainer for Retain Ring Pipe

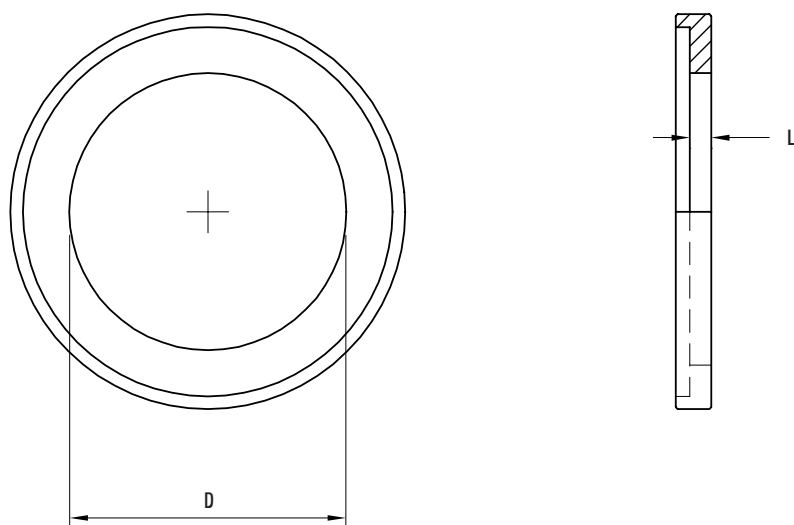
Complete with Nitrile 'O' Ring (Standard)

Size (inch)	Retainer Part No.	Dimensions (mm)		'O' Ring (Nitrile) Part No.	WT. kgs./pc
		D	L		
1/2"	OSH-050-*	14.0	6.4	OR*-3-909	0.02
3/4"	OSH-075-*	20.1	6.4	OR*-3-913	0.03
1"	OSH-100-*	23.1	6.4	OR*-3-916	0.04
1 1/4"	OSH-125-*	30.0	6.4	OR*-3-918	0.04
1 1/2"	OSH-150-*	39.1	6.4	OR*-3-924	0.05
2"	OSH-200-*	49.0	6.4	OR*-3-928	0.07
2 1/2"	OSH-250-*	59.9	12.7	OR*-2-232	0.12
3"	OSH-300-*	73.2	12.7	OR*-2-237	0.18
4"	OSH-400-*	85.1	12.7	OR*-2-241	0.27

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

'O' Ring Connector Plate - Metric



OCP 'O' Ring Connector Plate for Retain Ring Components

Size (inch)	Retainer Part No.	Dimensions (mm)		WT. kgs./pc
		D	L	
1/2"	OCP-050	12.7	3.3	0.02
3/4"	OCP-075	19.1	3.3	0.03
1"	OCP-100	23.9	3.3	0.03
1 1/4"	OCP-125	30.5	3.3	0.04
1 1/2"	OCP-150	38.1	3.3	0.05
2"	OCP-200	49.3	3.3	0.06
2 1/2"	OCP-250	59.9	3.3	0.08
3"	OCP-300	73.2	3.3	0.11
4"	OCP-400	85.1	3.3	0.15

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Retain Ring Flange Pipe Assembly - Metric

Heavy Wall Pipe

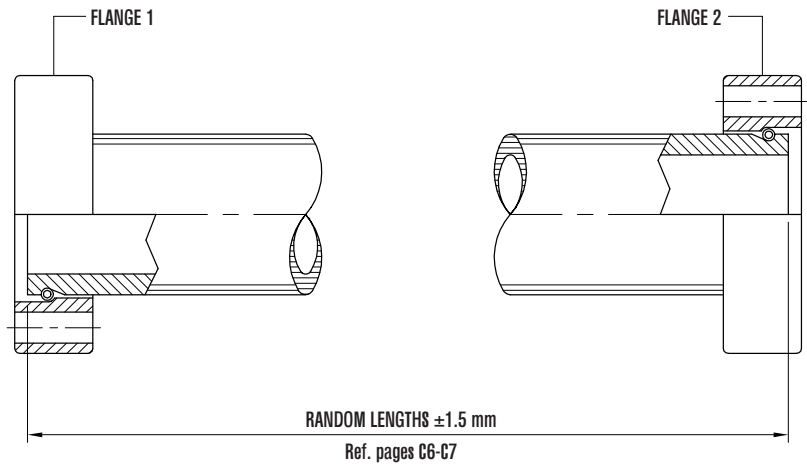
Typical PAR Assembly

COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LENGTH OF CLEAN PIPE
(REF. PAGES C6-C7)
- TWO (2) RETAIN RING FLANGES
(REF. PAGES C8-C12)
- TWO (2) RETAIN RINGS
- ENDS SEALED WITH 6 MIL HEAT SHRINK
MATERIAL (56-97mm)
- ENDS SEALED WITH POSITIVE
CLOSURE (115-219mm)

TO BE ORDERED SEPARATELY:

- 'O' RING SEAL RETAINER(S) (REF. PAGES C14-C16)



PART NO. (EXAMPLE): PAR/56 x 8.5 - FC34 - FC34 - 6000

Retain Ring Flange Pipe Assembly - Metric

Complete Assembly Part Number

		Code	PAR	Pipe Material	Pipe Size OD x Wall	Flange 1	Flange 2	Length	Options
Pipe Assembly - Retain Ring		PAR							
Pipe Material Carbon Steel (Standard)	No Designation Required								
◆ Pipe Material Stainless Steel (Optional) Ref. page (C7)	TMP304SS	304							
	TMP316SS	316							
Pipe Size & Wall Ref. page (C6) Phosphated Cold Drawn Seamless Carbon Steel A519-DIN 2391c St. 52.4 NBK	1 1/2"	56x8.5							
	2"	66x8.5							
	2 1/2"	80x10							
	3"	97x12							
	4"	115x15							
Pipe Size & Wall Ref. page (C6) Cleaned Seamless Carbon Steel A106B	5"	141x19							
	6"	168x22							
	8"	219x23							
Flange Type Carbon Steel Yellow Zinc Dicromate Plated Ref. pages (C8-C12)	RFC34 ISO 6162-1 W/Clearance Holes	FC34							
	*RFTM34 ISO 6162-1 W/Tapped Holes	FTM34							
	RFC64 ISO 6162-2 W/Clearance Holes	FC64							
	*RFT64 SAE Code 62 W/Tapped Holes	FT64							
	RFC74 ISO 6164 W/Clearance Holes	FC74							
	RFAC48 TM10 8-Bolt W/Clearance Holes	FAC48							
Length	Specify (mm)								
Options	Painted (Specify)	P							
◆ Complete Stainless Steel Assembly: (including flanges)			SS						

'O' Ring seal retainers are to be ordered separately (reference pages C14-C16)

◆ STAINLESS STEEL IS AVAILABLE (CONSULT FACTORY)

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

PART NO. (EXAMPLE): PAR/56 x 8.5 - FC34 - FC34 - 6000

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
- FOR BOLT KITS - REFERENCE SECTION R

Retain Ring Flange Bent Pipe Assembly - Metric

Heavy Wall Pipe

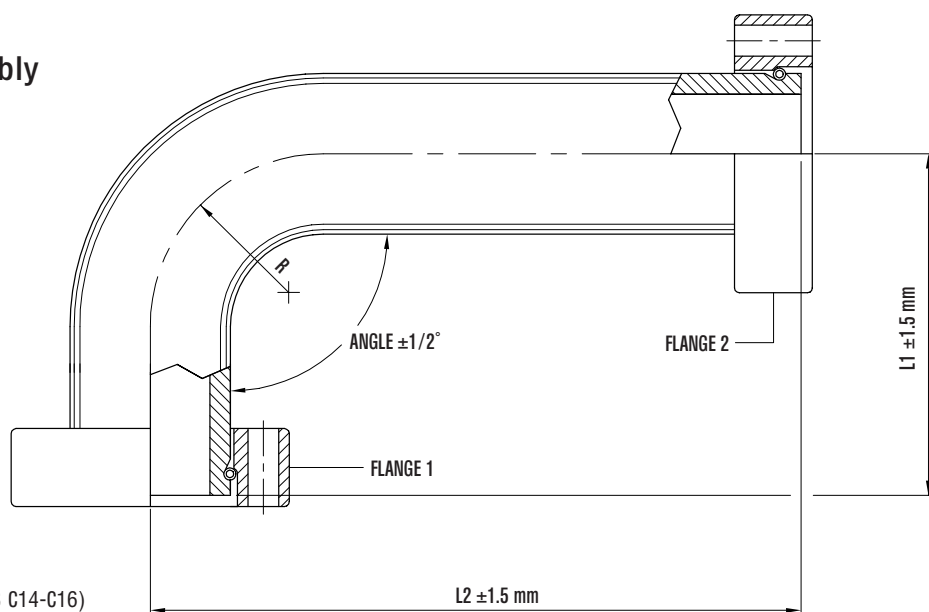
Typical BPAR Assembly

COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LENGTH OF BENT CLEAN PIPE (REF. PAGES C6-C7)
- TWO (2) RETAIN RING FLANGES (REF. PAGES C8-C12)
- TWO (2) RETAIN RINGS
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL (56-97mm)
- ENDS SEALED WITH POSITIVE CLOSURE (115-219mm)

TO BE ORDERED SEPARATELY:

- 'O' RING SEAL RETAINER(S) (REF. PAGES C14-C16)



PART NO. (EXAMPLE): BPAR/56 x 8.5 - FC34 - FC34 - 230 - 90 - 130

Size	Dimensions (mm)	
	L(min)	R
1 1/2"	317.50	209.55
2"	355.60	241.30
2 1/2"	431.80	317.50
3"	508.00	381.00
4"	635.00	508.00
5"	635.00	508.00
6"	762.00	609.60
8"	1016.00	812.80

Retain Ring Flange Bent Pipe Assembly - Metric

Complete Assembly Part Number

		Code	BPAR	Pipe Material	Pipe Size OD x Wall	Flange 1	Flange 2	Length L1	Angle	Length L2	Options
Bent Pipe Assembly - Retain Ring		BPAR									
Pipe Material Carbon Steel (Standard)	No Designation Required										
◆ Stainless Steel (Optional) Ref. page (C7)	TMP304SS	304									
	TMP316SS	316									
Pipe Size & Wall Ref. page (C6) Phosphated Cold Drawn Seamless Carbon Steel A519-DIN 2391c St. 52.4 NBK	1 1/2"	56x8.5									
	2"	66x8.5									
	2 1/2"	80x10									
	3"	97x12									
Pipe Size & Wall Ref. page (C6) Cleaned Seamless Carbon Steel A106B	4"	115x15									
	5"	141x19									
	6"	168x22									
	8"	219x23									
Flange Type Carbon Steel Yellow Zinc Dichromate Plated Ref. pages (C8-C12)	RFC34 ISO 6162-1 W/Clearance Holes	FC34									
	*RFTM34 ISO 6162-1 W/Tapped Holes	FTM34									
	RFC64 ISO 6162-2 W/Clearance Holes	FC64									
	*RFTM64 ISO 6162-2 W/Tapped Holes	FTM64									
	RFC74 ISO 6164 W/Clearance Holes	FC74									
	RFAC48 TMI® 8-Bolt W/Clearance Holes	FAC48									
Length	L1	Specify (mm)									
Angle	Max. 90°	Specify (°)									
Length	L2	Specify (mm)									
Options	Painted (Specify)	P									
◆ Complete Stainless Steel Assembly: (including flanges)		SS									

'O' Ring seal retainers are to be ordered separately (reference pages C14-C16)

◆ STAINLESS STEEL IS AVAILABLE (CONSULT FACTORY)

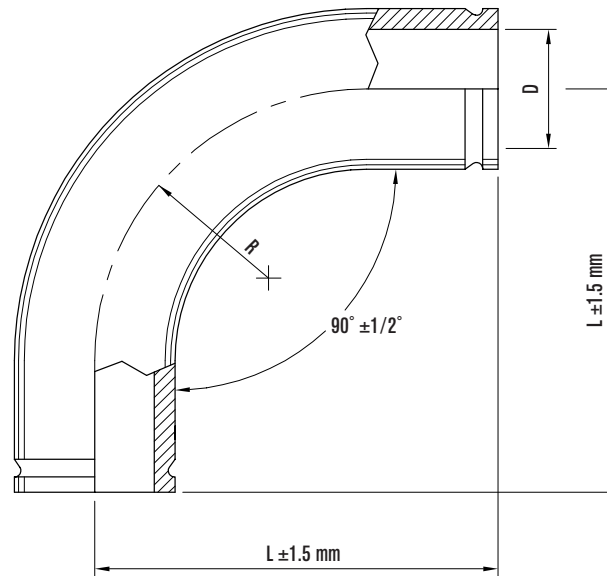
* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

PART NO. (EXAMPLE): BPAR/56 x 8.5 - FC34 - FC34 - 5230 - 90 - 430

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
- FOR BOLT KITS - REFERENCE SECTION R

Retain Ring Flange Elbow - Metric

Long Radius Bent Elbow - Body Only



RFE Retain Ring Flange Elbow - Body Only

Size	Body Only Part No.	Dimensions (mm)			WT. (Body Only) kgs./pc	Working Pressure (Body Only) (bar)
		L	R	D		
1 1/2"	RFE-150	317.50	209.55	39.12	5.23	420
2"	RFE-200	355.60	241.30	49.02	7.09	420
2 1/2"	RFE-250	431.80	317.50	59.94	12.12	400
3"	RFE-300	508.00	381.00	73.15	20.82	400
4"	RFE-400	635.00	508.00	85.09	37.96	400
5"	RFE-500	635.00	508.00	103.12	55.22	275
6"	RFE-600	762.00	609.60	124.46	93.78	255
8"	RFE-800	1016.00	812.80	172.97	177.88	240

- OTHER RADII AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE C23

MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE - CONSULT FACTORY)

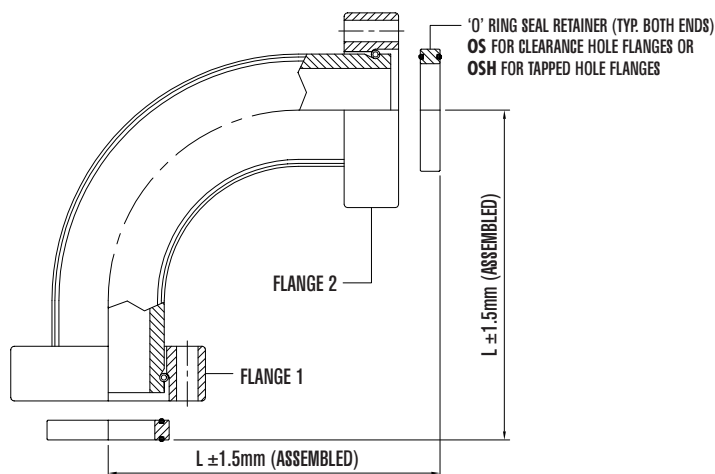
Retain Ring Flange Elbow Assembly - Metric

Complete Assembly Part Number

Typical A/RFE Assembly

COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) RETAIN RING FLANGE ELBOW BODY (REF. PAGE C22)
- TWO (2) RETAIN RING FLANGES (REF. PAGES C8-C12)
- TWO (2) RETAIN RINGS
- TWO (2) 'O' RING SEAL RETAINERS (REF. PAGES C14-C16)



		Code	A	/	RFE	-	Body Material	-	Size	-	Flange 1	-	Flange 2	-	Options
Assembly			A												
Retain Ring Flange Elbow			RFE												
Body Material Carbon Steel (Standard)	No Designation Required														
Body Material Stainless Steel (Optional) Ref. page (C7)	TMP304SS	304													
	TMP316SS	316													
Body Size	1 1/2"	150													
	2"	200													
	2 1/2"	250													
	3"	300													
	4"	400													
	5"	500													
	6"	600													
	8"	800													
Flange Type Carbon Steel Yellow Zinc Dicromate Plated Ref. pages (C8-C12)	RFC34 ISO 6162-1 W/Clearance Holes	FC34													
	*RFTM34 ISO 6162-1 W/Tapped Holes	FTM34													
	RFC64 ISO 6162-2 W/Clearance Holes	FC64													
	*RFT64 ISO 6162-2 W/Tapped Holes	FTM64													
	RFC74 ISO 6164 W/Clearance Holes	FC74													
	RFAC48 TMI® 8-Bolt W/Clearance Holes	FAC48													
Options	Viton	V													
	Painted (Specify)	P													
♦ Complete Stainless Steel Assembly: (including flanges, "O" Ring seal retainers)		SS													

L Dimension will vary if OSH 'O' Ring Seal Retainer is used.
(reference page C16)

Size	Dimensions (mm)
	L (OS/OSA)
1 1/2"	330.20
2"	368.30
2 1/2"	457.20
3"	533.40
4"	660.40
5"	673.10
6"	800.10
8"	1054.10

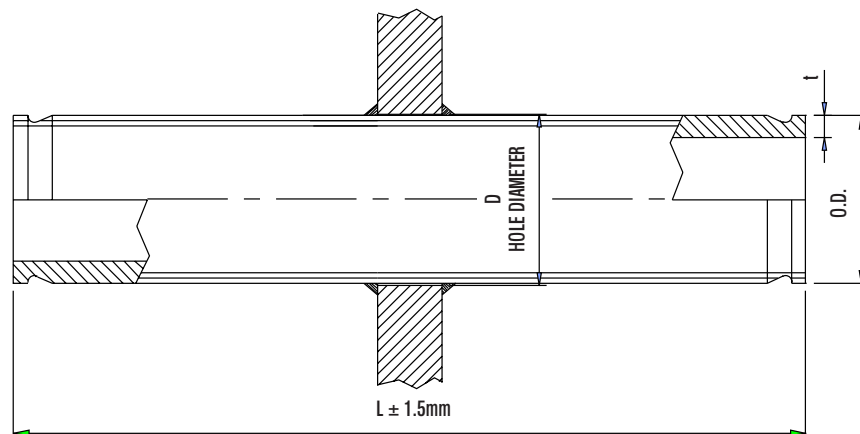
- ♦ STAINLESS STEEL IS AVAILABLE (CONSULT FACTORY)
- * NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS (SUPPLIED WITH OSH STYLE 'O' RING SEAL RETAINER)

PART NO. (EXAMPLE):
A/RFE - 250 - FC34 - FC34

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGE INDICATED ABOVE FOR PRESSURE RATINGS
- FOR BOLT KITS - REFERENCE SECTION R

Retain Ring Flange Bulkhead - Metric

Bulkhead - Body Only



RFBH Retain Ring Flange Bulkhead - Body Only

Size	Body Only Part No.	Dimensions (mm)			WT. (Body Only) kgs./pc	Working Pressure (Body Only) (bar)
		L	OD x t	D		
1/2"	RFBH-050	144.6	26 x 6	27	1.2	420
3/4"	RFBH-075	144.6	36 x 8	37	1.4	420
1"	RFBH-100	144.6	39 x 7.5	40	1.4	420
1 1/4"	RFBH-125	154.6	46 x 8.5	47	2.0	420
1 1/2"	RFBH-150	154.6	56 x 8.5	57	3.2	420
2"	RFBH-200	184.6	66 x 8.5	67	4.1	420
2 1/2"	RFBH-250	159.2	80 x 10	81	6.0	400
3"	RFBH-300	189.2	97 x 12	98	8.7	400
4"	RFBH-400	229.2	115 x 15	116	10.4	400

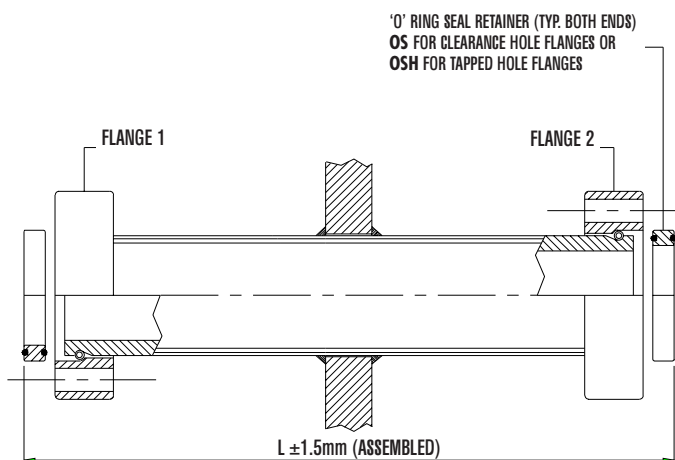
Retain Ring Flange Bulkhead Assembly - Metric

Complete Assembly Part Number

Typical A/RFBH Assembly

COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) RETAIN RING FLANGE BULKHEAD BODY (REF. PAGE C24)
- TWO (2) RETAIN RING FLANGES (REF. PAGES C8-C10)
- TWO (2) RETAIN RINGS (REF. PAGE C13)
- TWO (2) 'O' RING SEAL RETAINERS (REF. PAGE C14)



Code		A	/	RFBH	-	Body Material	-	Size	-	Flange 1	-	Flange 2	-	Options
Assembly		A												
Retain Ring Flange Bulkhead		RFBH												
Body Material	Carbon Steel (Standard)	No Designation Required												
Body Material	Stainless Steel (Optional)	Ref. page (C7)												
	TMP304SS	304												
	TMP316SS	316												
Body Size	1/2"	050												
	3/4"	075												
	1"	100												
	1 1/4"	125												
	1 1/2"	150												
	2"	200												
	2 1/2"	250												
	3"	300												
	4"	400												
Flange Type	RFC34 ISO 6162-1 W/Clearance Holes	FC34												
	*RFTM34 ISO 6162-1 W/Tapped Holes	FTM34												
	RFC64 ISO 6162-2 W/Clearance Holes	FC64												
	*RFT64 ISO 6162-2 W/Tapped Holes	FTM64												
	RFC74 ISO 6164 W/Clearance Holes	FC74												
Options	Viton	V												
	Painted (Specify)	P												
♦ Complete Stainless Steel Assembly: (including flanges, 'O' Ring seal retainers)		SS												

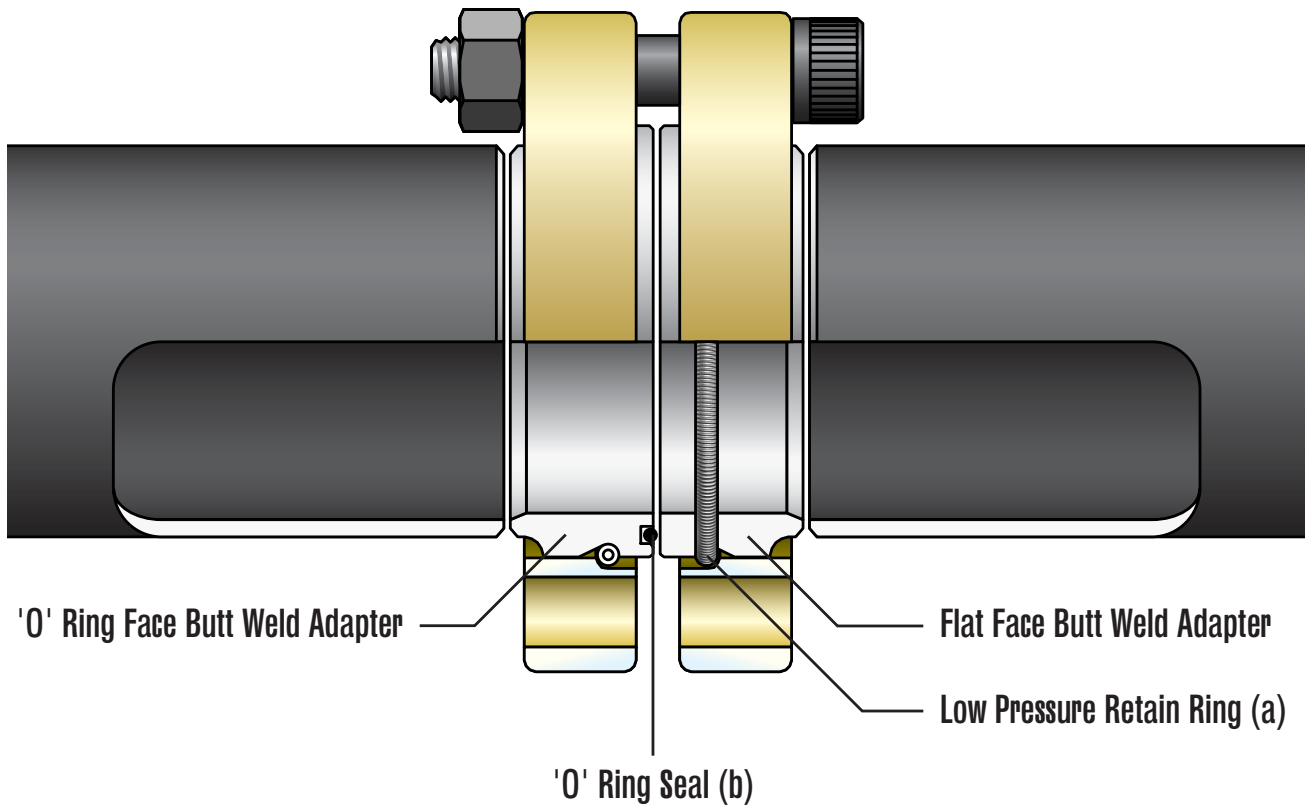
L Dimension will vary if OSH 'O' Ring Seal Retainer is used.
(reference page C16)

Size	Dimensions (mm)
	L (OS/OSA)
1/2"	170
3/4"	170
1"	170
1 1/4"	180
1 1/2"	180
2"	210
2 1/2"	210
3"	240
4"	280

- ♦ STAINLESS STEEL IS AVAILABLE (CONSULT FACTORY)
 - * NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS (SUPPLIED WITH OSH STYLE 'O' RING SEAL RETAINER)
- PART NO. (EXAMPLE):**
A/RFBH - 250 - FC34 - FC34

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGE INDICATED ABOVE FOR PRESSURE RATINGS
- FOR BOLT KITS - REFERENCE SECTION R

Low Pressure Retain Ring System



The low pressure retain ring configuration uses butt weld adapters, (1) 'o'ring face and (1) flat face, with an annular groove on the outside diameter.

After pipe preparation, the adapter is welded onto the pipe. The flange is slipped onto the pipe and a low pressure retain ring (a) which consists of a segmented stainless steel ring bound by a spiral wound stainless steel spring is sprung over the adapter's outside diameter nesting in the annular groove.

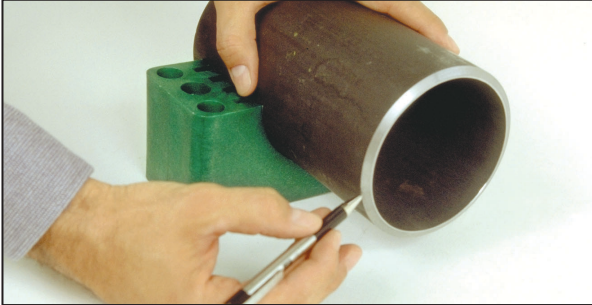
Bolting the connection together draws the flanges against the retain rings with the

o-ring seal (b) captive within the connection. Adapter sizes 2 1/2" through 8" are available for use with low pressure retain ring flanges.

The standard connection styles are Tube-Mac® Industries proprietary 6-Bolt and 8-Bolt flanges.

TMI® Low Pressure Retain Ring Flange Connection Procedure

The low pressure retain ring flange connection consists of pipe (reference pages D6-D7), butt weld adapters with elastomer seal, retain ring flanges, retain rings, and bolting hardware.



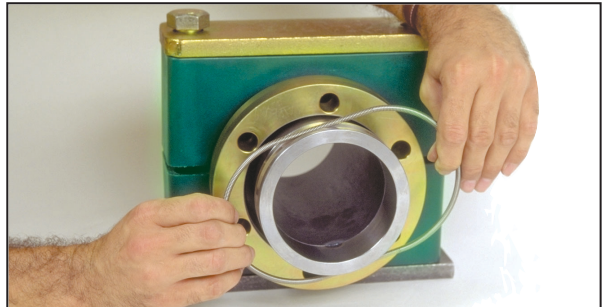
Step 1: Cut pipe end square, and bevel for butt weld.



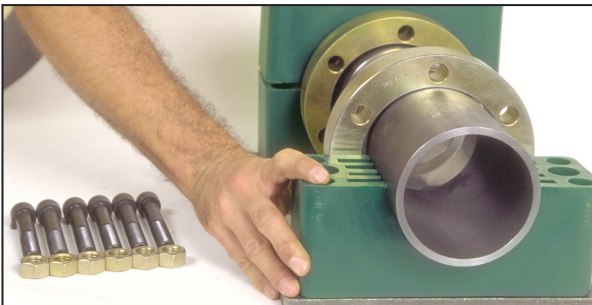
Step 2: Select the correct low pressure retain ring butt weld adapter to suit the pipe size. Weld the root pass with tig, then use #7018 welding stick for the filler and weld cap.



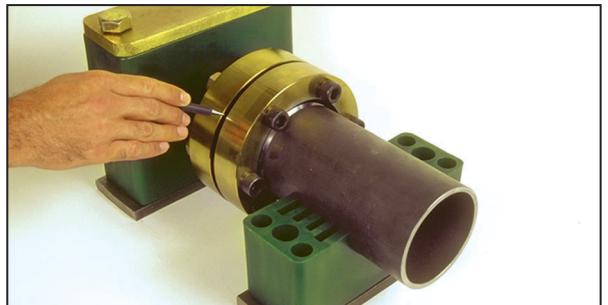
Step 3: Grind the weld on the inside of the pipe using a pencil type grinder. Clean the inside of the pipe after grinding.



Step 4: Slip flange onto the pipe. Retain ring is sprung over the pipe adapter's outside diameter nesting in the annular groove.

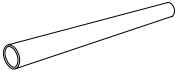
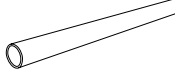
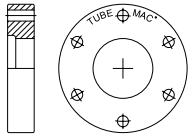
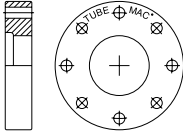
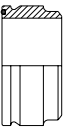
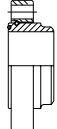

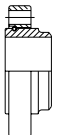
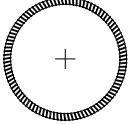
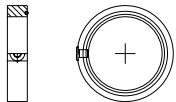
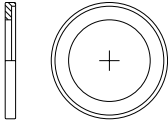
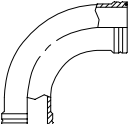
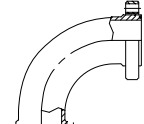
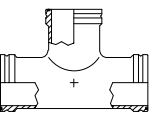
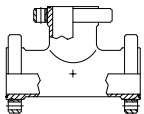
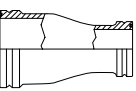
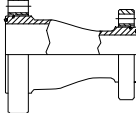
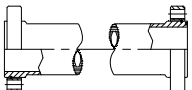
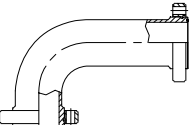


Step 5: Select the required bolting hardware from Section R of this catalogue.



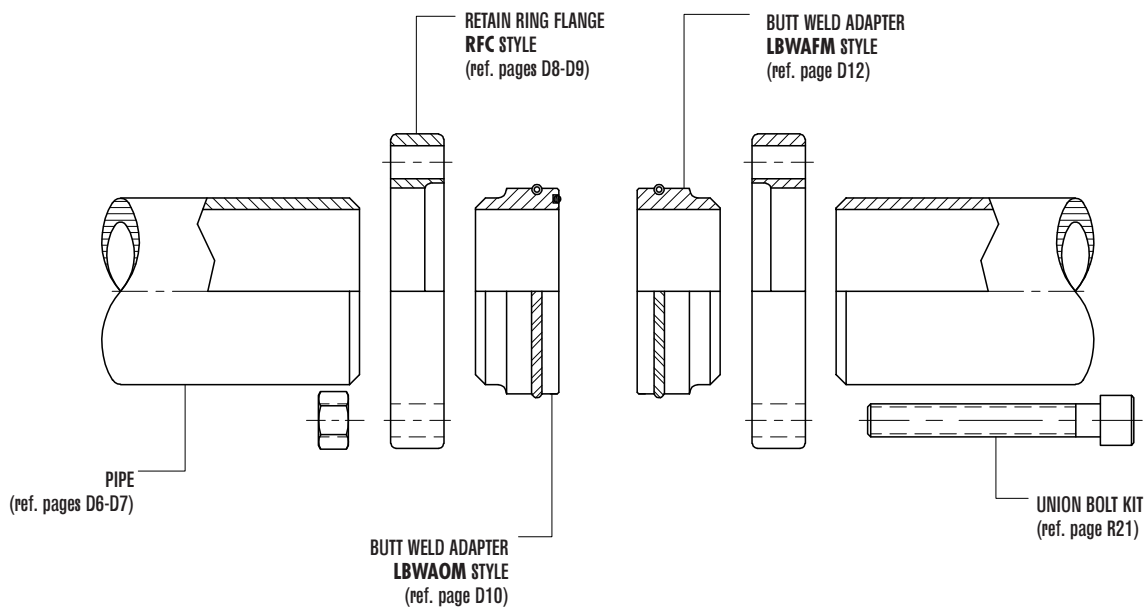
Step 6: Tighten bolts to the torque values specified. Always tighten bolts in a cross-over sequence and ensure the flanges are parallel.

Low Pressure Retain Ring System - Metric Visual Index

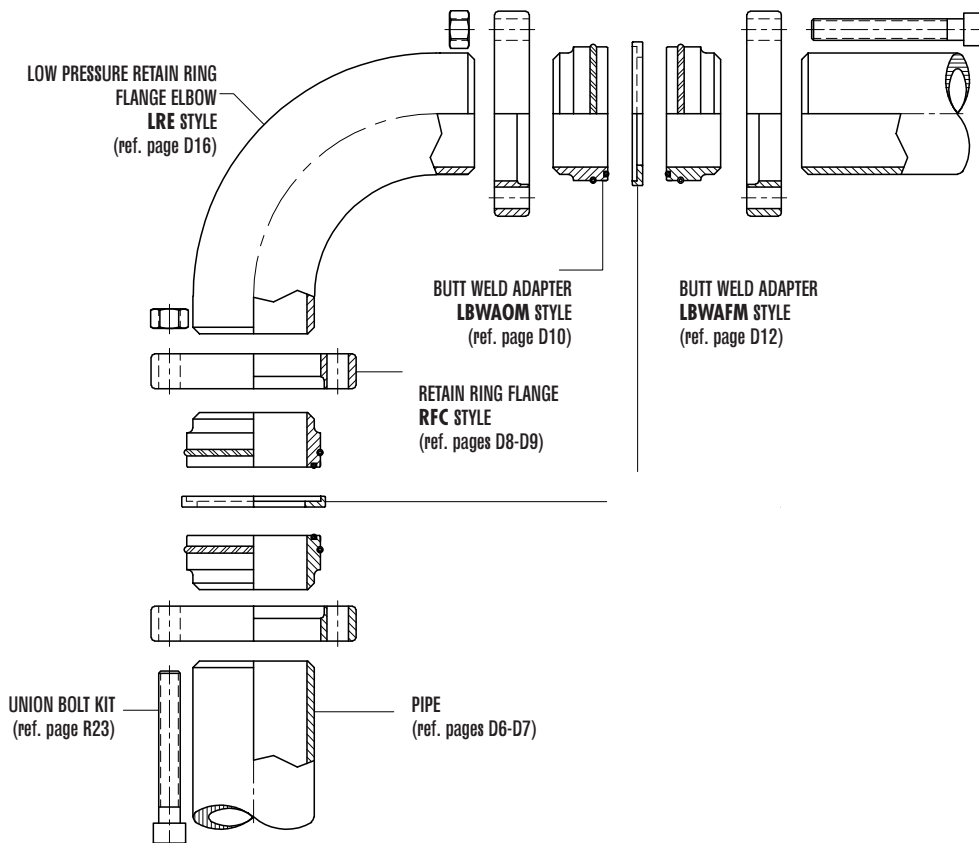
PIPES	CARBON STEEL PIPE  2 1/2" - 8" Page D6	STAINLESS STEEL PIPE  2 1/2" - 8" Page D7	LOW PRESSURE RETAIN RING FLANGES	RFC16 TMI® 6-BOLT WITH CLEARANCE HOLES  2 1/2" - 8" Page D8
RFC18 TMI® 8-BOLT WITH CLEARANCE HOLES  8" Page D9	LOW PRESSURE BUTT WELD RETAIN RING ADAPTER	LBWAOM ADAPTER-'O' RING FACE  2 1/2" - 8" Page D10	A/LBWAOM ADAPTER ASSEMBLY-'O' RING FACE  2 1/2" - 8" Page D11	LBWAFM ADAPTER-FLAT FACE  2 1/2" - 8" Page D12
A/LBWAFM ADAPTER ASSEMBLY-FLAT FACE  2 1/2" - 8" Page D13	LOW PRESSURE RETAIN RING	LR  2 1/2" - 8" Page D14	LOW PRESSURE PILOT TEE	LPTM  2 1/2" - 8" Page D15
LOW PRESSURE 'O' RING CONNECTOR PLATE	LOCP  2 1/2" - 8" Page D14	LOW PRESSURE RETAIN RING FLANGE ELBOW	LRE BODY ONLY  2 1/2" - 8" Page D16	A/LRE ASSEMBLY  2 1/2" - 8" Page D17
LOW PRESSURE RETAIN RING FLANGE TEE	LRT BODY ONLY  2 1/2" - 8" Page D18	A/LRT ASSEMBLY  2 1/2" - 8" Page D19		
LOW PRESSURE RETAIN RING FLANGE REDUCER	LRR BODY ONLY  2 1/2" - 8" Page D20	A/LRR ASSEMBLY  2 1/2" - 8" Page D21		
LOW PRESSURE RETAIN RING FLANGE PIPE ASSEMBLY	LPAR LOW PRESSURE PIPE ASSEMBLY  2 1/2" - 8" Page D22	LBPAR LOW PRESSURE BENT PIPE ASSEMBLY  2 1/2" - 8" Page D23		

Low Pressure Retain Ring Flange Connections - Metric

Typical Pipe Union Connection

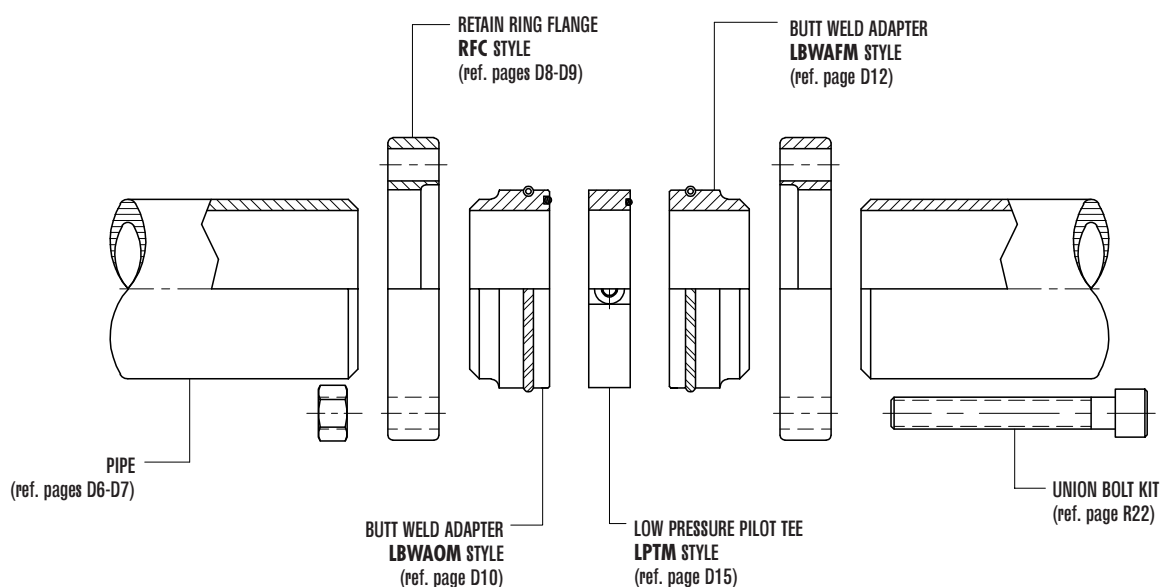


Typical Pipe to Component Connection

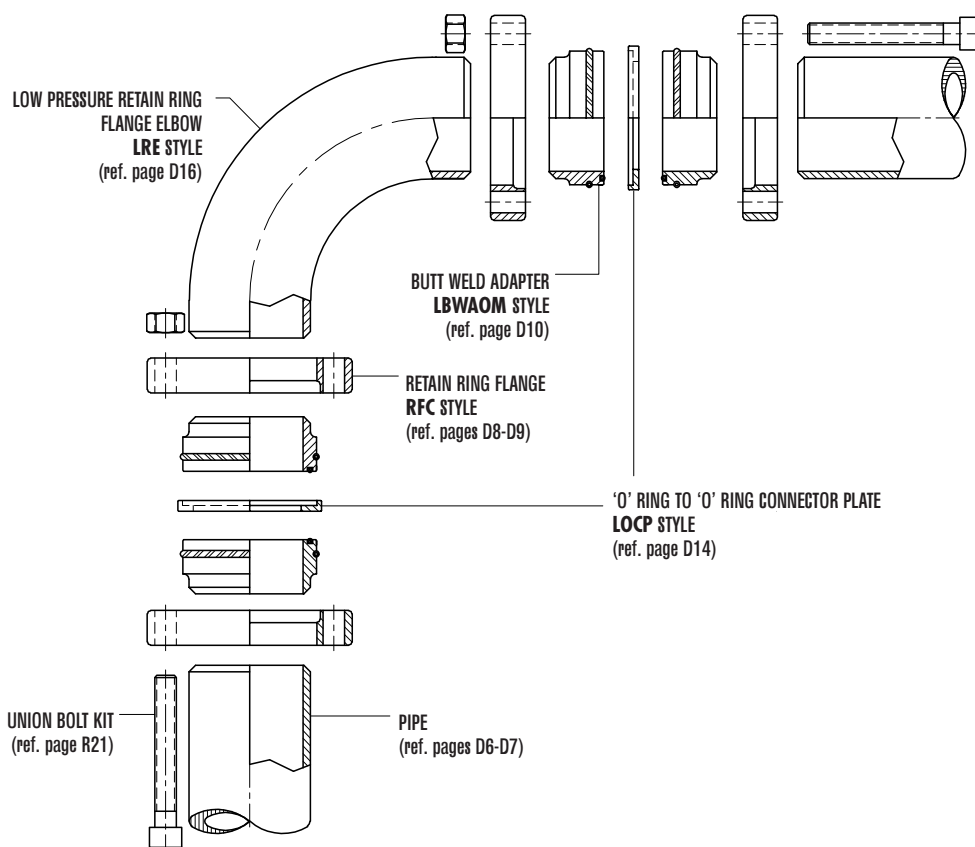


Low Pressure Retain Ring Flange Connections - Metric

Typical Pipe Union Connection with Pilot Tee

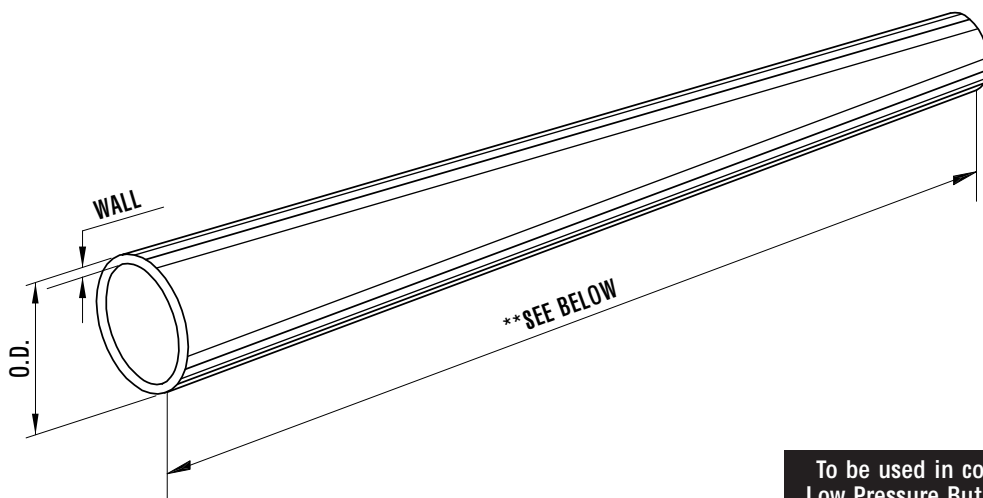


Typical 'O' Ring Face to 'O' Ring Face Connection



TMI® Carbon Steel Pipe - Metric

Suitable For Low Pressure Retain Ring



To be used in conjunction with
Low Pressure Butt Weld Adapters
Ref. pages D10-D13

TMP44HR

A519 - Cleaned & Phosphated Seamless Carbon Steel

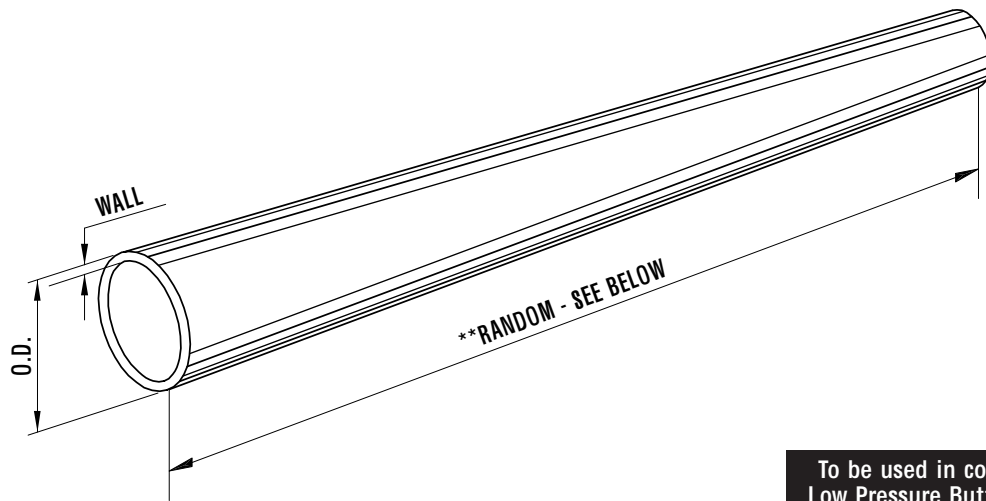
Nominal Size	Pipe Part No.	OD x Wall (mm)	Bore Dia. (mm)	WT. kgs/m	Working Pressure BAR
2 1/2"	TMP44HR-SCH40-250x**	73.0 x 5.16	62.7	8.75	52
3"	TMP44HR-SCH40-300x**	88.9 x 5.49	77.9	11.45	52
4"	TMP44HR-SCH40-400x**	114.3 x 6.02	102.3	16.30	52
5"	TMP44HR-SCH40-500x**	141.3 x 6.55	128.2	22.09	52
6"	TMP44HR-SCH40-600x**	168.3 x 7.11	154.0	28.65	48
8"	TMP44HR-SCH40-800x**	219.1 x 8.18	202.7	43.12	40

**INDICATE LENGTH (mm), SIZES 2 1/2" & 3" AVAILABLE IN 9m LENGTHS, SIZES 4" - 8" AVAILABLE UP TO 12m LENGTHS

- TO ORDER A RETAIN RING FLANGE PIPE ASSEMBLY REFERENCE PAGES D22-D23
- WORKING PRESSURE RATINGS ARE PER FLANGE CONNECTION RATINGS

TMI® Stainless Steel Pipe - Metric

Suitable For Low Pressure Retain Ring



To be used in conjunction with
Low Pressure Butt Weld Adapters
Ref. pages D10-D13

TMP304SS/316SS

A312 - Seamless Stainless Steel (supplied as dual certification ie. 304/304L or 316/316L)

Nominal Size	304/304L Stainless Steel Pipe Part No.	316/316L Stainless Steel Pipe Part No.	OD x Wall (mm)	Bore Dia. (mm)	WT. kgs/m	Working Pressure BAR
2 1/2"	TMP304SS-SCH40-250x**	TMP316SS-SCH40-250x**	73.0 x 5.16	62.7	8.75	52
3"	TMP304SS-SCH40-300x**	TMP316SS-SCH40-300x**	88.9 x 5.49	77.9	11.45	52
4"	TMP304SS-SCH40-400x**	TMP316SS-SCH40-400x**	114.3 x 6.02	102.3	16.30	52
5"	TMP304SS-SCH40-500x**	TMP316SS-SCH40-500x**	141.3 x 6.55	128.2	22.09	52
6"	TMP304SS-SCH40-600x**	TMP316SS-SCH40-600x**	168.3 x 7.11	154.0	28.65	48
8"	TMP304SS-SCH40-800x**	TMP316SS-SCH40-800x**	219.1 x 8.18	202.7	43.12	40

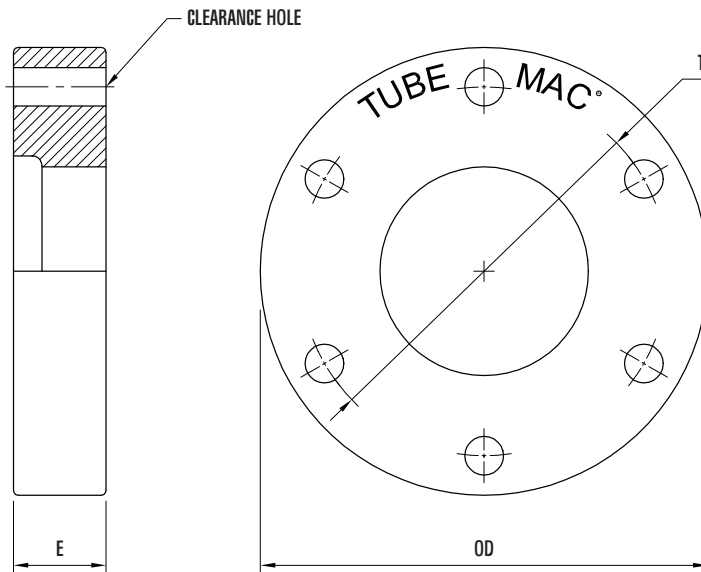
**INDICATE LENGTH (mm), AVAILABLE IN RANDOM LENGTHS UP TO 6m

- TO ORDER A RETAIN RING FLANGE PIPE ASSEMBLY REFERENCE PAGES D22-D23
- WORKING PRESSURE RATINGS ARE PER CARBON STEEL FLANGE CONNECTION RATINGS
- FOR PIPING SYSTEMS CONSISTING OF ALL STAINLESS STEEL COMPONENTS, PRESSURE RATINGS WILL BE LESS THAN THAT SHOWN ABOVE (CONTACT FACTORY)

Low Pressure Retain Ring Flange - Metric

TMI® 6-Bolt Flanges with Clearance Holes

To be used with low
pressure retain ring
pipe only
Ref. pages D6-D7



RFC16 Low Pressure Retain Ring Flange - TMI® 6-Bolt With Clearance Holes

48-52 bar

Size (inch)	Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	OD	E				
2 1/2"	RFC16-250	102.4	127.0	20.3	M12	0.99	52	110-125
3"	RFC16-300	123.2	149.9	25.4	M16	1.73	52	150-165
4"	RFC16-400	151.6	177.8	25.4	M16	3.00	52	150-165
5"	RFC16-500	178.1	210.1	30.2	M16	3.91	52	150-165
6"	RFC16-600	208.0	236.0	35.1	M16	4.45	48	150-165

- FOR BOLT KITS - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

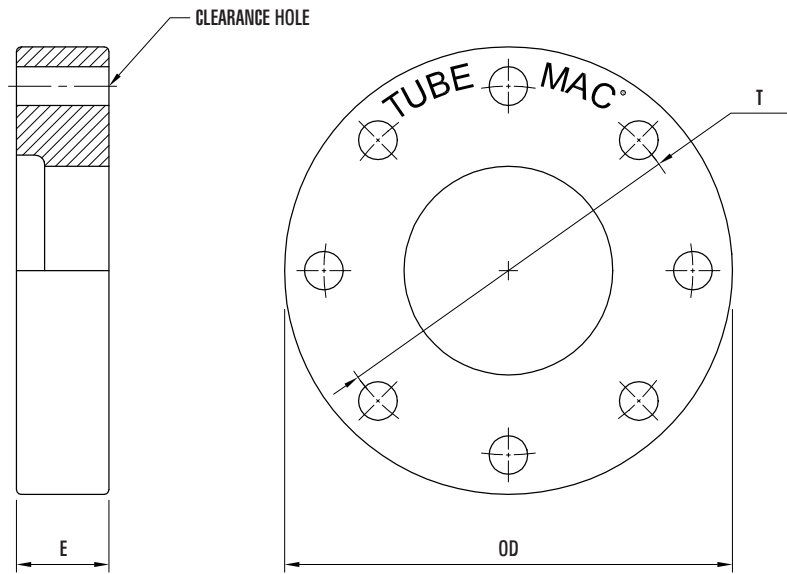
OTHER SIZES AVAILABLE, CONSULT FACTORY



Low Pressure Retain Ring Flange - Metric

TMI® 8-Bolt Flanges with Clearance Holes

To be used with low pressure retain ring pipe only
Ref. pages D6-D7



RFC18 Low Pressure Retain Ring Flange - TMI® 8-Bolt With Clearance Holes

40 bar

Size (inch)	Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	OD	E				
8"	RFC18-800	275.1	317.0	40.1	M20	8.75	40	165-175

• FOR BOLT KITS - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

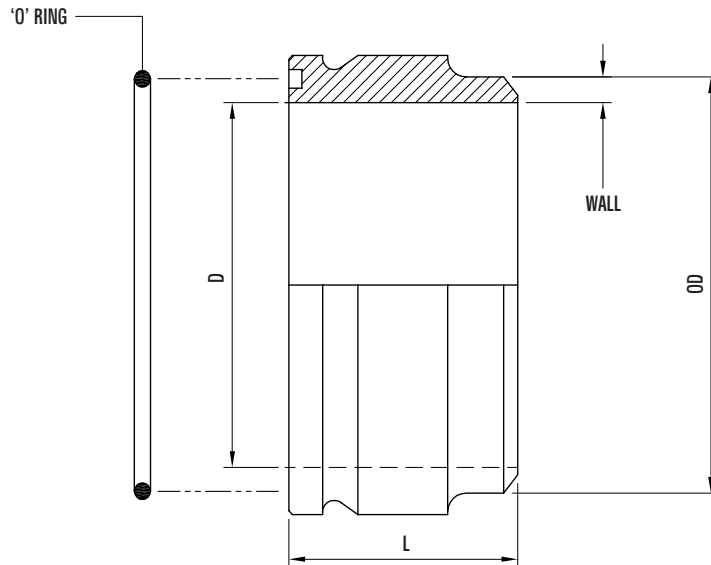
OTHER SIZES AVAILABLE, CONSULT FACTORY



Low Pressure - Metric

Butt Weld Retain Ring Adapter Body

'O' Ring Face



LBWAO Low Pressure Butt Weld Retain Ring Adapter Body - 'O' Ring Face

Complete With Nitrile 'O' Ring (Standard)

Size (inch)	Adapter Part No.	Dimensions (mm)		OD x Wall (mm)	'O' Ring (BUNA) Part No.	WT. kgs./pc	Working Pressure (bar)
		D	L				
2 1/2"	LBWAO-250-*	69.7	35.1	73.0 x 5.16	OR*-2-232	0.46	52
3"	LBWAO-300-*	81.7	39.9	88.9 x 5.49	OR*-2-237	0.65	52
4"	LBWAO-400-*	105.3	40.1	114.3 x 6.02	OR*-2-245	0.96	52
5"	LBWAO-500-*	128.5	45.0	141.3 x 6.55	OR*-2-253	1.51	52
6"	LBWAO-600-*	154.1	50.0	168.3 x 7.11	OR*-2-259	2.47	48
8"	LBWAO-800-*	203.1	59.9	219.1 x 8.18	OR*-2-372	4.54	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

• FOR COMPLETE ASSEMBLY REFERENCE PAGE D11

MATERIAL: CARBON STEEL, (STAINLESS STEEL STANDARD-316 AVAILABLE)

OTHER SIZES AVAILABLE, CONSULT FACTORY

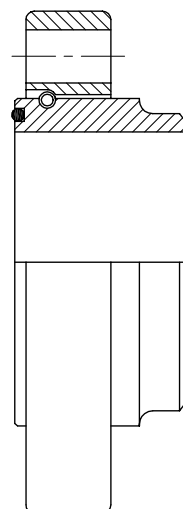


Low Pressure - Metric

Butt Weld Retain Ring Adapter Assembly

'O' Ring Face

Typical A/LBWA0 Assembly:



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LOW PRESSURE 'O' RING FACE BUTT WELD ADAPTER
- ONE (1) LOW PRESSURE RETAIN RING FLANGE (REF. PAGES D8-D9)
- ONE (1) LOW PRESSURE RETAIN RING (REF. PAGE D14)
- ONE (1) NITRILE 'O' RING (STANDARD)

A/LBWA0 Low Pressure Butt Weld Retain Ring Adapter Assembly - 'O' Ring Face

Complete With Nitrile 'O' Ring (Standard)

Size (inch)	Assembly Part No.	WT. kgs./pc	Working Pressure (bar)
2 1/2"	A/LBWA0-250-*	1.45	52
3"	A/LBWA0-300-*	2.37	52
4"	A/LBWA0-400-*	3.97	52
5"	A/LBWA0-500-*	5.42	52
6"	A/LBWA0-600-*	6.92	48
8"	A/LBWA0-800-*	13.29	40

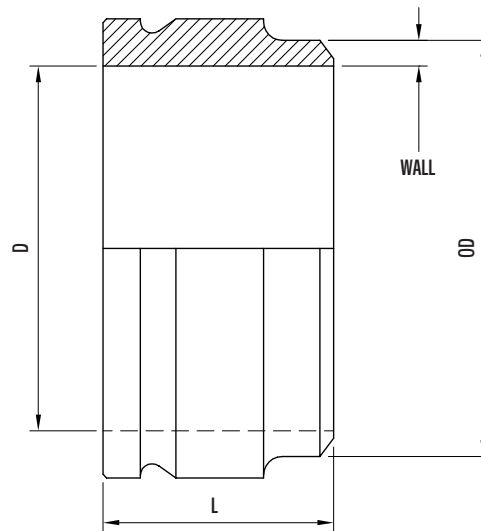
* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

MATERIAL: CARBON STEEL, (STAINLESS STEEL STANDARD-316 AVAILABLE)
OTHER SIZES AVAILABLE, CONSULT FACTORY

Low Pressure - Metric

Butt Weld Retain Ring Adapter Body

Flat Face



LBWAF Low Pressure Butt Weld Retain Ring Adapter Body - Flat Face

Size (inch)	Adapter Part No.	Dimensions (mm)		OD x Wall (mm)	WT. kgs./pc	Working Pressure (bar)
		D	L			
2 1/2"	LBWAF-250	69.7	35.1	73.0 x 5.16	0.49	52
3"	LBWAF-300	81.7	39.9	88.9 x 5.49	0.67	52
4"	LBWAF-400	105.3	40.1	114.3 x 6.02	0.97	52
5"	LBWAF-500	128.5	45.0	141.3 x 6.55	1.53	52
6"	LBWAF-600	154.1	50.0	168.3 x 7.11	2.50	48
8"	LBWAF-800	203.1	59.9	219.1 x 8.18	4.80	40

- FOR COMPLETE ASSEMBLY REFERENCE PAGE D13

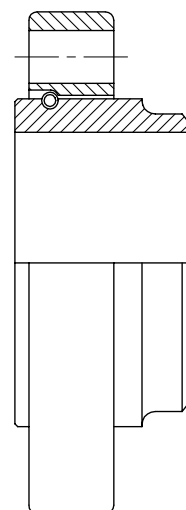
MATERIAL: CARBON STEEL, (STAINLESS STEEL STANDARD-316 AVAILABLE)

OTHER SIZES AVAILABLE, CONSULT FACTORY

Low Pressure - Metric Butt Weld Retain Ring Adapter Assembly

Flat Face

Typical A/LBWAF Assembly:



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LOW PRESSURE FLAT FACE BUTT WELD ADAPTER
- ONE (1) LOW PRESSURE RETAIN RING FLANGE (REF. PAGES D8-D9)
- ONE (1) LOW PRESSURE RETAIN RING (REF. PAGE D14)

A/LBWAF Low Pressure Butt Weld Retain Ring Adapter Assembly - Flat Face

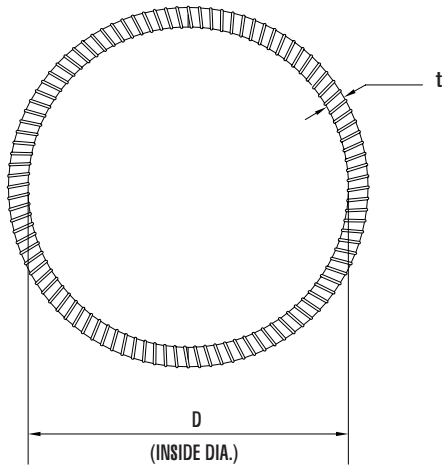
Size (inch)	Assembly Part No.	WT. kgs./pc	Working Pressure (bar)
2 1/2"	A/LBWAF-250	1.47	52
3"	A/LBWAF-300	2.40	52
4"	A/LBWAF-400	3.98	52
5"	A/LBWAF-500	5.44	52
6"	A/LBWAF-600	5.44	48
8"	A/LBWAF-800	13.55	40

MATERIAL: CARBON STEEL, (STAINLESS STEEL STANDARD-316 AVAILABLE)
OTHER SIZES AVAILABLE, CONSULT FACTORY

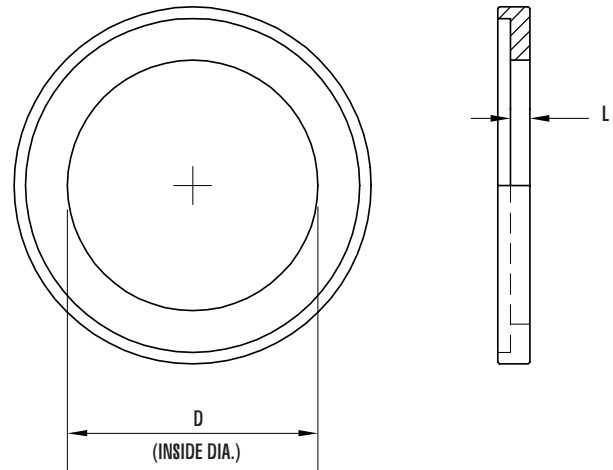
Low Pressure Retain Ring - Metric

Low Pressure 'O' Ring Connector Plate - Metric

LR Low Pressure Retain Ring



LOCP Low Pressure 'O' Ring Connector Plate



LR Low Pressure Retain Ring

Size (inch)	Retain Ring Part No.	Dimensions (mm)		WT. kgs./pc
		D	t	
2 1/2"	LR-250	75.9	4.1	0.02
3"	LR-300	91.9	5.1	0.04
4"	LR-400	118.9	5.1	0.05
5"	LR-500	142.7	6.1	0.09
6"	LR-600	173.0	6.1	0.10
8"	LR-800	230.9	7.9	0.27

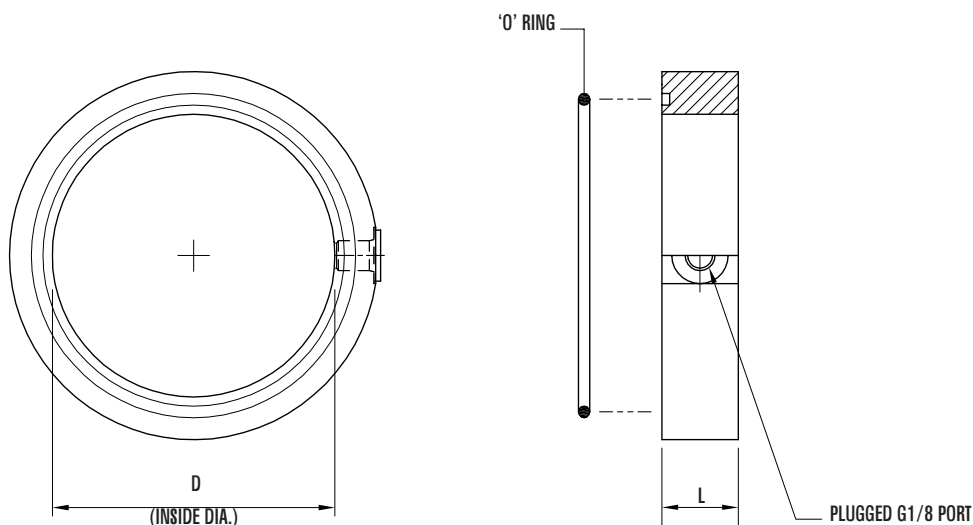
MATERIAL: STAINLESS STEEL - AISI 302/304 SPRING TEMPER
OTHER SIZES AVAILABLE, CONSULT FACTORY

LOCP Low Pressure 'O' Ring Connector Plate

Size (inch)	Connector Plate Part No.	Dimensions (mm)		WT. kgs./pc
		D	L	
2 1/2"	LOCP-250	62.7	3.3	0.07
3"	LOCP-300	78.0	3.3	0.10
4"	LOCP-400	102.4	3.3	0.15
5"	LOCP-500	128.3	4.8	0.26
6"	LOCP-600	154.2	4.8	0.36
8"	LOCP-800	202.7	4.8	0.61

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)
OTHER SIZES AVAILABLE, CONSULT FACTORY

Low Pressure Pilot Tee - Metric



LPTM Low Pressure Pilot Tee Between

Complete with Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Pilot Tee Part No.	Dimensions (mm)		'O' Ring (Nitrile) Part No.	WT. kgs./pc
		D	L		
2 1/2"	LPTM-250-*	60.5	25.4	OR*-2-232	0.67
3"	LPTM-300-*	76.2	25.4	OR*-2-237	0.87
4"	LPTM-400-*	101.6	25.4	OR*-2-245	1.22
5"	LPTM-500-*	124.0	25.4	OR*-2-253	1.61
6"	LPTM-600-*	150.1	25.4	OR*-2-259	1.85
8"	LPTM-800-*	200.2	31.8	OR*-2-372	4.80

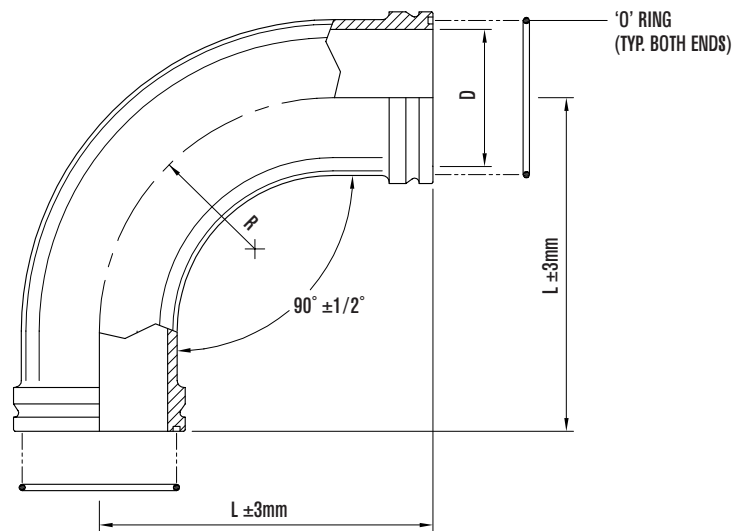
* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

OTHER SIZES AVAILABLE, CONSULT FACTORY

Low Pressure Retain Ring Flange Elbow - Metric

Body Only



LRE Low Pressure Retain Ring Flange Elbow - Body Only (segmentally welded)

Complete with Nitrile 'O' Rings (Standard)

Size (inch)	Elbow Body Part No.	Dimensions (mm)			'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L	R	D			
2 1/2"	LRE-250-*	132.6	95.3	62.74	OR*-2-232	2.40	52
3"	LRE-300-*	156.7	114.3	77.98	OR*-2-237	3.57	52
4"	LRE-400-*	194.8	152.4	102.36	OR*-2-245	6.02	52
5"	LRE-500-*	237.7	190.5	128.27	OR*-2-253	10.06	52
6"	LRE-600-*	280.9	228.6	154.18	OR*-2-259	16.08	48
8"	LRE-800-*	367.0	304.8	202.69	OR*-2-372	31.80	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE D17
- ELBOW BODY INCLUDES BUTT WELD ADAPTERS (REF. PAGES D10-D13)

MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)

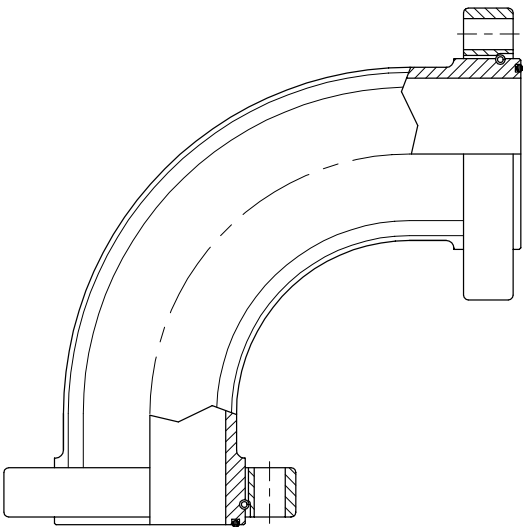
OTHER SIZES AVAILABLE, CONSULT FACTORY



Low Pressure Retain Ring Flange Elbow Assembly

Complete Assembly Part Number - Metric

Typical A/LRE Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LOW PRESSURE RETAIN RING FLANGE ELBOW BODY
- TWO (2) LOW PRESSURE RETAIN RING FLANGES (REF. PAGES D8-D9)
- TWO (2) LOW PRESSURE RETAIN RINGS
- TWO (2) NITRILE 'O' RINGS (STANDARD)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL (2 1/2" & 3")
- ENDS SEALED WITH POSITIVE CLOSURE (4"-8")

A/LRE Low Pressure Retain Ring Flange Elbow Assembly

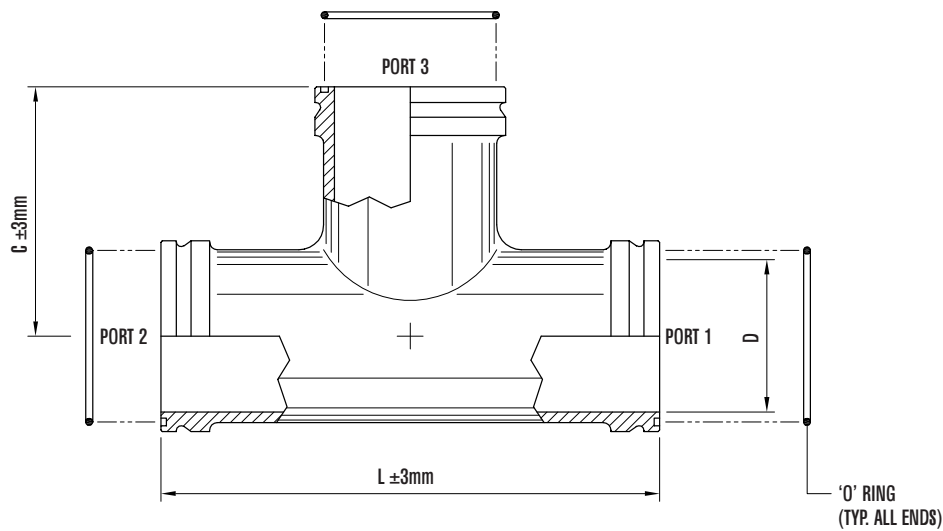
Size (inch)	Assembly Part No.	WT. (Assembly) kgs./pc	Working Pressure (bar)
2 1/2"	A/LRE-250-*	4.37	52
3"	A/LRE-300-*	5.30	52
4"	A/LRE-400-*	9.02	52
5"	A/LRE-500-*	13.98	52
6"	A/LRE-600-*	20.53	48
8"	A/LRE-800-*	40.55	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS
MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)
OTHER SIZES AVAILABLE, CONSULT FACTORY



Low Pressure Retain Ring Flange Tee - Metric

Body Only



LRT Low Pressure Retain Ring Flange Tee - Body Only (segmentally welded)

Complete with Nitrile 'O' Rings (Standard)

Size (inch)	Tee Body Part No.	Dimensions (mm)			'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L	C	D			
2 1/2"	LRT-250-*	227.3	113.5	62.74	OR*-2-232	4.12	52
3"	LRT-300-*	256.5	128.3	77.98	OR*-2-237	5.13	52
4"	LRT-400-*	294.6	147.3	102.36	OR*-2-245	8.47	52
5"	LRT-500-*	342.4	171.2	128.27	OR*-2-253	14.07	52
6"	LRT-600-*	390.7	195.3	154.18	OR*-2-259	22.87	48
8"	LRT-800-*	480.3	240.0	202.69	OR*-2-372	38.60	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE D19
- TEE BODY INCLUDES BUTT WELD ADAPTERS (REF. PAGES D10-D13)

MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)

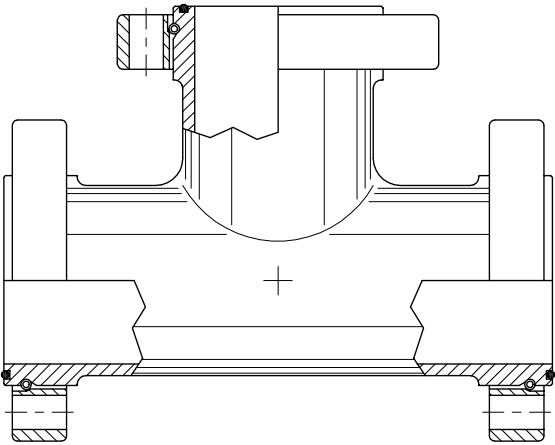
OTHER SIZES AVAILABLE, CONSULT FACTORY



Low Pressure Retain Ring Flange Tee Assembly

Complete Assembly Part Number - Metric

Typical A/LRT Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LOW PRESSURE RETAIN RING FLANGE TEE BODY
- THREE (3) LOW PRESSURE RETAIN RING FLANGES (REF. PAGES D8-D9)
- THREE (3) LOW PRESSURE RETAIN RINGS
- THREE (3) NITRILE 'O' RINGS (STANDARD)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL (2 1/2" & 3")
- ENDS SEALED WITH POSITIVE CLOSURE (4"-8")

A/LRT Low Pressure Retain Ring Flange Tee Assembly

Size (inch)	Assembly Part No.	WT. (Assembly) kgs./pc	Working Pressure (bar)
2 1/2"	A/LRT-250-*	7.07	52
3"	A/LRT-300-*	10.30	52
4"	A/LRT-400-*	17.48	52
5"	A/LRT-500-*	25.81	52
6"	A/LRT-600-*	36.23	48
8"	A/LRT-800-*	64.85	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

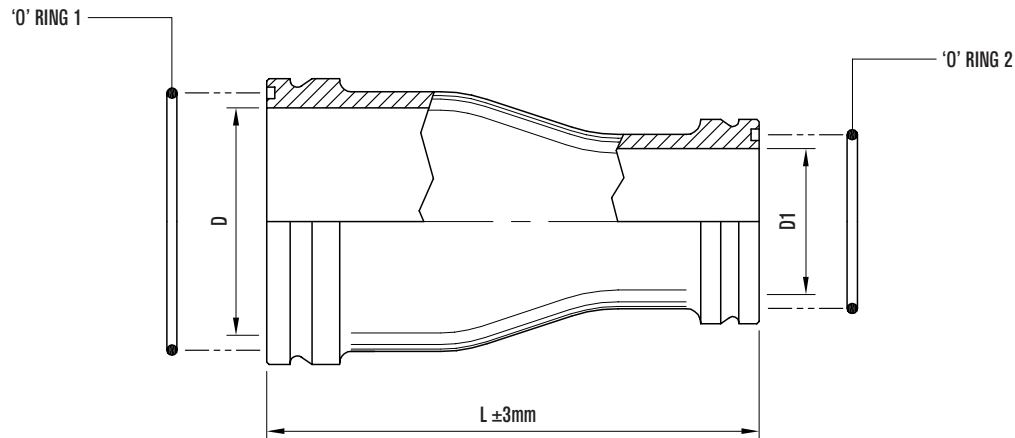
MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)

OTHER SIZES AVAILABLE, CONSULT FACTORY



Low Pressure Retain Ring Flange Reducer - Metric

Concentric Style - Body Only



LRR Low Pressure Retain Ring Flange Reducer - Body Only (segmentally welded)

Complete with Nitrile 'O' Rings (Standard)

Size (inch)	Reducer Body Part No.	Dimensions (mm)			'O' Ring 1 (Nitrile) Part No.	'O' Ring 2 (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L	D	D1				
3" x 2 1/2"	LRR-300 x 250-*	168.7	77.9	62.7	OR*-2-237	OR*-2-232	2.02	52
4" x 2 1/2"	LRR-400 x 250-*	181.4	102.4	62.7	OR*-2-245	OR*-2-232	2.90	52
4" x 3"	LRR-400 x 300-*	186.7	102.4	77.9	OR*-2-245	OR*-2-237	3.15	52
5" x 3"	LRR-500 x 300-*	216.9	128.3	77.9	OR*-2-253	OR*-2-237	4.66	52
5" x 4"	LRR-500 x 400-*	216.9	128.3	102.4	OR*-2-253	OR*-2-245	5.20	52
6" x 4"	LRR-600 x 400-*	234.7	154.2	102.4	OR*-2-259	OR*-2-245	7.19	48
6" x 5"	LRR-600 x 500-*	239.5	154.2	128.3	OR*-2-259	OR*-2-253	7.85	48
8" x 5"	LRR-800 x 500-*	262.1	202.7	128.3	OR*-2-372	OR*-2-253	11.50	40
8" x 6"	LRR-800 x 600-*	267.2	202.7	154.2	OR*-2-372	OR*-2-259	13.03	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE D21
- REDUCER BODY INCLUDES BUTT WELD ADAPTERS (REF. PAGES D10-D13)

MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)

OTHER SIZES AVAILABLE, CONSULT FACTORY



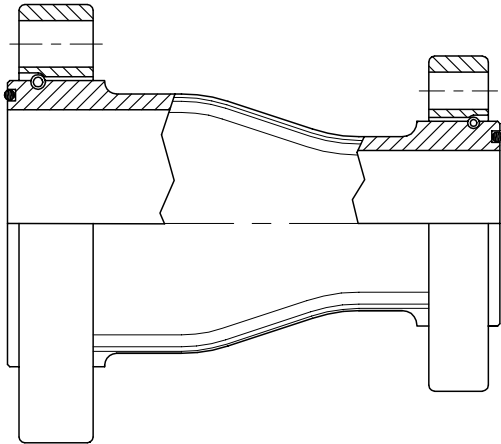
Low Pressure Retain Ring Flange Reducer Assembly

Complete Assembly Part Number - Metric

Typical A/LRR Assembly

COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LOW PRESSURE RETAIN RING FLANGE REDUCER BODY
- TWO (2) LOW PRESSURE RETAIN RING FLANGES (REF. PAGES D8-D9)
- TWO (2) LOW PRESSURE RETAIN RINGS
- TWO (2) NITRILE 'O' RINGS (STANDARD)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL (2 1/2" & 3")
- ENDS SEALED WITH POSITIVE CLOSURE (4"-8")



A/LRR Low Pressure Retain Ring Flange Reducer Assembly

Size (inch)	Assembly Part No.	WT. (Assembly) kgs./pc	Working Pressure (bar)
3" x 2 1/2"	A/LRR-300 x 250-*	4.73	52
4" x 2 1/2"	A/LRR-400 x 250-*	6.01	52
4" x 3"	A/LRR-400 x 300-*	7.88	52
5" x 3"	A/LRR-500 x 300-*	10.30	52
5" x 4"	A/LRR-500 x 400-*	12.12	52
6" x 4"	A/LRR-600 x 400-*	14.65	48
6" x 5"	A/LRR-600 x 500-*	16.21	48
8" x 5"	A/LRR-800 x 500-*	24.16	40
8" x 6"	A/LRR-800 x 600-*	26.23	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)

OTHER SIZES AVAILABLE, CONSULT FACTORY



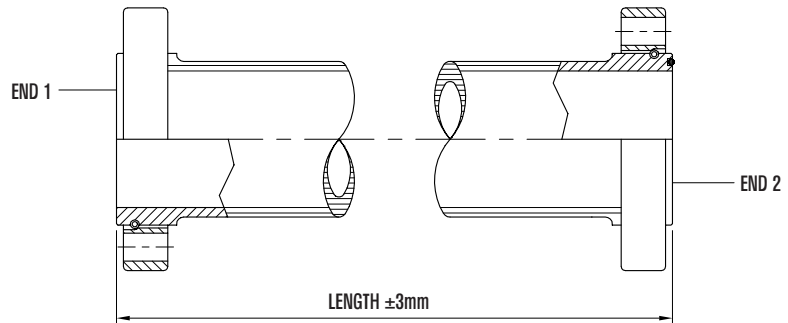
Low Pressure Retain Ring Flange Pipe Assembly

Complete Assembly Part Number - Metric

Typical LPAR Assembly

COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LENGTH OF CLEAN PIPE (REF. PAGES D6-D7)
- TWO (2) LOW PRESSURE BUTT WELD ADAPTERS (SEGMENTALLY WELDED)
- TWO (2) LOW PRESSURE RETAIN RING FLANGES (REF. PAGES D8-D9)
- TWO (2) LOW PRESSURE RETAIN RINGS
- NITRILE 'O' RING(S) (STANDARD)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL (2 1/2" & 3")
- ENDS SEALED WITH POSITIVE CLOSURE (4"-8")



		Code	LPAR	Pipe Material	OD x WALL	End 1	End 2	Length	Options
Low Pressure Pipe Assembly		LPAR							
Pipe Material Carbon Steel (Standard) Ref. page (D6)	No Designation Required								
Pipe Material Stainless Steel (Optional) Ref. page (D7)	TMP304SS	304							
	TMP316SS	316							
OD x WALL	2 1/2"	73.0 x 5.16							
	3"	88.9 x 5.49							
	4"	114.3 x 6.02							
	5"	141.3 x 6.55							
	6"	168.3 x 7.11							
	8"	219.1 x 8.18							
End Style	Flat Face	LF							
	'O' Ring Face	LO							
Length	Specify (mm)								
Options	Viton	V							
	Painted (Specify)	P							
Complete Stainless Steel Assembly: (including flanges)		SS							

PART NO. (EXAMPLE): LPAR/ 73.0 x 5.16 -250 - LF - LO - 9144

- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
 - FOR BOLT KITS - REFERENCE SECTION R
- OTHER SIZES AVAILABLE, CONSULT FACTORY



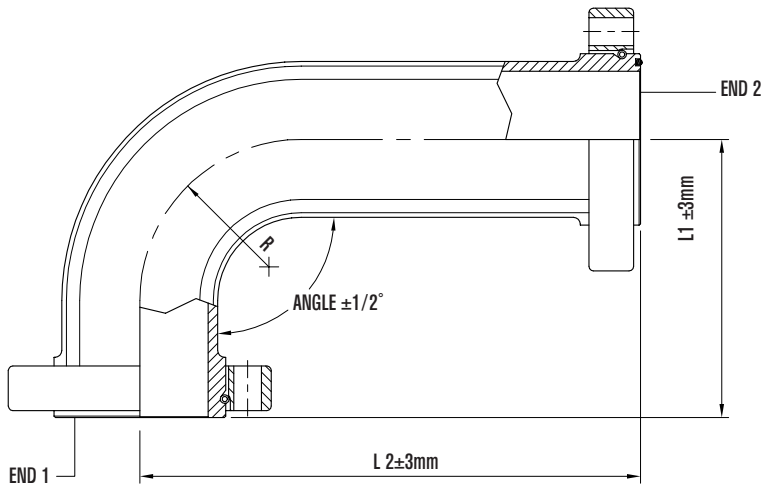
Low Pressure Retain Ring Flange Bent Pipe Assembly

Complete Assembly Part Number - Metric

Typical LBPARG Assembly

COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LENGTH OF BENT CLEAN PIPE
(REF. PAGES D6-D7)
- TWO (2) LOW PRESSURE BUTT WELD ADAPTERS
(SEGMENTALLY WELDED)
- TWO (2) LOW PRESSURE RETAIN RING FLANGES
(REF. PAGES D8-D9)
- TWO (2) LOW PRESSURE RETAIN RINGS
- NITRILE 'O' RING(S) (STANDARD)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL
(2 1/2" & 3")
- ENDS SEALED WITH POSITIVE CLOSURE (4"-8")



		Code	LBPARG	Pipe Material	OD x WALL	End 1	End 2	Length	Options
Low Pressure Pipe Assembly		LBPARG							
Pipe Material Carbon Steel (Standard) Ref. page (D6)	No Designation Required								
Pipe Material Stainless Steel (Optional) Ref. page (D7)	TMP304SS	304							
	TMP316SS	316							
OD x WALL	2 1/2"	73.0 x 5.16							
	3"	88.9 x 5.49							
	4"	114.3 x 6.02							
	5"	141.3 x 6.55							
	6"	168.3 x 7.11							
	8"	219.1 x 8.18							
End Style	Flat Face	LF							
	'O' Ring Face	LO							
Length	Specify (mm)								
Options	Viton	V							
	Painted (Specify)	P							
Complete Stainless Steel Assembly: (including flanges)		SS							

Size	Dimensions (mm)	
	L(min)	R
2 1/2"	304.80	190.50
3"	330.20	228.60
4"	406.40	304.80
5"	482.60	381.00
6"	558.80	457.20
8"	711.20	609.60

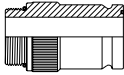
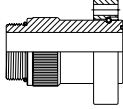
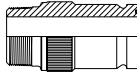
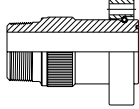
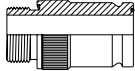
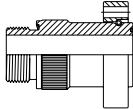
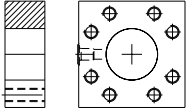
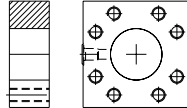
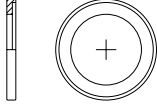
PART NO. (EXAMPLE): LBPARG/ 73.0 x 5.16 -250 - LF - LO - 5461 - 2286 - 3683

- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
 - FOR BOLT KITS - REFERENCE SECTION R
- OTHER SIZES AVAILABLE, CONSULT FACTORY





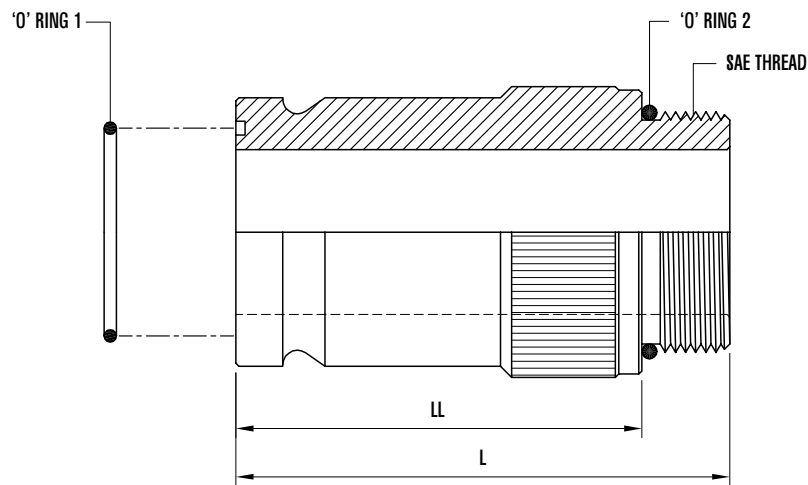
Adapters - Metric Visual Index

RETAIN RING FLANGE STYLE	STA SAE MALE THREAD BODY ONLY  $\frac{1}{2}'' - 2''$ Page F2	A/STA SAE MALE THREAD ASSEMBLY  $\frac{1}{2}'' - 2''$ Page F6	NTA NPTF MALE THREAD BODY ONLY  $\frac{1}{2}'' - 2''$ Page F3	A/NTA NPTF MALE THREAD ASSEMBLY  $\frac{1}{2}'' - 2''$ Page F6
	BTA BSPP MALE THREAD BODY ONLY  $\frac{1}{2}'' - 2''$ Page F4	A/BTA BSPP MALE THREAD ASSEMBLY  $\frac{1}{2}'' - 2''$ Page F6		
ADAPTER PLATE UNION STYLE	APM34 ISO 6162-1  $\frac{1}{2}'' - 2''$ Page F8	APM64 ISO 6162-2  $\frac{1}{2}'' - 2''$ Page F9		
	OCP CONNECTOR PLATE  $\frac{1}{2}'' - 2''$ Page F5			



SAE Male Thread Adapter

Body Only



STA SAE Male Thread Adapter Body - Retain Ring Flange Style

Complete With Nitrile 'O' Rings (Standard)

Size (flange x thread)	Body Only Part No.	Dimensions (in)		Thread Size UNF/UN-2A	'O' Ring 1 (Nitrile) Part No.	'O' Ring 2 (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L	LL					
1/2"x 3/8"	STA-050x038*	78.7	66.8	9/16"-18	OR*-3-909	OR*-3-906	0.23	420
1/2"x 1/2"	STA-050x050*	80.8	66.8	3/4"-16	OR*-3-909	OR*-3-908	0.25	420
1/2"x 5/8"	STA-050x063*	82.8	66.8	7/8"-14	OR*-3-909	OR*-3-910	0.27	420
1/2"x 3/4"	STA-050x075*	85.3	66.8	1 1/16"-12	OR*-3-909	OR*-3-912	0.31	420
3/4"x 1/2"	STA-075x050*	83.8	69.9	3/4"-16	OR*-3-913	OR*-3-908	0.48	420
3/4"x 3/4"	STA-075x075*	88.1	69.9	1 1/16"-12	OR*-3-913	OR*-3-912	0.49	420
3/4"x 1"	STA-075x100*	88.1	69.9	1 5/16"-12	OR*-3-913	OR*-3-916	0.50	420
1"x 3/4"	STA-100x075*	94.5	76.2	1 1/16"-12	OR*-3-916	OR*-3-912	0.50	420
1"x 1"	STA-100x100*	94.5	76.2	1 5/16"-12	OR*-3-916	OR*-3-916	0.57	420
1"x 1 1/4"	STA-100x125*	94.5	76.2	1 5/8"-12	OR*-3-916	OR*-3-920	0.66	420
1 1/4"x 1"	STA-125x100*	100.8	82.6	1 5/16"-12	OR*-3-918	OR*-3-916	0.66	420
1 1/4"x 1 1/4"	STA-125x125*	100.8	82.6	1 5/8"-12	OR*-3-918	OR*-3-920	0.82	420
1 1/4"x 1 1/2"	STA-125x150*	100.8	82.6	1 7/8"-12	OR*-3-918	OR*-3-924	0.92	420
1 1/2"x 1 1/4"	STA-150x125*	126.2	108.0	1 5/8"-12	OR*-3-924	OR*-3-920	0.99	420
1 1/2"x 1 1/2"	STA-150x150*	126.2	108.0	1 7/8"-12	OR*-3-924	OR*-3-924	1.34	420
1 1/2" x 2"	STA-150x200*	126.2	108.0	2 1/2"-12	OR*-3-924	OR*-3-932	1.61	420
2"x 1 1/2"	STA-200x150*	126.2	108.0	1 7/8"-12	OR*-3-928	OR*-3-924	1.37	420
2"x 2"	STA-200x200*	126.2	108.0	2 1/2"-12	OR*-3-928	OR*-3-932	1.80	420

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

• OTHER JUMP SIZES AND LONGER LL DIMENSIONS ARE AVAILABLE UPON REQUEST

• THREADS PER SAE J1926/2 (ISO 11926-2)

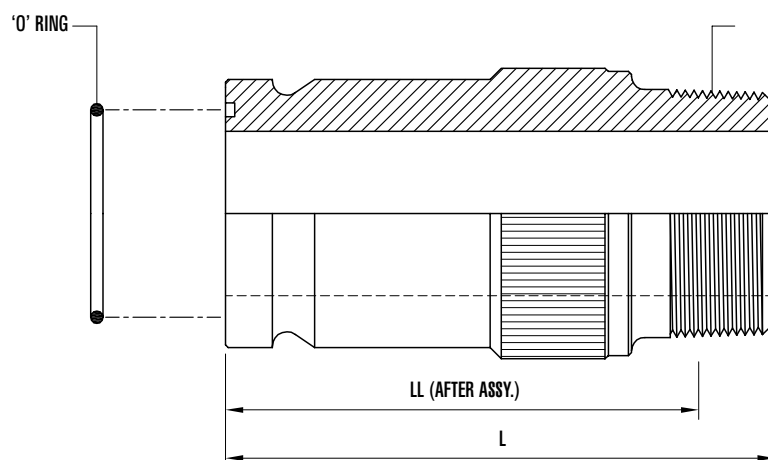
• TO ORDER COMPLETE ASSEMBLY REFERENCE PAGES F6-F7

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL-316 AVAILABLE)

NPTF Male Thread Adapter

Body Only

NPTF THREAD



NTA NPTF Male Thread Adapter Body - Retain Ring Flange Style

Complete With Nitrile 'O' Ring (Standard)

Size (flange x thread)	Body Only Part No.	Dimensions (in)		NPTF Thread (Dryseal)	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L	LL				
1/2"x 1/2"	NTA-050x050*	85.9	72.1	1/2"-14	OR*-3-909	0.25	420
1/2"x 3/4"	NTA-050x075*	85.9	72.1	3/4"-14	OR*-3-909	0.31	420
3/4"x 1/2"	NTA-075x050*	88.9	75.2	1/2"-14	OR*-3-913	0.48	420
3/4"x 3/4"	NTA-075x075*	88.9	75.2	3/4"-14	OR*-3-913	0.49	420
3/4"x 1"	NTA-075x100*	93.7	76.5	1"-11 1/2	OR*-3-913	0.50	420
1"x 3/4"	NTA-100x075*	95.3	81.5	3/4"-14	OR*-3-916	0.50	420
1"x 1"	NTA-100x100*	100.1	82.8	1"-11 1/2	OR*-3-916	0.57	420
1"x 1 1/4"	NTA-100x125*	100.8	82.8	1 1/4"-11 1/2	OR*-3-916	0.66	420
1 1/4"x 1"	NTA-125x100*	106.4	89.2	1"-11 1/2	OR*-3-918	0.65	420
1 1/4"x 1 1/4"	NTA-125x125*	107.2	89.2	1 1/4"-11 1/2	OR*-3-918	0.82	420
1 1/4"x 1 1/2"	NTA-125x150*	108.0	89.2	1 1/2"-11 1/2	OR*-3-918	0.92	420
1 1/2"x 1 1/4"	NTA-150x125*	132.6	114.6	1 1/4"-11 1/2	OR*-3-924	0.99	420
1 1/2"x 1 1/2"	NTA-150x150*	133.4	114.6	1 1/2"-11 1/2	OR*-3-924	1.34	420
1 1/2" x 2"	NTA-150x200*	134.1	114.6	2"-11 1/2	OR*-3-924	1.60	420
2"x 1 1/2"	NTA-200x150*	133.4	114.6	1 1/2"-11 1/2	OR*-3-928	1.37	420
2"x 2"	NTA-200x200*	134.1	114.6	2"-11 1/2	OR*-3-928	1.80	420

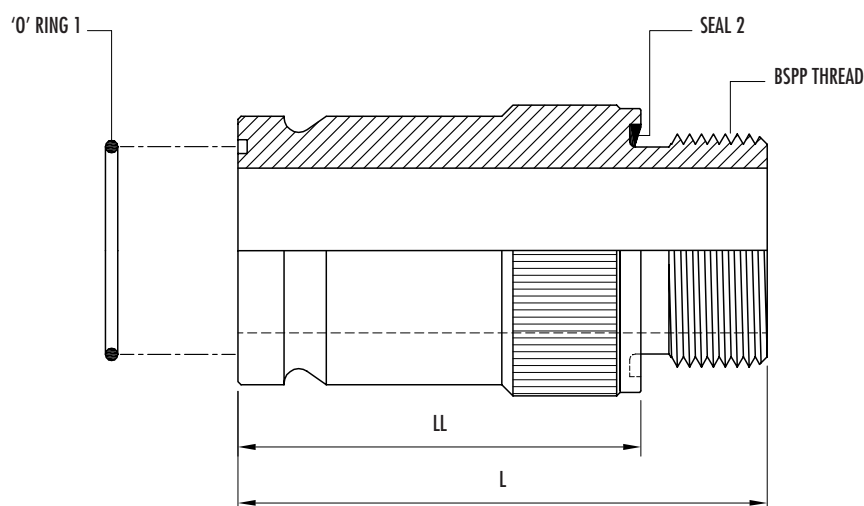
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING

- OTHER JUMP SIZES AND LONGER LL DIMENSIONS ARE AVAILABLE UPON REQUEST
- THREADS PER ANSI-B2.1
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGES F6-F7

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL-316 AVAILABLE)

BSPP Male Thread Adapter

Body Only



BTA BSPP Male Thread Adapter Body - Retain Ring Flange Style

Complete With Nitrile 'O' Rings (Standard)

Size (flange x thread)	Body Only Part No.	Dimensions (mm)		Thread Size	'O' Ring 1 (Nitrile) Part No.	Seal 2 (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L	LL					
1/2" x 1/2"	BTA-050x050*	80.8	66.8	1/2"-14	OR*-3-909	DR*-G050	0.25	420
1/2" x 3/4"	BTA-050x075*	82.8	66.8	3/4"-14	OR*-3-909	DR*-G075	0.31	420
3/4" x 1/2"	BTA-075x050*	83.8	69.9	1/2"-14	OR*-3-913	DR*-G050	0.48	420
3/4" x 3/4"	BTA-075x075*	85.9	69.9	3/4"-14	OR*-3-913	DR*-G075	0.49	420
3/4" x 1"	BTA-075x100*	87.9	69.9	1"-11	OR*-3-913	DR*-G100	0.50	420
1" x 3/4"	BTA-100x075*	92.2	76.2	3/4"-14	OR*-3-916	DR*-G075	0.50	420
1" x 1"	BTA-100x100*	94.2	76.2	1"-11	OR*-3-916	DR*-G100	0.57	420
1" x 1 1/4"	BTA-100x125*	96.3	76.2	1 1/4"-11	OR*-3-916	DR*-G125	0.66	420
1 1/4" x 1"	BTA-125x100*	100.6	82.6	1"-11	OR*-3-918	DR*-G100	0.65	420
1 1/4" x 1 1/4"	BTA-125x125*	102.6	82.6	1 1/4"-11	OR*-3-918	DR*-G125	0.82	420
1 1/4" x 1 1/2"	BTA-125x150*	104.6	82.6	1 1/2"-11	OR*-3-918	DR*-G150	0.92	420
1 1/2" x 1 1/4"	BTA-150x125*	128.0	108.0	1 1/4"-11	OR*-3-924	DR*-G125	0.99	420
1 1/2" x 1 1/2"	BTA-150x150*	130.0	108.0	1 1/2"-11	OR*-3-924	DR*-G150	1.34	420
◆ 1 1/2" x 2"	BTA-150x200*	136.4	108.0	2"-11	OR*-3-924	BS*-3236	1.60	420
2" x 1 1/2"	BTA-200x150*	130.0	108.0	1 1/2"-11	OR*-3-928	DR*-G150	1.37	420
◆ 2" x 2"	BTA-200x200*	136.4	108.0	2"-11	OR*-3-928	BS*-3236	1.80	420

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

◆ 2" SEAL 2 CONSISTS OF A METAL BONDED LIP

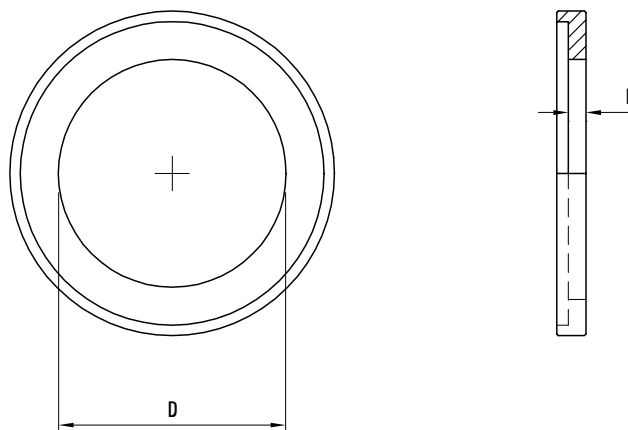
• OTHER JUMP SIZES AND LONGER LL DIMENSIONS ARE AVAILABLE UPON REQUEST

• THREADS PER ISO 1179-2

• TO ORDER COMPLETE ASSEMBLY REFERENCE PAGES F6-F7

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL-316 AVAILABLE)

'O' Ring Connector Plate - Metric



OCP Metric 'O' Ring Connector Plate for Retain Ring Components

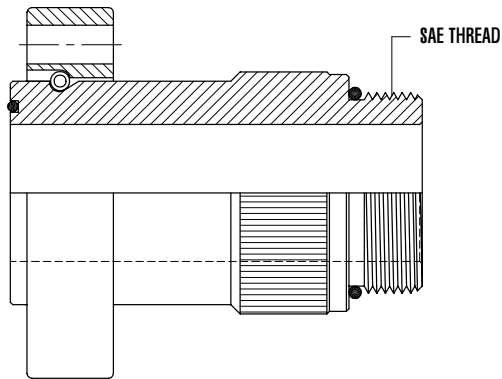
Size	Connector Plate Part No.	Dimensions (mm)		WT. kgs./pc
		D	L	
1/2"	OCP-050	12.7	3.3	0.02
3/4"	OCP-075	19.1	3.3	0.03
1"	OCP-100	23.9	3.3	0.03
1 1/4"	OCP-125	30.5	3.3	0.04
1 1/2"	OCP-150	38.1	3.3	0.05
2"	OCP-200	49.3	3.3	0.06

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

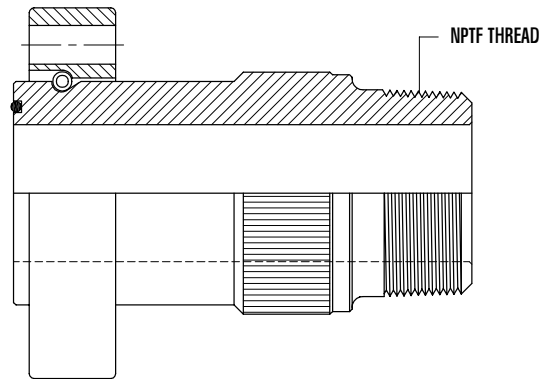
Male Thread Adapter Assemblies

Retain Ring Flange Style

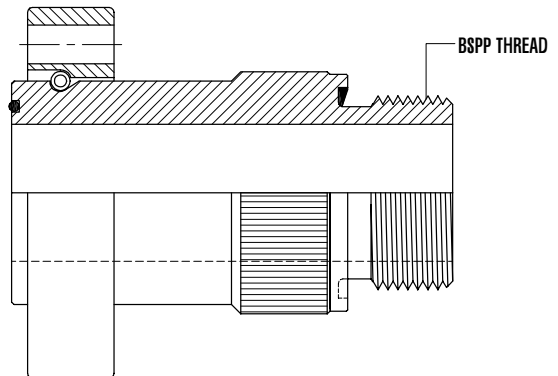
Typical A/STA Assembly



Typical A/NTA Assembly



Typical A/BTA Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) ADAPTER BODY (REF. PAGES F2-F4)
- ONE (1) RETAIN RING FLANGE (REF. PAGES C8-C9)
- ONE (1) RETAIN RING
- NITRILE 'O' RING(S) (STANDARD)
- END SEALED WITH 6 MIL HEAT SHRINK MATERIAL

PART NO. (EXAMPLE): A/BTA - 100 - 100 - FC34



Male Thread Adapter Assembly

Complete Assembly Part Number - Retain Ring Flange Style

		Code	A	Body	Body Material	Flange End Size	Thread End Size	Flange	Options
Assembly		A							
Adapter Body Ref. pages (F2-F4)	SAE Male Thread Flange Adapter	STA							
	NPTF Male Thread Flange Adapter	NTA							
	BSPP Male Thread Flange Adapter	BTA							
Body Material Carbon Steel (Standard)	No Designation Required								
Body Material Stainless Steel (Optional) Ref. page (...)	TMP316SS	316							
Size Ref. pages (F2-F4)	1/2"	050							
	3/4"	075							
	1"	100							
	1 1/4"	125							
	1 1/2"	150							
	2"	200							
Flange Type Carbon Steel Yellow Zinc Dicromate Plated Ref. pages (C8-C9)	RFC34 ISO 6162-1 W/Clearance Holes	FC34							
	*RFTM34 ISO 6162-1 W/Tapped Holes	FTM34							
	RFC64 ISO 6162-2 W/Clearance Holes	FC64							
	*RFTM64 ISO 6162-2 W/Tapped Holes	FTM64							
Options	Viton	V							
Complete Stainless Steel Assembly: (including flanges)		SS							

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

• FOR CONNECTION TO HOSE USE CONNECTOR PLATE **OCP** (TO BE ORDERED SEPARATELY) REF. PAGE F5

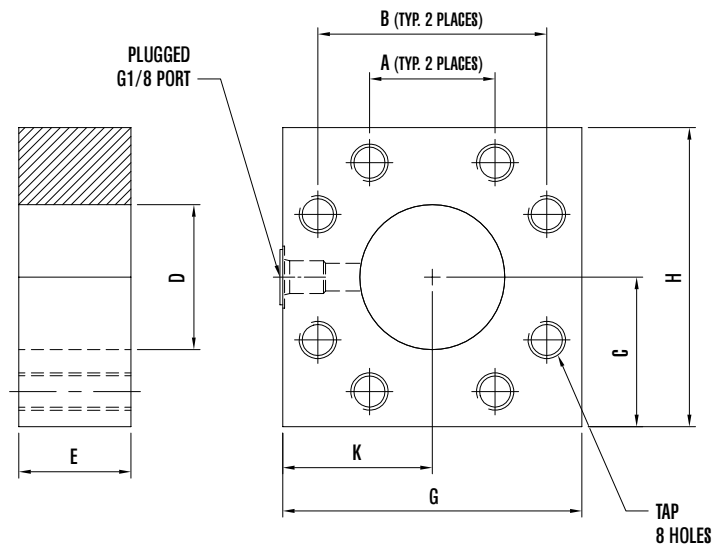
PART NO. (EXAMPLE): A/BTA - 100 - 100 - FC34

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
- FOR BOLT KITS - REFERENCE SECTION R



Adapter Plate - Metric

ISO 6162-1 Flange Union Style



APM34 Metric Adapter Plate - ISO 6162-1 Flat Face With Tapped Holes

Complete with G 1/8 Port (Plugged)

Size (inch)	Adapter Plate Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	E	G	H	K			
1/2"	APM34-050-*	17.5	38.1	31.8	12.7	25.4	69.9	63.5	35.1	M8 x 1.25	0.75	350
3/4"	APM34-075-*	22.4	47.8	38.1	19.1	25.4	76.2	76.2	38.1	M10 x 1.50	1.00	350
1"	APM34-100-*	26.2	52.3	38.1	23.9	25.4	76.2	76.2	38.1	M10 x 1.50	0.98	350
1 1/4"	APM34-125-*	30.2	58.7	38.1	31.8	31.8	76.2	76.2	38.1	M10 x 1.50	1.07	275
1 1/2"	APM34-150-*	35.8	69.9	50.8	38.1	38.1	101.6	101.6	50.8	M12 x 1.75	2.45	210
2"	APM34-200-*	42.9	77.7	50.8	49.3	38.1	101.6	101.6	50.8	M12 x 1.75	2.24	210

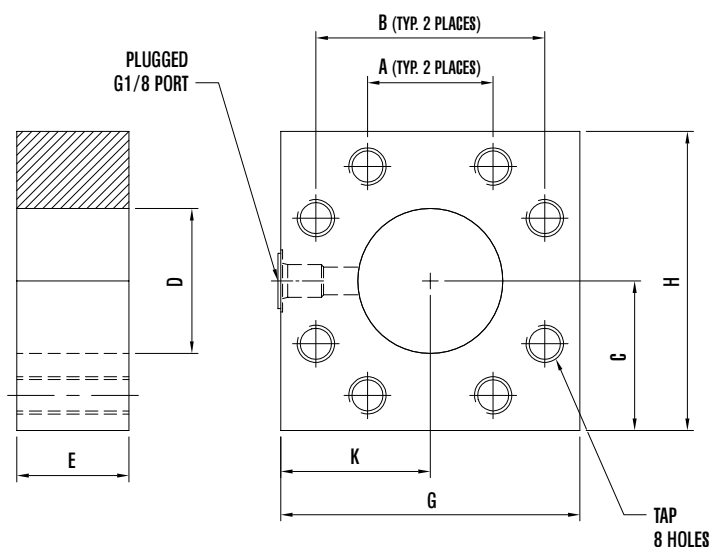
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G 1/8 PORT

• FOR BOLT KIT - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Adapter Plate - Metric

ISO 6162-2 Flange Union Style



APM64 Metric Adapter Plate - ISO 6162-2 Flat Face With Tapped Holes

Complete with G1/8 Port (Plugged)

Size (inch)	Adapter Plate Part No.	Dimensions (in)								Bolt Minimum 10.9	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	E	G	H	K			
1/2"	APM64-050-*	18.3	40.4	31.8	12.7	25.4	69.9	63.5	35.1	M8 x 1.25	0.75	420
3/4"	APM64-075-*	23.9	50.8	38.1	19.1	25.4	76.2	76.2	38.1	M10 x 1.50	1.00	420
1"	APM64-100-*	27.7	57.2	38.1	23.9	31.8	76.2	76.2	38.1	M12 x 1.75	0.95	420
1 1/4"	APM64-125-*	31.8	66.8	50.8	31.8	31.8	101.6	101.6	50.8	M12 x 1.75	2.45	420
1 1/2"	APM64-150-*	36.6	79.5	50.8	38.1	38.1	101.6	101.6	50.8	M16 x 2.00	2.31	420
2"	APM64-200-*	44.5	96.8	63.5	49.3	38.1	127.0	127.0	63.5	M20 x 2.50	3.68	420

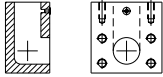
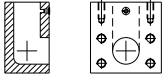
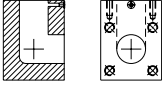
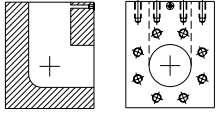
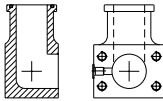
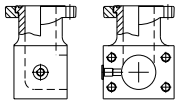
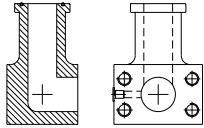
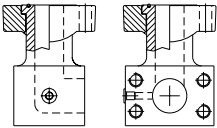
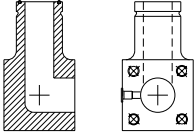
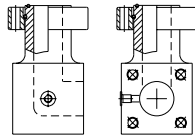
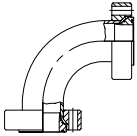
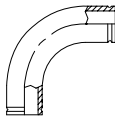
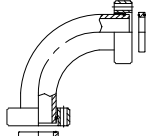
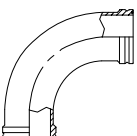
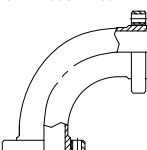
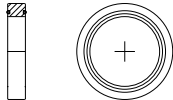
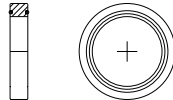
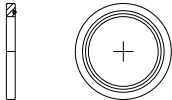
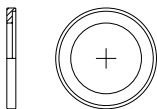
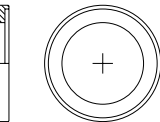
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PORT

• FOR BOLT KIT - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



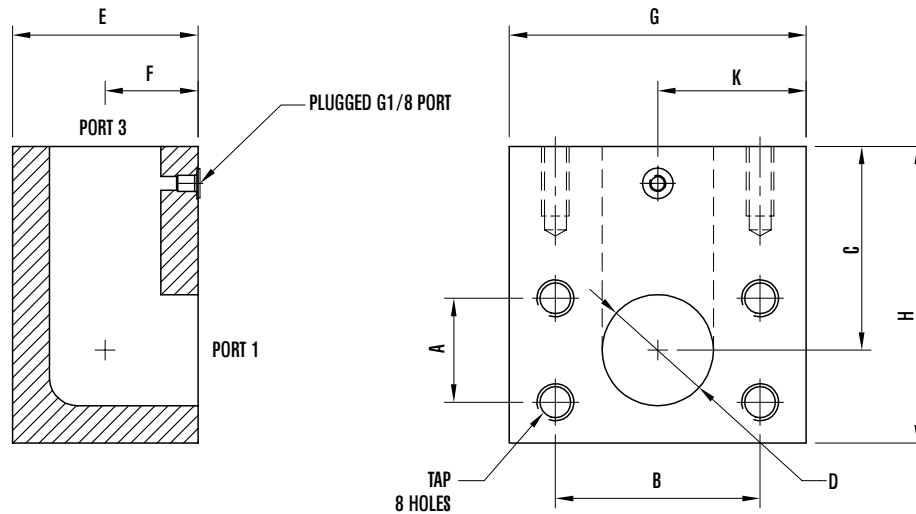
Elbows - Metric Visual Index

BLOCK STYLE	BEM34 ISO 6162-1  $1/2"$ - $3"$ Page G3	BEM64 ISO 6162-2  $1/2"$ - $2"$ Page G3	BEM74 ISO 6164  $2 1/2"$ - $4"$ Page G4	BEM48 TMI® 8-BOLT  $5"$ - $8"$ Page G5
	SFEM34 ISO 6162-1  $1/2"$ - $3"$ Page G6	A/SFEM34 ISO 6162-1  $1/2"$ - $3"$ Page G7	SFEM64 ISO 6162-2  $1/2"$ - $2"$ Page G8	A/SFEM64 ISO 6162-2  $1/2"$ - $2"$ Page G9
RETAIN RING FLANGE BLOCK STYLE	REM74 ISO 6164  $2 1/2"$ - $4"$ Page G10	A/REM74 ISO 6164 ASSEMBLY  $2 1/2"$ - $4"$ Page G11	FLARE FLANGE BENT STYLE	A/FFEM FLARE FLANGE ELBOW ASSEMBLY  $1/2"$ - $3"$ Page G12-13
	RFE BODY ONLY  $1 1/2"$ - $8"$ Page G14	A/RFE ASSEMBLY  $1 1/2"$ - $8"$ Page G15		
LOW PRESSURE RETAIN RING FLANGE BENT STYLE	LRE LOW PRESSURE-BODY ONLY  $2 1/2"$ - $8"$ Page G16	A/LRE LOW PRESSURE-ASSEMBLY  $2 1/2"$ - $8"$ Page G17		
	OS  $1 1/2"$ - $4"$ Page G18	OSA  $5"$ - $8"$ Page G18	OSH  $1 1/2"$ - $4"$ Page G19	
'O' RING SEAL RETAINERS				
'O' RING CONNECTOR PLATES	OCP CONNECTOR PLATE  $1/2"$ - $4"$ Page G20	LOCP LOW PRESSURE-CONNECTOR PLATE  $2 1/2"$ - $8"$ Page G21		



Block Elbow - Metric

ISO 6162 Flange Style



BEM34 Block Elbow (Metric) - ISO 6162-1 Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Block Elbow Part No.	Dimensions (millimeters)									Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)
		A	B	C	D	E	F	G	H	K			
1/2"	BEM34-050-*	17.5	38.1	47.8	12.7	50.8	25.4	63.5	63.5	31.8	M8 x 1.25	1.41	350
3/4"	BEM34-075-*	22.4	47.8	57.2	19.1	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	2.17	350
1"	BEM34-100-*	26.2	52.3	57.2	23.9	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	2.05	350
1 1/4"	BEM34-125-*	30.2	58.7	69.9	31.8	57.2	28.7	76.2	101.6	38.1	M10 x 1.50	2.63	275
1 1/2"	BEM34-150-*	35.8	69.9	69.9	38.1	63.5	31.8	101.6	101.6	50.8	M12 x 1.75	3.83	210
2"	BEM34-200-*	42.9	77.7	76.2	49.3	76.2	38.1	101.6	114.3	50.8	M12 x 1.75	4.85	210
2 1/2"	BEM34-250-*	50.8	88.9	82.6	60.5	88.9	44.5	127.0	127.0	63.5	M12 x 1.75	8.02	175
3"	BEM34-300-*	62.0	106.4	95.3	73.2	101.6	50.8	152.4	152.4	69.9	M16 x 2.00	11.34	140

BEM64 Block Elbow (Metric) - ISO 6162-2 Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Block Elbow Part No.	Dimensions (millimeters)									Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)
		A	B	C	D	E	F	G	H	K			
1/2"	BEM64-050-*	18.3	40.4	47.8	12.7	50.8	25.4	63.5	63.5	31.8	M8 x 1.25	1.41	420
3/4"	BEM64-075-*	23.9	50.8	57.2	19.1	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	2.15	420
1"	BEM64-100-*	27.7	57.2	63.5	23.9	57.2	28.7	76.2	101.6	38.1	M12 x 1.75	2.92	420
1 1/4"	BEM64-125-*	31.8	66.8	69.9	31.8	63.5	31.8	101.6	101.6	50.8	M12 x 1.75	4.17	420
1 1/2"	BEM64-150-*	36.6	79.5	76.2	38.1	76.2	38.1	101.6	114.3	50.8	M16 x 2.00	5.30	420
2"	BEM64-200-*	44.5	96.8	85.9	49.3	76.2	38.1	127.0	127.0	63.5	M20 x 2.50	6.80	420

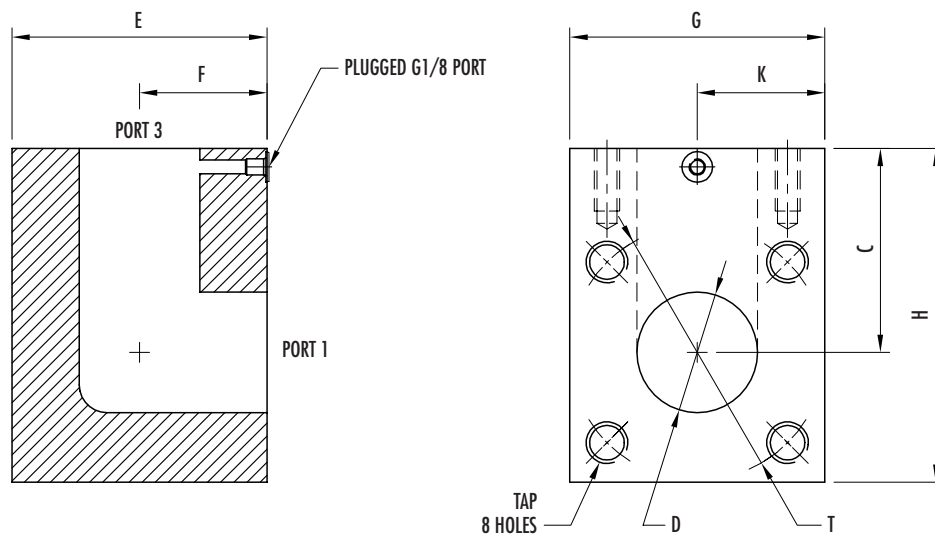
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

• OTHER BLOCK ELBOWS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Block Elbow - Metric

ISO 6164 Flange Style



BEM74 Block Elbow (Metric) - ISO 6164 Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Block Elbow Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)
		T	C	D	E	F	G	H	K			
2 1/2"	BEM74-250-*	118.1	101.6	60.5	127.0	63.5	127.0	165.1	63.5	M20 x 2.50	16.74	400
3"	BEM74-300-*	145.0	127.0	73.2	152.4	76.2	152.4	203.2	76.2	M24 x 3.00	29.73	400
4"	BEM74-400-*	175.0	139.7	88.9	177.8	88.9	177.8	228.6	88.9	M30 x 3.50	42.09	400

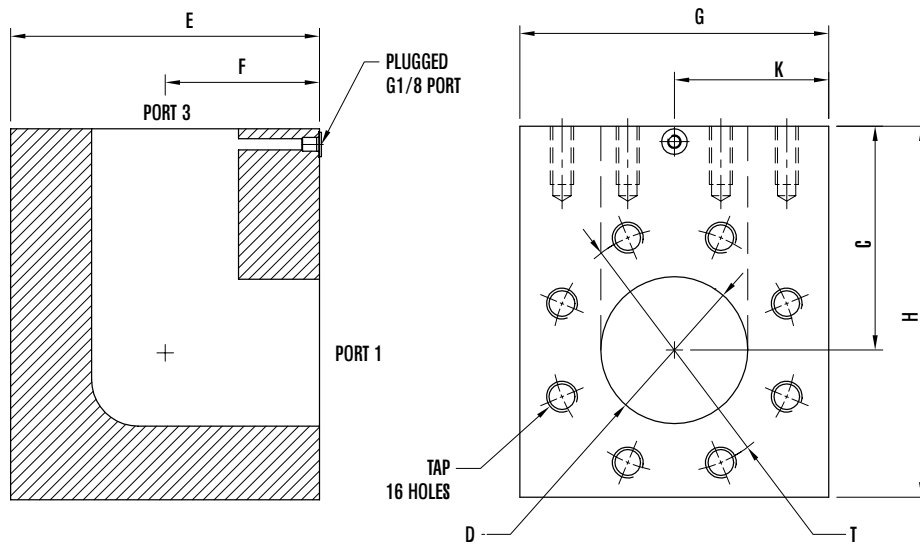
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

• OTHER BLOCK ELBOWS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Block Elbow - Metric

TMI® 8-Bolt Flange Style



BEM48 Block Elbow (Metric) - TMI® 8-Bolt Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Block Elbow Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)
		T	C	D	E	F	G	H	K			
5"	BEM48-500-*	200.2	181.1	101.6	247.7	124.0	247.7	304.8	124.0	M24 X 3.00	124.77	275
6"	BEM48-600-*	245.1	203.2	124.5	301.8	150.9	301.8	355.6	150.9	M30 X 3.50	215.95	255
8"	BEM48-800-*	315.0	260.4	173.0	381.0	190.5	381.0	457.2	190.5	M36 X 4.00	457.77	240

• FOR SIZES 10" OR LARGER CONSULT FACTORY

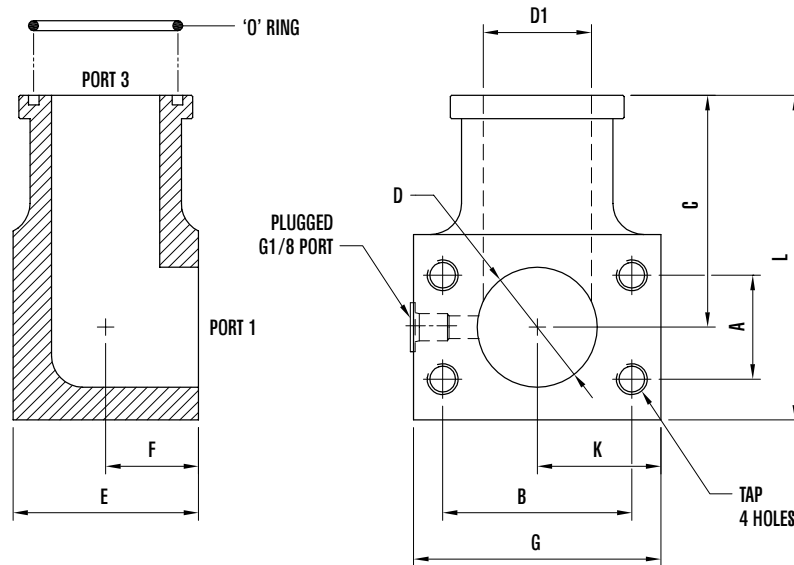
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

• OTHER BLOCK ELBOWS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, PRIME PAINTED, (STAINLESS STEEL AVAILABLE)

Split Flange Elbow - Metric

ISO 6162-1 Flange Style - Body Only



SFEM34 Split Flange Elbow (Metric) - ISO 6162-1 Flat Face With Tapped Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Elbow Part No.	Dimensions (millimeters)										Bolt Minimum 10.9	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	F	G	K	L				
1/2"	SFEM34-050-*	17.5	38.1	63.5	12.7	9.7	50.8	25.4	63.5	31.8	88.9	M8 x 1.25	OR*-2-210	1.30	350
3/4"	SFEM34-075-*	22.4	47.8	69.9	19.1	16.0	50.8	25.4	76.2	38.1	95.3	M10 x 1.50	OR*-2-214	1.55	350
1"	SFEM34-100-*	26.2	52.3	69.9	23.9	22.4	50.8	25.4	76.2	38.1	95.3	M10 x 1.50	OR*-2-219	1.57	350
1 1/4"	SFEM34-125-*	30.2	58.7	79.5	31.8	28.7	57.2	28.7	76.2	38.1	108.0	M10 x 1.50	OR*-2-222	1.77	275
1 1/2"	SFEM34-150-*	35.8	69.9	82.6	38.1	34.9	63.5	31.8	101.6	50.8	114.3	M12 x 1.75	OR*-2-225	2.78	210
2"	SFEM34-200-*	42.9	77.7	88.9	49.3	47.8	76.2	38.1	101.6	50.8	127.0	M12 x 1.75	OR*-2-228	3.64	210
2 1/2"	SFEM34-250-*	50.8	88.9	101.6	60.5	60.5	88.9	44.5	114.3	57.2	146.1	M12 x 1.75	OR*-2-232	5.23	175
3"	SFEM34-300-*	62.0	106.4	114.3	73.2	73.2	101.6	50.8	139.7	69.9	165.1	M16 x 2.00	OR*-2-237	8.20	140

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING

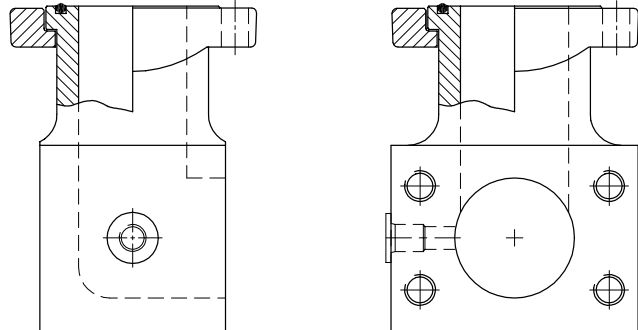
- OTHER SPLIT FLANGE ELBOWS ARE AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE G7
- FOR SPLIT FLANGES REFERENCE PAGE N2

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Split Flange Elbow Assembly - Metric

ISO 6162-1 Flange Style

Typical A/SFEM34 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6162-1 SPLIT FLANGE ELBOW BODY (REF. PAGE G6)
- ONE SET (2 HALVES) ISO 6162-1 SPLIT FLANGES (REF. PAGE N2)
- ONE (1) NITRILE 'O' RING (STANDARD)
- ONE (1) COMPONENT BOLT KIT

A/SFEM34 Split Flange Elbow (Metric) - ISO 6162-1 Assembly

Size (inch)	Elbow Part No.	WT. kgs./ pc
1/2"	A/SFEM34-050-*	1.48
3/4"	A/SFEM34-075-*	1.81
1"	A/SFEM34-100-*	1.86
1 1/4"	A/SFEM34-125-*	2.17
1 1/2"	A/SFEM34-150-*	3.43
2"	A/SFEM34-200-*	4.35
2 1/2"	A/SFEM34-250-*	6.20
3"	A/SFEM34-300-*	9.86

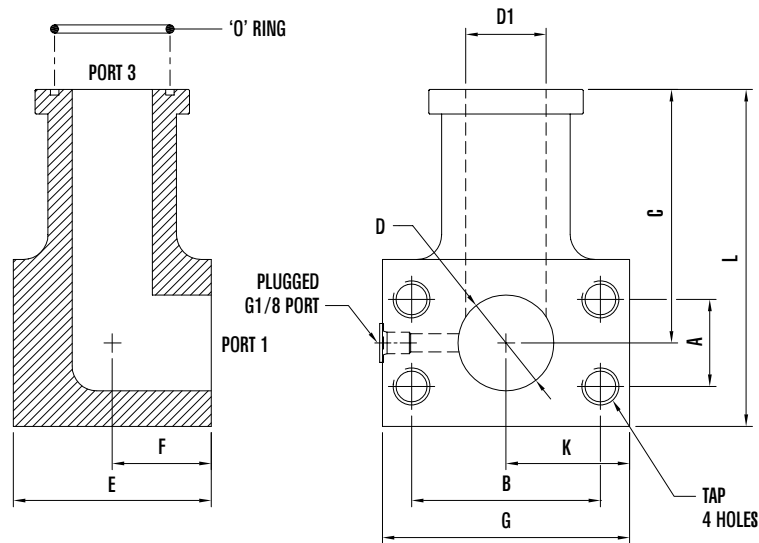
* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Split Flange Elbow - Metric

ISO 6162-2 Flange Style - Body Only



SFEM64 Split Flange Elbow (Metric) - ISO 6162-2 Flat Face With Tapped Holes

Complete With Nitrile 'O' Ring and G1/8 Port (Plugged)

Size (inch)	Elbow Part No.	Dimensions (millimeters)										Bolt Minimum 10.9	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	F	G	K	L				
1/2"	SFEM64-050-*	18.3	38.1	69.9	12.7	9.7	50.8	25.4	63.5	31.8	95.3	M8 x 1.25	OR*-2-210	1.32	420
3/4"	SFEM64-075-*	23.9	50.8	76.2	19.1	16.0	50.8	25.4	76.2	38.1	101.6	M10 x 1.50	OR*-2-214	1.60	420
1"	SFEM64-100-*	27.7	57.2	85.9	23.9	22.4	57.2	28.7	76.2	38.1	114.3	M12 x 1.75	OR*-2-219	2.00	420
1 1/4"	SFEM64-125-*	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	120.7	M12 x 1.75	OR*-2-222	2.96	420
1 1/2"	SFEM64-150-*	36.6	79.5	108.0	38.1	34.9	76.2	38.1	101.6	50.8	146.1	M16 x 2.00	OR*-2-225	4.27	420
2"	SFEM64-200-*	44.5	96.8	120.7	49.3	47.8	88.9	44.5	127.0	63.5	158.8	M20 x 2.50	OR*-2-228	5.35	420

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING

- OTHER SPLIT FLANGE ELBOWS ARE AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE G9
- FOR SPLIT FLANGES REFERENCE PAGE N2

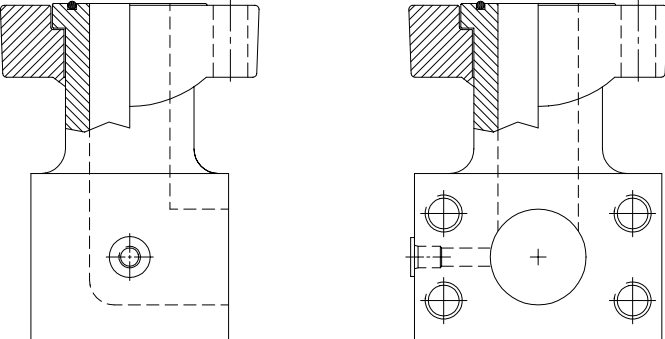
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Elbow Assembly - Metric

ISO 6162-2 Flange Style

Typical A/SFEM64 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6162-2 SPLIT FLANGE ELBOW BODY
(REF. PAGE G8)
- ONE SET (2 HALVES) ISO 6162-2 SPLIT FLANGES
(REF. PAGE N2)
- ONE (1) NITRILE 'O' RING (STANDARD)
- ONE (1) COMPONENT BOLT KIT

A/SFEM64 Split Flange Elbow (Metric) - ISO 6162-2 Assembly

Size (inch)	Elbow Part No.	WT. kgs./ pc
1/2"	A/SFEM64-050-*	1.57
3/4"	A/SFEM64-075-*	2.03
1"	A/SFEM64-100-*	2.66
1 1/4"	A/SFEM64-125-*	3.99
1 1/2"	A/SFEM64-150-*	6.05
2"	A/SFEM64-200-*	8.30

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

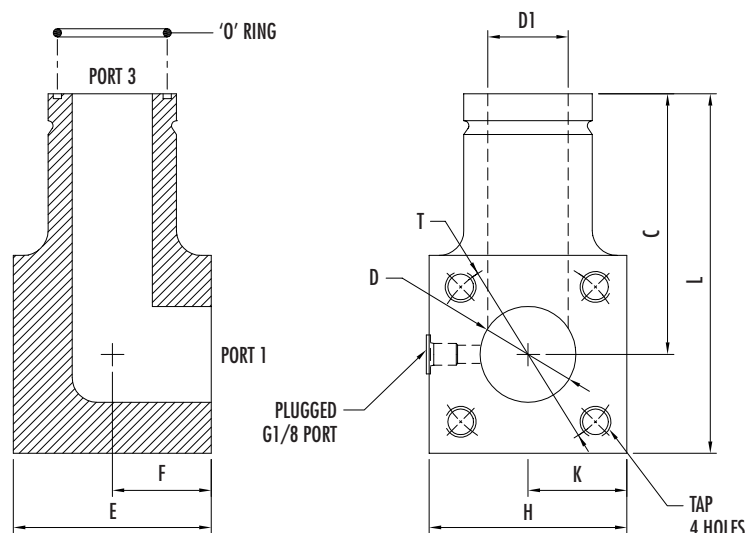
- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Retain Ring Flange Elbow -Metric

ISO 6164 Flange Style - Body Only



REM74 Retain Ring Flange Elbow (Metric) - ISO 6164 Flat Face With Tapped Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Elbow Part No.	Dimensions (millimeters)									Thread	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		T	C	D	D1	E	F	H	K	L				
2 1/2"	REM74-250-*	118.1	171.5	60.5	57.2	127.0	63.5	127.0	63.5	235.0	M20 x 2.50	OR*-2-232	14.26	400
3"	REM74-300-*	145.0	203.2	73.2	69.9	152.4	76.2	152.4	76.2	279.4	M24 x 3.00	OR*-2-237	20.12	400

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING

- OTHER RETAIN RING FLANGE ELBOWS ARE AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE G11

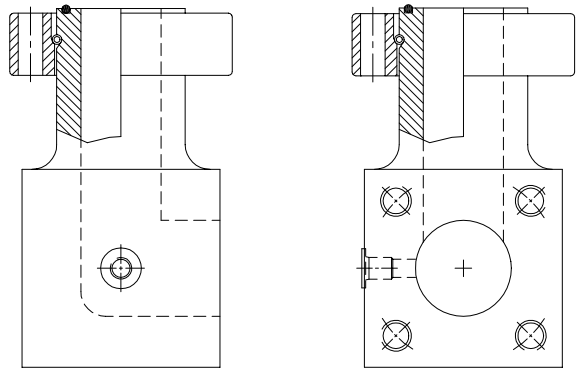
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Retain Ring Flange Elbow Assembly - Metric

ISO 6164 Flange Style

Typical A/REM74 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6164 RETAIN RING FLANGE ELBOW BODY (REF. PAGE G10)
- ONE (1) ISO 6164 RETAIN RING FLANGE (REF. PAGE C10)
- ONE (1) RETAIN RING
- ONE (1) NITRILE 'O' RING (STANDARD)

A/REM74 Retain Ring Flange Elbow (Metric) - ISO 6164 Assembly

Size (inch)	Elbow Part No.	WT. kgs./ pc
2 1/2"	A/REM74-250-*	16.44
3"	A/REM74-300-*	23.70

- * INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING
- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
 - SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
- MATERIAL:** CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Flare Flange Elbow Assembly - Metric

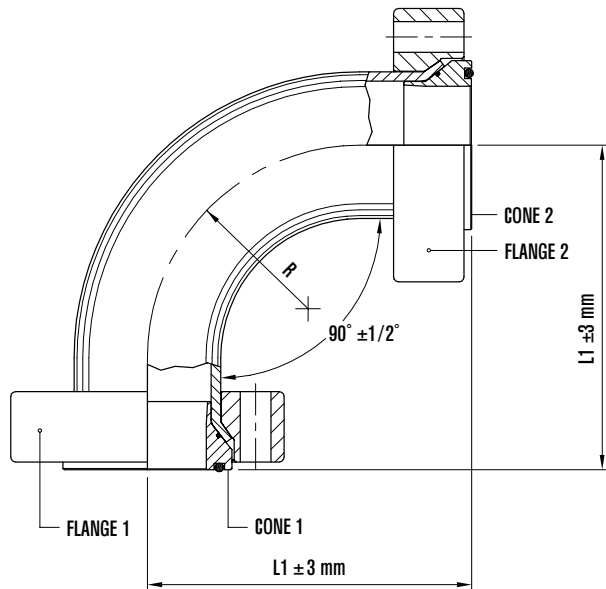
Short Radius Bent Elbow

Typical A/FFEM Assembly

For field bent pipe assemblies
Ref. page B22

COMPLETE ASSEMBLY CONSISTS OF:

- FLARE FLANGE 90° ELBOW BODY
- TWO (2) FLARE FLANGES (REF. PAGES B8-B11)
- TWO (2) CONES
(REF. PAGES B12-B15 FOR TYPE OF CONE)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL



PART NO. (EXAMPLE): A/FFEM - 20x3-050 - FCM34 - FCM34 - CO - CO

FFEM Flare Flange Elbow Body (Metric)

Size (inch)	OD x Wall	Dimensions (mm)		WT. *(Body Only) kgs./pc	Working Pressure *(Body Only) bar
		L1	R		
1/2"	20 x 3	127	40	0.28	420
3/4"	25 x 3	127	50	0.36	420
1"	30 x 4	127	60	0.56	420
1 1/4"	38 x 4	152	76	0.89	420
1 1/2"	50 x 5	165	100	1.58	420
2"	60 x 5	203	120	2.38	400
2 1/2"	73 x 7	279	191	5.38	310
3"	89 x 7.6	318	229	8.10	270

* BODY ONLY CONSISTS OF BENT FLARED PIPE SECTION AND CONES. FOR TOTAL ASSEMBLY WEIGHT, ADD APPROPRIATE FLANGE WEIGHTS TO BODY WEIGHT.

- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE B25
- OTHER RADII AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)

- REDUCING METRIC FLANGES AND CONES ARE AVAILABLE (REFERENCE PAGES B16-B19)

FOR FLARE FLANGE ASSEMBLIES UTILIZING REDUCING FLANGES AND CONES ADD (R) TO FLANGE AND CONE CODE NUMBERS.
ie. ISO 6162-1 metric flare flange with clearance holes - code number FCM34 would be FCRM34-(flange size)

REDUCING PART NO. (EXAMPLE): A/FFEM - 20x3 - FCRM34-075 - FCM34 - COR - CO

Consult factory for ordering assistance



Flare Flange Elbow Assembly - Metric

Complete Assembly Part Number

		Code	A	/	FFEM	-	Body & Cone Material	-	Size & OD x Wall	-	Flange 1	-	Flange 2	-	Cone 1	-	Cone 2	-	Options
Assembly		A																	
Flare Flange Elbow Metric		FFEM																	
Body & Cone Material Carbon Steel (Standard) Ref. page (B24)	No Designation Required																		
Body & Cone Material Stainless Steel (Optional) Ref. page (B7)	TMP304SS	304																	
	TMP316SS	316																	
	TMP2205SS	2205																	
Body Size & Schedule	1/2"	20x3-050																	
	3/4"	25x3-075																	
	1"	30x4-100																	
	1 1/4"	38x4-125																	
	1 1/2"	50x5-150																	
	2"	60x5-200																	
	2 1/2"	73x7-250																	
Flange Type Carbon Steel Yellow Zinc Dicromate Plated Ref. pages (B8-B11)	FFCM34 ISO 6162-1 W/Metric Clearance Holes	FCM34																	
	FFTM34 ISO 6162-1 W/Metric Tapped Holes	FTM34																	
	FFCM64 ISO 6162-2 W/Metric Clearance Holes	FCM64																	
	FFTM64 ISO 6162-2 W/Metric Tapped Holes	FTM64																	
	FFCM74 ISO 6164 W/Metric Clearance Holes	FCM74																	
Cone Type Ref. pages (B12-B15)	Cone - Flat Face	CF																	
	Cone - 'O' Ring Face	CO																	
Options	Viton	V																	
	Painted (Specify)	P																	
Complete Stainless Steel Assembly: (including flanges)		SS																	

♦ TMP2205SS PIPE IS ONLY AVAILABLE IN 38x4, 50x5, and 60x5 mm SIZES

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

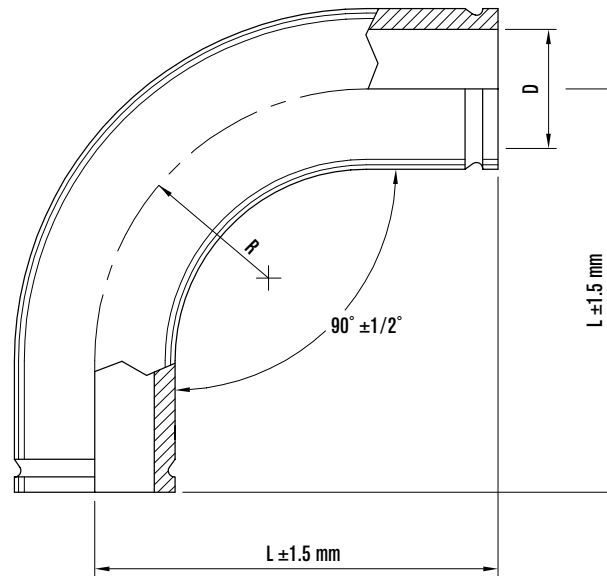
PART NO. (EXAMPLE): A/FFEM - 20x3-050 - FCM34 - FCM34 - CF - CO

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
- FOR BOLT KITS - REFERENCE SECTION R



Retain Ring Flange Elbow - Metric

Long Radius Bent Elbow - Body Only



RFE Retain Ring Flange Elbow - Body Only

Size (inch)	Body Only Part No.	Dimensions (mm)			WT. (Body Only) kgs./pc	Working Pressure (Body Only) (bar)
		L	R	D		
1 1/2"	RFE-150	317.50	209.55	39.12	5.23	420
2"	RFE-200	355.60	241.30	49.02	7.09	420
2 1/2"	RFE-250	431.80	317.50	59.94	12.12	400
3"	RFE-300	508.00	381.00	73.15	20.82	400
4"	RFE-400	635.00	508.00	85.09	37.96	400
5"	RFE-500	635.00	508.00	103.12	55.22	275
6"	RFE-600	762.00	609.60	124.46	93.78	255
8"	RFE-800	1016.00	812.80	172.97	177.88	240

- OTHER RADII AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE G15

MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE - CONSULT FACTORY)



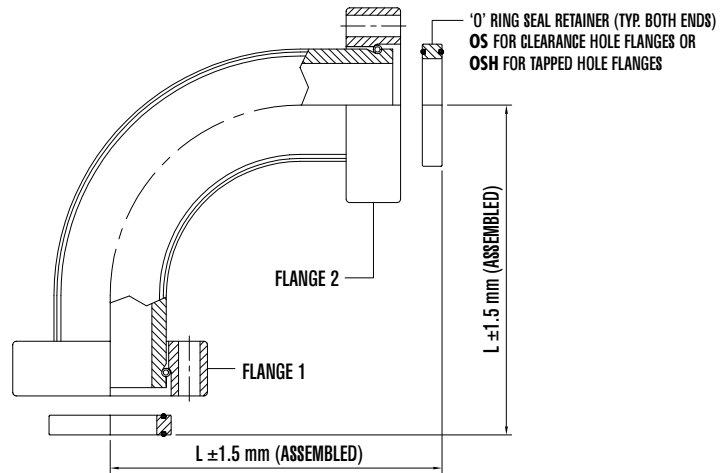
Retain Ring Flange Elbow Assembly - Metric

Complete Assembly Part Number

Typical A/RFE Assembly

COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) RETAIN RING FLANGE ELBOW BODY (REF. PAGE G14)
- TWO (2) RETAIN RING FLANGES (REF. PAGES C8-C12)
- TWO (2) RETAIN RINGS
- TWO (2) 'O' RING SEAL RETAINERS (REF. PAGES G18-G19)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL (1 1/2" - 3")
- ENDS SEALED WITH POSITIVE CLOSURE (4" - 8")



		Code	A	/	RFE	-	Body Material	-	Size	-	Flange 1	-	Flange 2	-	Options
Assembly		A													
Retain Ring Flange Elbow		RFE													
Body Material Carbon Steel (Standard)	No Designation Required														
	Body Material Stainless Steel (Optional) Ref. page (C7)														
	TMP304SS	304													
	TMP316SS	316													
Body Size	1 1/2"	150													
	2"	200													
	2 1/2"	250													
	3"	300													
	4"	400													
	5"	500													
	6"	600													
	8"	800													
Flange Type	RFC34 ISO 6162-1 W/Clearance Holes	FC34													
	*RFTM34 ISO 6162-1 W/Tapped Holes	FTM34													
	RFC64 ISO 6162-2 W/Clearance Holes	FC64													
	*RFTM64 ISO 6162-2 W/Tapped Holes	FTM64													
	RFC74 ISO 6164 W/Clearance Holes	FC74													
	RFAC48 TM1® 8-Bolt W/Clearance Holes	FAC48													
Options	Viton	V													
	Painted (Specify)	P													
	♦ Complete Stainless Steel Assembly: (including flanges, 'O' Ring seal retainers)	SS													

L Dimension will vary if
OSH 'O' Ring Seal Retainer
is used.
(reference page G19)

Size	Dimensions (mm)
	L (OS/OSA)
1 1/2"	330.20
2"	368.30
2 1/2"	457.20
3"	533.40
4"	660.40
5"	673.10
6"	800.10
8"	1054.10

♦ STAINLESS STEEL IS AVAILABLE
(CONSULT FACTORY)

* NORMALLY USED FOR CONNECTION TO SPLIT
FLANGE TYPE ENDS (SUPPLIED WITH OSH
STYLE 'O' RING SEAL RETAINER)

PART NO. (EXAMPLE):

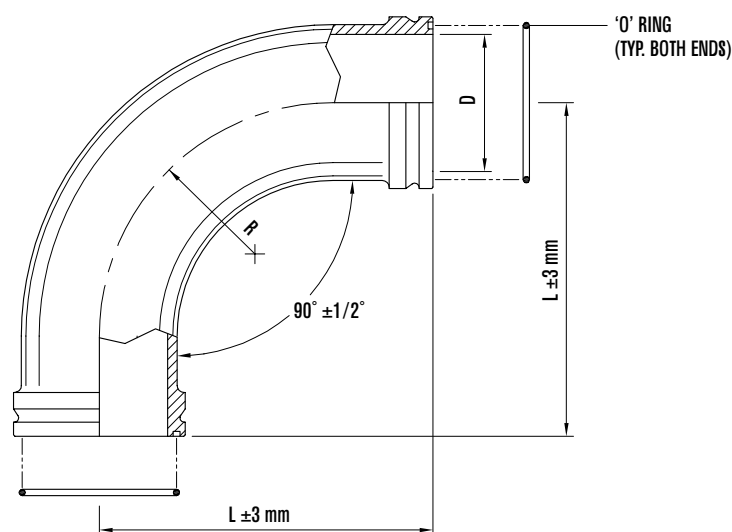
A/RFE - 250 - FC34 - FC34

- ASSEMBLY WORKING PRESSURE RATINGS
ARE SUBJECT TO THE LESSER OF THE
FLANGE OR BODY RATINGS
- SEE REFERENCE PAGE INDICATED ABOVE
FOR PRESSURE RATINGS
- FOR BOLT KITS - REFERENCE SECTION R



Low Pressure Retain Ring Flange Elbow - Metric

Body Only



LRE Low Pressure Retain Ring Flange Elbow - Body Only (segmentally welded)

Complete with Nitrile 'O' Rings (Standard)

Size (inch)	Elbow Body Part No.	Dimensions (mm)			'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L	R	D			
2 1/2"	LRE-250-*	132.59	95.25	62.74	OR*-2-232	2.40	52
3"	LRE-300-*	156.72	114.30	77.98	OR*-2-237	3.57	52
4"	LRE-400-*	194.82	152.40	102.36	OR*-2-245	6.02	52
5"	LRE-500-*	237.74	190.50	128.27	OR*-2-253	10.06	52
6"	LRE-600-*	280.92	228.60	154.18	OR*-2-259	16.07	48
8"	LRE-800-*	367.03	304.80	202.69	OR*-2-372	31.80	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE G17
- ELBOW BODY INCLUDES BUTT WELD ADAPTERS (REF. PAGES D10-D13)

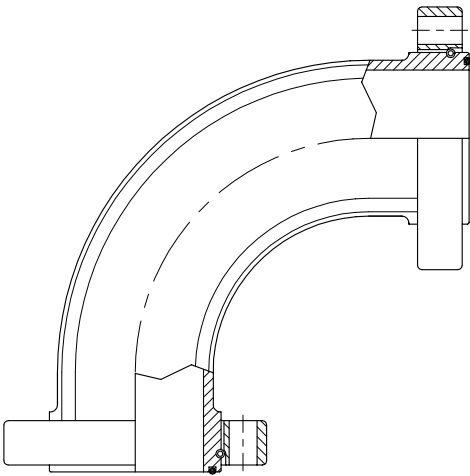
MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)



Low Pressure Retain Ring Flange Elbow Assembly - Metric

Complete Assembly Part Number

Typical A/LRE Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LOW PRESSURE RETAIN RING FLANGE ELBOW BODY
- TWO (2) LOW PRESSURE RETAIN RING FLANGES (REF. PAGES D8-D9)
- TWO (2) LOW PRESSURE RETAIN RINGS
- TWO (2) NITRILE 'O' RINGS (STANDARD)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL (2 1/2" & 3")
- ENDS SEALED WITH POSITIVE CLOSURE (4"-8")

A/LRE Low Pressure Retain Ring Flange Elbow Assembly

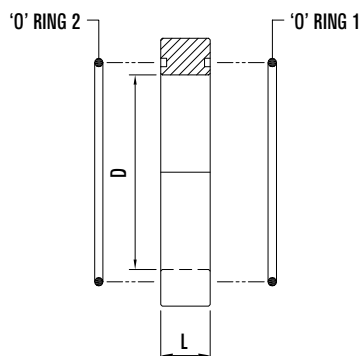
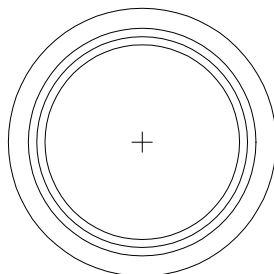
Size (inch)	Complete Assembly Part No.	WT. (Assembly) kgs./pc	Working Pressure (bar)
2 1/2"	A/LRE-250-*	4.37	52
3"	A/LRE-300-*	5.30	52
4"	A/LRE-400-*	9.02	52
5"	A/LRE-500-*	13.98	52
6"	A/LRE-600-*	20.53	48
8"	A/LRE-800-*	40.55	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS
MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)



'O' Ring Seal Retainer - Metric

OS/OSA



OS 'O' Ring Seal Retainer for Retain Ring Pipe (Metric) - 1 1/2"- 4"
Complete with Nitrile 'O' Rings (Standard)

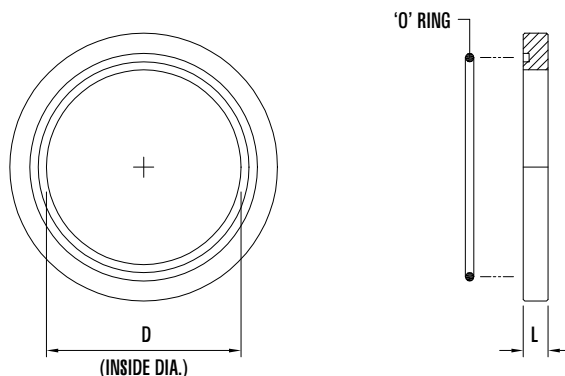
OSA 'O' Ring Seal Retainer for Retain Ring Pipe (Metric) - 5"- 8"
Complete with Nitrile 'O' Rings (Standard)

Size (inch)	Retainer Part No.	Dimensions (mm)		'O' Rings 1&2 (Nitrile) Part No.	WT. kgs./pc
		D	L		
1 1/2"	OS-150-*	39.1	12.7	OR*-3-924	0.11
2"	OS-200-*	49.0	12.7	OR*-3-928	0.13
2 1/2"	OS-250-*	59.9	25.4	OR*-2-232	0.24
3"	OS-300-*	73.2	25.4	OR*-2-237	0.35
4"	OS-400-*	85.1	25.4	OR*-2-241	0.55
5"	OSA-500-*	103.1	38.1	OR*-2-353	2.60
6"	OSA-600-*	124.5	38.1	OR*-2-359	3.09
8"	OSA-800-*	173.0	38.1	OR*-2-368	4.70

• FOR SIZES 10" OR LARGER CONSULT FACTORY

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

'O' Ring Seal Retainer - Metric



OSH 'O' Ring Seal Retainer for Retain Ring Pipe (Metric)

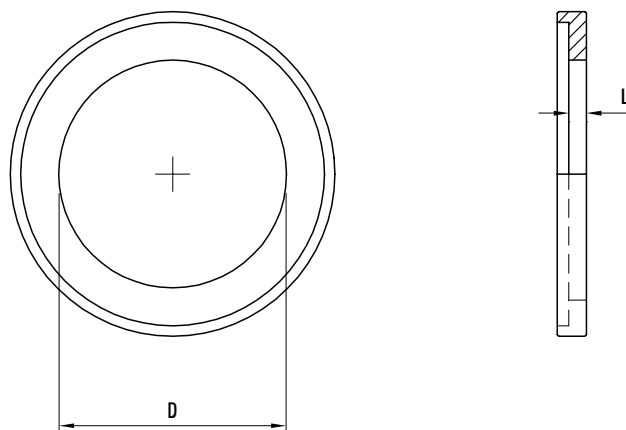
Complete with Nitrile 'O' Ring (Standard)

Size (inch)	Retainer Part No.	Dimensions (mm)		'O' Ring (Nitrile) Part No.	WT. kgs./pc
		D	L		
1 1/2"	OSH-150-*	39.1	6.4	OR*-3-924	0.05
2"	OSH-200-*	49.0	6.4	OR*-3-928	0.07
2 1/2"	OSH-250-*	59.9	12.7	OR*-2-232	0.12
3"	OSH-300-*	73.2	12.7	OR*-2-237	0.18
4"	OSH-400-*	85.1	12.7	OR*-2-241	0.27

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

'O' Ring Connector Plate - Metric

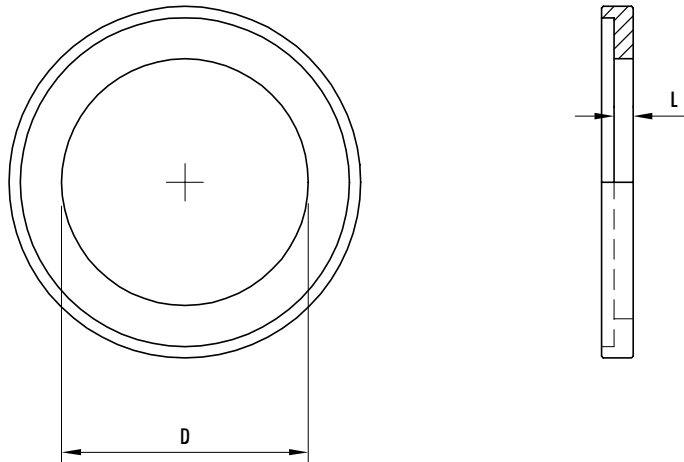


OCP 'O' Ring Connector Plate (Metric)

Size (inch)	Connector Plate Part No.	Dimensions (mm)		WT. kgs./pc
		D	L	
1/2"	OCP-050	12.7	3.3	0.02
3/4"	OCP-075	19.1	3.3	0.03
1"	OCP-100	23.9	3.3	0.03
1 1/4"	OCP-125	30.5	3.3	0.04
1 1/2"	OCP-150	38.1	3.3	0.05
2"	OCP-200	49.3	3.3	0.06
2 1/2"	OCP-250	59.9	3.3	0.08
3"	OCP-300	73.2	3.3	0.11
4"	OCP-400	85.1	3.3	0.15

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Low Pressure 'O' Ring Connector Plate - Metric



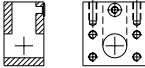
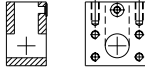
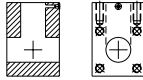
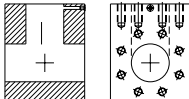
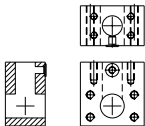
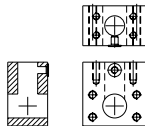
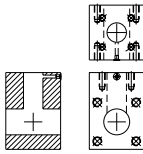
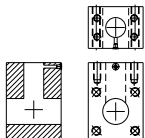
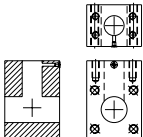
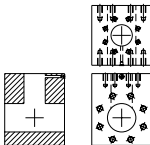
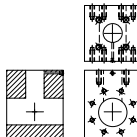
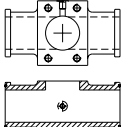
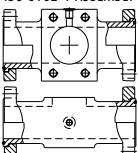
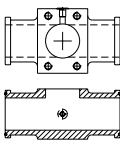
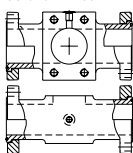
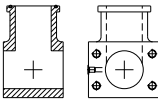
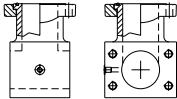
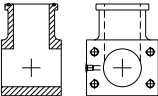
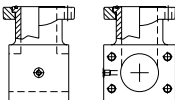
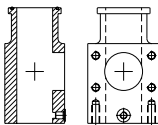
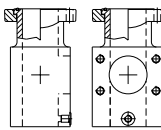
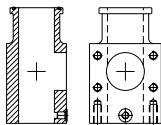
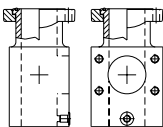
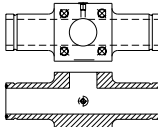
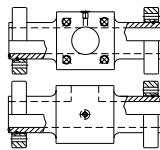
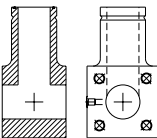
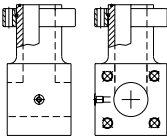
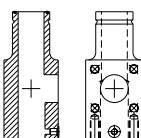
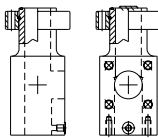
LOCP Low Pressure 'O' Ring Connector Plate (Metric)

Size (inch)	Connector Plate Part No.	Dimensions (mm)		WT. kgs./pc
		D	L	
2 1/2"	LOCP-250	62.7	3.3	0.07
3"	LOCP-300	78.0	3.3	0.10
4"	LOCP-400	102.4	3.3	0.15
5"	LOCP-500	128.3	4.8	0.26
6"	LOCP-600	154.2	4.8	0.36
8"	LOCP-800	202.7	4.8	0.61

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

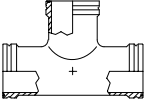
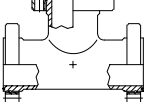
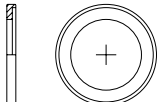
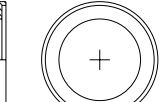


Tees - Metric Visual Index (page 1 of 2)

BLOCK STYLE	<div>BTM34 ISO 6162-1</div> <div></div> <div>1/2" - 3" Page H3</div>	<div>BTM64 ISO 6162-2</div> <div></div> <div>1/2" - 2" Page H3</div>	<div>BTM74 ISO 6164</div> <div></div> <div>2 1/2" - 4" Page H4</div>	<div>BTM48 TMI® 8-BOLT</div> <div></div> <div>5" - 8" Page H5</div>	
	REDUCING BRANCH BLOCK STYLE	<div>BTRM34 ISO 6162-1</div> <div></div> <div>1/2" - 3" Page H6</div>	<div>BTRM64 ISO 6162-2</div> <div></div> <div>1/2" - 2" Page H7</div>	<div>BTRM74 ISO 6164</div> <div></div> <div>2 1/2" - 4" Page H8</div>	<div>BTRM7-34 ISO 6164/6162-1</div> <div></div> <div>2" - 4" Page H9</div>
<div>BTRM7-64 ISO 6164/6162-2</div> <div></div> <div>2" - 4" Page H9</div>		<div>BTRM48 TMI® 8-BOLT</div> <div></div> <div>5" - 8" Page H10</div>	<div>BTRM4-74 TMI® 8-BOLT/ISO 6164</div> <div></div> <div>4" - 8" Page H11</div>	SPLIT FLANGE BLOCK STYLE	
<div>SFTM34 ISO 6162-1 BODY ONLY</div> <div></div> <div>1/2" - 3" Page H12</div>					
<div>A/SFTM34 ISO 6162-1 ASSEMBLY</div> <div></div> <div>1/2" - 3" Page H13</div>	<div>SFTM64 ISO 6162-2 BODY ONLY</div> <div></div> <div>1/2" - 2" Page H14</div>	<div>A/SFTM64 ISO 6162-2 ASSEMBLY</div> <div></div> <div>1/2" - 2" Page H15</div>	<div>SFBTM34 ISO 6162-1 BODY ONLY</div> <div></div> <div>1/2" - 3" Page H16</div>	<div>A/SFBTM34 ISO 6162-1 ASSEMBLY</div> <div></div> <div>1/2" - 3" Page H17</div>	
<div>SFBTM64 ISO 6162-2 BODY ONLY</div> <div></div> <div>1/2" - 2" Page H18</div>	<div>A/SFBTM64 ISO 6162-2 ASSEMBLY</div> <div></div> <div>1/2" - 2" Page H19</div>	<div>SFRM34 ISO 6162-1 BODY ONLY</div> <div></div> <div>1/2" - 3" Page H20</div>	<div>A/SFRM34 ISO 6162-1 ASSEMBLY</div> <div></div> <div>1/2" - 3" Page H21</div>	<div>SFRM64 ISO 6162-2 BODY ONLY</div> <div></div> <div>1/2" - 2" Page H22</div>	
<div>A/SFRM64 ISO 6162-2 ASSEMBLY</div> <div></div> <div>1/2" - 2" Page H23</div>	RETAIN RING FLANGE BLOCK STYLE		<div>RTM74 ISO 6164 BODY ONLY</div> <div></div> <div>2 1/2" - 4" Page H24</div>	<div>A/RTM74 ISO 6164 ASSEMBLY</div> <div></div> <div>2 1/2" - 4" Page H25</div>	<div>RBTM74 ISO 6164 BODY ONLY</div> <div></div> <div>2 1/2" - 4" Page H26</div>
<div>A/RBTM74 ISO 6164 ASSEMBLY</div> <div></div> <div>2 1/2" - 4" Page H27</div>			<div>RRTM74 ISO 6164 BODY ONLY</div> <div></div> <div>2 1/2" - 4" Page H28</div>	<div>A/RRTM74 ISO 6164 ASSEMBLY</div> <div></div> <div>2 1/2" - 4" Page H29</div>	

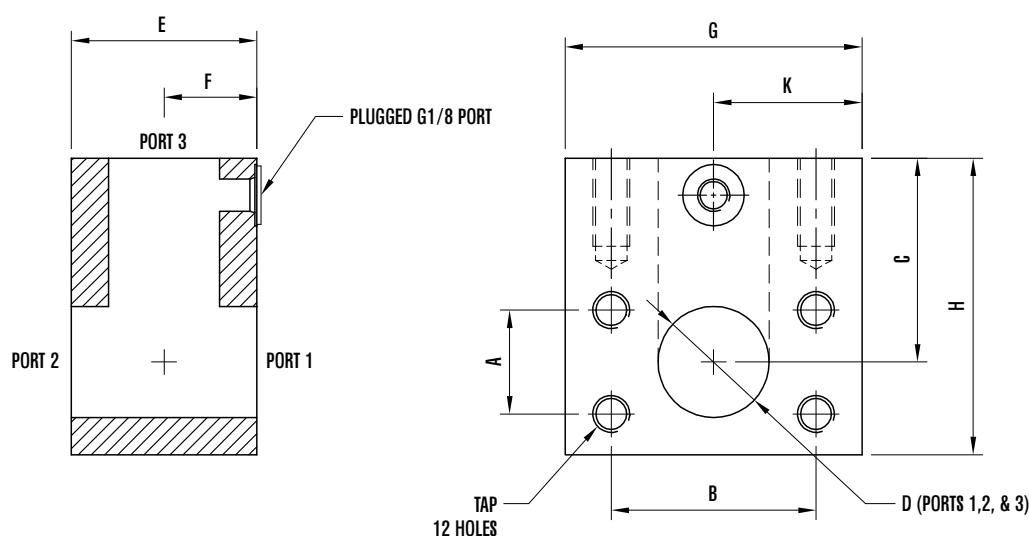


Tees - Metric Visual Index (page 2 of 2)

LOW PRESSURE RETAIN RING FLANGE STYLE	<p>LRT BODY ONLY</p>  <p>2 1/2" - 8" Page H30</p>	<p>A/LRT ASSEMBLY</p>  <p>2 1/2" - 8" Page H31</p>		
'O' RING CONNECTOR PLATES	<p>OCP CONNECTOR PLATE</p>  <p>1/2" - 4" Page H32</p>	<p>LOCP LOW PRESSURE-CONNECTOR PLATE</p>  <p>2 1/2" - 8" Page H33</p>		

Block Tee - Metric

ISO Flange Style



BTM34 Block Tee (Metric) - ISO 6162-1 Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Block Tee Part No.	Dimensions (millimeters)									Thread	WT. kgs./pc	Working Pressure (bar)
		A	B	C	D	E	F	G	H	K			
1/2"	BTM34-050-*	17.5	38.1	47.8	12.7	50.8	25.4	63.5	63.5	31.8	M8 x 1.25	1.39	350
3/4"	BTM34-075-*	22.4	47.8	57.2	19.1	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	2.14	350
1"	BTM34-100-*	26.2	52.3	57.2	23.9	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	2.00	350
1 1/4"	BTM34-125-*	30.2	58.7	69.9	31.8	57.2	28.7	76.2	101.6	38.1	M10 x 1.50	2.57	275
1 1/2"	BTM34-150-*	35.8	69.9	69.9	38.1	63.5	31.8	101.6	101.6	50.8	M12 x 1.75	3.75	210
2"	BTM34-200-*	42.9	77.7	76.2	49.3	76.2	38.1	101.6	114.3	50.8	M12 x 1.75	4.60	210
2 1/2"	BTM34-250-*	50.8	88.9	82.6	60.5	88.9	44.5	127.0	127.0	63.5	M12 x 1.75	7.56	175
3"	BTM34-300-*	62.0	106.4	95.3	73.2	101.6	50.8	139.7	152.4	69.9	M16 x 2.00	10.75	140

BTM64 Block Tee (Metric) - ISO 6162-2 Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Block Tee Part No.	Dimensions (millimeters)									Thread	WT. kgs./pc	Working Pressure (bar)
		A	B	C	D	E	F	G	H	K			
1/2"	BTM64-050-*	18.3	40.4	47.8	12.7	50.8	25.4	63.5	63.5	31.8	M8 x 1.25	1.39	420
3/4"	BTM64-075-*	23.9	50.8	57.2	19.1	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	2.12	420
1"	BTM64-100-*	27.7	57.2	63.5	23.9	57.2	28.7	76.2	101.6	38.1	M12 x 1.75	2.82	420
1 1/4"	BTM64-125-*	31.8	66.8	69.9	31.8	63.5	31.8	101.6	101.6	50.8	M12 x 1.75	4.03	420
1 1/2"	BTM64-150-*	36.6	79.5	76.2	38.1	76.2	38.1	101.6	114.3	50.8	M16 x 2.00	5.02	420
2"	BTM64-200-*	44.5	96.8	85.9	49.3	76.2	38.1	127.0	127.0	63.5	M20 x 2.50	6.55	420

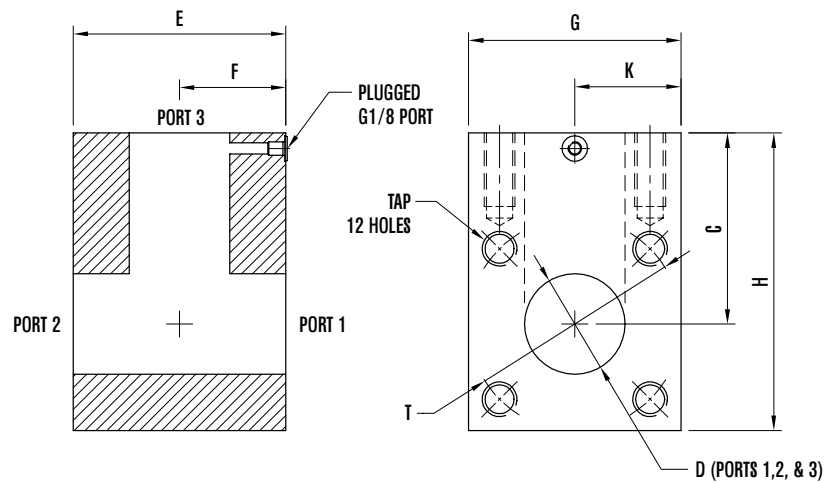
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

• OTHER BLOCK TEES ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Block Tee - Metric

ISO 6164 Flange Style



BTM74 Block Tee (Metric) - ISO 6164 Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Block Tee Part No.	Dimensions (millimeters)								Thread	WT. kgs./pc	Working Pressure (bar)
		T	C	D	E	F	G	H	K			
2 1/2"	BTM74-250-*	118.1	101.6	60.5	127.0	63.5	127.0	165.1	63.5	M20 x 2.50	15.27	400
3"	BTM74-300-*	145.0	127.0	73.2	152.4	76.2	152.4	203.2	76.2	M24 x 3.00	26.50	400
4"	BTM74-400-*	175.0	139.7	88.9	177.8	88.9	177.8	228.6	88.9	M30 x 3.50	39.09	400

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

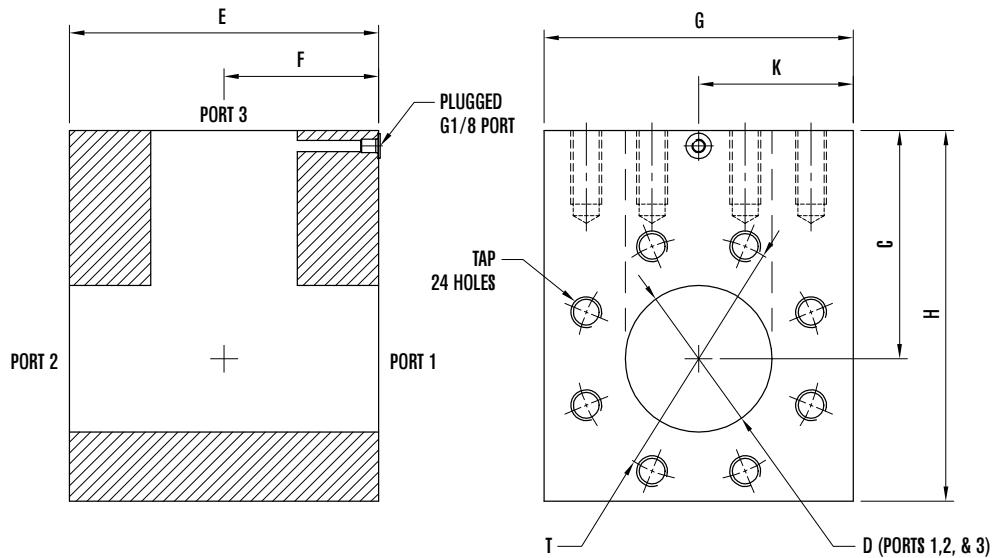
• OTHER BLOCK TEES ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Block Tee - Metric

TMI® 8-Bolt Flange Style



BTM48 Block Tee (Metric) - TMI® 8-Bolt Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Block Tee Part No.	Dimensions (millimeters)								Thread	WT. kgs./pc	Working Pressure (bar)
		T	C	D	E	F	G	H	K			
5"	BTM48-500-*	200.2	181.1	101.6	247.7	124.0	247.7	304.8	124.0	M24 x 3.00	116.82	275
6"	BTM48-600-*	245.1	203.2	124.5	301.8	150.9	301.8	355.6	150.9	M30 x 3.50	207.27	255
8"	BTM48-800-*	315.0	260.4	173.0	381.0	190.5	381.0	457.2	190.5	M36 x 4.00	452.27	240

• FOR SIZES 10" OR LARGER CONSULT FACTORY

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

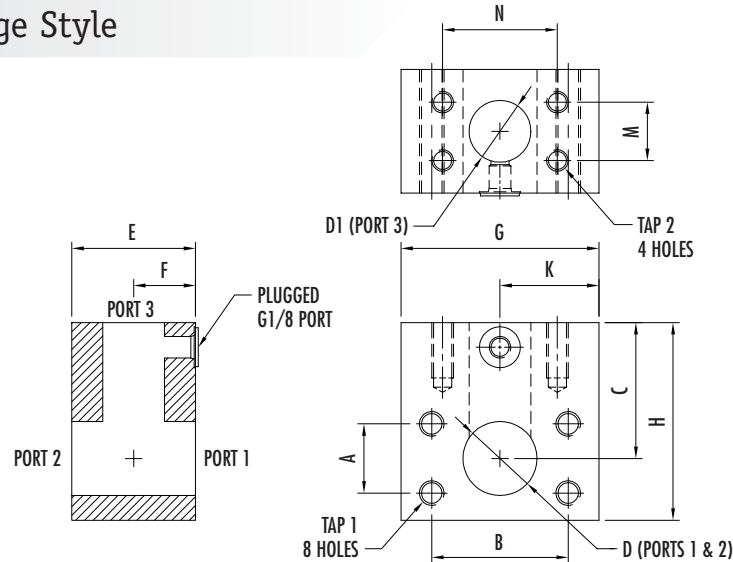
• OTHER BLOCK TEES ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, PRIME PAINTED, (STAINLESS STEEL AVAILABLE)



Reducing Branch Block Tee - Metric

ISO 6162-1 Flange Style



BTRM34 Reducing Branch Block Tee (Metric) - ISO 6162-1 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (run x branch)	Block Tee Part No.	Dimensions (millimeters)												Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		A	B	C	D	D1	E	F	G	H	K	M	N				
3/4"x1/2"	BTRM34-075x050-*	22.4	47.8	57.2	19.1	12.7	50.8	25.4	76.2	82.6	38.1	17.5	38.1	M10 X 1.50	M8 X 1.25	2.27	350
1"x1/2"	BTRM34-100x050-*	26.2	52.3	57.2	23.9	12.7	50.8	25.4	76.2	82.6	38.1	17.5	38.1	M10 X 1.50	M8 X 1.25	2.27	350
1"x3/4"	BTRM34-100x075-*	26.2	52.3	57.2	23.9	19.1	50.8	25.4	76.2	82.6	38.1	22.4	47.8	M10 X 1.50	M10 X 1.50	2.27	350
1 1/4"x1/2"	BTRM34-125x050-*	30.2	58.7	69.9	31.8	12.7	57.2	28.7	76.2	101.6	38.1	17.5	38.1	M10 X 1.50	M8 X 1.25	2.64	275
1 1/4"x3/4"	BTRM34-125x075-*	30.2	58.7	69.9	31.8	19.1	57.2	28.7	76.2	101.6	38.1	22.4	47.8	M10 X 1.50	M10 X 1.50	2.64	275
1 1/4"x1"	BTRM34-125x100-*	30.2	58.7	69.9	31.8	23.9	57.2	28.7	76.2	101.6	38.1	26.2	52.3	M10 X 1.50	M10 X 1.50	2.64	275
1 1/2"x1/2"	BTRM34-150x050-*	35.8	69.9	69.9	38.1	12.7	63.5	31.8	101.6	101.6	50.8	17.5	38.1	M12 X 1.75	M8 X 1.25	4.05	210
1 1/2"x3/4"	BTRM34-150x075-*	35.8	69.9	69.9	38.1	19.1	63.5	31.8	101.6	101.6	50.8	22.4	47.8	M12 X 1.75	M10 X 1.50	3.98	210
1 1/2"x1"	BTRM34-150x100-*	35.8	69.9	69.9	38.1	23.9	63.5	31.8	101.6	101.6	50.8	26.2	52.3	M12 X 1.75	M10 X 1.50	3.91	210
1 1/2"x1 1/4"	BTRM34-150x125-*	35.8	69.9	69.9	38.1	31.8	63.5	31.8	101.6	101.6	50.8	30.2	58.7	M12 X 1.75	M10 X 1.50	3.86	210
2"x1/2"	BTRM34-200x050-*	42.9	77.7	76.2	49.3	12.7	76.2	38.1	101.6	114.3	50.8	17.5	38.1	M12 X 1.75	M8 X 1.25	4.55	210
2"x3/4"	BTRM34-200x075-*	42.9	77.7	76.2	49.3	19.1	76.2	38.1	101.6	114.3	50.8	22.4	47.8	M12 X 1.75	M10 X 1.50	4.55	210
2"x1"	BTRM34-200x100-*	42.9	77.7	76.2	49.3	23.9	76.2	38.1	101.6	114.3	50.8	26.2	52.3	M12 X 1.75	M10 X 1.50	4.55	210
2"x1 1/4"	BTRM34-200x125-*	42.9	77.7	76.2	49.3	31.8	76.2	38.1	101.6	114.3	50.8	30.2	58.7	M12 X 1.75	M10 X 1.50	4.55	210
2"x1 1/2"	BTRM34-200x150-*	42.9	77.7	76.2	49.3	38.1	76.2	38.1	101.6	114.3	50.8	35.8	69.9	M12 X 1.75	M12 X 1.75	4.55	210
2 1/2"x1/2"	BTRM34-250x050-*	50.8	88.9	82.6	60.5	12.7	88.9	44.5	127.0	127.0	63.5	17.5	38.1	M12 X 1.75	M8 X 1.25	6.36	175
2 1/2"x3/4"	BTRM34-250x075-*	50.8	88.9	82.6	60.5	19.1	88.9	44.5	127.0	127.0	63.5	22.4	47.8	M12 X 1.75	M10 X 1.50	6.23	175
2 1/2"x1"	BTRM34-250x100-*	50.8	88.9	82.6	60.5	23.9	88.9	44.5	127.0	127.0	63.5	26.2	52.3	M12 X 1.75	M10 X 1.50	7.32	175
2 1/2"x1 1/4"	BTRM34-250x125-*	50.8	88.9	82.6	60.5	31.8	88.9	44.5	127.0	127.0	63.5	30.2	58.7	M12 X 1.75	M10 X 1.50	7.23	175
2 1/2"x1 1/2"	BTRM34-250x150-*	50.8	88.9	82.6	60.5	38.1	88.9	44.5	127.0	127.0	63.5	35.8	69.9	M12 X 1.75	M12 X 1.75	7.14	175
2 1/2"x2"	BTRM34-250x200-*	50.8	88.9	82.6	60.5	49.3	88.9	44.5	127.0	127.0	63.5	42.9	77.7	M12 X 1.75	M12 X 1.75	6.77	175
3"x1/2"	BTRM34-300x050-*	62.0	106.4	95.3	73.2	12.7	101.6	50.8	139.7	152.4	69.9	17.5	38.1	M16 X 2.00	M8 X 1.25	10.19	140
3"x3/4"	BTRM34-300x075-*	62.0	106.4	95.3	73.2	19.1	101.6	50.8	139.7	152.4	69.9	22.4	47.8	M16 X 2.00	M10 X 1.50	10.05	140
3"x1"	BTRM34-300x100-*	62.0	106.4	95.3	73.2	23.9	101.6	50.8	139.7	152.4	69.9	26.2	52.3	M16 X 2.00	M10 X 1.50	9.94	140
3"x1 1/4"	BTRM34-300x125-*	62.0	106.4	95.3	73.2	31.8	101.6	50.8	139.7	152.4	69.9	30.2	58.7	M16 X 2.00	M10 X 1.50	9.80	140
3"x1 1/2"	BTRM34-300x150-*	62.0	106.4	95.3	73.2	38.1	101.6	50.8	139.7	152.4	69.9	35.8	69.9	M16 X 2.00	M12 X 1.75	9.59	140
3"x2"	BTRM34-300x200-*	62.0	106.4	95.3	73.2	49.3	101.6	50.8	139.7	152.4	69.9	42.9	77.7	M16 X 2.00	M12 X 1.75	14.45	140
3"x2 1/2"	BTRM34-300x250-*	62.0	106.4	95.3	73.2	60.5	101.6	50.8	139.7	152.4	69.9	50.8	88.9	M16 X 2.00	M12 X 1.75	12.07	140

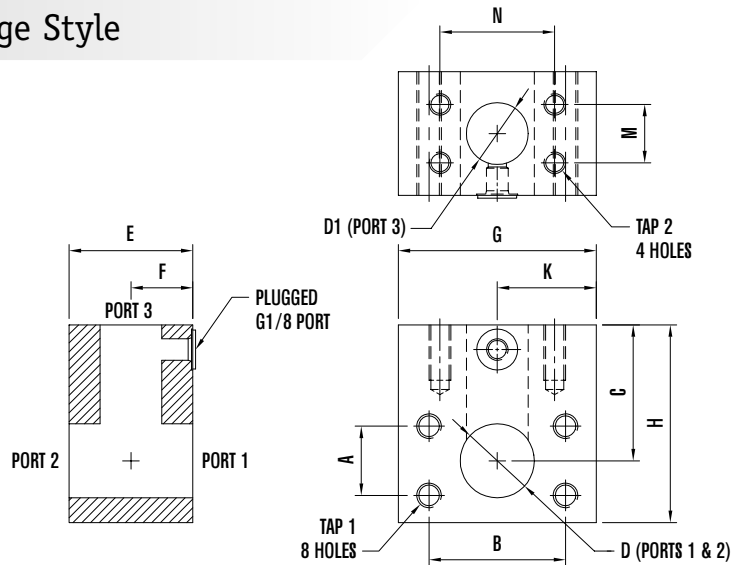
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

• OTHER BLOCK TEES ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Reducing Branch Block Tee - Metric

ISO 6162-2 Flange Style



BTRM64 Reducing Branch Block Tee (Metric) - ISO 6162-2 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (run x branch)	Block Tee Part No.	Dimensions (millimeters)												Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		A	B	C	D	D1	E	F	G	H	K	M	N				
3/4"x1/2"	BTRM64-075x050-*	23.9	50.8	57.2	19.1	12.7	50.8	25.4	76.2	82.6	38.1	18.3	40.4	M10 x 1.50	M8 x 1.25	2.36	420
1"x1/2"	BTRM64-100x050-*	27.7	57.2	63.5	23.9	12.7	57.2	28.7	76.2	101.6	38.1	18.3	40.4	M12 x 1.75	M8 x 1.25	2.36	420
1"x3/4"	BTRM64-100x075-*	27.7	57.2	63.5	23.9	19.1	57.2	28.7	76.2	101.6	38.1	23.9	50.8	M12 x 1.75	M10 x 1.50	2.36	420
1 1/4"x1/2"	BTRM64-125x050-*	31.8	66.8	69.9	31.8	12.7	63.5	31.8	101.6	101.6	50.8	18.3	40.4	M12 x 1.75	M8 x 1.25	4.55	420
1 1/4"x3/4"	BTRM64-125x075-*	31.8	66.8	69.9	31.8	19.1	63.5	31.8	101.6	101.6	50.8	23.9	50.8	M12 x 1.75	M10 x 1.50	4.55	420
1 1/4"x1"	BTRM64-125x100-*	31.8	66.8	69.9	31.8	23.9	63.5	31.8	101.6	101.6	50.8	27.7	57.2	M12 x 1.75	M12 x 1.75	4.55	420
1 1/2"x1/2"	BTRM64-150x050-*	36.6	79.5	76.2	38.1	12.7	76.2	38.1	101.6	114.3	50.8	18.3	40.4	M16 x 2.00	M8 x 1.25	5.14	420
1 1/2"x3/4"	BTRM64-150x075-*	36.6	79.5	76.2	38.1	19.1	76.2	38.1	101.6	114.3	50.8	23.9	50.8	M16 x 2.00	M10 x 1.50	5.14	420
1 1/2"x1"	BTRM64-150x100-*	36.6	79.5	76.2	38.1	23.9	76.2	38.1	101.6	114.3	50.8	27.7	57.2	M16 x 2.00	M12 x 1.75	5.14	420
1 1/2"x1 1/4"	BTRM64-150x125-*	36.6	79.5	76.2	38.1	31.8	76.2	38.1	101.6	114.3	50.8	31.8	66.8	M16 x 2.00	M12 x 1.75	5.14	420
2"x1/2"	BTRM64-200x050-*	44.5	96.8	85.9	49.3	12.7	76.2	38.1	127.0	127.0	63.5	18.3	40.4	M20 x 2.50	M8 x 1.25	6.73	420
2"x3/4"	BTRM64-200x075-*	44.5	96.8	85.9	49.3	19.1	76.2	38.1	127.0	127.0	63.5	23.9	50.8	M20 x 2.50	M10 x 1.50	6.73	420
2"x1"	BTRM64-200x100-*	44.5	96.8	85.9	49.3	23.9	76.2	38.1	127.0	127.0	63.5	27.7	57.2	M20 x 2.50	M12 x 1.75	6.73	420
2"x1 1/4"	BTRM64-200x125-*	44.5	96.8	85.9	49.3	31.8	76.2	38.1	127.0	127.0	63.5	31.8	66.8	M20 x 2.50	M12 x 1.75	6.73	420
2"x1 1/2"	BTRM64-200x150-*	44.5	96.8	85.9	49.3	38.1	76.2	38.1	127.0	127.0	63.5	36.6	79.5	M20 x 2.50	M16 x 2.00	6.73	420

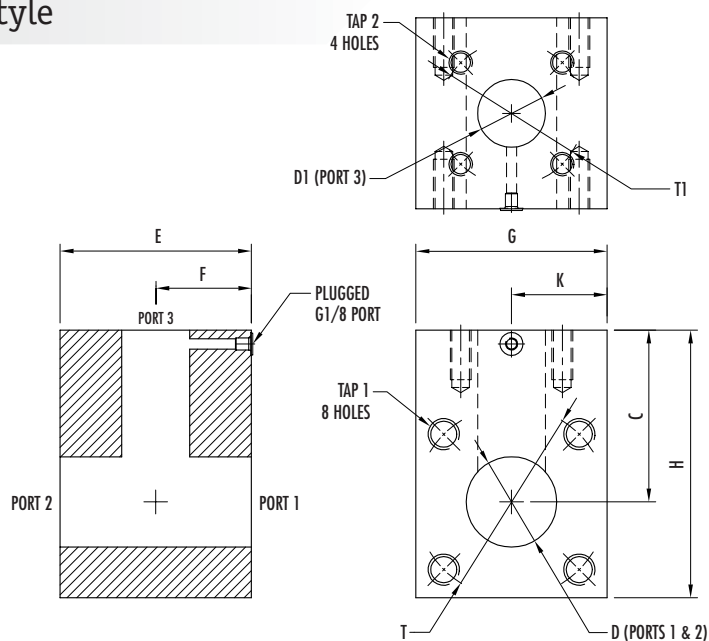
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

• OTHER BLOCK TEES ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Reducing Branch Block Tee - Metric

ISO 6164 Flange Style



BTRM74 Reducing Branch Block Tee (Metric) - ISO 6164 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (run x branch)	Block Tee Part No.	Dimensions (millimeters)										Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		T	T1	C	D	D1	E	F	G	H	K				
3"x2 1/2"	BTRM74-300x250-*	145.0	118.1	127.0	73.2	60.5	152.4	76.2	152.4	203.2	76.2	M24 x 3.00	M20 x 2.50	27.11	400
4"x2 1/2"	BTRM74-400x250-*	175.0	118.1	139.7	88.9	60.5	177.8	88.9	177.8	228.6	88.9	M30 x 3.50	M20 x 2.50	40.96	400
4"x3"	BTRM74-400x300-*	175.0	145.0	139.7	88.9	73.2	177.8	88.9	177.8	228.6	88.9	M30 x 3.50	M24 x 3.00	40.28	400

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

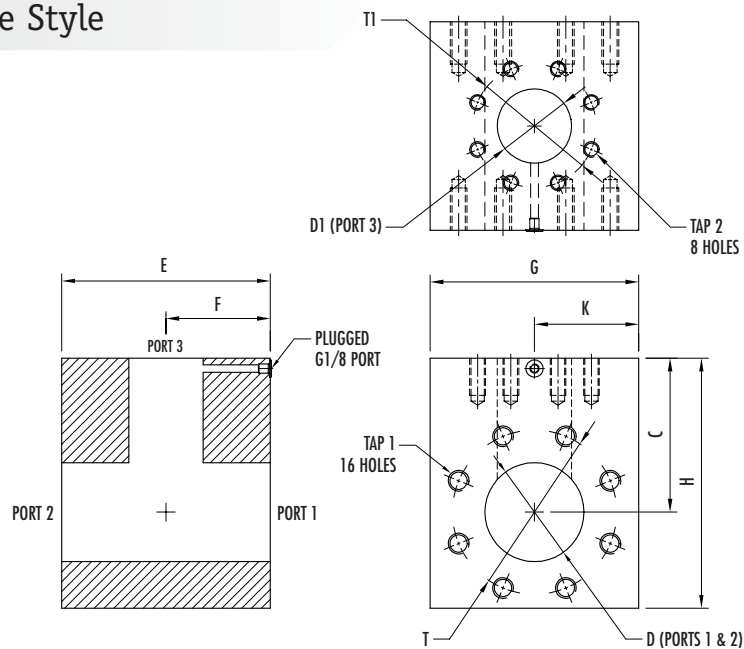
• OTHER BLOCK TEES ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Reducing Branch Block Tee - Metric

TMI® 8-Bolt Flange Style



BTRM48 Reducing Branch Block Tee (Metric) - TMI® 8-Bolt Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (run x branch)	Block Tee Part No.	Dimensions (millimeters)										Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		T	T1	C	D	D1	E	F	G	H	K				
6"x5"	BTRM48-600x500-*	245.1	200.2	203.2	124.5	101.6	254.0	127.0	301.8	355.6	150.9	M30 x 3.50	M24 x 3.00	202.36	255
8"x5"	BTRM48-800x500-*	315.0	200.2	235.0	173.0	101.6	254.0	127.0	380.0	431.8	190.5	M36 x 4.00	M24 x 3.00	332.68	240
8"x6"	BTRM48-800x600-*	315.0	245.1	235.0	173.0	124.5	304.8	152.4	381.0	431.8	190.5	M36 x 4.00	M30 x 3.50	384.36	240

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

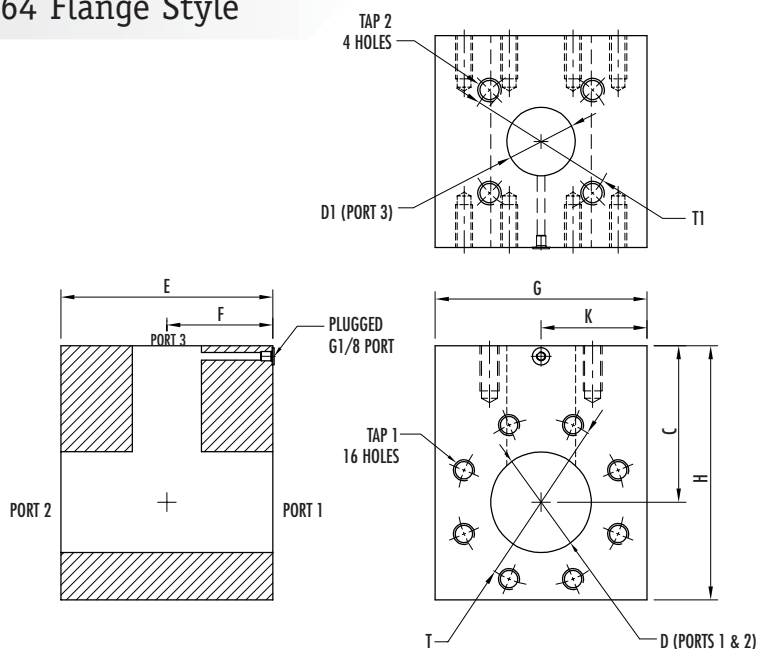
• OTHER BLOCK TEES ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, PRIME PAINTED, (STAINLESS STEEL AVAILABLE)



Reducing Branch Block Tee - Metric

TMI® 8-Bolt/ISO 6164 Flange Style



BTRM4-74 Reducing Branch Block Tee (Metric) - TMI® 8-Bolt/ISO 6164 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (run x branch)	Block Tee Part No.	Dimensions (millimeters)										Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		T	T1	C	D	D1	E	F	G	H	K				
6"x4"	BTRM4-74-600x400-*	245.1	175.0	203.2	124.5	88.9	203.2	101.6	301.8	355.6	150.9	M30 x 3.50	M30 x 3.50	209.23	255
8"x4"	BTRM4-74-800x400-*	315.0	175.0	235.0	173.0	88.9	228.6	114.3	381.0	431.8	190.5	M36 x 4.00	M30 x 3.50	357.09	240

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

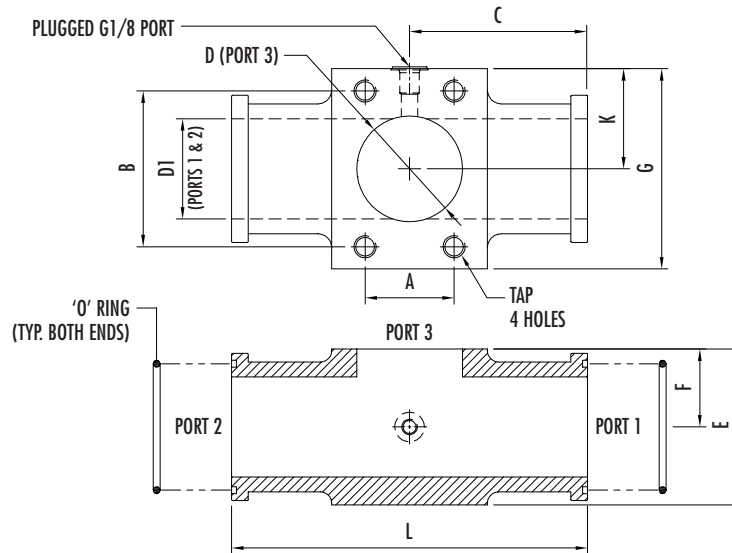
• OTHER BLOCK TEES ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, PRIME PAINTED, (STAINLESS STEEL AVAILABLE)



Split Flange Tee - Metric

ISO 6162-1 Flange Style - Body Only



SFTM34 Split Flange Tee (Metric) - ISO 6162-1 Flat Face With Tapped Holes

Complete With Nitrile 'O' Rings (Standard) and G1/8 Port (Plugged)

Size (inch)	Tee Part No.	Dimensions (millimeters)										Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	F	G	K	L				
1/2"	SFTM34-050-*	17.5	38.1	63.5	12.7	9.7	50.8	25.4	63.5	31.8	127.0	M8 x 1.25	OR*-2-210	1.69	350
3/4"	SFTM34-075-*	22.4	47.8	69.9	19.1	16.0	50.8	25.4	76.2	38.1	139.7	M10 x 1.50	OR*-2-214	2.03	350
1"	SFTM34-100-*	26.2	52.3	69.9	23.9	22.4	50.8	25.4	76.2	38.1	139.7	M10 x 1.50	OR*-2-219	1.86	350
1 1/4"	SFTM34-125-*	30.2	58.7	79.5	31.8	28.7	57.2	28.7	76.2	38.1	158.8	M10 x 1.50	OR*-2-222	2.16	275
1 1/2"	SFTM34-150-*	35.8	69.9	82.6	38.1	34.9	63.5	31.8	101.6	50.8	165.1	M12 x 1.75	OR*-2-225	3.30	210
2"	SFTM34-200-*	42.9	77.7	88.9	49.3	47.8	76.2	38.1	101.6	50.8	177.8	M12 x 1.75	OR*-2-228	4.41	210
2 1/2"	SFTM34-250-*	50.8	88.9	101.6	60.5	60.5	88.9	44.5	114.3	57.2	203.2	M12 x 1.75	OR*-2-232	6.48	175
3"	SFTM34-300-*	62.0	106.4	114.3	73.2	73.2	101.6	50.8	139.7	69.9	228.6	M16 x 2.00	OR*-2-237	10.32	140

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

- OTHER SPLIT FLANGE TEES ARE AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE H13
- FOR SPLIT FLANGES REFERENCE PAGE N2

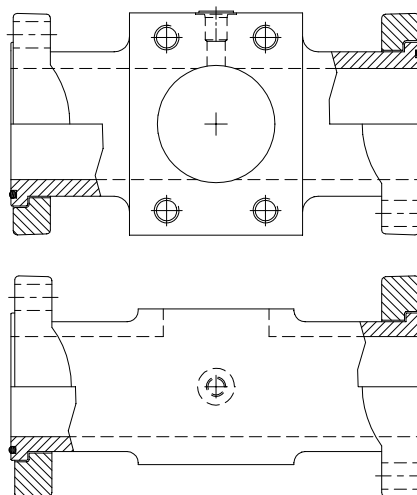
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Tee Assembly - Metric

ISO 6162-1 Flange Style

Typical A/SFTM34 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6162-1 SPLIT FLANGE TEE BODY (REF. PAGE H12)
- TWO SETS (4 HALVES) ISO 6162-1 SPLIT FLANGES (REF. PAGE N2)
- TWO (2) NITRILE 'O' RINGS (STANDARD)
- TWO (2) COMPONENT BOLT KITS

A/SFTM34 Split Flange Tee (Metric) - ISO 6162-1 Assembly

Size (inch)	Tee Part No.	WT. kgs./pc
1/2"	A/SFTM34-050-*	2.04
3/4"	A/SFTM34-075-*	2.55
1"	A/SFTM34-100-*	2.45
1 1/4"	A/SFTM34-125-*	2.97
1 1/2"	A/SFTM34-150-*	4.60
2"	A/SFTM34-200-*	5.83
2 1/2"	A/SFTM34-250-*	8.41
3"	A/SFTM34-300-*	13.64

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

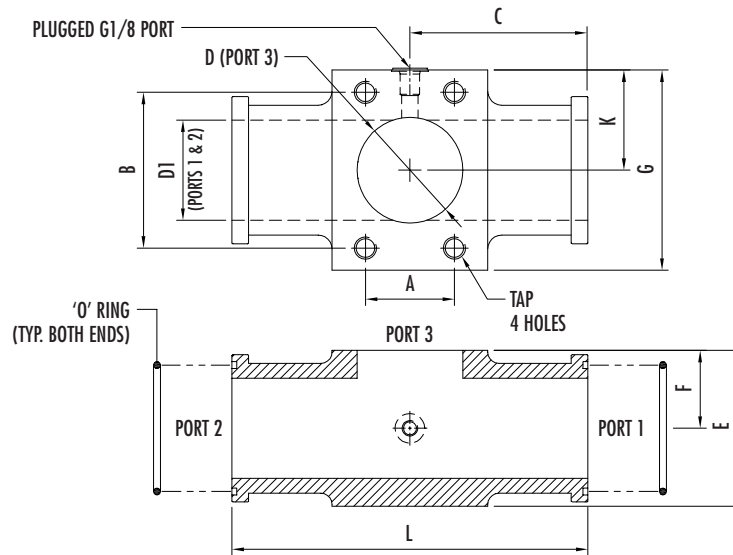
- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Tee - Metric

ISO 6162-2 Flange Style - Body Only



SFTM64 Split Flange Tee (Metric) - ISO 6162-2 Flat Face With Tapped Holes

Complete With Nitrile 'O' Rings (Standard) and G1/8 Port (Plugged)

Size (inch)	Tee Part No.	Dimensions (millimeters)										Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	F	G	K	L				
1/2"	SFTM64-050-*	18.3	40.4	69.9	12.7	9.7	50.8	25.4	63.5	31.8	139.7	M8 x 1.25	OR*-2-210	1.73	420
3/4"	SFTM64-075-*	23.9	50.8	76.2	19.1	16.0	50.8	25.4	76.2	38.1	152.4	M10 x 1.50	OR*-2-214	2.14	420
1"	SFTM64-100-*	27.7	57.2	85.9	23.9	22.4	57.2	28.7	76.2	38.1	171.5	M12 x 1.75	OR*-2-219	2.41	420
1 1/4"	SFTM64-125-*	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	177.8	M12 x 1.75	OR*-2-222	3.43	420
1 1/2"	SFTM64-150-*	36.6	79.5	108.0	38.1	34.9	76.2	38.1	101.6	50.8	215.9	M16 x 2.00	OR*-2-225	5.02	420
2"	SFTM64-200-*	44.5	96.8	120.7	49.3	47.8	88.9	44.5	127.0	63.5	241.3	M20 x 2.50	OR*-2-228	6.84	420

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

- OTHER SPLIT FLANGE TEES ARE AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE H15
- FOR SPLIT FLANGES REFERENCE PAGE N2

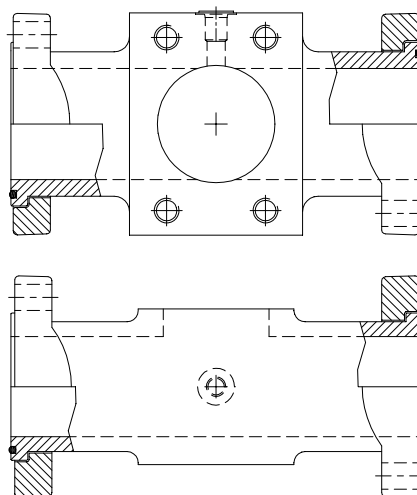
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Tee Assembly - Metric

ISO 6162-2 Flange Style

Typical A/SFTM64 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6162-2 SPLIT FLANGE TEE BODY (REF. PAGE H14)
- TWO SETS (4 HALVES) ISO 6162-2 SPLIT FLANGES (REF. PAGE N2)
- TWO (2) NITRILE 'O' RINGS (STANDARD)
- TWO (2) COMPONENT BOLT KITS

A/SFTM64 Split Flange Tee (Metric) - ISO 6162-2 Assembly

Size (inch)	Tee Part No.	WT. kgs./pc
1/2"	A/SFTM64-050-*	2.23
3/4"	A/SFTM64-075-*	2.98
1"	A/SFTM64-100-*	3.74
1 1/4"	A/SFTM64-125-*	5.49
1 1/2"	A/SFTM64-150-*	8.58
2"	A/SFTM64-200-*	12.73

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

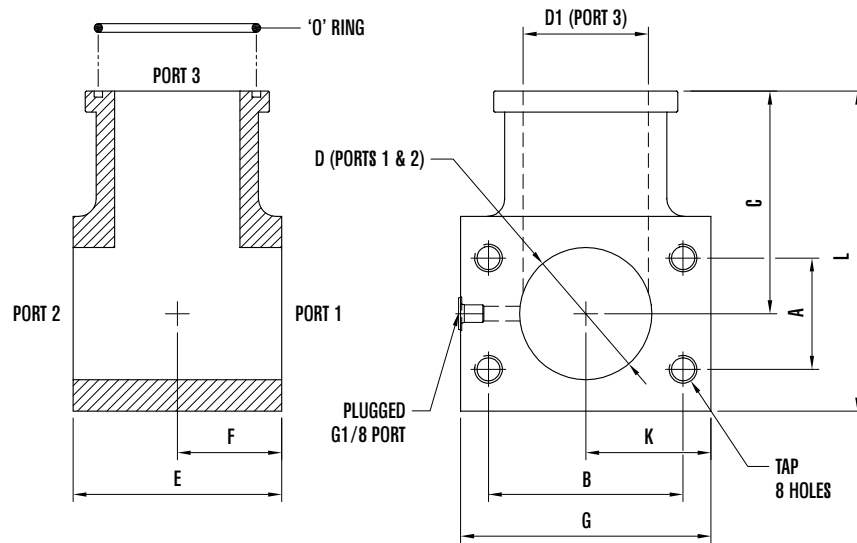
- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Branch Tee - Metric

ISO 6162-1 Flange Style - Body Only



SFBTM34 Split Flange Branch Tee (Metric) - ISO 6162-1 Flat Face With Tapped Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Tee Part No.	Dimensions (millimeters)										Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	F	G	K	L				
1/2"	SFBTM34-050-*	17.5	38.1	63.5	12.7	9.7	50.8	25.4	63.5	31.8	88.9	M8 x 1.25	OR*-2-210	1.32	350
3/4"	SFBTM34-075-*	22.4	47.8	69.9	19.1	16.0	50.8	25.4	76.2	38.1	95.3	M10 x 1.50	OR*-2-214	1.55	350
1"	SFBTM34-100-*	26.2	52.3	69.9	23.9	22.4	50.8	25.4	76.2	38.1	95.3	M10 x 1.50	OR*-2-219	1.55	350
1 1/4"	SFBTM34-125-*	30.2	58.7	79.5	31.8	28.7	57.2	28.7	76.2	38.1	108.0	M10 x 1.50	OR*-2-222	1.77	275
1 1/2"	SFBTM34-150-*	35.8	69.9	82.6	38.1	34.9	63.5	31.8	101.6	50.8	114.3	M12 x 1.75	OR*-2-225	2.80	210
2"	SFBTM34-200-*	42.9	77.7	88.9	49.3	47.8	76.2	38.1	101.6	50.8	127.0	M12 x 1.75	OR*-2-228	3.75	210
2 1/2"	SFBTM34-250-*	50.8	88.9	101.6	60.5	60.5	88.9	44.5	114.3	57.2	146.1	M12 x 1.75	OR*-2-232	5.52	175
3"	SFBTM34-300-*	62.0	106.4	114.3	73.2	73.2	101.6	50.8	139.7	69.9	165.1	M16 x 2.00	OR*-2-237	8.82	140

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

- OTHER SPLIT FLANGE TEES ARE AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE H17
- FOR SPLIT FLANGES REFERENCE PAGE N2

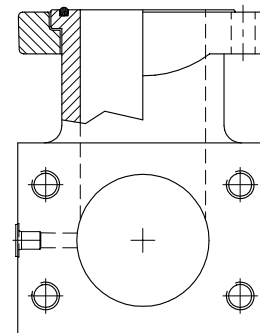
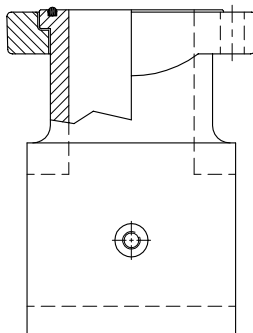
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Branch Tee Assembly - Metric

ISO 6162-1 Flange Style

Typical A/SFBTM34 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6162-1 SPLIT FLANGE BRANCH TEE BODY (REF. PAGE H16)
- ONE SET (2 HALVES) ISO 6162-1 SPLIT FLANGES (REF. PAGE N2)
- ONE (1) NITRILE 'O' RING (STANDARD)
- TWO (2) COMPONENT BOLT KITS

A/SFBTM34 Split Flange Branch Tee (Metric) - ISO 6162-1 Assembly

Size (inch)	Tee Part No.	WT. kgs./pc
1/2"	A/SFBTM34-050-*	1.49
3/4"	A/SFBTM34-075-*	1.80
1"	A/SFBTM34-100-*	1.84
1 1/4"	A/SFBTM34-125-*	2.18
1 1/2"	A/SFBTM34-150-*	3.45
2"	A/SFBTM34-200-*	4.46
2 1/2"	A/SFBTM34-250-*	6.49
3"	A/SFBTM34-300-*	10.48

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

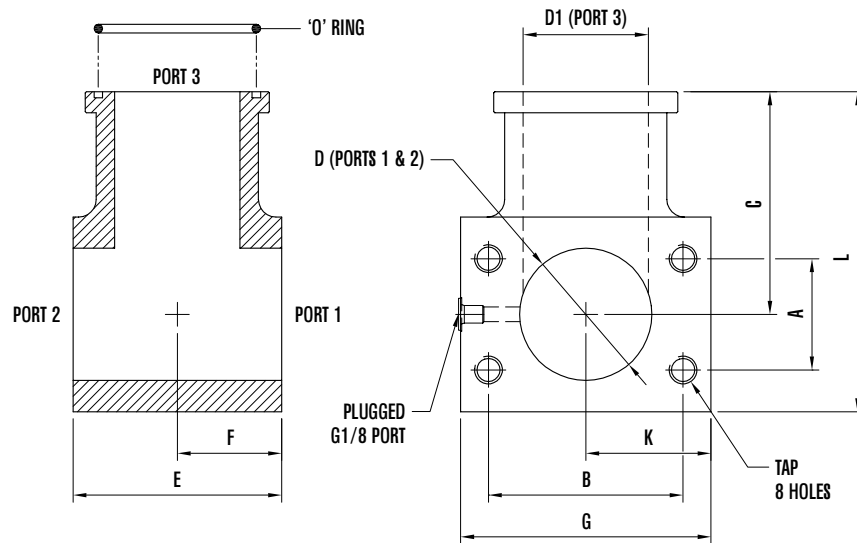
- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Branch Tee - Metric

ISO 6162-2 Flange Style - Body Only



SFBTM64 Split Flange Branch Tee (Metric) - ISO 6162-2 Flat Face With Tapped Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Tee Part No.	Dimensions (millimeters)										Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	F	G	K	L				
1/2"	SFBTM64-050-*	18.3	40.4	69.9	12.7	9.7	50.8	25.4	63.5	31.8	95.3	M8 x 1.25	OR*-2-210	1.32	420
3/4"	SFBTM64-075-*	23.9	50.8	76.2	19.1	16.0	50.8	25.4	76.2	38.1	101.6	M10 x 1.50	OR*-2-214	1.59	420
1"	SFBTM64-100-*	27.7	57.2	85.9	23.9	22.4	57.2	28.7	76.2	38.1	114.3	M12 x 1.75	OR*-2-219	1.98	420
1 1/4"	SFBTM64-125-*	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	120.7	M12 x 1.75	OR*-2-222	2.95	420
1 1/2"	SFBTM64-150-*	36.6	79.5	108.0	38.1	34.9	76.2	38.1	101.6	50.8	146.1	M16 x 2.00	OR*-2-225	4.25	420
2"	SFBTM64-200-*	44.5	96.8	120.7	49.3	47.8	88.9	44.5	127.0	63.5	158.8	M20 x 2.50	OR*-2-228	5.45	420

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

- OTHER SPLIT FLANGE TEES ARE AVAILABLE (CONSULT FACORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE H19
- FOR SPLIT FLANGES REFERENCE PAGE N2

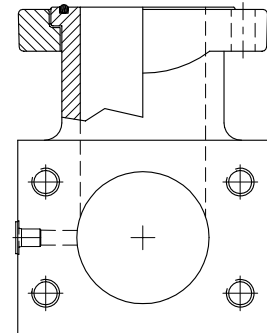
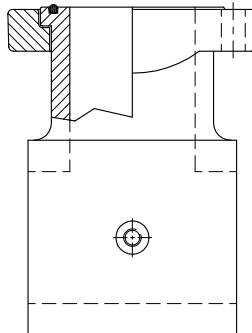
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Branch Tee Assembly - Metric

ISO 6162-2 Flange Style

Typical A/SFBTM64 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6162-2 SPLIT FLANGE BRANCH TEE BODY (REF. PAGE H18)
- ONE SET (2 HALVES) ISO 6162-2 SPLIT FLANGES (REF. PAGE N2)
- ONE (1) NITRILE 'O' RING (STANDARD)
- ONE (1) COMPONENT BOLT KIT

A/SFBTM64 Split Flange Branch Tee (Metric) - ISO 6162-2 Assembly

Size (inch)	Tee Part No.	WT. kgs./pc
1/2"	A/SFBTM64-050-*	1.57
3/4"	A/SFBTM64-075-*	2.01
1"	A/SFBTM64-100-*	2.64
1 1/4"	A/SFBTM64-125-*	3.98
1 1/2"	A/SFBTM64-150-*	6.03
2"	A/SFBTM64-200-*	8.56

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

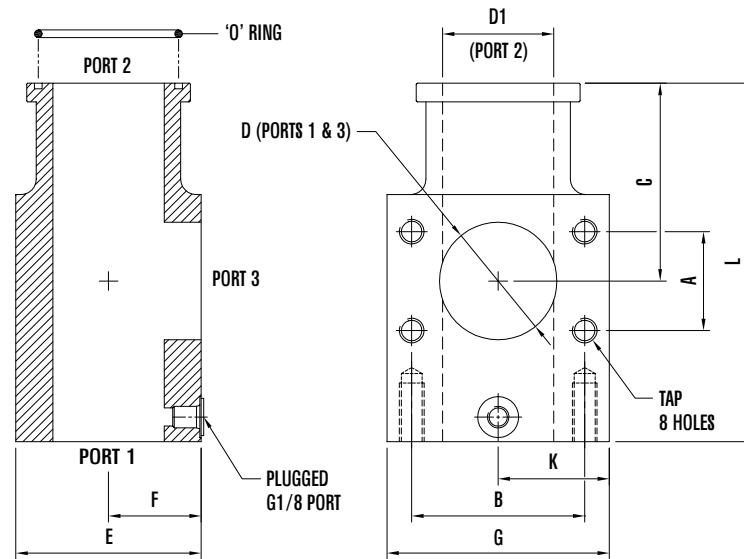
- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Run Tee - Metric

ISO 6162-1 Flange Style - Body Only



SFRTM34 Split Flange Run Tee (Metric) - ISO 6162-1 Flat Face With Tapped Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Tee Part No.	Dimensions (millimeters)										Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	F	G	K	L				
1/2"	SFRTM34-050-*	17.5	38.1	53.8	12.7	9.7	50.8	25.4	63.5	31.8	101.6	M8 x 1.25	OR*-2-210	1.59	350
3/4"	SFRTM34-075-*	22.4	47.8	69.9	19.1	16.0	50.8	25.4	76.2	38.1	127.0	M10 x 1.50	OR*-2-214	2.32	350
1"	SFRTM34-100-*	26.2	52.3	69.9	23.9	22.4	50.8	25.4	76.2	38.1	127.0	M10 x 1.50	OR*-2-219	2.27	350
1 1/4"	SFRTM34-125-*	30.2	58.7	82.6	31.8	28.7	57.2	28.7	76.2	38.1	152.4	M10 x 1.50	OR*-2-222	2.82	275
1 1/2"	SFRTM34-150-*	35.8	69.9	82.6	38.1	34.9	63.5	31.8	101.6	50.8	152.4	M12 x 1.75	OR*-2-225	4.09	210
2"	SFRTM34-200-*	42.9	77.7	88.9	49.3	47.8	76.2	38.1	101.6	50.8	165.1	M12 x 1.75	OR*-2-228	5.16	210
2 1/2"	SFRTM34-250-*	50.8	88.9	101.6	60.5	60.5	88.9	44.5	114.3	57.2	184.2	M12 x 1.75	OR*-2-232	7.32	175
3"	SFRTM34-300-*	62.0	106.4	120.7	73.2	73.2	101.6	50.8	139.7	69.9	215.9	M16 x 2.00	OR*-2-237	12.39	140

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

- OTHER SPLIT FLANGE TEES ARE AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE H21
- FOR SPLIT FLANGES REFERENCE PAGE N2

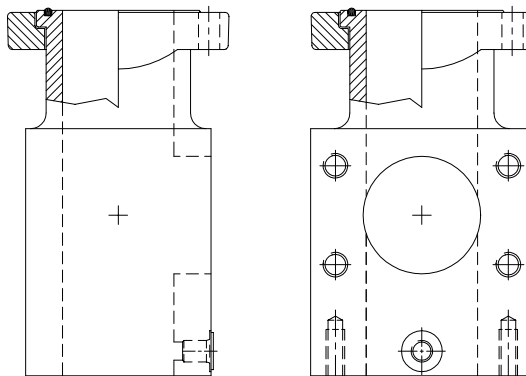
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Run Tee Assembly - Metric

ISO 6162-1 Flange Style

Typical A/SFRTM34 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6162-1 SPLIT FLANGE RUN TEE BODY (REF. PAGE H20)
- ONE SET (2 HALVES) ISO 6162-1 SPLIT FLANGES (REF. PAGE N2)
- ONE (1) NITRILE 'O' RING (STANDARD)
- ONE (1) COMPONENT BOLT KIT

A/SFRTM34 Split Flange Run Tee (Metric) - ISO 6162-1 Assembly

Size (inch)	Tee Part No.	WT. kgs./pc
1/2"	A/SFRTM34-050-*	1.76
3/4"	A/SFRTM34-075-*	2.58
1"	A/SFRTM34-100-*	2.57
1 1/4"	A/SFRTM34-125-*	3.22
1 1/2"	A/SFRTM34-150-*	4.75
2"	A/SFRTM34-200-*	5.87
2 1/2"	A/SFRTM34-250-*	8.29
3"	A/SFRTM34-300-*	14.05

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

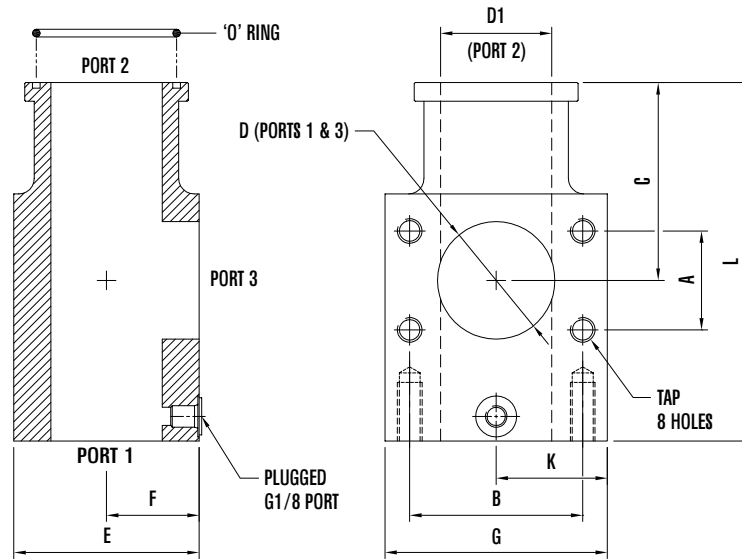
- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Run Tee - Metric

ISO 6161-2 Flange Style - Body Only



SFRTM64 Split Flange Run Tee (Metric) - ISO 6162-2 Flat Face With Tapped Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Tee Part No.	Dimensions (millimeters)										Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	F	G	K	L				
1/2"	SFRTM64-050-*	18.3	40.4	60.2	12.7	9.7	50.8	25.4	63.5	31.8	108.0	M8 x 1.25	OR*-2-210	1.50	420
3/4"	SFRTM64-075-*	23.9	50.8	76.2	19.1	16.0	50.8	25.4	76.2	38.1	133.4	M10 x 1.50	OR*-2-214	2.45	420
1"	SFRTM64-100-*	27.7	57.2	95.3	23.9	22.4	57.2	28.7	76.2	38.1	158.8	M12 x 1.75	OR*-2-219	3.18	420
1 1/4"	SFRTM64-125-*	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	158.8	M12 x 1.75	OR*-2-222	4.34	420
1 1/2"	SFRTM64-150-*	36.6	79.5	108.0	38.1	34.9	76.2	38.1	101.6	50.8	184.2	M16 x 2.00	OR*-2-225	5.91	420
2"	SFRTM64-200-*	44.5	96.8	120.7	49.3	47.8	88.9	44.5	127.0	63.5	209.6	M20 x 2.50	OR*-2-228	8.07	420

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

- OTHER SPLIT FLANGE TEES ARE AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE H23
- FOR SPLIT FLANGES REFERENCE PAGE N2

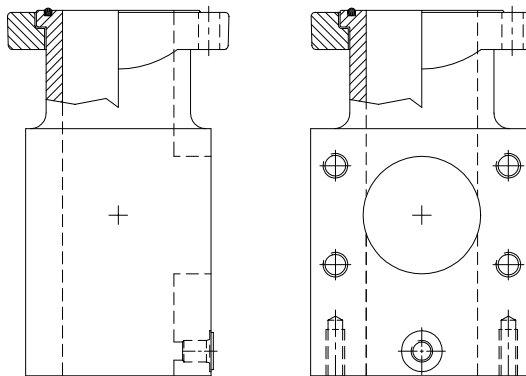
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Split Flange Run Tee Assembly - Metric

ISO 6162-2 Flange Style

Typical A/SFRTM64 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6162-2 SPLIT FLANGE RUN TEE BODY (REF. PAGE H22)
- ONE SET (2 HALVES) ISO 6162-2 SPLIT FLANGES (REF. PAGE N2)
- ONE (1) NITRILE 'O' RING (STANDARD)
- ONE (1) COMPONENT BOLT KIT

A/SFRTM64 Split Flange Run Tee (Metric) - ISO 6162-2 Assembly

Size (inch)	Tee Part No.	WT. kgs./pc
1/2"	A/SFRTM64-050-*	1.75
3/4"	A/SFRTM64-075-*	2.88
1"	A/SFRTM64-100-*	3.85
1 1/4"	A/SFRTM64-125-*	5.37
1 1/2"	A/SFRTM64-150-*	7.69
2"	A/SFRTM64-200-*	11.01

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

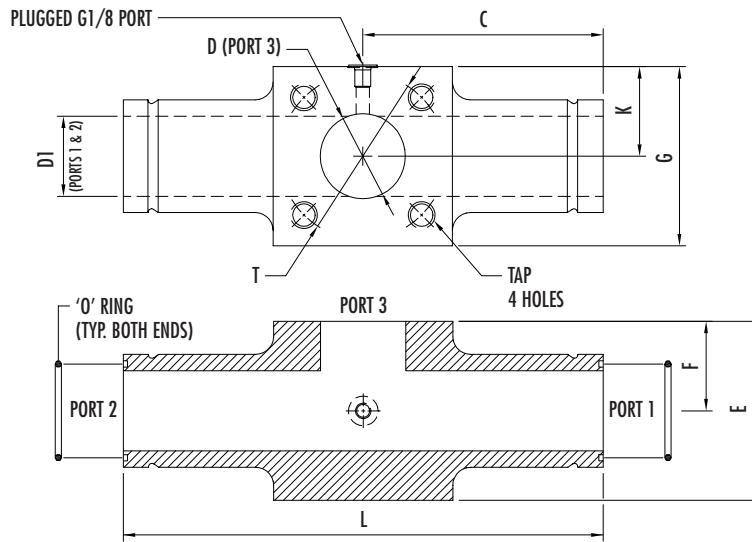
- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Retain Ring Flange Tee - Metric

ISO 6164 Flange Style - Body Only



RTM74 Retain Ring Flange Tee (Metric) - ISO 6164 Flat Face With Tapped Holes

Complete With Nitrile 'O' Rings (Standard) and G1/8 Port (Plugged)

Size (inch)	Tee Part No.	Dimensions (millimeters)								Thread	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		T	C	D	D1	E,G	F	K	L				
2 1/2"	RTM74-250-*	118.1	171.5	60.5	57.2	127.0	63.5	63.5	342.9	M20 x 2.50	OR*-2-232	15.48	400
3"	RTM74-300-*	145.0	203.2	73.2	69.9	152.4	76.2	76.2	406.4	M24 x 3.00	OR*-2-237	22.16	400

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

- OTHER RETAIN RING FLANGE TEES ARE AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE H25

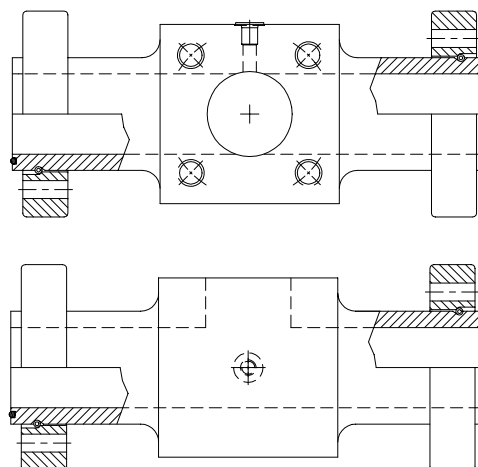
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Retain Ring Flange Tee Assembly - Metric

ISO 6164 Flange Style

Typical A/RTM74 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6164 RETAIN RING FLANGE TEE BODY (REF. PAGE H24)
- TWO (2) ISO 6164 RETAIN RING FLANGES (REF. PAGE C10)
- TWO (2) RETAIN RINGS
- TWO (2) NITRILE 'O' RINGS (STANDARD)

A/RTM74 Retain Ring Flange Tee (Metric) - ISO 6164 Assembly

Size (inch)	Tee Part No.	WT. kgs./pc
2 1/2"	A/RTM74-250-*	19.83
3"	A/RTM74-300-*	28.87

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

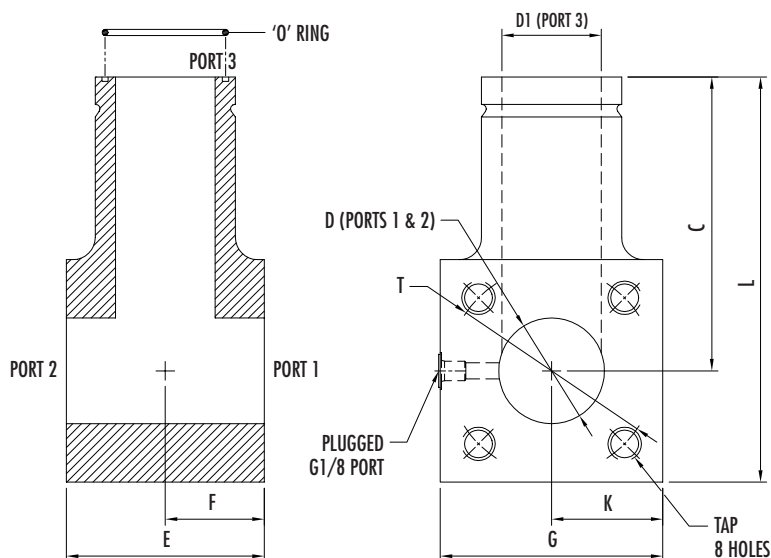
- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Retain Ring Flange Branch Tee - Metric

ISO 6164 Flange Style - Body Only



RBTM74 Retain Ring Flange Branch Tee (Metric) - ISO 6164 Flat Face With Tapped Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Tee Part No.	Dimensions (millimeters)									Thread	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		T	C	D	D1	E	F	G	K	L				
2 1/2"	RBTM74-250-*	118.1	171.5	60.5	57.2	127.0	63.5	127.0	63.5	235.0	M20 x 2.50	OR*-2-232	13.09	400
3"	RBTM74-300-*	145.0	203.2	73.2	69.9	152.4	76.2	152.4	76.2	279.4	M24 x 3.00	OR*-2-237	18.35	400

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

- OTHER RETAIN RING FLANGE TEES ARE AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE H27

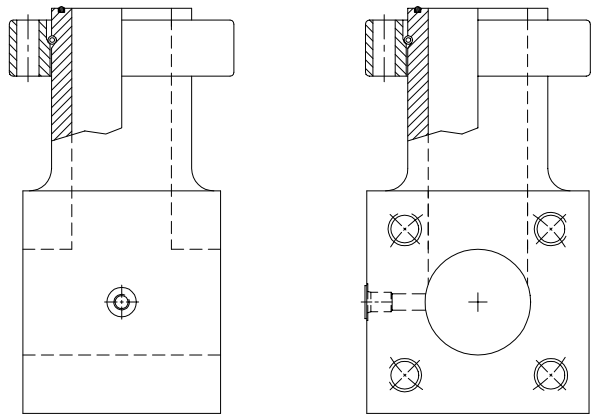
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Retain Ring Flange Branch Tee Assembly - Metric

ISO 6164 Flange Style

Typical A/RBTM74 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6164 RETAIN RING FLANGE BRANCH TEE BODY (REF. PAGE H26)
- ONE (1) ISO 6164 RETAIN RING FLANGE (REF. PAGE C10)
- ONE (1) RETAIN RING
- ONE (1) NITRILE 'O' RING (STANDARD)

A/RBTM74 Retain Ring Flange Branch Tee (Metric) - ISO 6164 Assembly

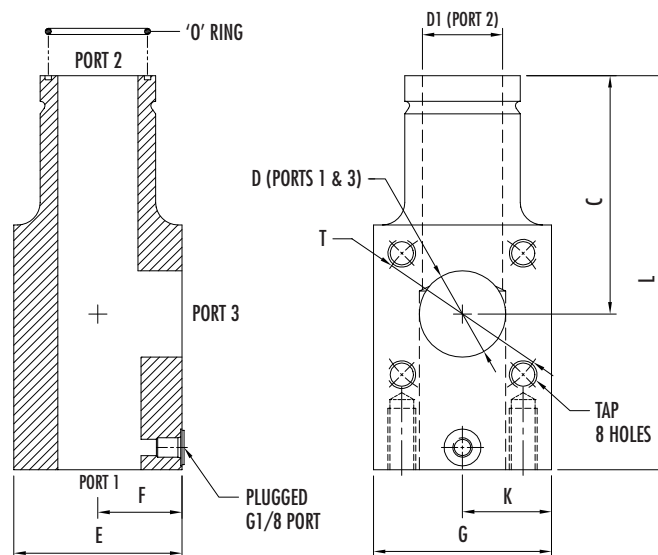
Size (inch)	Tee Part No.	WT. kgs./pc
2 1/2"	A/RBTM74-250-*	15.27
3"	A/RBTM74-300-*	21.93

- * INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS
- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
 - SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
- MATERIAL:** CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Retain Ring Flange Run Tee - Metric

ISO 6164 Flange Style - Body Only



RRTM74 Retain Ring Flange Run Tee (Metric) - ISO 6164 Flat Face With Tapped Holes Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Tee Part No.	Dimensions (millimeters)									Thread	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		T	C	D	D1	E	F	G	K	L				
2 1/2"	RRTM74-250-*	118.1	171.5	60.5	57.2	127.0	63.5	127.0	63.5	273.1	M20 x 2.50	OR*-2-232	16.88	400
3"	RRTM74-300-*	145.0	203.2	73.2	69.9	152.4	76.2	152.4	76.2	330.2	M24 x 3.00	OR*-2-237	29.53	400

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

- OTHER RETAIN RING FLANGE TEES ARE AVAILABLE (CONSULT FACTORY)
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE H29

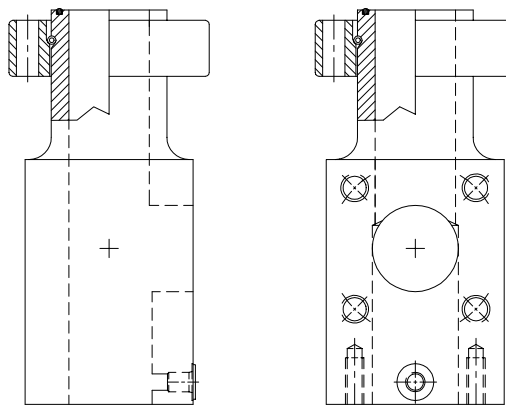
MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Retain Ring Flange Run Tee Assembly - Metric

ISO 6164 Flange Style

Typical A/RRTM74 Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ISO 6164 RETAIN RING FLANGE RUN TEE BODY (REF. PAGE H28)
- ONE (1) ISO 6164 RETAIN RING FLANGE (REF. PAGE C10)
- ONE (1) RETAIN RING
- ONE (1) NITRILE 'O' RING (STANDARD)

A/RRTM74 Retain Ring Flange Run Tee (Metric) - ISO 6164 Assembly

Size (inch)	Tee Part No.	WT. kgs./pc
2 1/2"	A/RRTM74-250-*	19.05
3"	A/RRTM74-300-*	33.11

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

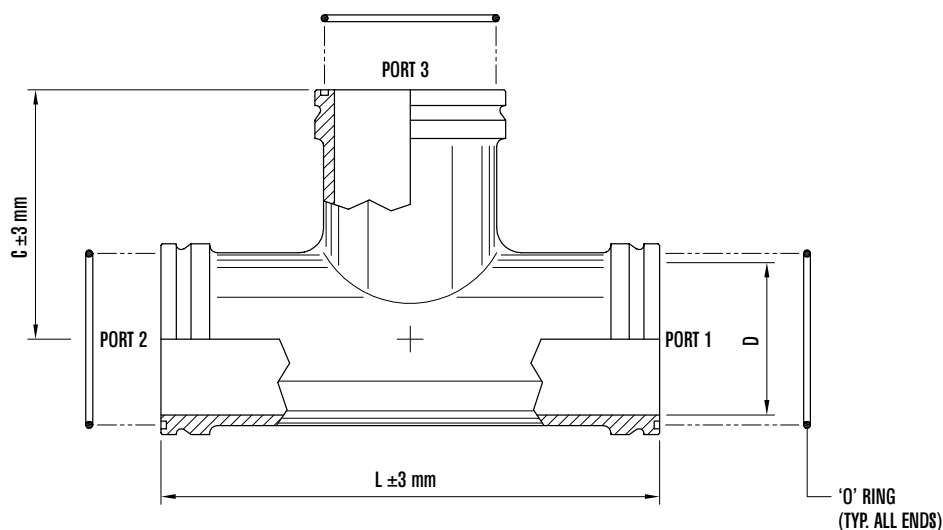
- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Low Pressure Retain Ring Flange Tee - Metric

Body Only



LRT Low Pressure Retain Ring Flange Tee - Body Only (segmentally welded)

Complete with Nitrile 'O' Rings (Standard)

Size (inch)	Tee Body Part No.	Dimensions (mm)			'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L	C	D			
2 1/2"	LRT-250-*	227.33	113.54	62.74	OR*-2-232	4.12	52
3"	LRT-300-*	256.54	128.27	79.98	OR*-2-237	5.13	52
4"	LRT-400-*	294.64	147.32	102.36	OR*-2-245	8.47	52
5"	LRT-500-*	342.39	171.20	128.27	OR*-2-253	14.07	52
6"	LRT-600-*	390.65	195.33	154.18	OR*-2-259	22.87	48
8"	LRT-800-*	480.31	240.03	202.69	OR*-2-372	38.60	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE H31
- TEE BODY INCLUDES BUTT WELD ADAPTERS (REF. PAGES D10-D13)

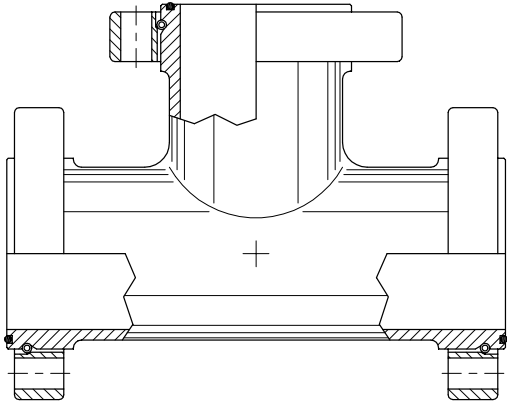
MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)



Low Pressure Retain Ring Flange Tee Assembly - Metric

Complete Assembly Part Number

Typical A/LRT Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LOW PRESSURE RETAIN RING FLANGE TEE BODY
- THREE (3) LOW PRESSURE RETAIN RING FLANGES (REF. PAGES D8-D9)
- THREE (3) LOW PRESSURE RETAIN RINGS
- THREE (3) NITRILE 'O' RINGS (STANDARD)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL (2 1/2" & 3")
- ENDS SEALED WITH POSITIVE CLOSURE (4"-8")

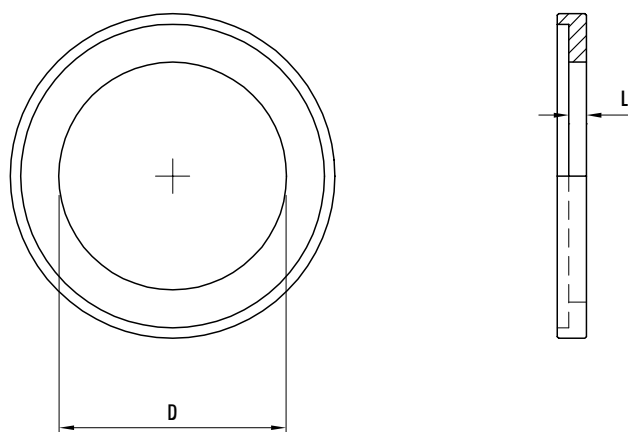
A/LRT Low Pressure Retain Ring Flange Tee Assembly

Size (inch)	Complete Assembly Part No.	WT. (Assembly) kgs./pc	Working Pressure (bar)
2 1/2"	A/LRT-250-*	7.07	52
3"	A/LRT-300-*	10.30	52
4"	A/LRT-400-*	17.48	52
5"	A/LRT-500-*	25.81	52
6"	A/LRT-600-*	36.23	48
8"	A/LRT-800-*	64.87	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS
MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)



'O' Ring Connector Plate - Metric



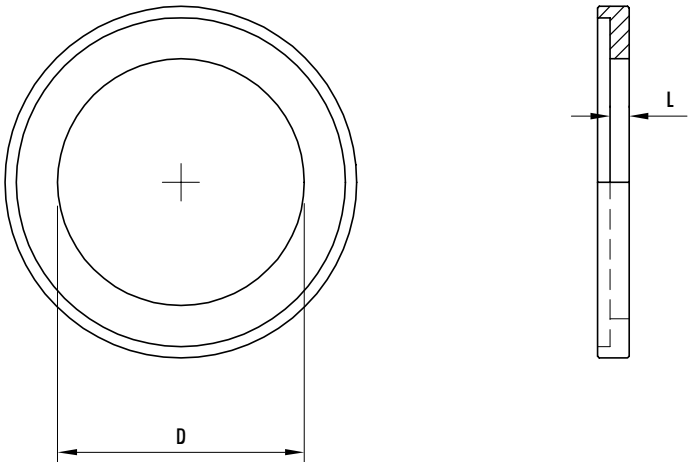
OCP 'O' Ring Connector Plate

Size (inch)	Connector Plate Part No.	Dimensions (mm)		WT. kgs./pc
		D	L	
1/2"	OCP-050	12.7	3.3	0.02
3/4"	OCP-075	19.1	3.3	0.03
1"	OCP-100	23.9	3.3	0.03
1 1/4"	OCP-125	30.5	3.3	0.04
1 1/2"	OCP-150	38.1	3.3	0.05
2"	OCP-200	49.3	3.3	0.06
2 1/2"	OCP-250	59.9	3.3	0.08
3"	OCP-300	73.2	3.3	0.11
4"	OCP-400	85.1	3.3	0.15

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Low Pressure 'O' Ring Connector Plate - Metric



LOCP Low Pressure 'O' Ring Connector Plate

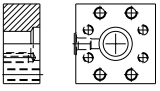
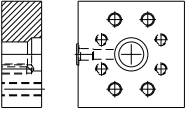
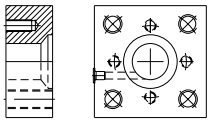

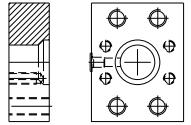
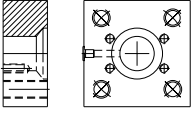
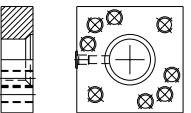
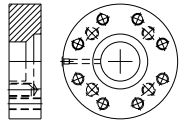
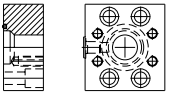
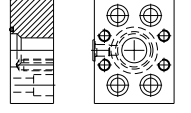
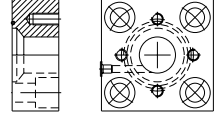

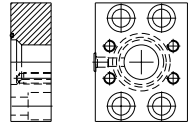
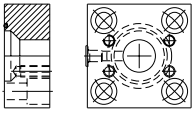
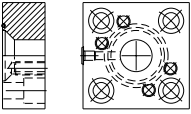
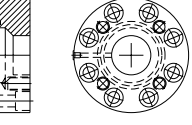
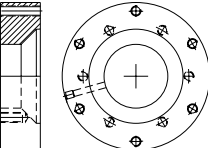
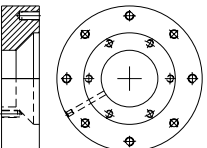
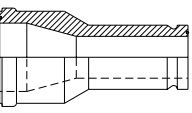
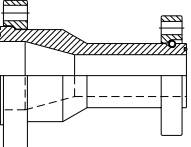
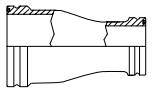
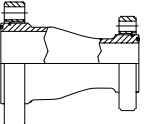
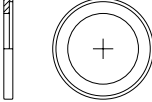
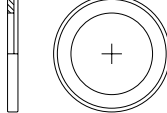
Size (inch)	Connector Plate Part No.	Dimensions (mm)		WT. kgs./pc
		D	L	
2 1/2"	LOCP-250	62.7	3.3	0.07
3"	LOCP-300	78.0	3.3	0.10
4"	LOCP-400	102.4	3.3	0.15
5"	LOCP-500	128.3	4.8	0.26
6"	LOCP-600	154.2	4.8	0.36
8"	LOCP-800	202.7	4.8	0.61

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)





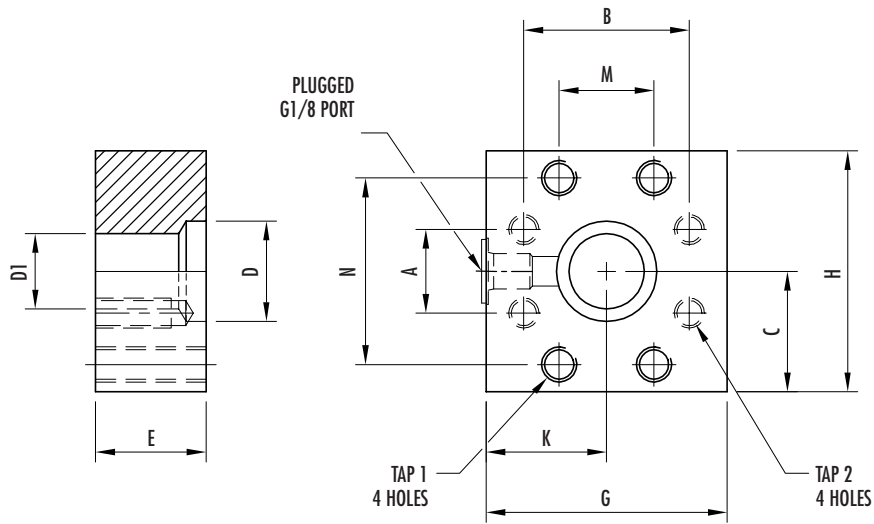
Reducers - Metric Visual Index

UNION STYLE	TPRM34 ISO 6162-1  $\frac{1}{2}$ " - 3" Page J2	TPRM64 ISO 6162-2  $\frac{1}{2}$ " - 2" Page J4	TPRM74 ISO 6164  $2\frac{1}{2}$ " - 4" Page J6	TPRM48 TMI® 8-BOLT  5" - 8" Page J8
	TPRM6-34 ISO 6162-2/6162-1  $\frac{1}{2}$ " - 3" Page J10	TPRM7-34 ISO 6164/6162-1  $1\frac{1}{2}$ " - 4" Page J12	TPRM7-64 ISO 6164/6162-2  $1\frac{1}{2}$ " - 4" Page J14	TPRM4-74 TMI® 8-BOLT/ISO 6164  4" - 5" Page J16
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RETAIN RING FLANGE STYLE	CR REDUCER BODY  $\frac{1}{2}$ " - 4" Page J20	A/CR REDUCER ASSEMBLY  $\frac{1}{2}$ " - 4" Page J21	LRR LOW PRESSURE REDUCER BODY  $2\frac{1}{2}$ " - 8" Page J22	A/LRR LOW PRESSURE REDUCER ASSEMBLY  $2\frac{1}{2}$ " - 8" Page J23
	OCP  $\frac{1}{2}$ " - 4" Page J24	LOCP LOW PRESSURE  $2\frac{1}{2}$ " - 8" Page J25		
'O' RING CONNECTOR PLATES				



Transition Plate Reducer - Metric

ISO 6162-1 Flange Union Style



TPRM34 Transition Plate Reducer (Metric) - ISO 6162-1 Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Reducer Part No.	Dimensions (millimeters)											Thread 1	Thread 2	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	G	H	K	M	N				
3/4" x 1/2"	TPRM34-075 x 050-*	17.5	38.1	42.9	19.1	12.7	38.1	76.2	76.2	38.1	22.4	47.8	M10 x 1.50	M8 x 1.25	1.02	350
1" x 1/2"	TPRM34-100 x 050-*	17.5	38.1	38.1	23.9	12.7	38.1	76.2	76.2	38.1	26.2	52.3	M10 x 1.50	M8 x 1.25	1.53	350
1" x 3/4"	TPRM34-100 x 075-*	22.4	47.8	38.1	23.9	19.1	38.1	76.2	76.2	38.1	26.2	52.3	M10 x 1.50	M10 x 1.50	0.99	350
1 1/4" x 3/4"	TPRM34-125 x 075-*	22.4	47.8	38.1	31.8	19.1	38.1	76.2	76.2	38.1	30.2	58.7	M10 x 1.50	M10 x 1.50	1.45	350
1 1/4" x 1"	TPRM34-125 x 100-*	26.2	52.3	38.1	31.8	23.9	31.8	76.2	76.2	38.1	30.2	58.7	M10 x 1.50	M10 x 1.50	1.15	350
1 1/2" x 1"	TPRM34-150 x 100-*	26.2	52.3	50.8	38.1	23.9	38.1	76.2	101.6	38.1	35.8	69.9	M12 x 1.75	M10 x 1.50	1.93	350
1 1/2" x 1 1/4"	TPRM34-150 x 125-*	30.2	58.7	50.8	38.1	31.8	38.1	76.2	101.6	38.1	35.8	69.9	M12 x 1.75	M10 x 1.50	1.81	275
2" x 1 1/4"	TPRM34-200 x 125-*	30.2	58.7	50.8	49.3	31.8	44.5	76.2	101.6	38.1	42.9	77.7	M12 x 1.75	M10 x 1.50	2.11	275
2" x 1 1/2"	TPRM34-200 x 150-*	35.8	69.9	50.8	49.3	38.1	44.5	101.6	101.6	50.8	42.9	77.7	M12 x 1.75	M12 x 1.75	2.85	210
2 1/2" x 1 1/2"	TPRM34-250 x 150-*	35.8	69.9	63.5	60.5	38.1	50.8	101.6	127.0	50.8	50.8	88.9	M12 x 1.75	M12 x 1.75	3.75	210
2 1/2" x 2"	TPRM34-250 x 200-*	42.9	77.7	63.5	60.5	49.3	44.5	101.6	127.0	50.8	50.8	88.9	M12 x 1.75	M12 x 1.75	3.44	210
3" x 2"	TPRM34-300 x 200-*	42.9	77.7	76.2	73.2	49.3	50.8	101.6	152.4	50.8	62.0	106.4	M16 x 2.00	M12 x 1.75	4.85	210
3" x 2 1/2"	TPRM34-300 x 250-*	50.8	88.9	76.2	73.2	60.5	44.5	114.3	152.4	57.2	62.0	106.4	M16 x 2.00	M12 x 1.75	4.46	175

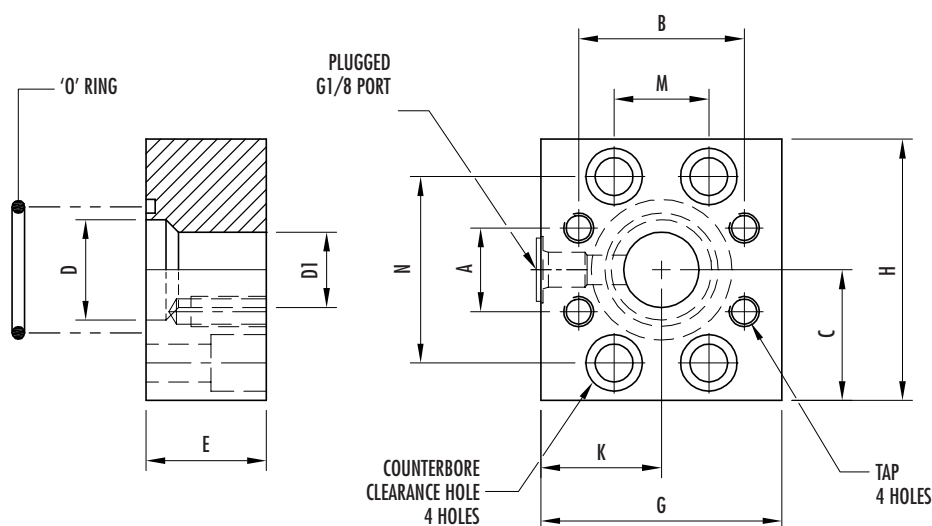
* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Transition Plate Reducer - Metric

ISO 6162-1 Flange Manifold Mount Style



TPROM34 Transition Plate Reducer (Metric) - ISO 6162-1 'O' Ring Face With Countersunk Holes Complete With Nitrile 'O' Ring (Standard) and G1/8 (Plugged)

Size (inch)	Reducer Part No.	Dimensions (millimeters)											C'Tbore	Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
3/4" x 1/2"	TPROM34-075 x 050-*	17.5	38.1	38.1	19.1	12.7	38.1	76.2	76.2	42.9	22.4	47.8	M10	M8 x 1.25	OR*-2-214	0.98	350
1" x 1/2"	TPROM34-100 x 050-*	17.5	38.1	38.1	23.9	12.7	38.1	76.2	76.2	38.1	26.2	52.3	M10	M8 x 1.25	OR*-2-219	1.50	350
1" x 3/4"	TPROM34-100 x 075-*	22.4	47.8	38.1	23.9	19.1	38.1	76.2	76.2	38.1	26.2	52.3	M10	M10 x 1.50	OR*-2-219	0.94	350
1 1/4" x 3/4"	TPROM34-125 x 075-*	22.4	47.8	41.3	31.8	19.1	38.1	76.2	82.6	38.1	30.2	58.7	M10	M10 x 1.50	OR*-2-222	1.43	350
1 1/4" x 1"	TPROM34-125 x 100-*	26.2	52.3	41.3	31.8	23.9	31.8	76.2	82.6	38.1	30.2	58.7	M10	M10 x 1.50	OR*-2-222	1.08	350
1 1/2" x 1"	TPROM34-150 x 100-*	26.2	52.3	50.8	38.1	23.9	38.1	76.2	101.6	38.1	35.8	69.9	M12	M10 x 1.50	OR*-2-225	1.81	350
1 1/2" x 1 1/4"	TPROM34-150 x 125-*	30.2	58.7	50.8	38.1	31.8	38.1	76.2	101.6	38.1	35.8	69.9	M12	M10 x 1.50	OR*-2-225	1.70	275
2" x 1 1/4"	TPROM34-200 x 125-*	30.2	58.7	50.8	49.3	31.8	44.5	76.2	101.6	38.1	42.9	77.7	M12	M10 x 1.50	OR*-2-228	2.00	275
2" x 1 1/2"	TPROM34-200 x 150-*	35.8	69.9	50.8	49.3	38.1	44.5	101.6	101.6	50.8	42.9	77.7	M12	M12 x 1.75	OR*-2-228	2.74	210
2 1/2" x 1 1/2"	TPROM34-250 x 150-*	35.8	69.9	63.5	60.5	38.1	50.8	101.6	127.0	50.8	50.8	88.9	M12	M12 x 1.75	OR*-2-232	3.64	210
2 1/2" x 2"	TPROM34-250 x 200-*	42.9	77.7	63.5	60.5	49.3	44.5	101.6	127.0	50.8	50.8	88.9	M12	M12 x 1.75	OR*-2-232	3.33	210
3" x 2"	TPROM34-300 x 200-*	42.9	77.7	76.2	73.2	49.3	50.8	101.6	152.4	50.8	62.0	106.4	M16	M12 x 1.75	OR*-2-237	4.64	210
3" x 2 1/2"	TPROM34-300 x 250-*	50.8	88.9	76.2	73.2	60.5	44.5	114.3	152.4	57.2	62.0	106.4	M16	M12 x 1.75	OR*-2-237	4.27	175

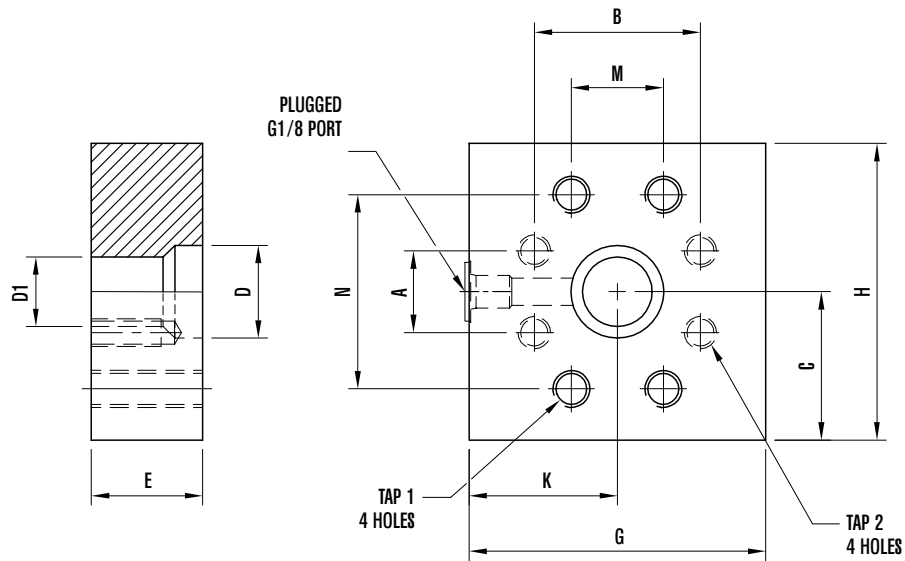
* INSERT ' V ' TO INICATE OPTIONAL VITON 'O' RING

• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Transition Plate Reducer - Metric

ISO 6162-2 Flange Union Style



TPRM64 Transition Plate Reducer (Metric) - ISO 6162-2 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (inch)	Reducer Part No.	Dimensions (millimeters)											Thread 1	Thread 2	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	G	H	K	M	N				
3/4" x 1/2"	TPRM64-075 x 050-*	18.3	40.4	47.8	19.1	12.7	35.1	76.2	82.6	38.1	23.9	50.8	M10 x 1.50	M8 x 1.25	1.56	420
1" x 1/2"	TPRM64-100 x 050-*	18.3	40.4	38.1	23.9	12.7	35.1	76.2	76.2	38.1	27.7	57.2	M12 x 1.75	M8 x 1.25	1.40	420
1" x 3/4"	TPRM64-100 x 075-*	23.9	50.8	38.1	23.9	19.1	31.8	76.2	76.2	38.1	27.7	57.2	M12 x 1.75	M10 x 1.50	1.21	420
1 1/4" x 3/4"	TPRM64-125 x 075-*	23.9	50.8	50.8	31.8	19.1	38.1	76.2	101.6	38.1	31.8	66.8	M12 x 1.75	M10 x 1.50	1.41	420
1 1/4" x 1"	TPRM64-125 x 100-*	27.7	57.2	50.8	31.8	23.9	31.8	76.2	101.6	38.1	31.8	66.8	M12 x 1.75	M12 x 1.75	1.53	420
1 1/2" x 1"	TPRM64-150 x 100-*	27.7	57.2	57.2	38.1	23.9	38.1	76.2	114.3	38.1	36.6	79.5	M16 x 2.00	M12 x 1.75	2.10	420
1 1/2" x 1 1/4"	TPRM64-150 x 125-*	31.8	66.8	57.2	38.1	31.8	38.1	101.6	114.3	50.8	36.6	79.5	M16 x 2.00	M12 x 1.75	2.85	420
2" x 1 1/4"	TPRM64-200 x 125-*	31.8	66.8	63.5	49.3	31.8	44.5	101.6	127.0	50.8	44.5	96.8	M20 x 2.50	M12 x 1.75	3.65	420
2" x 1 1/2"	TPRM64-200 x 150-*	36.6	79.5	63.5	49.3	38.1	44.5	101.6	127.0	50.8	44.5	96.8	M20 x 2.50	M16 x 2.00	3.43	420

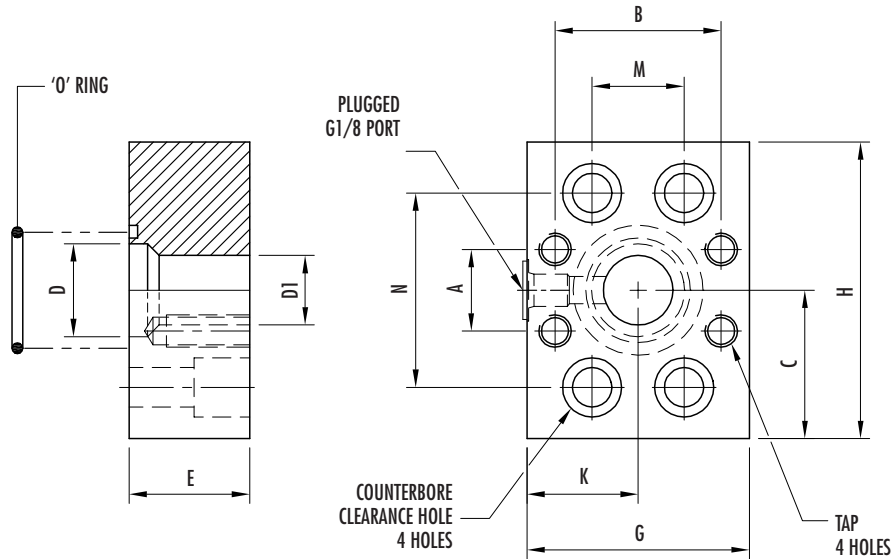
* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Transition Plate Reducer - Metric

ISO 6162-2 Flange Manifold Mount Style



TPROM64 Transition Plate Reducer (Metric) - ISO 6162-2 'O' Ring Face With Countersunk Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Reducer Part No.	Dimensions (millimeters)											C'Tbore	Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	DI	E	G	H	K	M	N					
3/4" x 1/2"	TPROM64-075 x 050-*	18.3	40.4	38.1	19.1	12.7	24.5	63.5	76.2	38.1	23.9	50.8	M10	M8 x 1.25	OR*-2-214	0.80	420
1" x 1/2"	TPROM64-100 x 050-*	18.3	40.4	38.1	23.9	12.7	38.1	63.5	76.2	38.1	27.7	57.2	M12	M8 x 1.25	OR*-2-219	1.06	420
1" x 3/4"	TPROM64-100 x 075-*	23.9	50.8	38.1	23.9	19.1	31.8	76.2	76.2	38.1	27.7	57.2	M12	M10 x 1.50	OR*-2-219	1.13	420
1 1/4" x 3/4"	TPROM64-125 x 075-*	23.9	50.8	50.8	31.8	19.1	38.1	76.2	101.6	38.1	31.8	66.8	M12	M10 x 1.50	OR*-2-222	1.88	420
1 1/4" x 1"	TPROM64-125 x 100-*	27.7	57.2	50.8	31.8	23.9	31.8	76.2	101.6	38.1	31.8	66.8	M12	M12 x 1.75	OR*-2-222	1.47	420
1 1/2" x 1"	TPROM64-150 x 100-*	27.7	57.2	57.2	38.1	23.9	44.5	76.2	114.3	38.1	36.6	79.5	M16	M12 x 1.75	OR*-2-225	1.90	420
1 1/2" x 1 1/4"	TPROM64-150 x 125-*	31.8	66.8	57.2	38.1	31.8	38.1	101.6	114.3	50.8	36.6	79.5	M16	M12 x 1.75	OR*-2-225	2.33	420
2" x 1 1/4"	TPROM64-200 x 125-*	31.8	66.8	69.9	49.3	31.8	44.5	101.6	139.7	50.8	44.5	96.8	M20	M12 x 1.75	OR*-2-228	3.28	420
2" x 1 1/2"	TPROM64-200 x 150-*	36.6	79.5	69.9	49.3	38.1	44.5	127.0	139.7	63.5	44.5	96.8	M20	M16 x 2.00	OR*-2-228	3.31	420

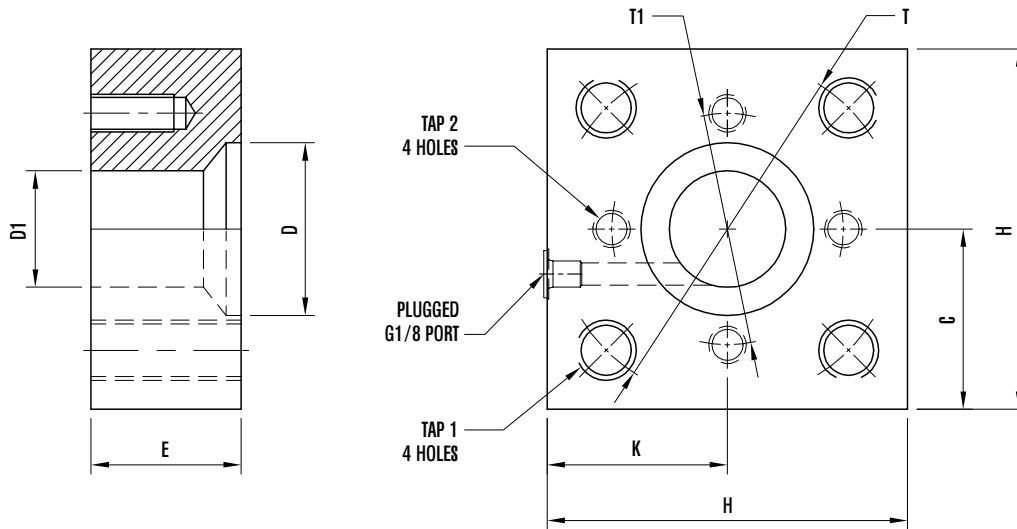
* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Transition Plate Reducer - Metric

ISO 6164 Flange Union Style



TPRM74 Transition Plate Reducer (Metric) - ISO 6164 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (inch)	Reducer Part No.	Dimensions (millimeters)								Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		T	T1	C	D	D1	E	H	K				
3" x 2 1/2"	TPRM74-300 x 250-*	145.0	118.1	76.2	73.2	60.5	57.2	152.4	76.2	M24 x 3.00	M20 x 2.50	7.56	400
4" x 2 1/2"	TPRM74-400 x 250-*	175.0	118.1	88.9	88.9	60.5	57.2	177.8	88.9	M30 x 3.50	M20 x 2.50	10.95	400
4" x 3"	TPRM74-400 x 300-*	175.0	145.0	95.3	88.9	73.2	63.5	190.5	95.3	M30 x 3.50	M24 x 3.00	13.95	400

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

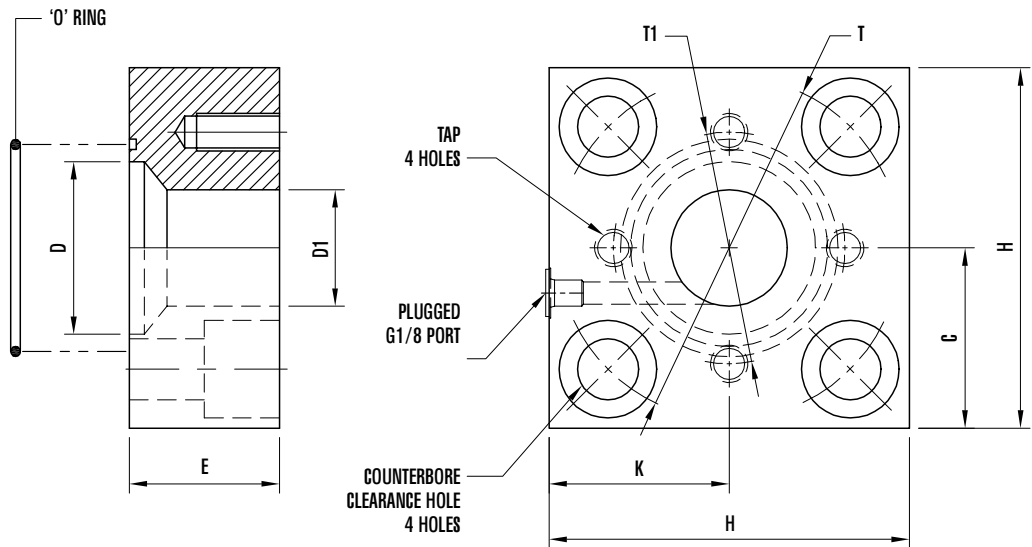
- OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Transition Plate Reducer - Metric

ISO 6164 Flange Manifold Mount Style



TPROM74

Transition Plate Reducer (Metric) - ISO 6164 'O' Ring Face With Countersunk Holes
Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Reducer Part No.	Dimensions (millimeters)								C'Tbore	Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		T	T1	C	D	D1	E	H	K					
3" x 2 1/2"	TPROM74-300 x 250-*	145.0	118.1	76.2	73.2	60.5	44.5	152.4	76.2	M24	M20 x 2.50	OR*-2-237	5.12	400
4" x 2 1/2"	TPROM74-400 x 250-*	175.0	118.1	88.9	88.9	60.5	57.2	177.8	88.9	M30	M20 x 2.50	OR*-2-241	5.53	400
4" x 3"	TPROM74-400 x 300-*	175.0	145.0	95.3	88.9	73.2	50.8	190.5	95.3	M30	M24 x 3.00	OR*-2-241	9.72	400

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

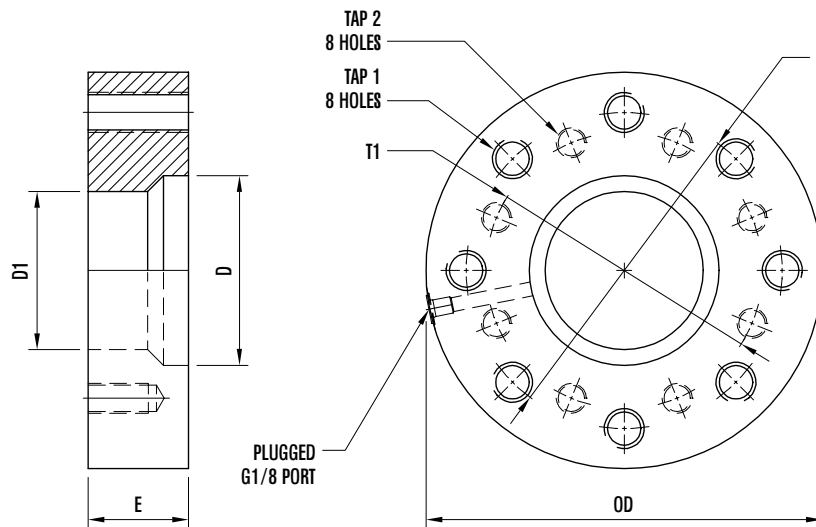
- OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Transition Plate Reducer - Metric

TMI® 8-Bolt Flange Union Style



TPRM48 Transition Plate Reducer (Metric) - TMI® 8-Bolt Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Reducer Part No.	Dimensions (millimeters)						Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		T	T1	D	D1	OD	E				
6" x 5"	TPRM48-600 x 500-*	245.1	200.2	124.5	101.6	300.0	50.8	M30 x 3.50	M24 x 3.00	22.90	255
8" x 5"	TPRM48-800 x 500-*	315.0	200.2	173.0	101.6	393.7	76.2	M36 x 4.00	M24 x 3.00	60.09	240
8" x 6"	TPRM48-800 x 600-*	315.0	245.1	173.0	124.5	393.7	63.5	M36 x 4.00	M30 x 3.50	47.51	240

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

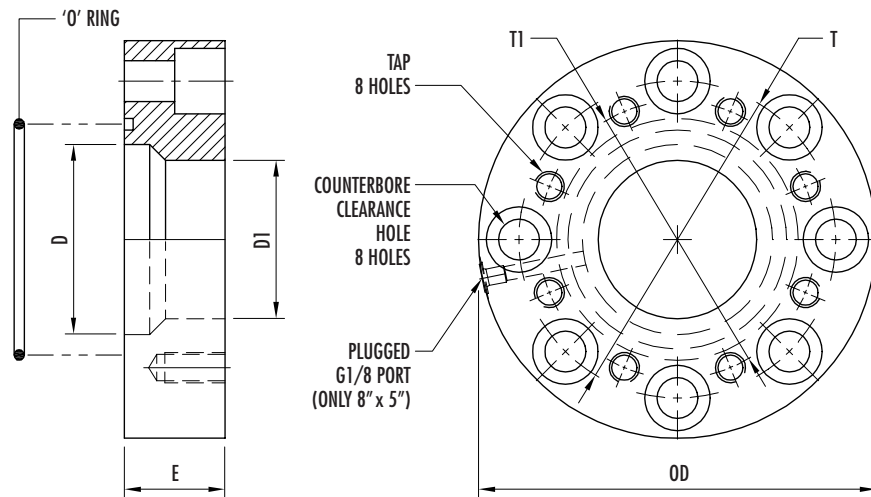
• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Transition Plate Reducer - Metric

TMI® 8-Bolt Flange Manifold Mount Style



TPROM48 Transition Plate Reducer (Metric) - TMI® 8-Bolt 'O' Ring Face With Countersunk Holes Complete With Nitrile 'O' Ring (Standard) G1/8 Port (Plugged)

Size (inch)	Reducer Part No.	Dimensions (millimeters)						C'Tbore	Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		T	T1	D	D1	OD	E					
6" x 5"	TPROM48-600 x 500-*	245.1	200.2	124.5	101.6	300.0	50.8	M30	M24 x 3.00	OR*-2-359	19.09	255
8" x 5"	TPROM48-800 x 500-*	315.0	200.2	173.0	101.6	393.7	76.2	M36	M24 x 3.00	OR*-2-368	54.68	240
8" x 6"	TPROM48-800 x 600-*	315.0	245.1	173.0	124.5	393.7	63.5	M36	M30 x 3.50	OR*-2-368	42.64	240

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

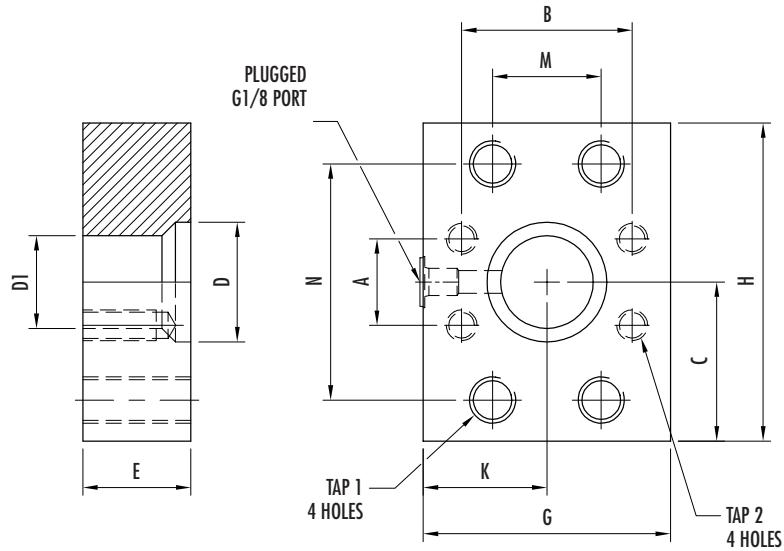
- OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Transition Plate Reducer - Metric

ISO 6162-2/ISO 6162-1 Flange Union Style



TPRM6-34 Transition Plate Reducer (Metric) - ISO 6162-2/6162-1 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (ISO 6162-2 x 6162-1)	Reducer Part No.	Dimensions (millimeters)											Thread 1	Thread 2	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	G	H	K	M	N				
3/4" x 1/2"	TPRM6-34-075 x 050-*	17.5	38.1	41.3	19.1	12.7	25.4	63.5	76.2	31.8	23.9	50.8	M10 x 1.50	M8 x 1.25	0.92	350
1" x 1/2"	TPRM6-34-100 x 050-*	17.5	38.1	38.1	23.9	12.7	38.1	76.2	76.2	38.1	27.7	57.2	M12 x 1.75	M8 x 1.25	1.52	350
1" x 3/4"	TPRM6-34-100 x 075-*	22.4	47.8	38.1	23.9	19.1	31.8	76.2	76.2	38.1	27.7	57.2	M12 x 1.75	M10 x 1.50	1.21	350
1 1/4" x 3/4"	TPRM6-34-125 x 075-*	22.4	47.8	44.5	31.8	19.1	38.1	76.2	88.9	38.1	31.8	66.8	M12 x 1.75	M10 x 1.50	1.70	350
1 1/4" x 1"	TPRM6-34-125 x 100-*	26.2	52.3	44.5	31.8	23.9	31.8	76.2	88.9	38.1	31.8	66.8	M12 x 1.75	M10 x 1.50	1.36	350
1 1/2" x 1"	TPRM6-34-150 x 100-*	26.2	52.3	50.8	38.1	23.9	38.1	76.2	101.6	38.1	36.6	79.5	M16 x 2.00	M10 x 1.50	1.84	350
1 1/2" x 1 1/4"	TPRM6-34-150 x 125-*	30.2	58.7	50.8	38.1	31.8	38.1	101.6	101.6	50.8	36.6	79.5	M16 x 2.00	M10 x 1.50	2.08	275
2" x 1 1/4"	TPRM6-34-200 x 125-*	30.2	58.7	63.5	49.3	31.8	44.5	101.6	127.0	50.8	44.5	96.8	M20 x 2.50	M10 x 1.50	3.69	275
2" x 1 1/2"	TPRM6-34-200 x 150-*	35.8	69.9	63.5	49.3	38.1	38.1	127.0	127.0	63.5	44.5	96.8	M20 x 2.50	M12 x 1.75	3.99	210

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

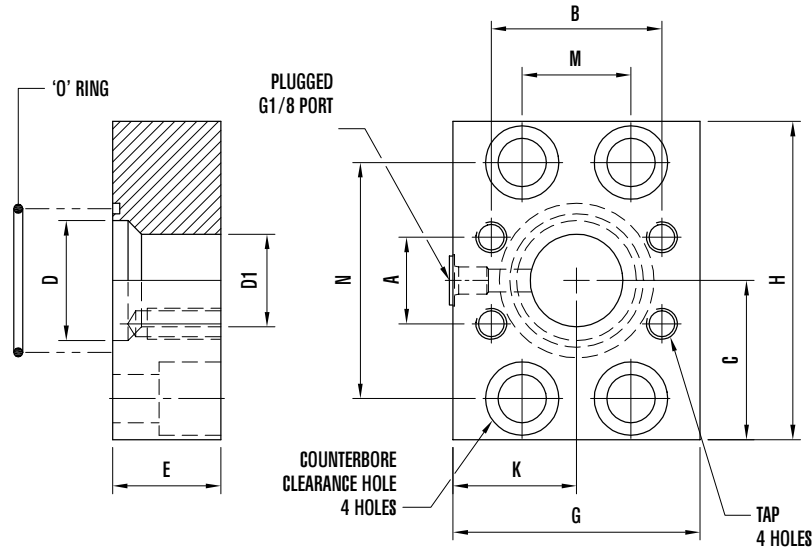
• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Transition Plate Reducer - Metric

ISO 6162-2/6162-1 Flange Manifold Mount Style



TPROM6-34 Transition Plate Reducer (Metric) - ISO 6162-2 /6162-1 'O' Ring Face With Countersunk Holes Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (ISO 6162-2 x 6162-1)	Reducer Part No.	Dimensions (millimeters)											C'Tbore	Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
3/4" x 1/2"	TPROM6-34-075 x 050-*	17.5	38.1	35.1	19.1	12.7	38.1	76.2	69.9	44.5	23.9	50.8	M10	M8 x 1.25	OR*-2-214	1.36	350
1" x 1/2"	TPROM6-34-100 x 050-*	17.5	38.1	38.1	23.9	12.7	38.1	76.2	76.2	44.5	27.7	57.2	M12	M8 x 1.25	OR*-2-219	1.45	350
1" x 3/4"	TPROM6-34-100 x 075-*	22.4	47.8	38.1	23.9	19.1	38.1	76.2	76.2	44.5	27.7	57.2	M12	M10 x 1.50	OR*-2-219	1.37	350
1 1/4" x 3/4"	TPROM6-34-125 x 075-*	22.4	47.8	44.5	31.8	19.1	38.1	76.2	88.9	44.5	31.8	66.8	M12	M10 x 1.50	OR*-2-222	1.59	350
1 1/4" x 1"	TPROM6-34-125 x 100-*	26.2	52.3	44.5	31.8	23.9	25.4	76.2	88.9	38.1	31.8	66.8	M12	M10 x 1.50	OR*-2-222	0.99	350
1 1/2" x 1"	TPROM6-34-150 x 100-*	26.2	52.3	57.2	38.1	23.9	44.5	88.9	114.3	50.8	36.6	79.5	M16	M10 x 1.50	OR*-2-225	2.79	350
1 1/2" x 1 1/4"	TPROM6-34-150 x 125-*	30.2	58.7	57.2	38.1	31.8	44.5	76.2	114.3	38.1	36.6	79.5	M16	M10 x 1.50	OR*-2-225	2.15	275
2" x 1 1/4"	TPROM6-34-200 x 125-*	30.2	58.7	66.8	49.3	31.8	44.5	101.6	133.4	50.8	44.5	96.8	M20	M10 x 1.50	OR*-2-228	3.56	275
2" x 1 1/2"	TPROM6-34-200 x 150-*	35.8	69.9	66.8	49.3	38.1	44.5	101.6	133.4	50.8	44.5	96.8	M20	M12 x 1.75	OR*-2-228	3.40	210

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

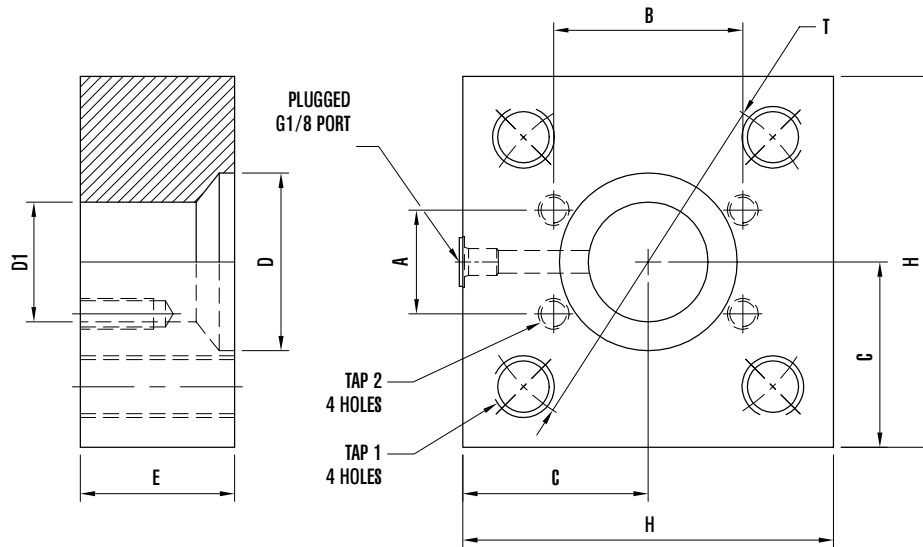
• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Transition Plate Reducer - Metric

ISO 6164/6162-1 Flange Union Style



TPRM7-34 Transition Plate Reducer (Metric) - ISO 6164/6162-1 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (ISO 6164 x 6162-1)	Reducer Part No.	Dimensions (millimeters)								Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		T	A	B	C	D	D1	E	H				
2 1/2" x 1 1/2"	TPRM7-34-250 x 150-*	118.1	35.8	69.9	63.5	60.5	38.1	44.5	127.0	M20 x 2.50	M12 x 1.75	4.73	210
2 1/2" x 2"	TPRM7-34-250 x 200-*	118.1	42.9	77.7	63.5	60.5	49.3	44.5	127.0	M20 x 2.50	M12 x 1.75	4.68	210
3" x 2"	TPRM7-34-300 x 200-*	145.0	42.9	77.7	76.2	73.2	49.3	50.8	152.4	M24 x 3.00	M12 x 1.75	7.50	210
3" x 2 1/2"	TPRM7-34-300 x 250-*	145.0	50.8	88.9	76.2	73.2	60.5	50.8	152.4	M24 x 3.00	M12 x 1.75	7.05	175
4" x 2 1/2"	TPRM7-34-400 x 250-*	175.0	50.8	88.9	88.9	88.9	60.5	50.8	177.8	M30 x 3.50	M12 x 1.75	10.32	175
4" x 3"	TPRM7-34-400 x 300-*	175.0	62.0	106.4	88.9	88.9	73.2	50.8	177.8	M30 x 3.50	M16 x 2.00	10.09	140

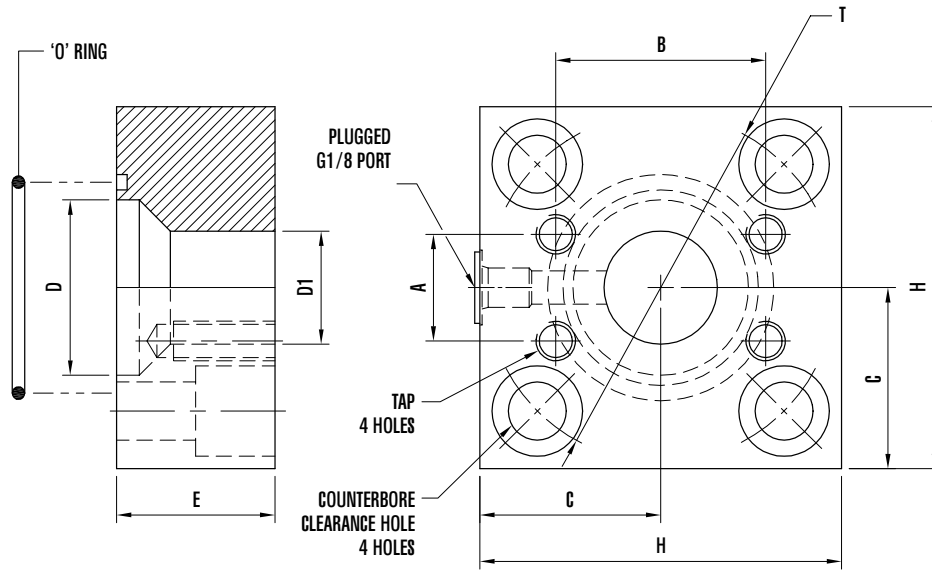
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Transition Plate Reducer - Metric

ISO 6164/6162-1 Flange Manifold Mount Style



TPROM7-34 Transition Plate Reducer (Metric) - ISO 6164/6162-1 'O' Ring Face With Countersunk Holes Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (ISO 6164 x 6162-1)	Reducer Part No.	Dimensions (millimeters)								C'Tbore	Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		T	A	B	C	D	D1	E	H					
2 1/2" x 1 1/2"	TPROM7-34-250 x 150-*	118.1	35.8	69.9	63.5	60.5	38.1	47.8	127.0	M20	M12 x 1.75	OR*-2-232	5.55	210
2 1/2" x 2"	TPROM7-34-250 x 200-*	118.1	42.9	77.7	63.5	60.5	49.3	44.5	127.0	M20	M12 x 1.75	OR*-2-232	4.50	210
3" x 2"	TPROM7-34-300 x 200-*	145.0	42.9	77.7	76.2	73.2	49.3	50.8	152.4	M24	M12 x 1.75	OR*-2-237	7.45	210
3" x 2 1/2"	TPROM7-34-300 x 250-*	145.0	50.8	88.9	76.2	73.2	60.5	50.8	152.4	M24	M12 x 1.75	OR*-2-237	7.00	175
4" x 2 1/2"	TPROM7-34-400 x 250-*	175.0	50.8	88.9	88.9	88.9	60.5	50.8	177.8	M30	M12 x 1.75	OR*-2-241	10.09	175
4" x 3"	TPROM7-34-400 x 300-*	175.0	62.0	106.4	88.9	88.9	73.2	50.8	177.8	M30	M16 x 2.00	OR*-2-241	9.86	140

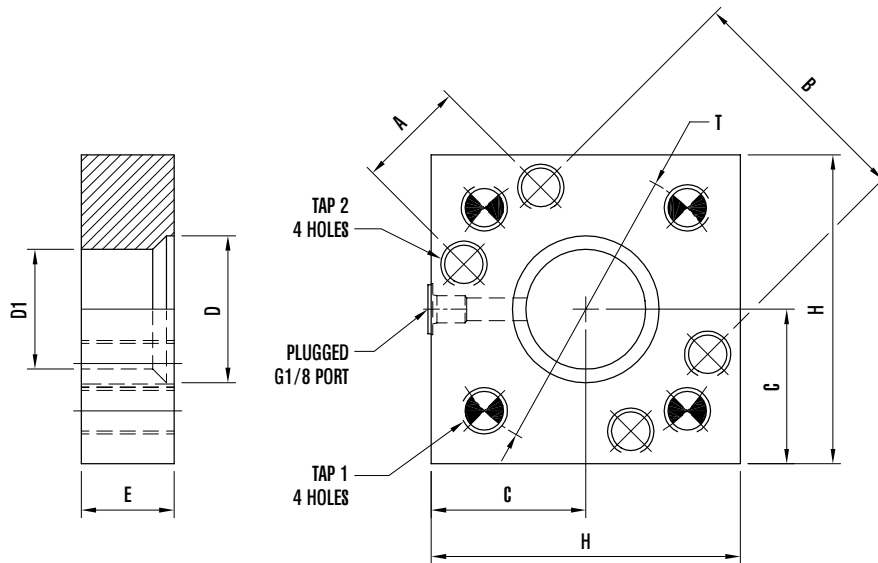
* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Transition Plate Reducer - Metric

ISO 6164/6162-2 Flange Union Style



TPRM7-64 Transition Plate Reducer (Metric) - ISO 6164/6162-2 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (ISO 6164 x 6162-2)	Reducer Part No.	Dimensions (millimeters)								Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		T	A	B	C	D	D1	E	H				
2 1/2" x 1 1/2"	TPRM7-64-250 x 150-*	118.1	36.6	79.5	63.5	60.5	38.1	50.8	127.0	M20 x 2.50	M16 x 2.00	5.21	400
2 1/2" x 2"	TPRM7-64-250 x 200-*	118.1	44.5	96.8	76.2	60.5	49.3	38.1	152.4	M20 x 2.50	M20 x 2.50	3.93	400
3" x 2"	TPRM7-64-300 x 200-*	145.0	44.5	96.8	76.2	73.2	49.3	57.2	152.4	M24 x 3.00	M20 x 2.50	8.09	400
4" x 2"	TPRM7-64-400 x 200-*	175.0	44.5	96.8	88.9	88.9	49.3	57.2	177.8	M30 x 3.50	M20 x 2.50	11.61	400

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

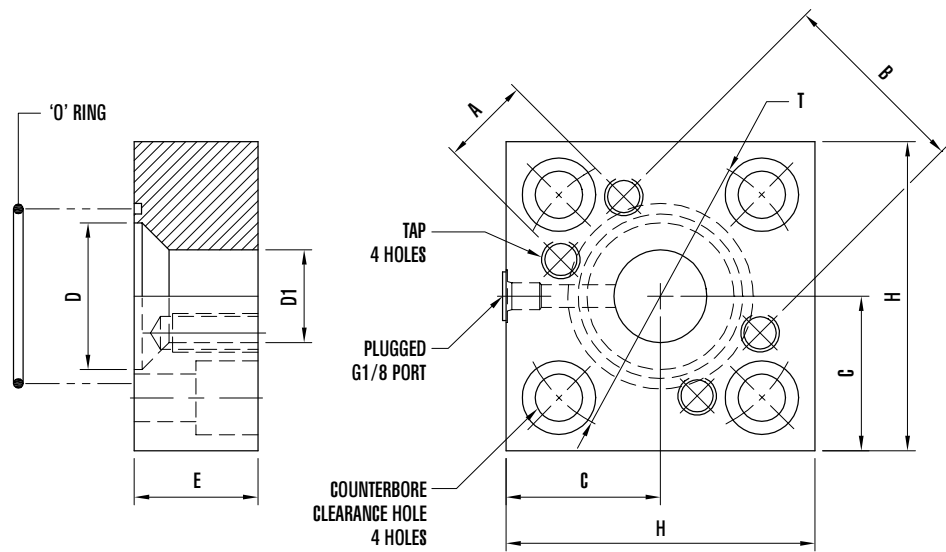
• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Transition Plate Reducer - Metric

ISO 6164/6162-2 Flange Manifold Mount Style



TPROM7-64

Transition Plate Reducer (Metric) - ISO 6164/6162-2 'O' Ring Face With Countersunk Holes
Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (ISO 6164 x 6162-2)	Reducer Part No.	Dimensions (millimeters)								C'Tbore	Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		T	A	B	C	D	D1	E	H					
2 1/2" x 1 1/2"	TPROM7-64-250 x 150-*	118.1	36.6	79.5	63.5	60.5	38.1	50.8	127.0	M20	M16 x 2.00	OR*-2-232	4.82	400
3" x 2"	TPROM7-64-300 x 200-*	145.0	44.5	96.8	76.2	73.2	49.3	57.2	152.4	M24	M20 x 2.50	OR*-2-237	7.30	400
4" x 2"	TPROM7-64-400 x 200-*	175.0	44.5	96.8	88.9	88.9	49.3	57.2	177.8	M30	M20 x 2.50	OR*-2-241	10.50	400

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

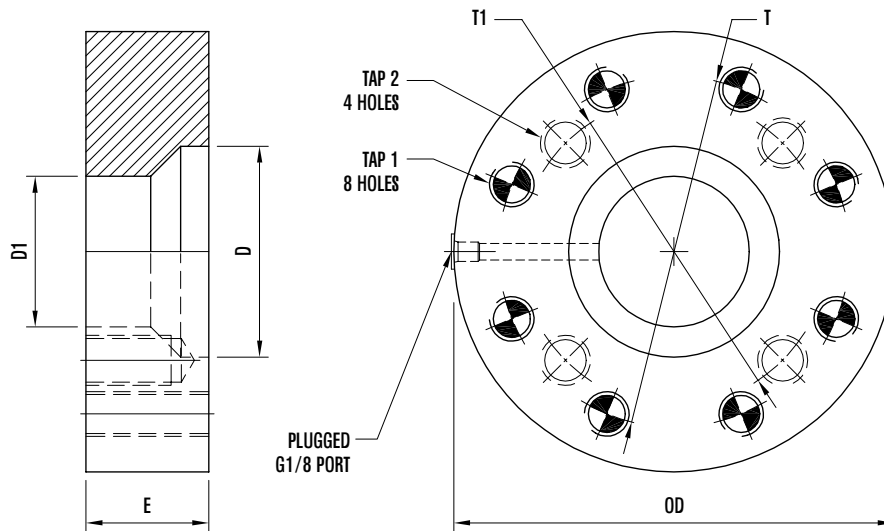
- OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Transition Plate Reducer - Metric

TMI® 8-Bolt/ISO 6164 Flange Union Style



TPRM4-74 Transition Plate Reducer (Metric) - TMI® 8-Bolt/ISO 6164 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (TMI® 8-Bolt x ISO 6164)	Reducer Part No.	Dimensions (millimeters)						Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		T	T1	D	D1	OD	E				
5" x 4"	TPRM4-74-500 x 400-*	200.2	175.0	101.6	88.9	251.0	50.8	M24 x 3.00	M30 x 3.50	14.40	275

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

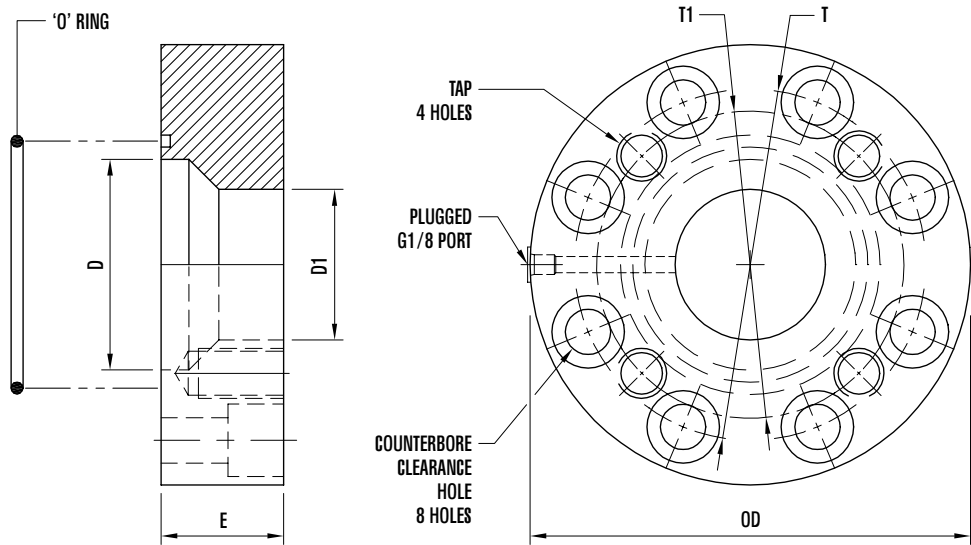
• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Transition Plate Reducer - Metric

TMI® 8-Bolt/ISO 6164 Flange Manifold Mount Style



TPROM4-74 Transition Plate Reducer (Metric) - TMI® 8-Bolt/ISO 6164 'O' Ring Face With Countersunk Holes Complete With Nitrile 'O' Ring (Standard) and G1/8 (Plugged)

Size (TMI® 8-Bolt x ISO 6164)	Reducer Part No.	Dimensions (millimeters)						C'Tbore	Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		T	T1	D	D1	OD	E					
5" x 4"	TPROM4-74-500 x 400-*	200.2	175.0	101.6	88.9	251.0	50.8	M24	M30 x 3.50	OR*-2-353	13.05	275

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

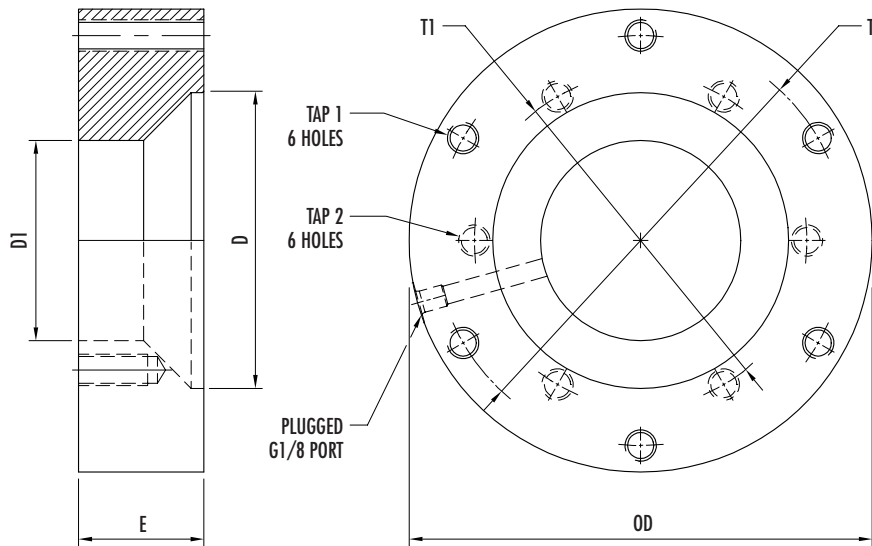
• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Low Pressure Transition Plate Reducer - Metric

TMI® 6-Bolt Flange Union Style



TPRM16 Low Pressure Transition Plate Reducer (Metric) - TMI® 6-Bolt Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (inch)	Reducer Part No.	Dimensions (millimeters)						Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		T	T1	D	D1	OD	E				
3" x 2 1/2"	TPRM16-300 x 250-*	123.2	102.4	78.0	62.7	152.4	44.5	M16 x 2.00	M12 x 1.75	4.58	52
4" x 2 1/2"	TPRM16-400 x 250-*	151.6	102.4	102.4	62.7	177.8	57.2	M16 x 2.00	M12 x 1.75	8.85	52
4" x 3"	TPRM16-400 x 300-*	151.6	123.2	102.4	78.0	177.8	57.2	M16 x 2.00	M16 x 2.00	8.03	52
5" x 3"	TPRM16-500 x 300-*	178.1	123.2	128.3	78.0	209.6	63.5	M16 x 2.00	M16 x 2.00	13.73	52
5" x 4"	TPRM16-500 x 400-*	178.1	151.6	128.3	102.4	209.6	57.2	M16 x 2.00	M16 x 2.00	10.77	52
6" x 4"	TPRM16-600 x 400-*	208.0	151.6	154.2	102.4	235.0	63.5	M16 x 2.00	M16 x 2.00	16.39	48
6" x 5"	TPRM16-600 x 500-*	208.0	178.1	154.2	128.3	235.0	57.2	M16 x 2.00	M16 x 2.00	12.97	48

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

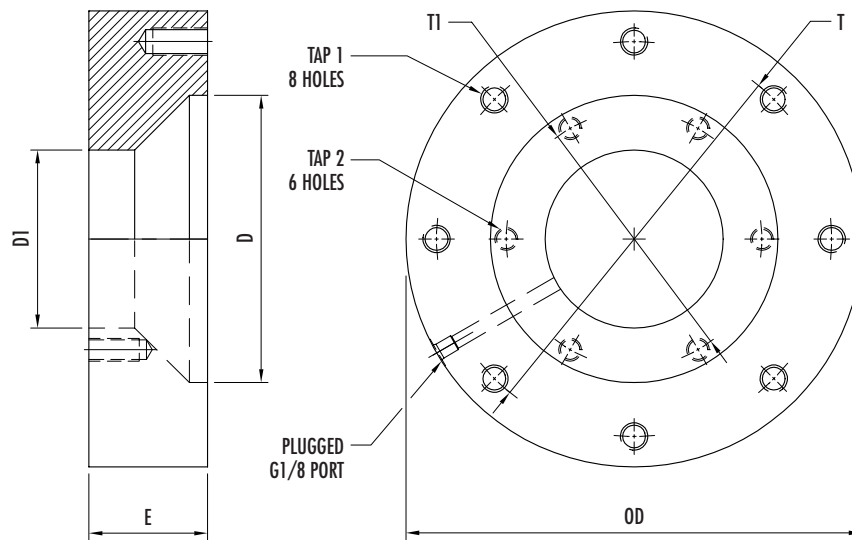
• OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Low Pressure Transition Plate Reducer - Metric

TMI® 8-Bolt/6-Bolt Flange Union Style



TPRM1-16 Low Pressure Transition Plate Reducer (Metric) - TMI® 8-Bolt/6-Bolt Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (inch)	Reducer Part No.	Dimensions (millimeters)						Thread 1	Thread 2	WT. kgs./pc	Working Pressure (bar)
		T	T1	D	D1	OD	E				
8" x 5"	TPRM1-16-800 x 500-*	275.1	178.1	202.7	128.3	317.5	82.6	M20 x 2.50	M16 x 2.00	41.24	40
8" x 6"	TPRM1-16-800 x 600-*	275.1	208.0	202.7	154.2	317.5	82.6	M20 x 2.50	M16 x 2.00	37.59	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

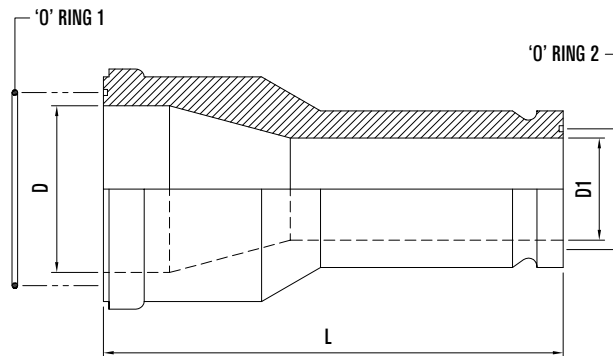
- OTHER REDUCTIONS ARE AVAILABLE (CONSULT FACTORY)

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Retain Ring Flange Reducer - Metric

Concentric Style - Body Only



CR Concentric Reducer (Metric)

Complete With Nitrile 'O' Rings (Standard)

Size (inch)	Reducer Part No.	Dimensions (mm)			'O' Ring 1 (Nitrile) Part No.	'O' Ring 2 (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L	D	D1				
3/4" x 1/2"	CR-075 x 050-*	94.5	20.1	14.0	OR*-3-913	OR*-3-909	0.39	Note 1.
1" x 1/2"	CR-100 x 050-*	94.5	23.1	14.0	OR*-3-916	OR*-3-909	0.43	
1" x 3/4"	CR-100 x 075-*	114.3	23.1	20.1	OR*-3-916	OR*-3-913	0.66	
1 1/4" x 3/4"	CR-125 x 075-*	114.3	30.0	20.1	OR*-3-918	OR*-3-913	0.76	
1 1/4" x 1"	CR-125 x 100-*	114.3	30.0	23.1	OR*-3-918	OR*-3-916	0.79	
1 1/2" x 1"	CR-150 x 100-*	114.3	39.1	23.1	OR*-3-924	OR*-3-916	0.95	
1 1/2" x 1 1/4"	CR-150 x 125-*	133.6	39.1	30.0	OR*-3-924	OR*-3-918	1.15	
2" x 1 1/4"	CR-200 x 125-*	133.6	49.0	30.0	OR*-3-928	OR*-3-918	1.46	
2" x 1 1/2"	CR-200 x 150-*	133.6	49.0	39.1	OR*-3-928	OR*-3-924	1.56	
2 1/2" x 1 1/2"	CR-250 x 150-*	153.9	59.9	39.1	OR*-2-232	OR*-3-924	2.20	
2 1/2" x 2"	CR-250 x 200-*	153.9	59.9	49.0	OR*-2-232	OR*-3-928	2.30	
3" X 2"	CR-300 x 200-*	177.3	73.2	49.0	OR*-2-237	OR*-2-232	-	
3" X 2 1/2"	CR-300 x 250-*	177.3	73.2	59.9	OR*-2-237	OR*-2-232	-	
4" x 2 1/2"	CR-400 x 250-*	197.1	85.1	59.9	OR*-2-241	OR*-2-232	-	
4" x 3"	CR-400 x 300-*	197.1	85.1	73.2	OR*-2-241	OR*-2-237	-	

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

Note: 1) BODY ONLY WORKING PRESSURE RATING MEETS OR EXCEEDS FLANGE RATINGS SELECTED FOR AN ASSEMBLY - REFERENCE PAGE J21

- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE J21

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



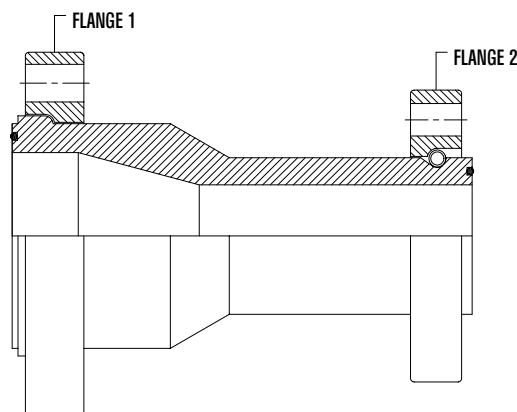
Retain Ring Flange Reducer Assembly - Metric

Complete Assembly Part Number

Typical A/CR Assembly

COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) CONCENTRIC REDUCER BODY (ref. page J20)
- TWO (2) RETAIN RING FLANGES (ref. pages C8-C10)
- ONE (1) RETAIN RING
- TWO (2) NITRILE 'O' RINGS (STANDARD)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL (1/2"-3")
- ENDS SEALED WITH POSITIVE CLOSURE (4")



		Code	A	CR	Body Material	Body Size	Flange 1	Flange 2	Options
Assembly		A							
Concentric Reducer		CR							
Body Material Carbon Steel (Standard)	No Designation Required								
Body Material Stainless Steel (Optional) Ref. page (C7)	TMP304SS	304							
	TMP316SS	316							
Body Size Ref. page (J20)	3/4" x 1/2"	075 x 050							
	1" x 1/2"	100 x 050							
	1" x 3/4"	100 x 075							
	1 1/4" x 3/4"	125 x 075							
	1 1/4" x 1"	125 x 100							
	1 1/2" x 1"	150 x 100							
	1 1/2" x 1 1/4"	150 x 125							
	2" x 1 1/4"	200 x 125							
	2" x 1 1/2"	200 x 150							
	2 1/2" x 1 1/2"	250 x 150							
	2 1/2" x 2"	250 x 200							
	3" x 2"	300 x 200							
	3" x 2 1/2"	300 x 250							
Flange Type Ref. pages (C8-C10)	RFC34 ISO 6162-1 W/Clearance Holes	FC34							
	*RFTM34 ISO 6162-1 W/Tapped Holes	FTM34							
	RFC64 ISO 6162-2 W/Clearance Holes	FC64							
	*RFTM64 ISO 6162-2 W/Tapped Holes	FTM64							
	RFC74 ISO 6164 W/Clearance Holes	FC74							
Options	Viton	V							
	Painted (Specify)	P							
Complete Stainless Steel Assembly: (including flanges)		SS							

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS.

- FOR CONNECTION TO HOSE USE CONNECTOR PLATE OCP (TO BE ORDERED SEPARATELY) REF. PAGE J24

PART NO. (EXAMPLE):

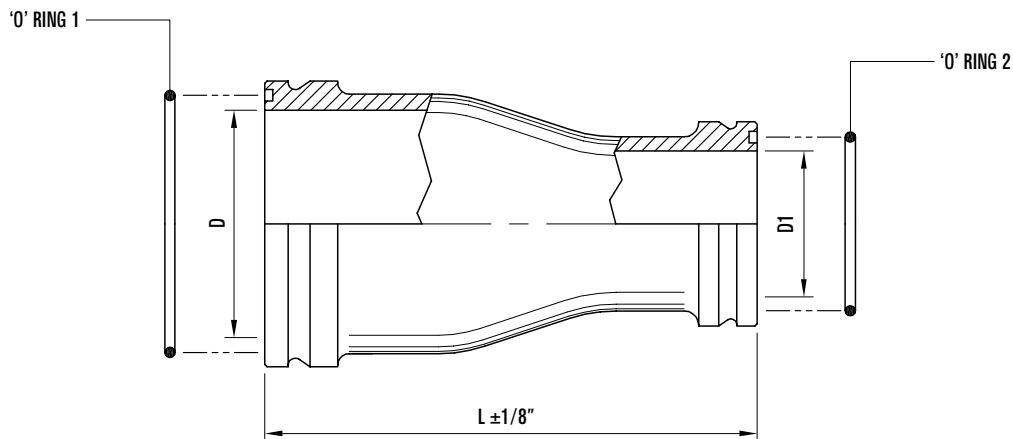
A/CR - 100 x 050 - FC34 - FC34

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE FLANGE RATINGS.
- SEE REFERENCE PAGE INDICATED ABOVE FOR PRESSURE RATINGS.
- FOR BOLT KITS - REFERENCE SECTION R



Low Pressure Retain Ring Flange Reducer - Metric

Concentric Style - Body Only



LRR Low Pressure Retain Ring Flange Reducer (Metric) - Body Only (segmentally welded)

Complete with Nitrile 'O' Rings (Standard)

Size (inch)	Reducer Body Part No.	Dimensions (mm)			'O' Ring 1 (Nitrile) Part No.	'O' Ring 2 (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L	D	D1				
3" x 2 1/2"	LRR-300 x 250-*	168.7	78.0	62.7	OR*-2-237	OR*-2-232	2.02	52
4" x 2 1/2"	LRR-400 x 250-*	181.4	102.4	62.7	OR*-2-245	OR*-2-232	2.90	52
4" x 3"	LRR-400 x 300-*	186.7	102.4	78.0	OR*-2-245	OR*-2-237	3.15	52
5" x 3"	LRR-500 x 300-*	216.9	128.3	78.0	OR*-2-253	OR*-2-237	4.66	52
5" x 4"	LRR-500 x 400-*	216.9	128.3	102.4	OR*-2-253	OR*-2-245	5.20	52
6" x 4"	LRR-600 x 400-*	234.7	154.2	102.4	OR*-2-259	OR*-2-245	7.19	48
6" x 5"	LRR-600 x 500-*	239.5	154.2	128.3	OR*-2-259	OR*-2-253	7.85	48
8" x 5"	LRR-800 x 500-*	262.1	202.7	128.3	OR*-2-372	OR*-2-253	11.50	40
8" x 6"	LRR-800 x 600-*	267.2	202.7	154.2	OR*-2-372	OR*-2-259	13.03	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE J23
- REDUCER BODY INCLUDES BUTT WELD ADAPTERS (REF. PAGES D10-D13)

MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)



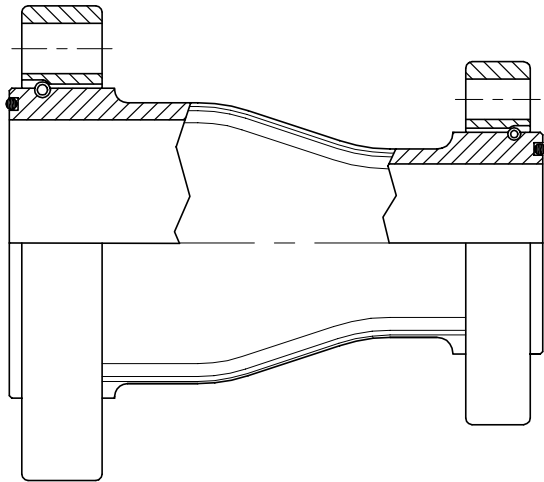
Low Pressure Retain Ring Flange Reducer Assembly - Metric

Complete Assembly Part Number

Typical A/LRR Assembly

COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LOW PRESSURE RETAIN RING FLANGE REDUCER BODY
- TWO (2) LOW PRESSURE RETAIN RING FLANGES (REF. PAGES D8-D9)
- TWO (2) LOW PRESSURE RETAIN RINGS
- TWO (2) BUNA 'O' RINGS (STANDARD)
- ENDS SEALED WITH 6 MIL HEAT SHRINK MATERIAL (2 1/2" & 3")
- ENDS SEALED WITH POSITIVE CLOSURE (4"-8")



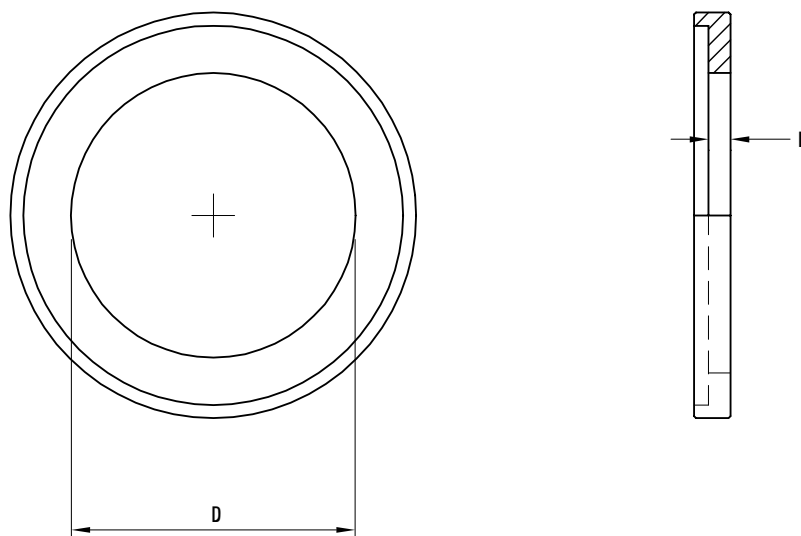
A/LRR Low Pressure Retain Ring Flange Reducer Assembly (Metric)

Size (inch)	Reducer Assembly Part No.	WT. (Assembly) kgs./pc	Working Pressure (bar)
3" x 2 1/2"	A/LRR-300 x 250-*	4.73	52
4" x 2 1/2"	A/LRR-400 x 250-*	6.01	52
4" x 3"	A/LRR-400 x 300-*	7.88	52
5" x 3"	A/LRR-500 x 300-*	10.30	52
5" x 4"	A/LRR-500 x 400-*	12.12	52
6" x 4"	A/LRR-600 x 400-*	14.65	48
6" x 5"	A/LRR-600 x 500-*	16.21	48
8" x 5"	A/LRR-800 x 500-*	24.16	40
8" x 6"	A/LRR-800 x 600-*	26.23	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS
MATERIAL: CARBON STEEL, (STAINLESS STEEL AVAILABLE)



'O' Ring Connector Plate - Metric

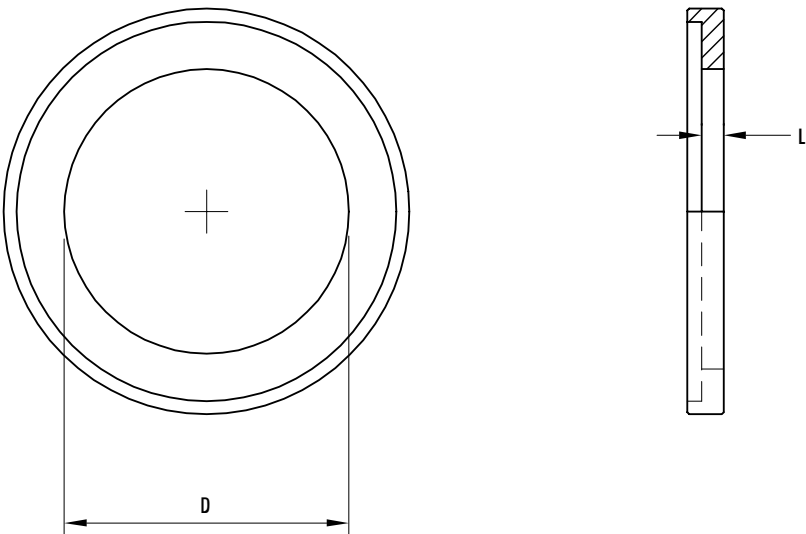


OCP 'O' Ring Connector Plate for Retain Ring Components

Size (inch)	Connector Plate Part No.	Dimensions (mm)		WT. kgs./pc
		D	L	
1/2"	OCP-050	12.7	3.3	0.02
3/4"	OCP-075	19.1	3.3	0.03
1"	OCP-100	23.9	3.3	0.03
1 1/4"	OCP-125	30.5	3.3	0.04
1 1/2"	OCP-150	38.1	3.3	0.05
2"	OCP-200	49.3	3.3	0.06
2 1/2"	OCP-250	59.9	3.3	0.08
3"	OCP-300	73.2	3.3	0.11
4"	OCP-400	85.1	3.3	0.15

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Low Pressure 'O' Ring Connector Plate - Metric



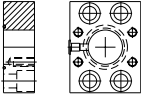
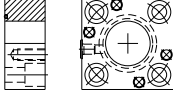
LOCP Low Pressure 'O' Ring Connector Plate

Size (inch)	Connector Plate Part No.	Dimensions (mm)		WT. kgs./pc
		D	L	
2 1/2"	LOCP-250	62.7	3.3	0.07
3"	LOCP-300	78.0	3.3	0.10
4"	LOCP-400	102.4	3.3	0.15
5"	LOCP-500	128.3	4.8	0.26
6"	LOCP-600	154.2	4.8	0.36
8"	LOCP-800	202.7	4.8	0.61

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



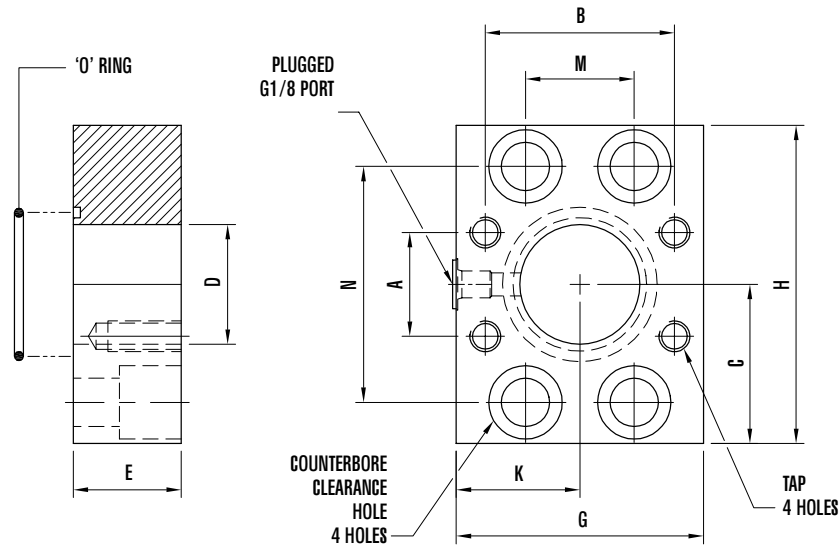
Transition Plates - Metric Visual Index

TRANSITION PLATE MANIFOLD MOUNT STYLE	<div>TPOM6-34 ISO 6162-2/6162-1</div> <div></div> <div><div>$\frac{1}{2}'' - 2''$</div><div>Page K2</div></div>	<div>TPOM7-34 ISO 6164/6162-1</div> <div></div> <div><div>$2\frac{1}{2}'' - 3''$</div><div>Page K3</div></div>		



Transition Plate - Metric

ISO 6162-2/6162-1 Flange Manifold Mount Style



TPOM6-34 Transition Plate (Metric) - ISO 6162-2/6162-1 'O' Ring Face With Countersunk Hole

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Transition Plate Part No.	Dimensions (millimeters)										C'Tbore	Thread	'O' Ring (Nitrile) Part No.	WT. kgs./ pc	Working Pressure (bar)
		A	B	C	D	E	G	H	K	M	N					
1/2"	TPOM6-34-050-*	17.5	38.1	31.8	12.7	25.4	63.5	63.5	38.1	18.3	40.4	M8	M8 x 1.25	OR*-2-210	0.67	350
3/4"	TPOM6-34-075-*	22.4	47.8	38.1	19.1	25.4	76.2	76.2	44.5	23.9	50.8	M10	M10 x 1.50	OR*-2-214	0.93	350
1"	TPOM6-34-100-*	26.2	52.3	38.1	23.9	25.4	76.2	76.2	38.1	27.7	57.2	M12	M10 x 1.50	OR*-2-219	0.82	350
1 1/4"	TPOM6-34-125-*	30.2	58.7	50.8	31.8	31.8	76.2	101.6	38.1	31.8	66.8	M12	M10 x 1.50	OR*-2-222	1.40	275
1 1/2"	TPOM6-34-150-*	35.8	69.9	57.2	38.1	31.8	101.6	114.3	50.8	36.6	79.5	M16	M12 x 1.75	OR*-2-225	2.09	210
2"	TPOM6-34-200-*	42.9	77.7	69.9	49.3	31.8	101.6	139.7	50.8	44.5	96.8	M20	M12 x 1.75	OR*-2-228	3.15	210

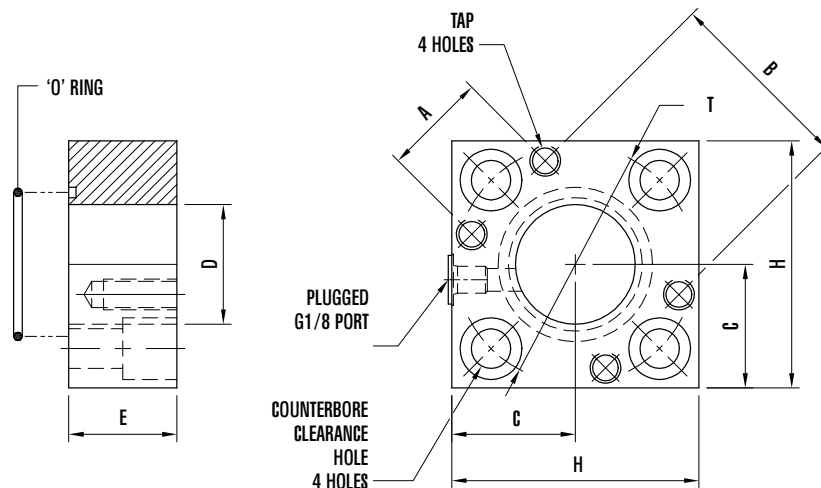
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING

• FOR BOLT KIT - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Transition Plate - Metric

ISO 6164/6162-1 Flange Manifold Mount Style



TPOM7-34 Transition Plate (Metric) - ISO 6164/6162-1 'O' Ring Face With Countersunk Holes Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Transition Plate Part No.	Dimensions (millimeters)							C'Tbore	Thread	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		A	B	C	D	E	H	T					
2 1/2"	TPOM7-34-250-*	50.8	88.9	63.5	60.5	31.8	127.0	118.1	M20	M12 x 1.75	OR*-2-232	2.47	175
3"	TPOM7-34-300-*	62.0	106.4	76.2	73.2	44.5	152.4	145.0	M24	M16 x 2.00	OR*-2-237	4.76	140

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING

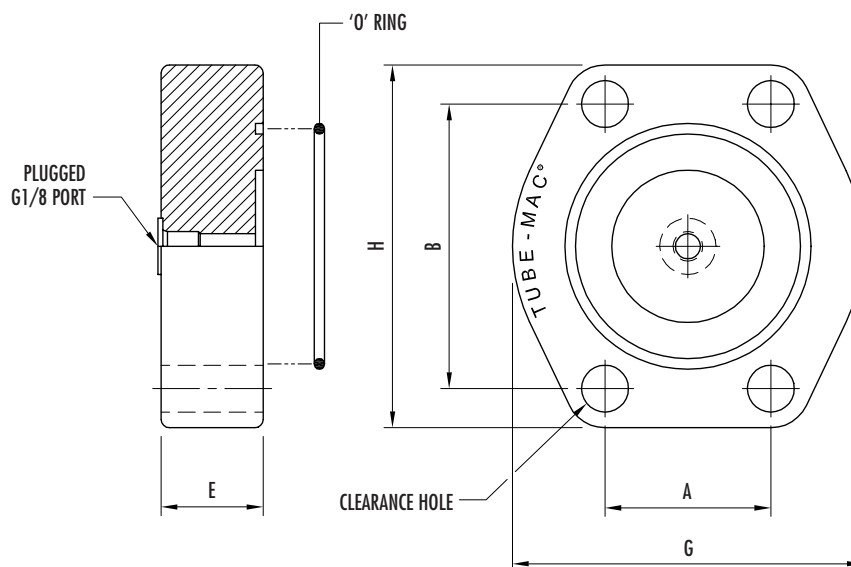
• FOR BOLT KIT - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Blanking Flange - Metric

ISO Flanges - 'O' Ring Face



BFOM34 Blanking Flange - ISO 6162-1 'O' Ring Face With Clearance Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Blanking Flange Part No.	Dimensions (millimeters)					Bolt Minimum 10.9	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	E					
1/2"	BFOM34-050-*	17.5	38.1	46.0	54.9	20.6	M8 x 1.25	OR*-2-210	0.24	350	20-25
3/4"	BFOM34-075-*	22.4	47.8	52.3	65.0	20.8	M10 x 1.50	OR*-2-214	0.30	350	27-41
1"	BFOM34-100-*	26.2	52.3	58.7	70.1	22.1	M10 x 1.50	OR*-2-219	0.45	350	27-41
1 1/4"	BFOM34-125-*	30.2	58.7	73.2	79.0	23.1	M10 x 1.50	OR*-2-222	1.16	275	55-68
1 1/2"	BFOM34-150-*	35.8	69.9	82.6	93.0	26.9	M12 x 1.75	OR*-2-225	0.85	210	76-83
2"	BFOM34-200-*	42.9	77.7	96.8	102.1	31.0	M12 x 1.75	OR*-2-228	1.08	210	110-125
2 1/2"	BFOM34-250-*	50.8	88.9	108.7	114.0	35.6	M12 x 1.75	OR*-2-232	1.38	175	110-125
3"	BFOM34-300-*	62.0	106.4	131.1	134.1	42.4	M16 x 2.00	OR*-2-237	2.38	140	150-165
4"	BFOM34-400-*	77.7	130.3	130.3	162.1	38.1	M16 x 2.00	OR*-2-241	3.50	35	150-165

BFOM64 Blanking Flange - ISO 6162-2 'O' Ring Face With Clearance Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Blanking Flange Part No.	Dimensions (millimeters)					Bolt Minimum 10.9	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	E					
1/2"	BFOM64-050-*	18.3	40.4	47.8	56.4	20.6	M8 x 1.25	OR*-2-210	0.24	420	20-25
3/4"	BFOM64-075-*	23.9	50.8	60.5	71.4	25.9	M10 x 1.50	OR*-2-214	0.49	420	27-41
1"	BFOM64-100-*	27.7	57.2	69.9	81.0	26.2	M12 x 1.75	OR*-2-219	0.77	420	27-41
1 1/4"	BFOM64-125-*	31.8	66.8	77.7	95.3	31.8	M12 x 1.75	OR*-2-222	1.20	420	55-68
1 1/2"	BFOM64-150-*	36.6	79.5	95.3	112.8	35.1	M16 x 2.00	OR*-2-225	1.77	420	110-125
2"	BFOM64-200-*	44.5	96.8	114.3	133.4	42.7	M20 x 2.50	OR*-2-228	2.57	420	110-125

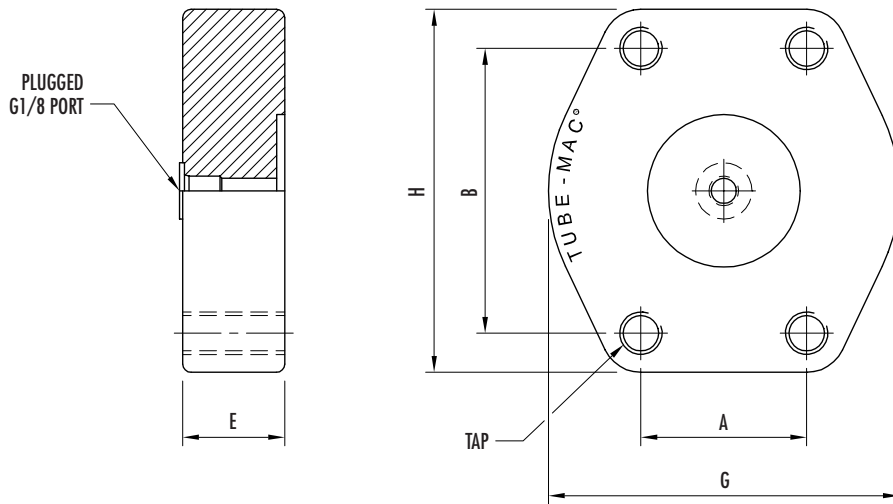
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

• FOR BOLT KIT - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Blanking Flange - Metric

ISO Flanges - Flat Face



BFFM34 Blanking Flange - ISO 6162-1 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (inch)	Blanking Flange Part No.	Dimensions (millimeters)					Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	E				
1/2"	BFFM34-050-*	17.5	38.1	46.0	54.9	20.6	M8 x 1.25	0.25	350	20-25
3/4"	BFFM34-075-*	22.4	47.8	52.3	65.0	20.8	M10 x 1.50	0.33	350	27-41
1"	BFFM34-100-*	26.2	52.3	58.7	70.1	22.1	M10 x 1.50	0.60	350	27-41
1 1/4"	BFFM34-125-*	30.2	58.7	73.2	79.0	23.1	M10 x 1.50	0.65	275	55-68
1 1/2"	BFFM34-150-*	35.8	69.9	82.6	93.0	26.9	M12 x 1.75	1.01	210	76-83
2"	BFFM34-200-*	42.9	77.7	96.8	102.1	31.0	M12 x 1.75	1.30	210	110-125
2 1/2"	BFFM34-250-*	50.8	88.9	108.7	114.0	35.6	M12 x 1.75	1.57	175	110-125
3"	BFFM34-300-*	62.0	106.4	131.1	134.1	42.4	M16 x 2.00	2.65	140	150-165
4"	BFFM34-400-*	77.7	130.3	152.4	162.1	38.1	M16 x 2.00	3.82	35	150-165

BFFM64 Blanking Flange - ISO 6162-2 Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

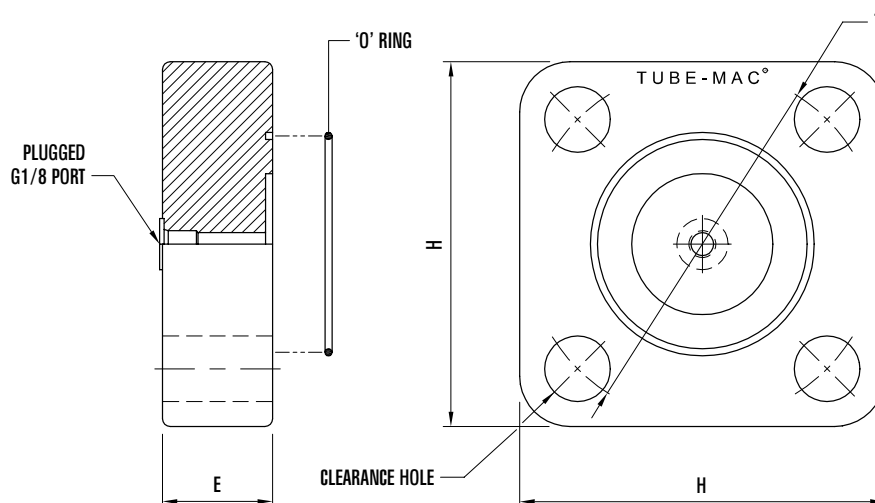
Size (inch)	Blanking Flange Part No.	Dimensions (millimeters)					Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	E				
1/2"	BFFM64-050-*	18.3	40.4	47.8	56.4	20.6	M8 x 1.25	0.25	420	20-25
3/4"	BFFM64-075-*	23.9	50.8	60.5	71.4	25.9	M10 x 1.50	0.49	420	27-41
1"	BFFM64-100-*	27.7	57.2	69.9	81.0	26.2	M12 x 1.75	0.81	420	27-41
1 1/4"	BFFM64-125-*	31.8	66.8	77.7	95.3	31.8	M12 x 1.75	1.25	420	55-68
1 1/2"	BFFM64-150-*	36.6	79.5	95.3	112.8	35.1	M16 x 2.00	1.82	420	110-125
2"	BFFM64-200-*	44.5	96.8	114.3	133.4	42.7	M20 x 2.50	2.65	420	110-125

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Blanking Flange - Metric

ISO 6164 - 'O' Ring Face



BFOM74 Blanking Flange - ISO 6164 'O' Ring Face With Clearance Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Blanking Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	H	E					
2 1/2"	BFOM74-250-*	118.1	119.9	37.6	M20 x 2.5	OR*-2-232	3.96	400	165-175
3"	BFOM74-300-*	145.0	150.1	43.9	M24 x 3.0	OR*-2-237	7.28	400	475-550
4"	BFOM74-400-*	175.0	177.8	50.3	M30 x 3.5	OR*-2-241	11.47	400	685-750

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING

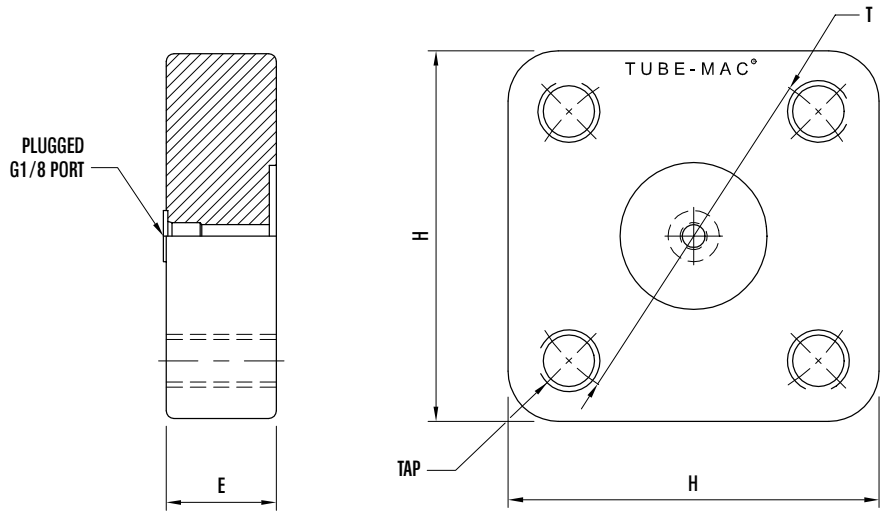
• FOR BOLT KIT - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Blanking Flange - Metric

ISO 6164 - Flat Face



BFFM74 Blanking Flange - ISO 6164 Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Blanking Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	H	E				
2 1/2"	BFFM74-250-*	118.1	119.9	37.6	M20 x 2.5	3.98	400	165-175
3"	BFFM74-300-*	145.0	150.1	43.9	M24 x 3.0	7.30	400	475-550
4"	BFFM74-400-*	175.0	177.8	50.3	M30 x 3.5	11.50	400	685-750

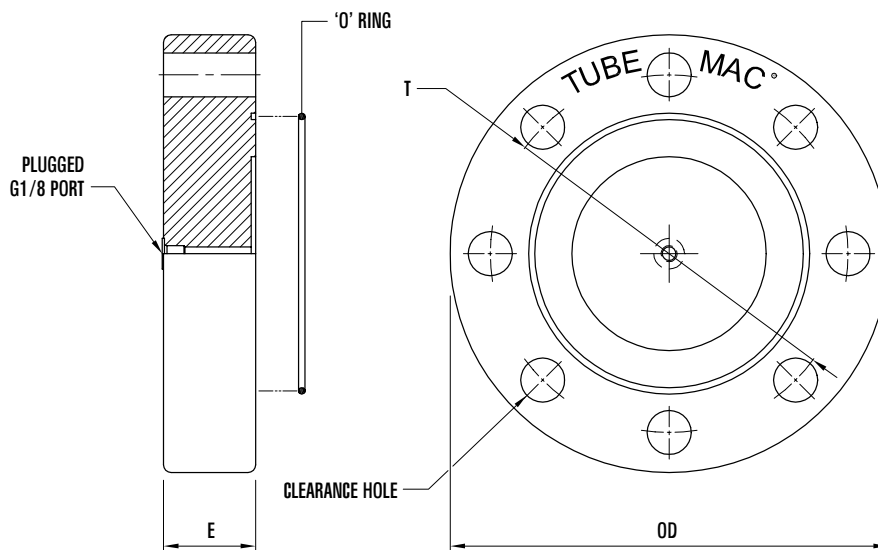
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Blanking Flange - Metric

TMI® 8-Bolt - 'O' Ring Face



BFOM48 Blanking Flange - TMI® 8-Bolt 'O' Ring Face With Clearance Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Blanking Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	OD	E					
5"	BFOM48-500-*	200.2	245.1	50.8	M24 x 3.0	OR*-2-353	17.20	275	475-550
6"	BFOM48-600-*	245.1	300.0	58.7	M30 x 3.50	OR*-2-359	32.41	255	665-730
8"	BFOM48-800-*	315.0	384.3	76.2	M36 x 4.0	OR*-2-368	57.32	240	1500-1640

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING

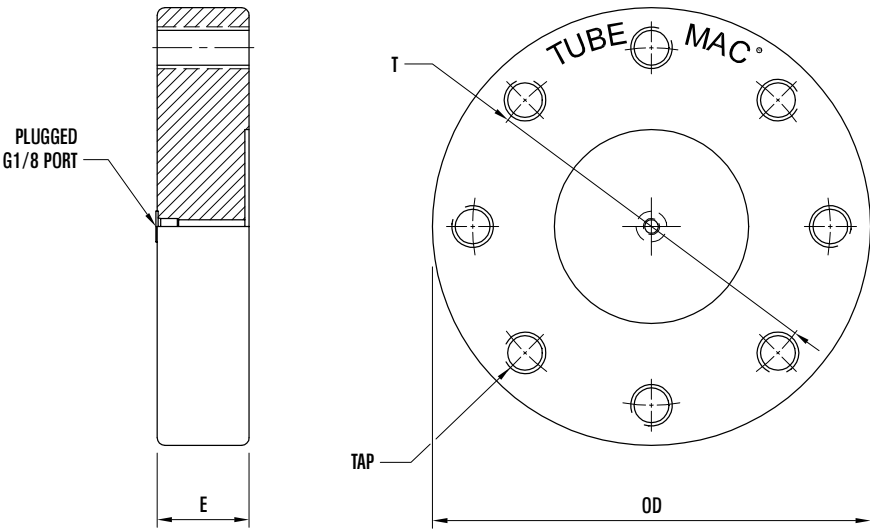
♦ FOR BOLT SIZE AND BOLT KIT - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Blanking Flange - Metric

TMI® 8-Bolt - Flat Face



BFFM48 Blanking Flange - TMI® 8-Bolt Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Blanking Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	OD	E				
5"	BFFM48-500-*	200.2	245.1	50.8	M24 x 3.0	17.32	275	475-550
6"	BFFM48-600-*	245.1	300.0	58.7	M30 x 3.50	32.82	255	665-730
8"	BFFM48-800-*	315.0	384.3	76.2	M36 x 4.0	57.91	240	1500-1640

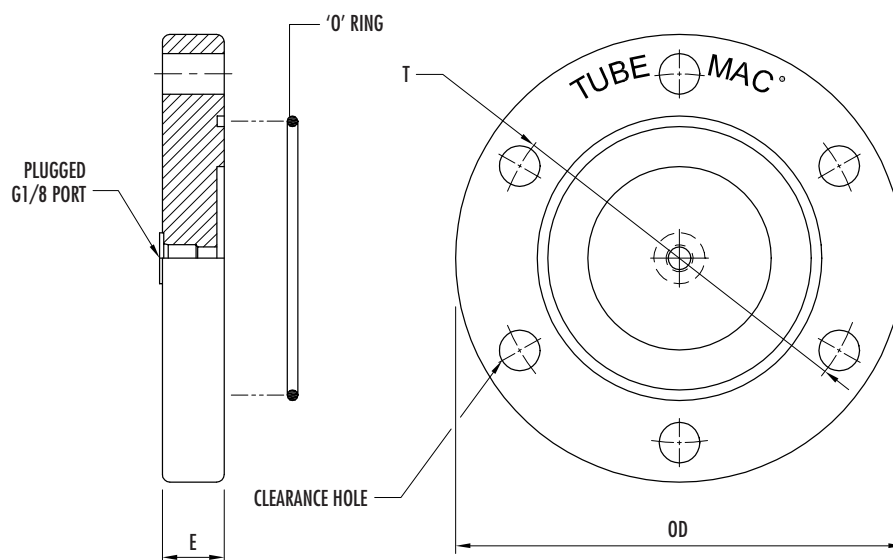
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Low Pressure Blanking Flange - Metric

TMI® 6-Bolt - 'O' Ring Face



BFOM16 Low Pressure Blanking Flange - TMI® 6-Bolt 'O' Ring Face With Clearance Holes

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Blanking Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	OD	E					
2 1/2"	BFOM16-250-*	102.4	127.0	20.3	M12 x 1.75	OR*-2-232	1.90	52	110-125
3"	BFOM16-300-*	123.2	149.9	25.4	M16 x 2.00	OR*-2-237	3.28	52	150-165
4"	BFOM16-400-*	151.6	177.8	25.4	M16 x 2.00	OR*-2-245	4.71	52	150-165
5"	BFOM16-500-*	178.1	210.1	30.2	M16 x 2.00	OR*-2-253	7.94	52	150-165
6"	BFOM16-600-*	208.0	236.0	35.1	M16 x 2.00	OR*-2-259	11.70	48	150-165

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING

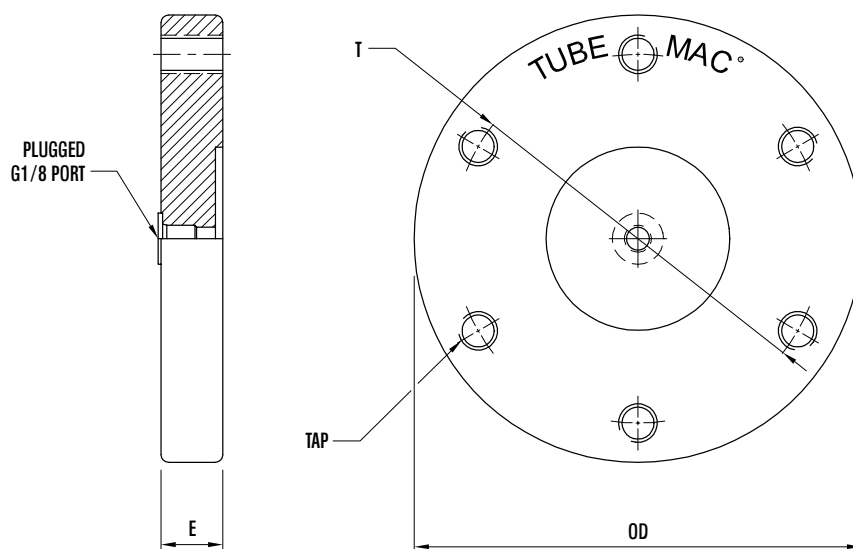
• FOR BOLT KIT - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Low Pressure Blanking Flange - Metric

TMI® 6-Bolt - Flat Face



BFFM16 Low Pressure Blanking Flange - TMI® 6-Bolt Flat Face With Tapped Holes

Complete With G1/8 Port (Plugged)

Size (inch)	Blanking Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	OD	E				
2 1/2"	BFFM16-250-*	102.4	127.0	20.3	M12 x 1.75	1.93	52	110-125
3"	BFFM16-300-*	123.2	149.9	25.4	M16 x 2.00	3.32	52	150-165
4"	BFFM16-400-*	151.6	177.8	25.4	M16 x 2.00	4.75	52	150-165
5"	BFFM16-500-*	178.1	210.1	30.2	M16 x 2.00	7.98	52	150-165
6"	BFFM16-600-*	208.0	236.0	35.1	M16 x 2.00	11.75	48	150-165

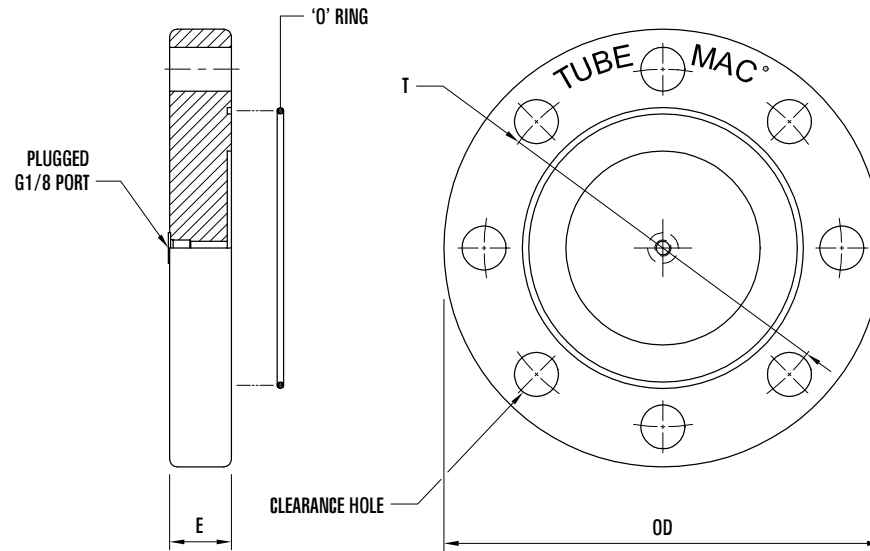
* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Low Pressure Blanking Flange - Metric

TMI® 8-Bolt - 'O' Ring Face



BFOM18 Low Pressure Blanking Flange - TMI® 8-Bolt 'O' Ring Face With Clearance Holes Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Blanking Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	OD	E					
8"	BFOM18-800-*	275.1	317.0	40.1	M20 x 2.5	OR*-2-372	24.15	40	165-175

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING

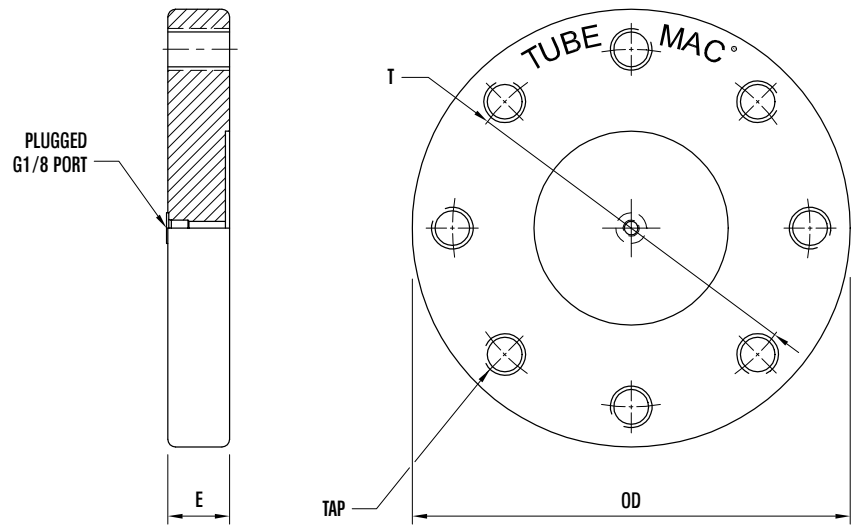
• FOR BOLT KIT - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)



Low Pressure Blanking Flange - Metric

TMI® 8-Bolt - Flat Face



BFFM18 Low Pressure Blanking Flange - TMI® 8-Bolt Flat Face With Tapped Holes Complete With G1/8 Port (Plugged)

Size (inch)	Blanking Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	OD	E				
8"	BFFM18-800-*	275.1	317.0	40.1	M20 x 2.5	24.32	40	165-175

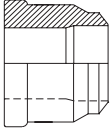

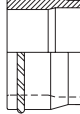
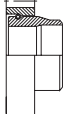

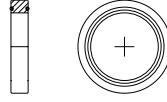

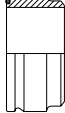



* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RING FOR G1/8 PLUG

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)





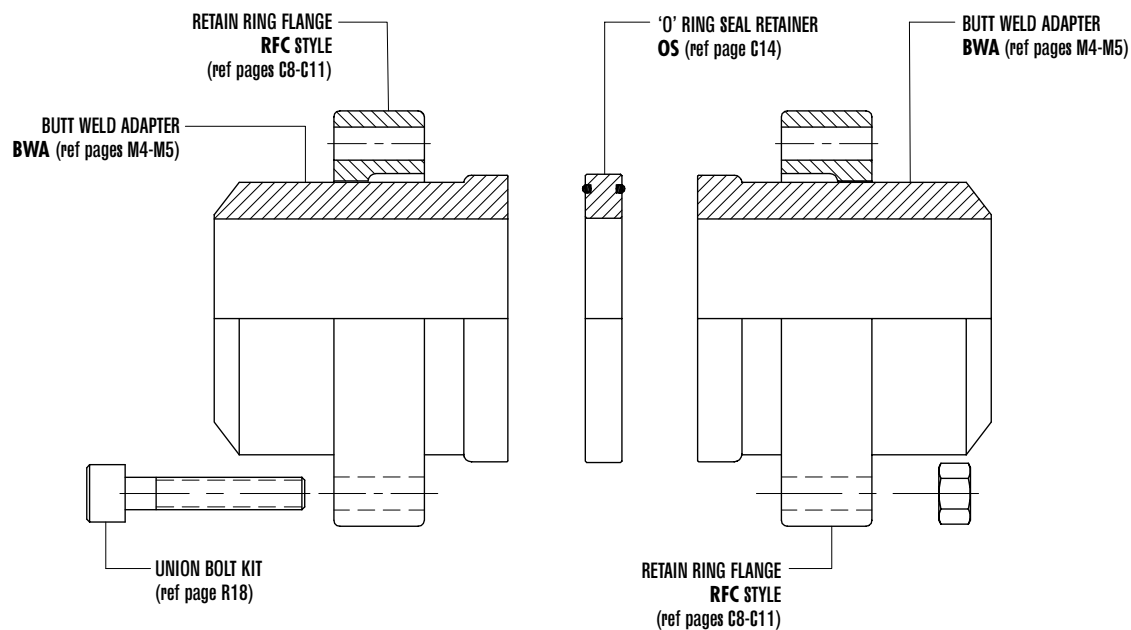
Weld Adapters - Visual Index

BUTT WELD ADAPTER	BWA-O.DXWALL SEVERE APPLICATIONS  $\frac{1}{2}" - 8"$ Page M4-M5	A/BWA ASSEMBLY  $\frac{1}{2}" - 8"$ Page M10-M11		
	BWAR-O.DXWALL RETAIN RING STYLE  $\frac{1}{2}" - 8"$ Page M8-M9	A/BWAR ASSEMBLY  $\frac{1}{2}" - 8"$ Page M10-M11		
'O' RING SEAL RETAINERS	OS  $\frac{1}{2}" - 4"$ Page M12	OSA  $5" - 8"$ Page M12	OSH  $\frac{1}{2}" - 4"$ Page M13	
	LBWAO 'O' RING FACE BODY ONLY  $2\frac{1}{2}" - 8"$ Page M14	A/LBWAO 'O' RING FACE ASSEMBLY  $2\frac{1}{2}" - 8"$ Page M15	LBWAF FLAT FACE BODY ONLY  $2\frac{1}{2}" - 8"$ Page M16	A/LBWAF FLAT FACE ASSEMBLY  $2\frac{1}{2}" - 8"$ Page M17

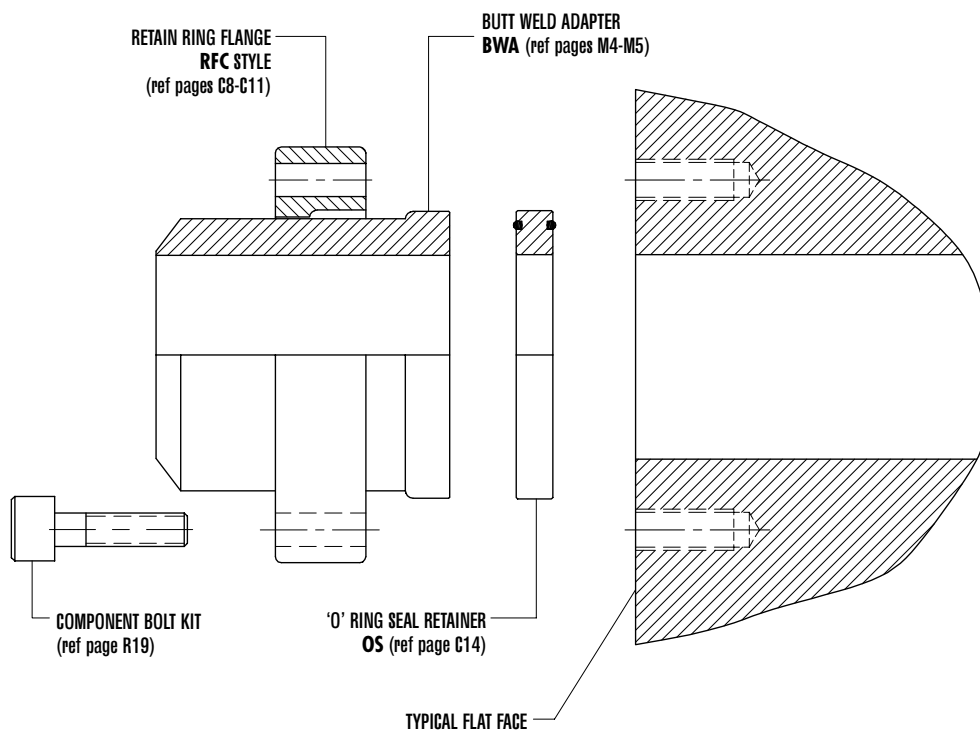


Butt Weld Adapter Connections

Typical Butt Weld Adapter Union Connection

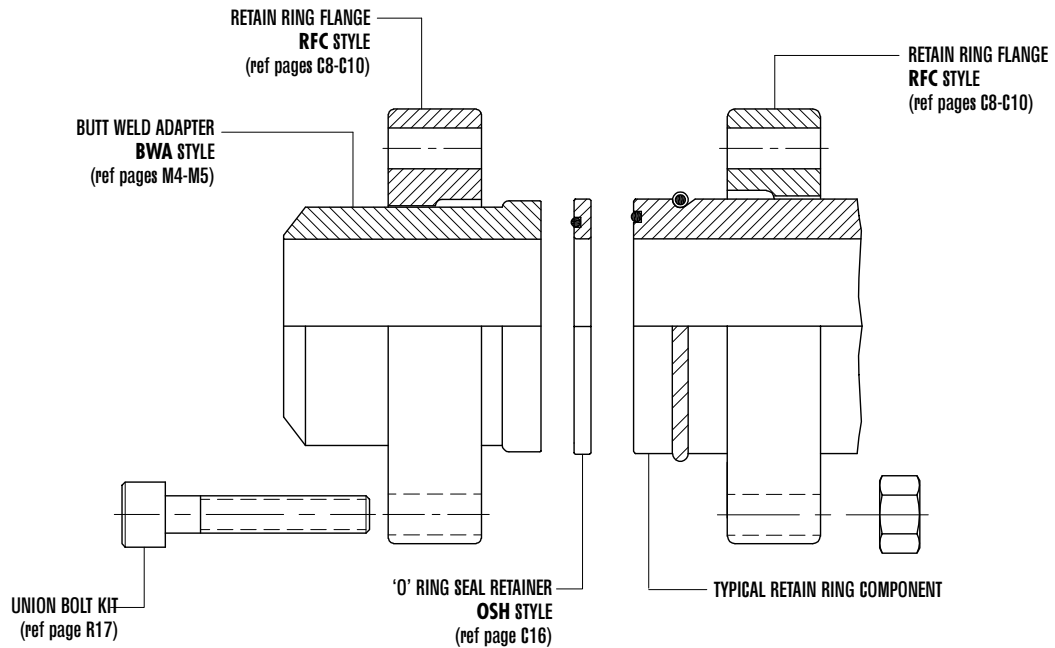


Typical Butt Weld Adapter to Flat Face Connection

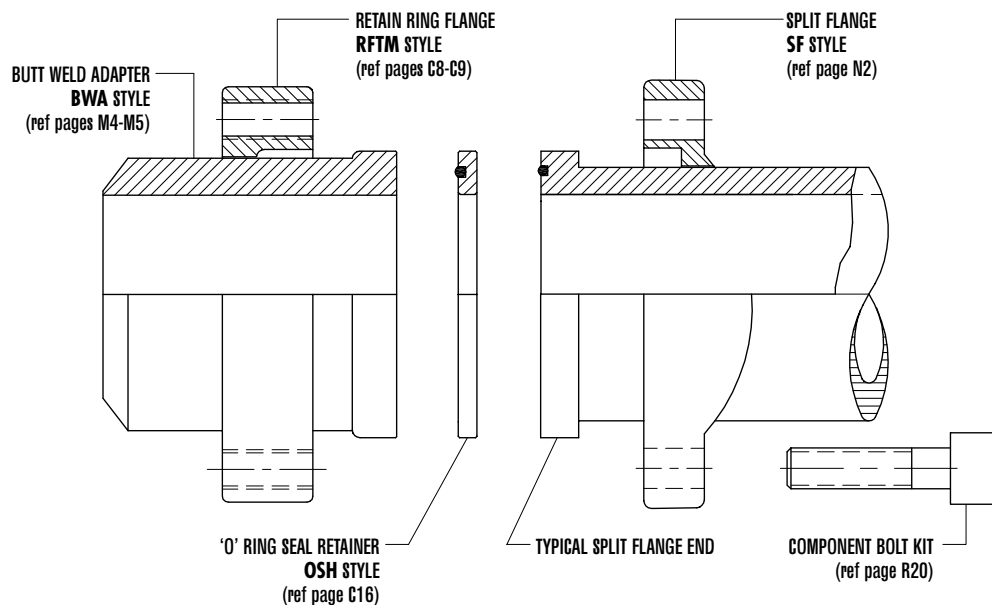


Butt Weld Adapter Connections

Typical Butt Weld Adapter to 'O' Ring Face Retain Ring Component Connection

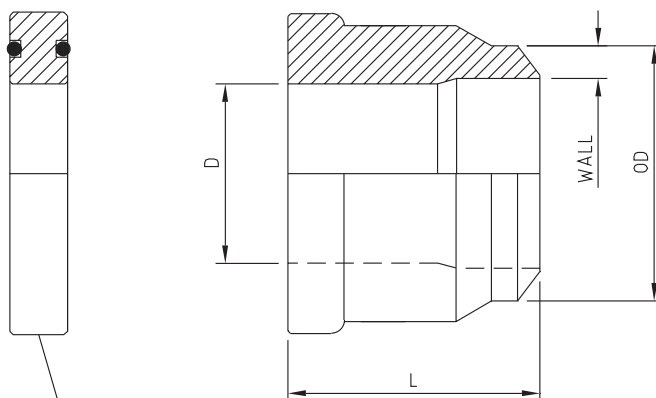


Typical Butt Weld Adapter to SAE Split Flange Connection



Tube-Mac® Butt Weld Adapter Body - Metric

Severe Applications



O-RING SEAL RETAINER
IS SOLD SEPARATELY.

'O' RING SEAL RETAINER
OS STYLE
(ref page C14)

BWA-O.D. x wall Butt Weld Adapter Body - 1/2"-8"

Material: Carbon Steel, (Stainless Steel - 316, Duplex and Super Duplex available)
The pipe O.D. x wall must match the adapter O.D. x wall.

Size (inch)	Adapter Part No.	Dimensions (mm)		OD x Wall (mm)	WT. kgs./pc	Working Pressure (bar)
		D	L			
1/2"	BWA-12.0 x 1.5-050	14.0	38.1	12.0 x 1.5	0.11	Note 1.
1/2"	BWA-16.0 x 2.0-050	14.0	38.1	16.0 x 2.0	0.11	
1/2"	BWA-18.0 x 2.0-050	14.0	38.1	18.0 x 2.0	0.11	
1/2"	BWA-20.0 x 2.5-050	14.0	38.1	20.0 x 2.5	0.11	
1/2"	BWA-20.0 x 3.0-050	14.0	38.1	20.0 x 3.0	0.11	
1/2"	BWA-21.3 x 2.8-050	14.0	38.1	21.3 x 2.1	0.11	
1/2"	BWA-21.3 x 3.7-050	14.0	38.1	21.3 x 3.7	0.11	
1/2"	BWA-21.3 x 4.8-050	14.0	38.1	21.3 x 4.8	0.11	
1/2"	BWA-21.3 x 7.5-050	14.0	38.1	21.3 x 7.5	0.11	
1/2"	BWA-26.0 x 6.0-050	14.0	38.1	26.0 x 6.0	0.11	
3/4"	BWA-20.0 x 2.5-075	20.1	44.5	20.0 x 2.5	0.20	
3/4"	BWA-25.0 x 3.0-075	20.1	44.5	25.0 x 3.0	0.20	
3/4"	BWA-26.7 x 2.8-075	20.1	44.5	26.7 x 2.8	0.20	
3/4"	BWA-26.7 x 3.9-075	20.1	44.5	26.7 x 3.9	0.20	
3/4"	BWA-26.7 x 5.6-075	20.1	44.5	26.7 x 5.6	0.20	
3/4"	BWA-26.7 x 7.8-075	20.1	44.5	26.7 x 7.8	0.20	
3/4"	BWA-30.0 x 4.0-075	20.1	44.5	30.0 x 4.0	0.20	
3/4"	BWA-36.0 x 8.0-075	20.1	44.5	36.0 x 8.0	0.20	
1"	BWA-25.0 x 3.0-100	23.1	44.5	25.0 x 3.0	0.21	
1"	BWA-30.0 x 4.0-100	23.1	44.5	30.0 x 4.0	0.21	
1"	BWA-33.4 x 3.4-100	23.1	44.5	33.4 x 3.4	0.21	
1"	BWA-33.4 x 4.6-100	23.1	44.5	33.4 x 4.6	0.21	

To be used with 'O' Ring Seal
Retainer Ref. pages M14-M15



Tube-Mac® Butt Weld Adapter Body - Metric

Severe Applications

Size (inch)	Adapter Part No.	Dimensions (mm)		OD x Wall (mm)	WT. kgs./pc	Working Pressure (bar)
		D	L			
1"	BWA-33.4 x 6.4-100	23.1	44.5	33.4 x 6.4	0.21	Note 1.
1"	BWA-33.4 x 9.1-100	23.1	44.5	33.4 x 9.1	0.21	
1"	BWA-38.0 x 5.0-100	23.1	44.5	38.0 x 5.0	0.21	
1"	BWA-39.0 x 7.5-100	23.1	44.5	39.0 x 7.5	0.21	
1 1/4"	BWA-30.0 x 4.0-125	30.0	50.8	30.0 x 4.0	0.34	
1 1/4"	BWA-38.0 x 4.0-125	30.0	50.8	38.0 x 4.0	0.34	
1 1/4"	BWA-42.2 x 3.6-125	30.0	50.8	42.2 x 3.6	0.34	
1 1/4"	BWA-42.2 x 4.9-125	30.0	50.8	42.2 x 4.9	0.34	
1 1/4"	BWA-42.2 x 6.4-125	30.0	50.8	42.2 x 6.4	0.34	
1 1/4"	BWA-42.2 x 9.7-125	30.0	50.8	42.2 x 9.7	0.34	
1 1/4"	BWA-46.0 x 8.5-125	30.0	50.8	46.0 x 8.5	0.34	
1 1/2"	BWA-38.0 x 5.0-150	39.1	57.2	38.0 x 5.0	0.44	
1 1/2"	BWA-48.3 x 3.7-150	39.1	57.2	48.3 x 3.7	0.44	
1 1/2"	BWA-48.3 x 5.1-150	39.1	57.2	48.3 x 5.1	0.44	
1 1/2"	BWA-48.3 x 7.1-150	39.1	57.2	48.3 x 7.1	0.44	
1 1/2"	BWA-48.3 x 10.2-150	39.1	57.2	48.3 x 10.2	0.44	
1 1/2"	BWA-50.0 x 5.0-150	39.1	57.2	50.0 x 5.0	0.44	
1 1/2"	BWA-56.0 x 8.5-150	39.1	57.2	56.0 x 8.5	0.44	
2"	BWA-60.0 x 5.0-200	49.0	63.5	60.0 x 5.0	0.55	
2"	BWA-60.0 x 8.0-200	49.0	63.5	60.0 x 8.0	0.55	
2"	BWA-60.3 x 3.9-200	49.0	63.5	60.3 x 3.9	0.55	
2"	BWA-60.3 x 5.5-200	49.0	63.5	60.3 x 5.5	0.55	
2"	BWA-60.3 x 8.7-200	49.0	63.5	60.3 x 8.7	0.55	
2"	BWA-60.3x 11.1-200	49.0	63.5	60.3 x 11.1	0.55	
2"	BWA-66.0 x 8.5-200	49.0	63.5	66.0 x 8.5	0.55	
2 1/2"	BWA-65.0 x 8.0-250	59.9	63.5	65.0 x 8.0	0.77	
2 1/2"	BWA-73.0 x 7.0-250	59.9	63.5	73.0 x 7.0	0.77	
2 1/2"	BWA-76.1 x 6.3-250	59.9	63.5	76.1 x 6.3	0.77	
2 1/2"	BWA-76.1 x 12.5-250	59.9	63.5	76.1 x 12.5	0.77	
2 1/2"	BWA-80.0 x 10.0-250	59.9	63.5	80.0 x 10.0	0.77	
3"	BWA-80.0 x 10.0-300	73.2	69.9	80.0 x 10.0	1.36	
3"	BWA-88.9 x 5.5-300	73.2	69.9	88.9 x 5.5	1.36	
3"	BWA-88.9 x 7.7-300	73.2	69.9	88.9 x 7.7	1.36	
3"	BWA-88.9 x 11.1-300	73.2	69.9	88.9 x 11.1	1.36	
3"	BWA-88.9 x 15.2-300	73.2	69.9	88.9 x 15.2	1.36	
3"	BWA-97.0 x 12.0-300	73.2	69.9	97.0 x 12.0	1.36	
4"	BWA-115.0 x 15.5-400	85.1	101.6	115.0 x 15.5	2.64	
5"	BWAA-141.3 x 19.0-500	103.1	152.5	141.3 X 19.0	8.8	
6"	BWAA-168.3 X 22.0-600	124.5	152.5	168.3 X 22.0	11.8	
8"	BWAA-219.0 x 22.2-800	172.9	152.5	219.0 X 22.2	16.7	

To be used with 'O' Ring Seal Retainer Ref. pages M14-M15

Note 1.

Note 1. WORKING PRESSURE RATING IS DEPENDANT ON THE PIPE THAT THE ADAPTER IS WELDED TO

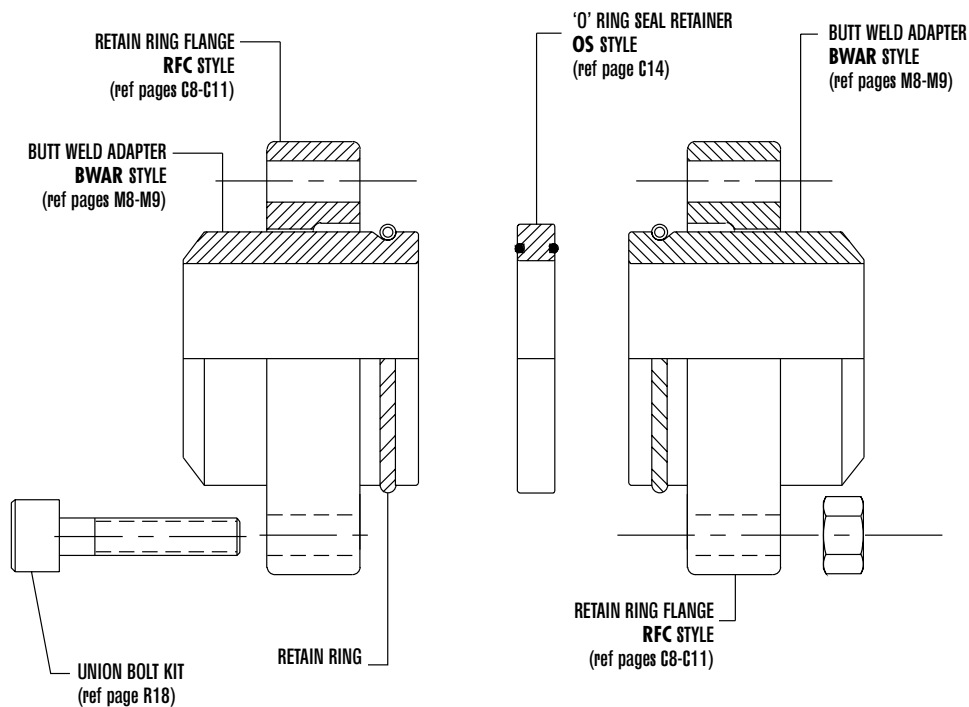
- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGE M11
- JUMP SIZES ARE AVAILABLE
- LARGER SIZES AVAILABLE CONSULT FACTORY

MATERIAL: CARBON STEEL, (STAINLESS STEEL STANDARD-316 AVAILABLE) OTHER MATERIALS ARE AVAILABLE

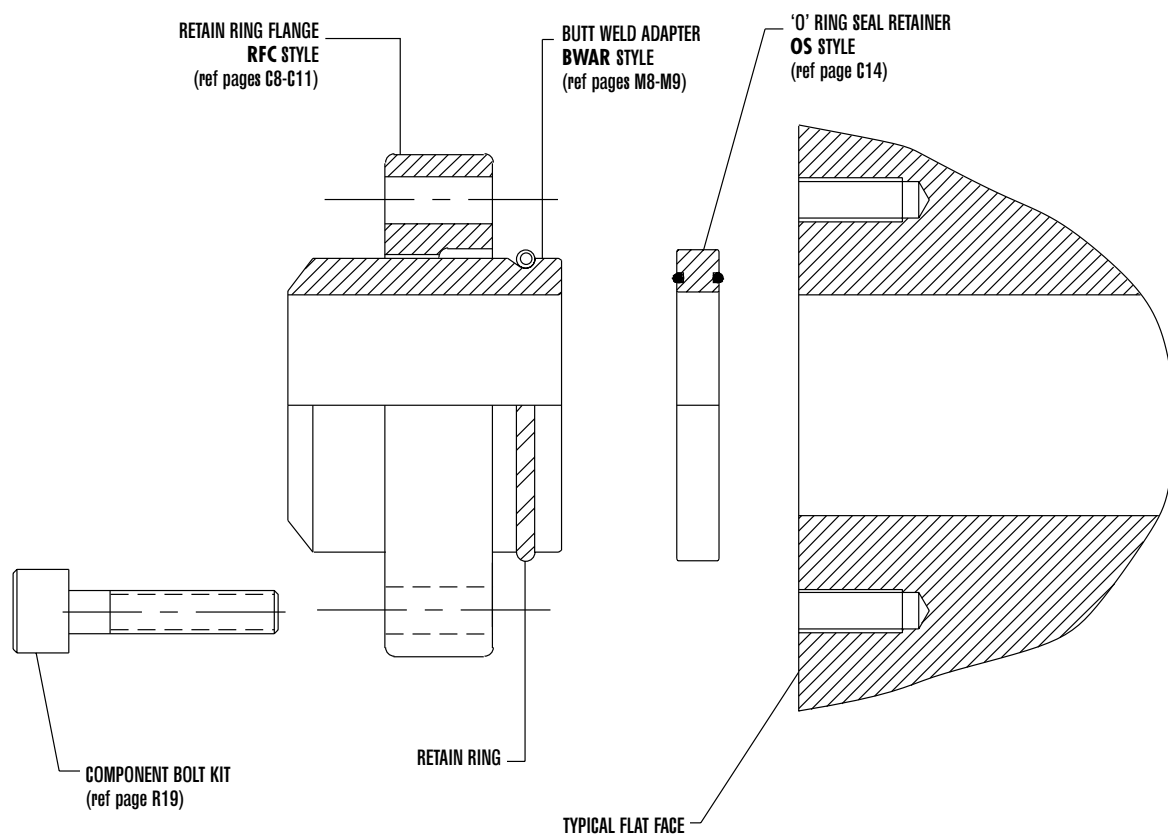


Butt Weld Adapter Retain Ring Style Connections

Typical Butt Weld Adapter Union Connection



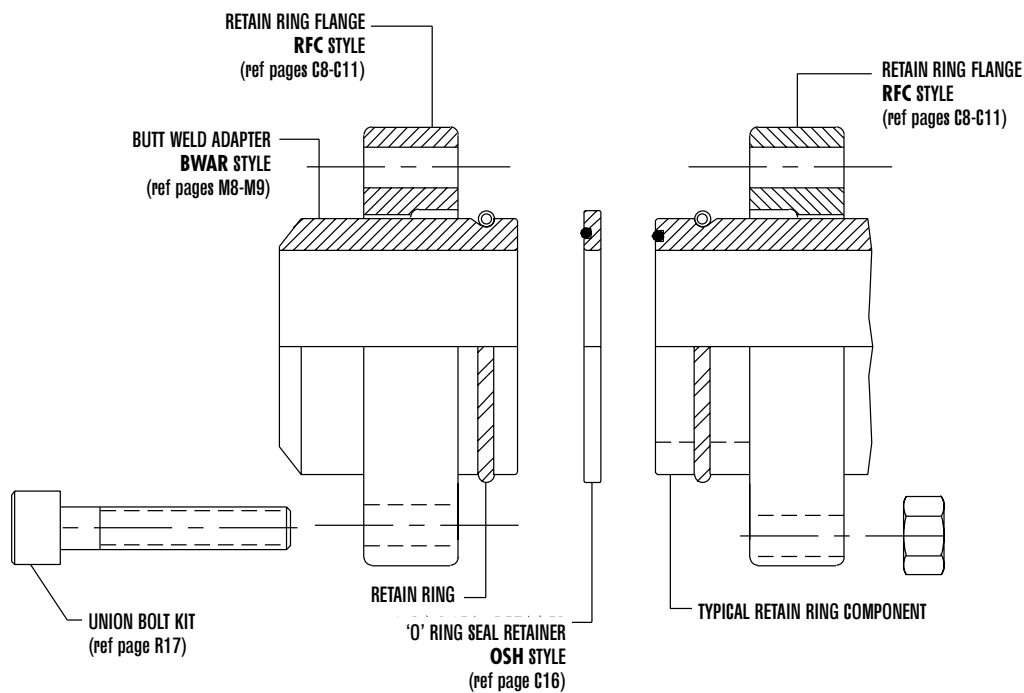
Typical Butt Weld Adapter to Flat Face Connection



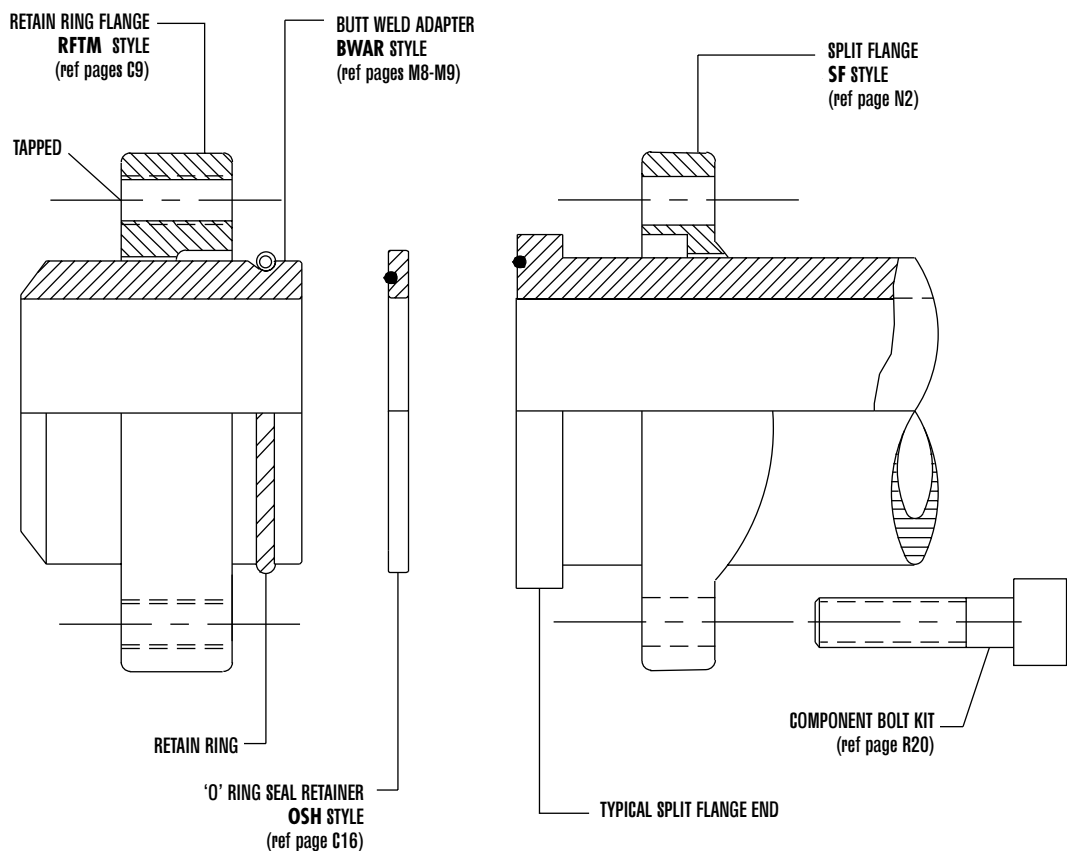


Butt Weld Adapter Retain Ring Style Connections

Typical Butt Weld Adapter to 'O' Ring Face Retain Ring Component Connection

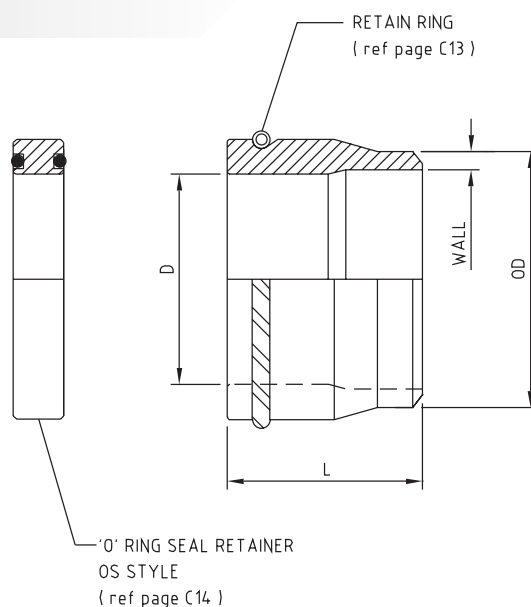


Typical Butt Weld Adapter to SAE Split Flange Connection



Tube-Mac® Butt Weld Adapter Body - Metric

Retain Ring Style



O-RING SEAL RETAINER AND
RETAIN RING ARE SOLD SEPARATELY.

BWAR-O.D. x wall Butt Weld Adapter Body - 1/2"-8"

Material: Carbon Steel, (Stainless Steel - 316, Duplex and Super Duplex available)

The pipe O.D. x wall must match the adapter O.D. x wall.

Size (inch)	Adapter Part No.	Dimensions (mm)		OD x Wall (mm)	WT. kgs./pc	Working Pressure (bar)
		D	L			
1/2"	BWAR-12.0 x 1.5-050	14.0	38.1	12.0 x 1.5	0.11	Note 1.
1/2"	BWAR-16.0 x 2.0-050	14.0	38.1	16.0 x 2.0	0.11	
1/2"	BWAR-18.0 x 2.0-050	14.0	38.1	18.0 x 2.0	0.11	
1/2"	BWAR-20.0 x 2.5-050	14.0	38.1	20.0 x 2.5	0.11	
1/2"	BWAR-20.0 x 3.0-050	14.0	38.1	20.0 x 3.0	0.11	
1/2"	BWAR-21.3 x 2.8-050	14.0	38.1	21.3 x 2.8	0.11	
1/2"	BWAR-21.3 x 3.7-050	14.0	38.1	21.3 x 3.7	0.11	
1/2"	BWAR-21.3 x 4.8-050	14.0	38.1	21.3 x 4.8	0.11	
1/2"	BWAR-21.3 x 7.5-050	14.0	38.1	21.3 x 7.5	0.11	
1/2"	BWAR-26.0 x 6.0-050	14.0	38.1	26.0 x 6.0	0.11	
3/4"	BWAR-20.0 x 2.5-075	20.1	44.5	20.0 x 2.5	0.20	
3/4"	BWAR-25.0 x 3.0-075	20.1	44.5	25.0 x 3.0	0.20	
3/4"	BWAR-26.7 x 2.8-075	20.1	44.5	26.7 x 2.8	0.20	
3/4"	BWAR-26.7 x 3.9-075	20.1	44.5	26.7 x 3.9	0.20	
3/4"	BWAR-26.7 x 5.6-075	20.1	44.5	26.7 x 5.6	0.20	
3/4"	BWAR-26.7 x 7.8-075	20.1	44.5	26.7 x 7.8	0.20	
3/4"	BWAR-30.0 x 4.0-075	20.1	44.5	30.0 x 4.0	0.20	
3/4"	BWAR-36.0 x 8.0-075	20.1	44.5	36.0 x 8.0	0.20	
1"	BWAR-25.0 x 3.0-100	23.1	44.5	25.0 x 3.0	0.21	
1"	BWAR-30.0 x 4.0-100	23.1	44.5	30.0 x 4.0	0.21	
1"	BWAR-33.4 x 3.4-100	23.1	44.5	33.4 x 3.4	0.21	
1"	BWAR-33.4 x 4.6-100	23.1	44.5	33.4 x 4.6	0.21	

To be used with 'O' Ring Seal
Retainer Ref. pages M14-M15



Tube-Mac® Butt Weld Adapter Body - Metric

Retain Ring Style

Size (inch)	Adapter Part No.	Dimensions (mm)		OD x Wall (mm)	WT. kgs./pc	Working Pressure (bar)
		D	L			
1"	BWAR-33.4 x 6.4-100	23.1	44.5	33.4 x 6.4	0.21	Note 1.
1"	BWAR-33.4 x 9.1-100	23.1	44.5	33.4 x 9.1	0.21	
1"	BWAR-38.0 x 5.0-100	23.1	44.5	38.0 x 5.0	0.21	
1"	BWAR-39.0 x 7.5-100	23.1	44.5	39.0 x 7.5	0.21	
1 1/4"	BWAR-30.0 x 4.0-125	30.0	50.8	30.0 x 4.0	0.34	
1 1/4"	BWAR-38.0 x 4.0-125	30.0	50.8	38.0 x 4.0	0.34	
1 1/4"	BWAR-42.2 x 3.6-125	30.0	50.8	42.2 x 3.6	0.34	
1 1/4"	BWAR-42.2 x 4.9-125	30.0	50.8	42.2 x 4.9	0.34	
1 1/4"	BWAR-42.2 x 6.4-125	30.0	50.8	42.2 x 6.4	0.34	
1 1/4"	BWAR-42.2 x 9.7-125	30.0	50.8	42.2 x 9.7	0.34	
1 1/4"	BWAR-46.0 x 8.5-125	30.0	50.8	46.0 x 8.5	0.34	
1 1/2"	BWAR-38.0 x 5.0-150	39.1	57.2	38.0 x 5.0	0.44	
1 1/2"	BWAR-48.3 x 3.7-150	39.1	57.2	48.3 x 3.7	0.44	
1 1/2"	BWAR-48.3 x 5.1-150	39.1	57.2	48.3 x 5.1	0.44	
1 1/2"	BWAR-48.3 x 7.1-150	39.1	57.2	48.3 x 7.1	0.44	
1 1/2"	BWAR-48.3 x 10.2-150	39.1	57.2	48.3 x 10.2	0.44	
1 1/2"	BWAR-50.0 x 5.0-150	39.1	57.2	50.0 x 5.0	0.44	
1 1/2"	BWAR-56.0 x 8.5-150	39.1	57.2	56.0 x 8.5	0.44	
2"	BWAR-60.0 x 5.0-200	49.0	63.5	60.0 x 5.0	0.55	
2"	BWAR-60.0 x 8.0-200	49.0	63.5	60.0 x 8.0	0.55	
2"	BWAR-60.3 x 3.9-200	49.0	63.5	60.3 x 3.9	0.55	
2"	BWAR-60.3 x 5.5-200	49.0	63.5	60.3 x 5.5	0.55	
2"	BWAR-60.3 x 8.7-200	49.0	63.5	60.3 x 8.7	0.55	
2"	BWAR-60.3 x 11.1-200	49.0	63.5	60.3 x 11.1	0.55	
2"	BWAR-66.0 x 8.5-200	49.0	63.5	66.0 x 8.5	0.55	
2 1/2"	BWAR-65.0 x 8.0-250	59.9	63.5	65.0 x 8.0	0.77	
2 1/2"	BWAR-73.0 x 7.0-250	59.9	63.5	73.0 x 7.0	0.77	
2 1/2"	BWAR-76.1 x 6.3-250	59.9	63.5	76.1 x 6.3	0.77	
2 1/2"	BWAR-76.1 x 12.5-250	59.9	63.5	76.1 x 12.5	0.77	
2 1/2"	BWAR-80.0 x 10.0-250	59.9	63.5	80.0 x 10.0	0.77	
3"	BWAR-80.0 x 10.0-300	73.2	69.9	80.0 x 10.0	1.36	
3"	BWAR-88.9 x 5.5-300	73.2	69.9	88.9 x 5.5	1.36	
3"	BWAR-88.9 x 7.7-300	73.2	69.9	88.9 x 7.7	1.36	
3"	BWAR-88.9 x 11.1-300	73.2	69.9	88.9 x 11.1	1.36	
3"	BWAR-88.9 x 15.2-300	73.2	69.9	88.9 x 15.2	1.36	
3"	BWAR-97.0 x 12.0-300	73.2	69.9	97.0 x 12.0	1.36	
4"	BWAR-115.0 x 15.5-400	85.1	101.6	115.0 x 15.5	2.64	
5"	BWAAR-141.3 x 19.0-500	103.1	152.5	141.3 X 19.0	8.8	
6"	BWAAR-168.3 X 22.0-600	124.5	152.5	168.3 X 22.0	11.8	
8"	BWAAR-219.0 x 22.2-800	172.9	152.5	219.0 X 22.2	16.7	

To be used with 'O' Ring Seal Retainer Ref. pages M14-M15

Note 1.

Note 1. WORKING PRESSURE RATING IS DEPENDANT ON THE PIPE THAT THE ADAPTER IS WELDED TO

- TO ORDER COMPLETE ASSEMBLY REFERENCE PAGES M11
- JUMP SIZES ARE AVAILABLE
- LARGER SIZES AVAILABLE CONSULT FACTORY

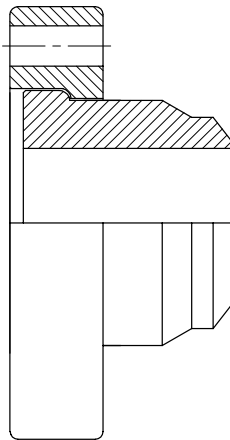
MATERIAL: CARBON STEEL, (STAINLESS STEEL STANDARD-316 AVAILABLE) OTHER MATERIALS ARE AVAILABLE



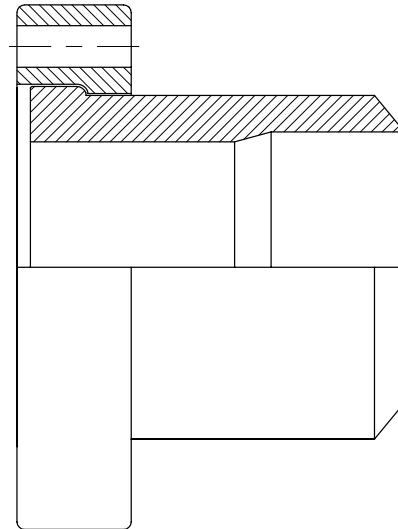
Butt Weld Adapter Assembly

1/2"-8" Pipe Connection

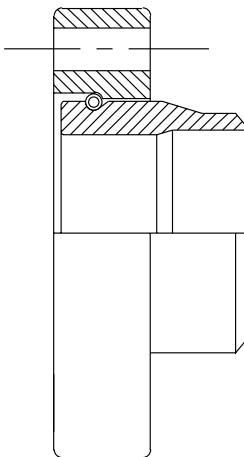
Typical A/BWA Assembly - 1/2"-4"



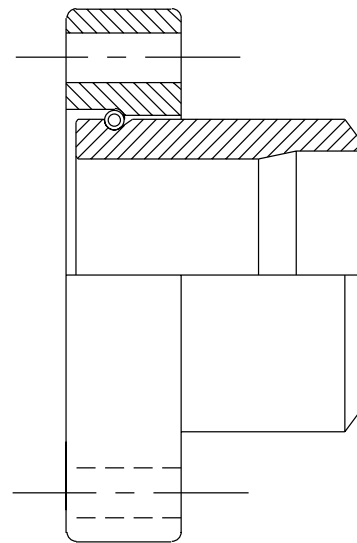
Typical A/BWAA Assembly - 5"-8"



Typical A/BWAR Assembly - 1/2"-4"



Typical A/BWAAR Assembly - 5"-8"



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) BUTT WELD ADAPTER BODY (REF. PAGES M4-M5 OR M8-M9)
- ONE (1) RETAIN RING FLANGE (REF. PAGES C8-C11)
- ONE (1) RETAIN RING (REF. PAGE C13) SUPPLIED WITH A/BWAR AND A/BWAAR ASSEMBLIES ONLY

TO BE ORDERED SEPARATELY:

- 'O' RING SEAL RETAINER (REF. PAGES M12-M13)



Butt Weld Adapter Assembly

Complete Assembly Part Number

		Code	A	/	Body	-	Body Material	-	OD X Wall	-	Adapter Size	-	Flange	-	Option
Assembly		A													
Butt Weld Adapter Body	1/2"-4"	BWA													
	1/2"-4"	BWAR													
	5"-8"	BWAA													
	5"-8"	BWAAR													
Body Material Carbon Steel (Standard)	No Designation Required														
Body Material Stainless Steel (Optional)	TMP304SS	304													
	TMP316SS	316													
Pipe Sizes	See Pages M4-M5 M8-M9	OD X Wall													
Adapter Size	1/2"	050													
	3/4"	075													
	1"	100													
	1 1/4"	125													
	1 1/2"	150													
	2"	200													
	2 1/2"	250													
	3"	300													
	4"	400													
	5"	500													
	6"	600													
	8"	800													
Flange Type Carbon Steel Yellow Zinc Dicromate Plated Ref. pages (C8-C11)	RFC34 ISO 6162-1 W/Clearance Holes	FC34													
	*RFTM34 ISO 6162-1 W/Tapped Holes	FTM34													
	RFC64 ISO 6162-2 W/Clearance Holes	FC64													
	*RFTM64 ISO 6162-2 W/Tapped Holes	FTM64													
	RFC74 ISO 6164 W/Clearance Holes	FC74													
	RFAC48 TMI® 8-Bolt W/Clearance Holes	FAC48													
Options	Complete Stainless Steel Assembly: (including flange)	SS													

To be used with 'O' Ring Seal Retainer Ref. pages M12-M13

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

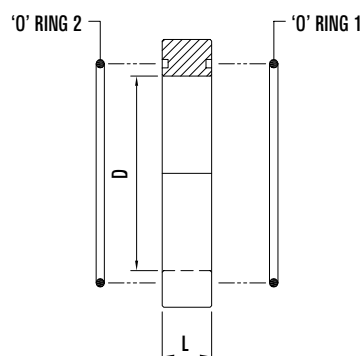
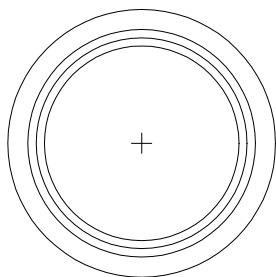
PART NO. (EXAMPLE): A/BWA - 20.0 x 3.0 - 050 - FC34

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BODY RATINGS
- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
- FOR BOLT KIT - REFERENCE SECTION R



'O' Ring Seal Retainer

OS/OSA



OS 'O' Ring Seal Retainer for Retain Ring Pipe - 1/2"- 4"
Complete with Nitrile 'O' Rings (Standard)

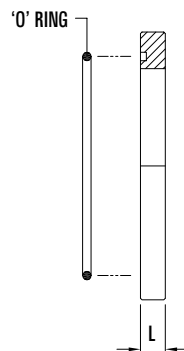
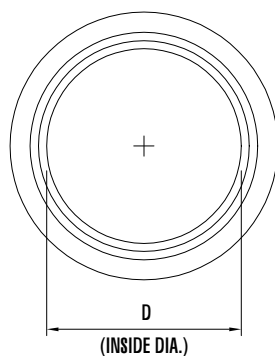
OSA 'O' Ring Seal Retainer for Retain Ring Pipe - 5"- 8"
Complete with Nitrile 'O' Rings (Standard)

Size (inch)	Retainer Part No.	Dimensions (mm)		'O' Rings 1&2 (Nitrile) Part No.	WT. kgs./pc
		D	L		
1/2"	OS-050-*	14.0	12.7	OR*-3-909	0.04
3/4"	OS-075-*	20.1	12.7	OR*-3-913	0.06
1"	OS-100-*	23.1	12.7	OR*-3-916	0.07
1 1/4"	OS-125-*	30.0	12.7	OR*-3-918	0.09
1 1/2"	OS-150-*	39.1	12.7	OR*-3-924	0.11
2"	OS-200-*	49.0	12.7	OR*-3-928	0.13
2 1/2"	OS-250-*	59.9	25.4	OR*-2-232	0.24
3"	OS-300-*	73.2	25.4	OR*-2-237	0.35
4"	OS-400-*	85.1	25.4	OR*-2-241	0.55
5"	OSA-500-*	103.1	38.1	OR*-2-353	2.60
6"	OSA-600-*	124.5	38.1	OR*-2-359	3.09
8"	OSA-800-*	173.0	38.1	OR*-2-368	4.70

• FOR SIZES 10" OR LARGER CONSULT FACTORY

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RINGS

'O' Ring Seal Retainer



OSH 'O' Ring Seal Retainer for Retain Ring Pipe

Complete with Nitrile 'O' Ring (Standard)

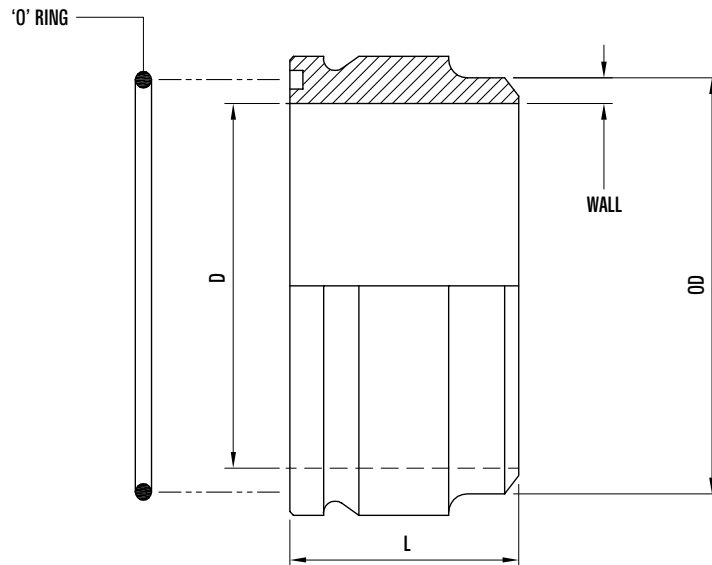
Size (inch)	Retainer Part No.	Dimensions (mm)		'O' Ring (Nitrile) Part No.	WT. kgs./pc
		D	L		
1/2"	OSH-050-*	14.0	6.4	OR*-3-909	0.02
3/4"	OSH-075-*	20.1	6.4	OR*-3-913	0.03
1"	OSH-100-*	23.1	6.4	OR*-3-916	0.04
1 1/4"	OSH-125-*	30.0	6.4	OR*-3-918	0.04
1 1/2"	OSH-150-*	39.1	6.4	OR*-3-924	0.05
2"	OSH-200-*	49.0	6.4	OR*-3-928	0.07
2 1/2"	OSH-250-*	59.9	12.7	OR*-2-232	0.12
3"	OSH-300-*	73.2	12.7	OR*-2-237	0.18
4"	OSH-400-*	85.1	12.7	OR*-2-241	0.27

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Low Pressure - Metric Butt Weld Retain Ring Adapter Body

'O' Ring Face



LBWAO Low Pressure Butt Weld Retain Ring Adapter Body - 'O' Ring Face Complete With Nitrile 'O' Ring (Standard)

Size (inch)	Adapter Part No.	Dimensions (mm)		OD x Wall (mm)	'O' Ring (BUNA) Part No.	WT. kgs./pc	Working Pressure (bar)
		D	L				
2 1/2"	LBWAO-250-*	69.7	35.1	73.0 x 5.16	OR*-2-232	0.46	52
3"	LBWAO-300-*	81.7	39.9	88.9 x 5.49	OR*-2-237	0.65	52
4"	LBWAO-400-*	105.3	40.1	114.3 x 6.02	OR*-2-245	0.96	52
5"	LBWAO-500-*	128.5	45.0	141.3 x 6.55	OR*-2-253	1.51	52
6"	LBWAO-600-*	154.1	50.0	168.3 x 7.11	OR*-2-259	2.47	48
8"	LBWAO-800-*	203.1	59.9	219.1 x 8.18	OR*-2-372	4.54	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

• FOR COMPLETE ASSEMBLY REFERENCE PAGE M15

MATERIAL: CARBON STEEL, (STAINLESS STEEL STANDARD-316 AVAILABLE)

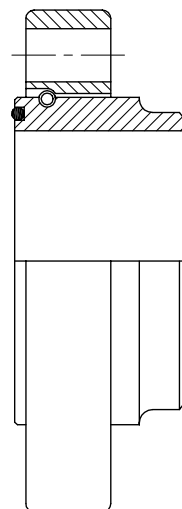
OTHER SIZES AVAILABLE, CONSULT FACTORY



Low Pressure - Metric Butt Weld Retain Ring Adapter Assembly

'O' Ring Face

Typical A/LBWAO Assembly:



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LOW PRESSURE 'O' RING FACE BUTT WELD ADAPTER
- ONE (1) LOW PRESSURE RETAIN RING FLANGE (REF. PAGES D8-D9)
- ONE (1) LOW PRESSURE RETAIN RING (REF. PAGE D14)
- ONE (1) NITRILE 'O' RING (STANDARD)

A/LBWAO Low Pressure Butt Weld Retain Ring Adapter Assembly - 'O' Ring Face Complete With Nitrile 'O' Ring (Standard)

Size (inch)	Assembly Part No.	WT. kgs./pc	Working Pressure (bar)
2 1/2"	A/LBWAO-250-*	1.45	52
3"	A/LBWAO-300-*	2.37	52
4"	A/LBWAO-400-*	3.97	52
5"	A/LBWAO-500-*	5.42	52
6"	A/LBWAO-600-*	6.92	48
8"	A/LBWAO-800-*	13.29	40

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

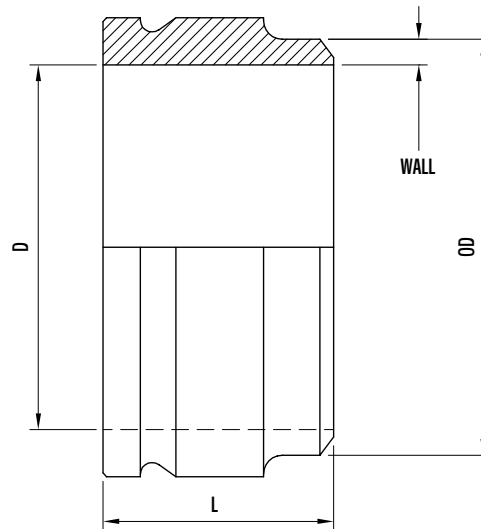
MATERIAL: CARBON STEEL, (STAINLESS STEEL STANDARD-316 AVAILABLE)

OTHER SIZES AVAILABLE, CONSULT FACTORY

Low Pressure - Metric

Butt Weld Retain Ring Adapter Body

Flat Face



LBWAF Low Pressure Butt Weld Retain Ring Adapter Body - Flat Face

Size (inch)	Adapter Part No.	Dimensions (mm)		OD x Wall (mm)	WT. kgs./pc	Working Pressure (bar)
		D	L			
2 1/2"	LBWAF-250	69.7	35.1	73.0 x 5.16	0.49	52
3"	LBWAF-300	81.7	39.9	88.9 x 5.49	0.67	52
4"	LBWAF-400	105.3	40.1	114.3 x 6.02	0.97	52
5"	LBWAF-500	128.5	45.0	141.3 x 6.55	1.53	52
6"	LBWAF-600	154.1	50.0	168.3 x 7.11	2.50	48
8"	LBWAF-800	203.1	59.9	219.1 x 8.18	4.80	40

• FOR COMPLETE ASSEMBLY REFERENCE PAGE M17

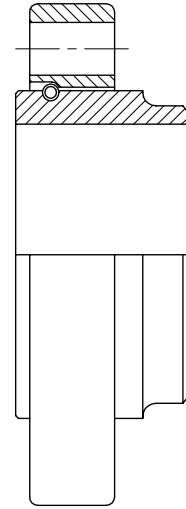
MATERIAL: CARBON STEEL, (STAINLESS STEEL STANDARD-316 AVAILABLE)

OTHER SIZES AVAILABLE, CONSULT FACTORY

Low Pressure - Metric Butt Weld Retain Ring Adapter Assembly

Flat Face

Typical A/LBWAF Assembly:



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) LOW PRESSURE FLAT FACE BUTT WELD ADAPTER
- ONE (1) LOW PRESSURE RETAIN RING FLANGE (REF. PAGES D8-D9)
- ONE (1) LOW PRESSURE RETAIN RING (REF. PAGE D14)

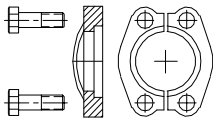
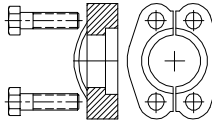
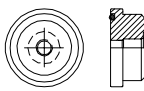
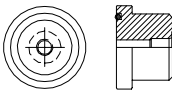
A/LBWAF Low Pressure Butt Weld Retain Ring Adapter Assembly - Flat Face

Size (inch)	Assembly Part No.	WT. kgs./pc	Working Pressure (bar)
2 1/2"	A/LBWAF-250	1.47	52
3"	A/LBWAF-300	2.40	52
4"	A/LBWAF-400	3.98	52
5"	A/LBWAF-500	5.44	52
6"	A/LBWAF-600	5.44	48
8"	A/LBWAF-800	13.55	40

MATERIAL: CARBON STEEL, (STAINLESS STEEL STANDARD-316 AVAILABLE)
OTHER SIZES AVAILABLE, CONSULT FACTORY



Hose Fittings - Metric Visual Index

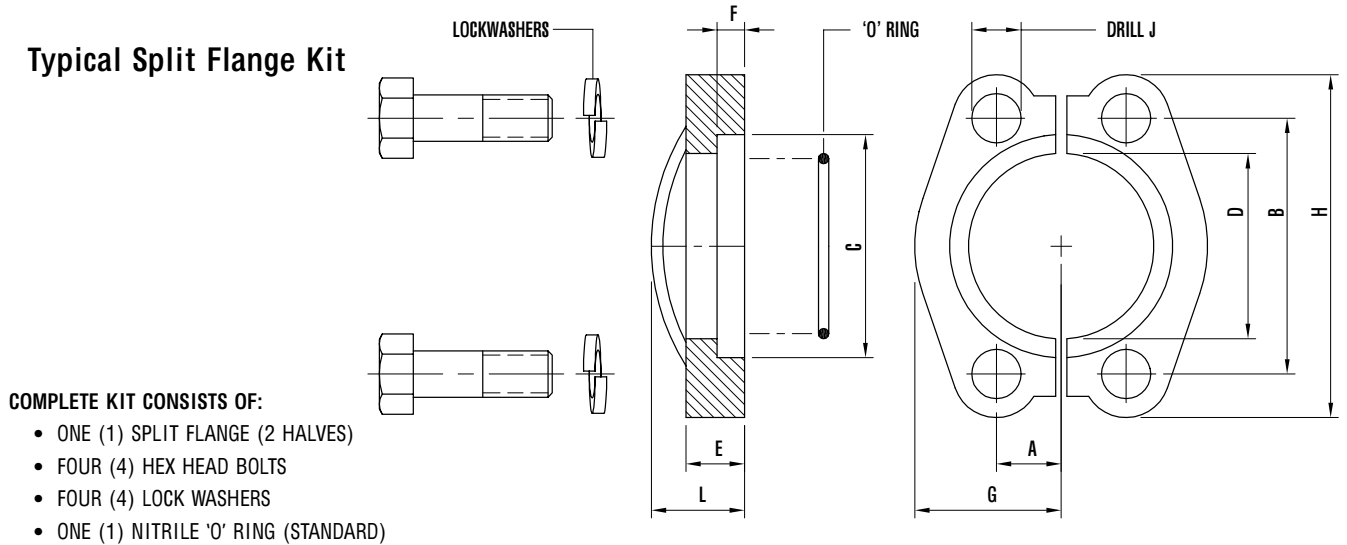
SPLIT FLANGE KITS	SFKM34 ISO 6162-1  $\frac{1}{2}$ "- 4" Page N2	SFKM64 ISO 6162-2  $\frac{1}{2}$ "- 2" Page N2		
	SFPM34 ISO 6162-1  $\frac{1}{2}$ "- 4" Page N3	SFPM64 ISO 6162-2  $\frac{1}{2}$ "- 2" Page N3		



Split Flange Kits - Metric

ISO 6162

Typical Split Flange Kit



SFKM34 Split Flange Kit - ISO 6162-1

Size (inch)	Split Flange Kit Part No.	Dimensions (millimeters)									Drill Dia.(mm) J	HHCS Min. 10.9	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	C	D	E	F	G	H	L						
1/2"	SFKM34-050-*	8.6	38.1	30.7	24.4	13.0	6.1	22.9	53.8	19.1	8.6	M8	OR*-2-210	0.19	350	20-25
3/4"	SFKM34-075-*	11.2	47.8	38.9	32.0	14.0	6.1	26.2	65.0	22.1	10.7	M10	OR*-2-214	0.23	350	27-41
1"	SFKM34-100-*	13.0	52.3	45.2	38.4	16.0	7.4	29.2	69.9	23.9	10.7	M10	OR*-2-219	0.30	350	27-41
1 1/4"	SFKM34-125-*	15.0	58.7	51.6	43.7	14.0	7.4	36.6	79.2	22.1	11.9	M10	OR*-2-222	0.40	275	55-68
1 1/2"	SFKM34-150-*	17.8	69.9	61.2	50.8	16.0	7.4	41.1	93.7	24.9	13.5	M12	OR*-2-225	0.65	210	76-83
2"	SFKM34-200-*	21.3	77.7	72.1	62.7	16.0	9.1	48.3	101.6	25.9	13.5	M12	OR*-2-228	0.71	210	110-125
2 1/2"	SFKM34-250-*	25.4	88.9	84.8	74.9	19.1	9.1	54.4	114.3	38.1	13.5	M12	OR*-2-232	0.97	175	110-125
3"	SFKM34-300-*	31.0	106.4	102.4	90.9	22.1	9.1	65.5	134.9	40.9	16.8	M16	OR*-2-237	1.66	140	150-165
4"	SFKM34-400-*	38.9	130.3	127.8	115.1	24.9	10.7	75.9	162.1	35.1	17.0	M16	OR*-2-245	2.01	35	150-165

SFKM64 Split Flange Kit - ISO 6162-2

Size (inch)	Split Flange Kit Part No.	Dimensions (millimeters)									Drill Dia.(mm) J	HHCS Min. 10.9	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	C	D	E	F	G	H	L						
1/2"	SFKM64-050-*	9.1	40.4	32.5	24.6	7.4	23.9	23.9	56.4	22.1	8.6	M8	OR*-2-210	0.25	420	20-25
3/4"	SFKM64-075-*	11.9	50.8	42.2	32.5	8.4	30.2	30.2	71.4	27.9	10.9	M10	OR*-2-214	0.42	420	27-41
1"	SFKM64-100-*	14.0	57.2	48.5	38.9	9.1	34.8	34.8	81.0	33.0	13.0	M12	OR*-2-219	0.66	420	55-68
1 1/4"	SFKM64-125-*	16.0	66.8	54.9	44.5	9.9	38.9	38.9	95.3	38.1	15.0	M12	OR*-2-222	1.03	420	110-125
1 1/2"	SFKM64-150-*	18.3	79.5	64.3	51.6	12.2	47.5	47.5	112.8	42.9	17.0	M16	OR*-2-225	1.78	420	150-165
2"	SFKM64-200-*	22.4	96.8	80.3	67.6	12.2	57.2	57.2	133.4	52.1	21.1	M20	OR*-2-228	2.95	420	165-175

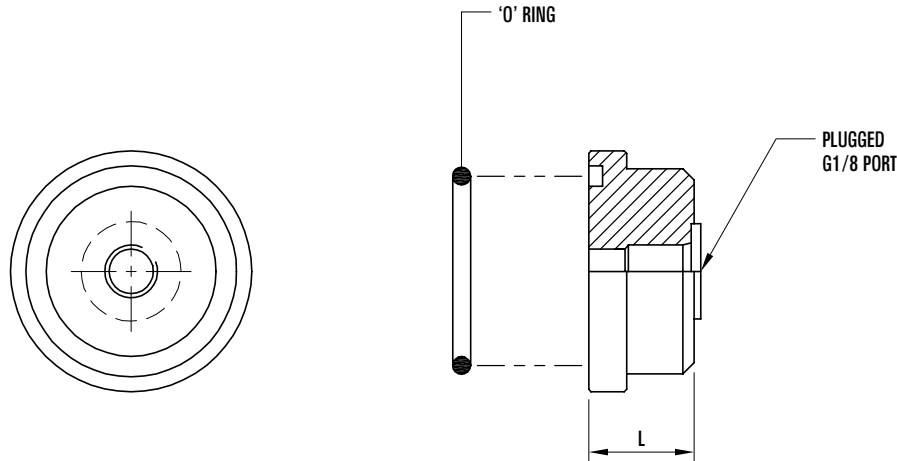
* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

- SPLIT FLANGE HALVES CAN BE ORDERED SEPARATELY (DELETE THE K FROM THE PART NUMBER) i.e. SFM34-050
- FOR BOLT KIT - REFERENCE SECTION R

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

Split Flange Plugs - Metric

ISO 6162



SFPM34 Split Flange Plug - ISO 6162-1 'O' Ring Face

Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Split Flange Plug Part No.	Dimensions (mm)	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L			
1/2"	SFPM34-050-*	19.1	OR*-2-210	0.05	350
3/4"	SFPM34-075-*	22.4	OR*-2-214	0.12	350
1"	SFPM34-100-*	25.4	OR*-2-219	0.19	350
1 1/4"	SFPM34-125-*	22.4	OR*-2-222	0.27	275
1 1/2"	SFPM34-150-*	25.4	OR*-2-225	0.27	210
2"	SFPM34-200-*	25.4	OR*-2-228	0.40	210
2 1/2"	SFPM34-250-*	25.4	OR*-2-232	1.31	175
3"	SFPM34-300-*	25.4	OR*-2-237	1.82	140
4"	SFPM34-400-*	25.4	OR*-2-245	2.50	35

SFPM64 Split Flange Plug - ISO 6162-2 'O' Ring Face

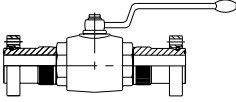
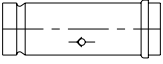
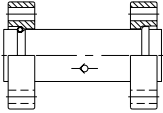
Complete With Nitrile 'O' Ring (Standard) and G1/8 Port (Plugged)

Size (inch)	Split Flange Plug Part No.	Dimensions (mm)	'O' Ring (Nitrile) Part No.	WT. kgs./pc	Working Pressure (bar)
		L			
1/2"	SFPM64-050-*	22.4	OR*-2-210	0.06	420
3/4"	SFPM64-075-*	28.4	OR*-2-214	0.19	420
1"	SFPM64-100-*	35.1	OR*-2-219	0.20	420
1 1/4"	SFPM64-125-*	36.6	OR*-2-222	0.44	420
1 1/2"	SFPM64-150-*	41.1	OR*-2-225	0.72	420
2"	SFPM64-200-*	38.4	OR*-2-228	1.15	420

* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

MATERIAL: CARBON STEEL, YELLOW ZINC DICROMATE PLATED, (STAINLESS STEEL AVAILABLE)

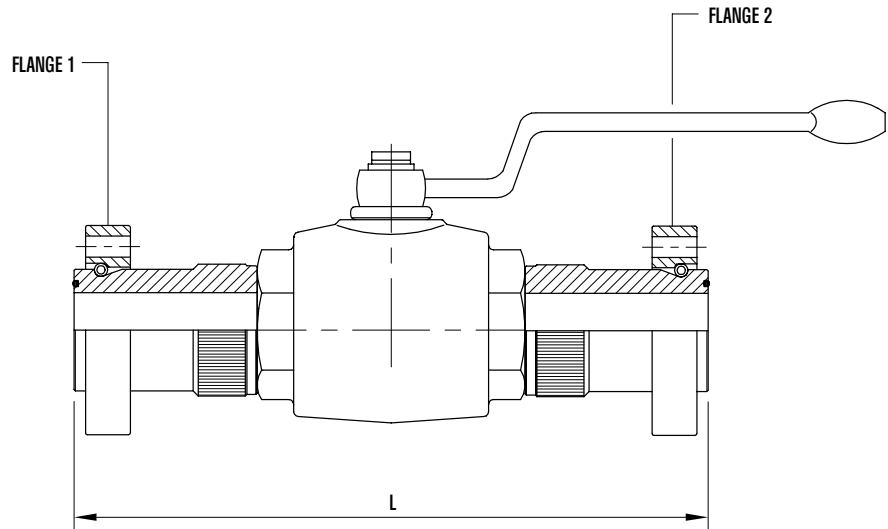
Valves - Visual Index

RETAIN RING FLANGED BALL VALVE ASSEMBLY	<p>A/BV ASSEMBLY</p>  <p>$\frac{1}{2}" - 2"$ Page P3</p>			
CHECK VALVES	<p>CV RETAIN RING FLANGE STYLE</p>  <p>$\frac{1}{2}" - 2"$ Page P4</p>	<p>A/CV RETAIN RING FLANGE STYLE ASSEMBLY</p>  <p>$\frac{1}{2}" - 2"$ Page P5</p>		

Retain Ring Flanged Ball Valve Assembly

Complete Assembly Part Number

Typical A/BV Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) FEMALE SAE THREADED BALL VALVE BODY
- TWO (2) MALE SAE THREAD ADAPTERS (REF. PAGE F2)
- TWO (2) RETAIN RING FLANGES (REF. PAGES C8-C9)
- TWO (2) RETAIN RINGS
- BUNA 'O' RINGS (FLANGE ENDS)

		Code	A	BV	Ball Valve Size	Flange 1	Flange 2	Options
Assembly		A						
Ball Valve		BV						
Ball Valve Size	1/2"	050						
	3/4"	075						
	1"	100						
	1 1/4"	125						
	1 1/2"	150						
	2"	200						
Flange Type Carbon Steel Yellow Zinc Dichromate Plated Ref. pages (C8-C9)	RFC34 ISO 6162-1 W/Clearance Holes	FC34						
	*RFTM34 ISO 6162-1 W/Tapped Holes	FTM34						
	RFC64 ISO 6162-2 W/Clearance Holes	FC64						
	*RFTM64 ISO 6162-2 W/Tapped Holes	FTM64						
Options	LOK-Locking Device	LOK						
	Viton	V						

Size	Dimensions (mm)
	L
1/2"	216.7
3/4"	234.7
1"	265.4
1 1/4"	275.8
1 1/2"	345.9
2"	355.8

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

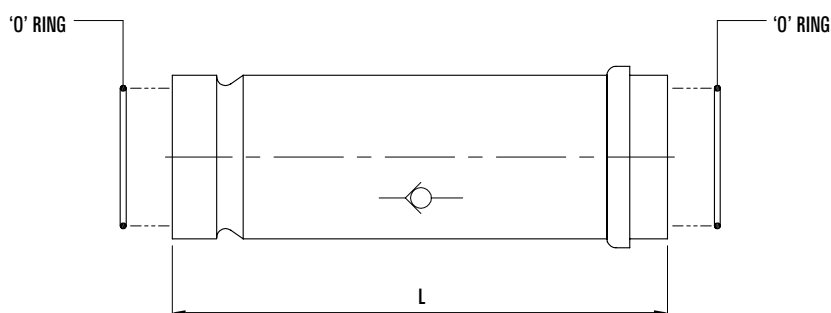
• FOR CONNECTION TO HOSE USE CONNECTOR PLATE **OCF** (TO BE ORDERED SEPARATELY) REFERENCE PAGE C17

PART NO. (EXAMPLE): A/BV - 050 - FC34 - FTM34

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR BALL VALVE RATINGS
- SEE REFERENCE PAGE INDICATED ABOVE FOR PRESSURE RATINGS
- OTHER MATERIALS ARE AVAILABLE
- FOR BOLT KITS - REFERENCE SECTION R

Check Valve

Retain Ring Flange Style - Body Only



CV Check Valve Body - Poppet Style

Complete with Buna 'O' Rings (Standard)

Size	Check Valve Part No.	Dimensions (mm)	'O' Ring (Buna) Part No.	WT. kgs/pc	Working Pressure (Body Only) BAR
		L			
3/4"	CV-075-07-*	91.4	OR*-3-913	.59	350
1"	CV-100-07-*	111.8	OR*-3-916	.76	350
1 1/4"	CV-125-07-*	131.6	OR*-3-918	1.14	350
1 1/2"	CV-150-07-*	146.3	OR*-3-924	1.93	350
2"	CV-200-07-*	171.2	OR*-3-928	2.55	350
2 1/2"	CV-250-07-*	181.4	OR*-2-232	4.09	350
3"	CV-300-07-*	191.3	OR*-2-237	6.21	350

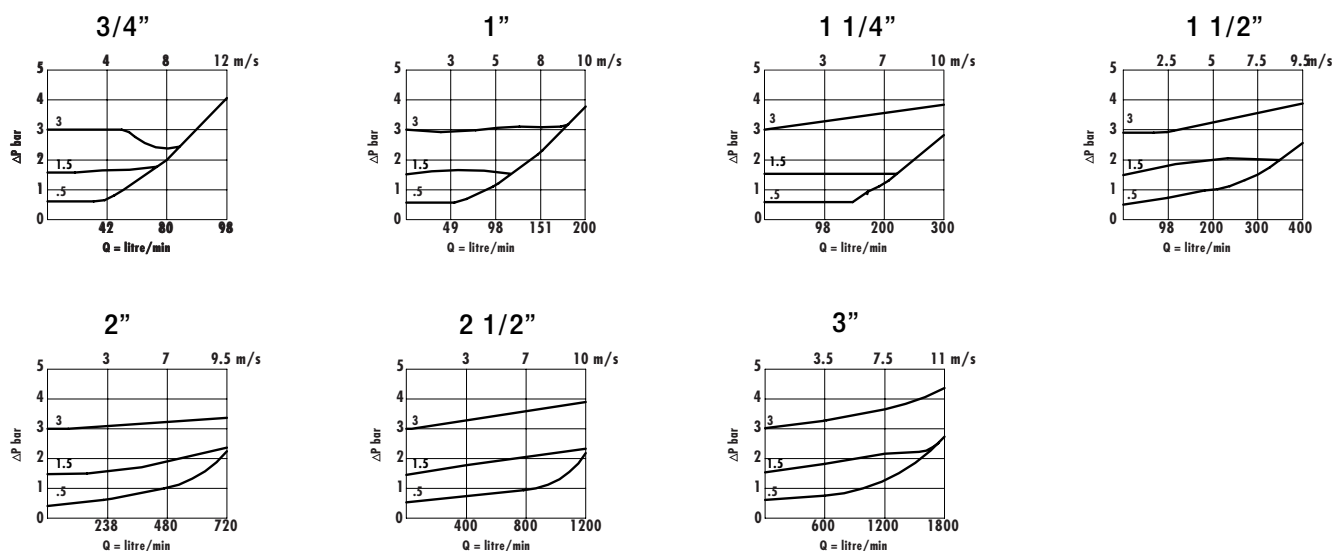
Opening Pressure		
	PSI	(bar)
Standard	7	(0.5)
Optional	21	(1.5)
Optional	43	(3.0)

* INSERT 'V' TO INDICATE OPTIONAL VITON 'O' RINGS

• TO ORDER A COMPLETE CHECK VALVE ASSEMBLY REFERENCE PAGE P5

MATERIAL: CARBON STEEL, YELLOW ZINC DICHROMATE PLATED, (STAINLESS STEEL AVAILABLE)

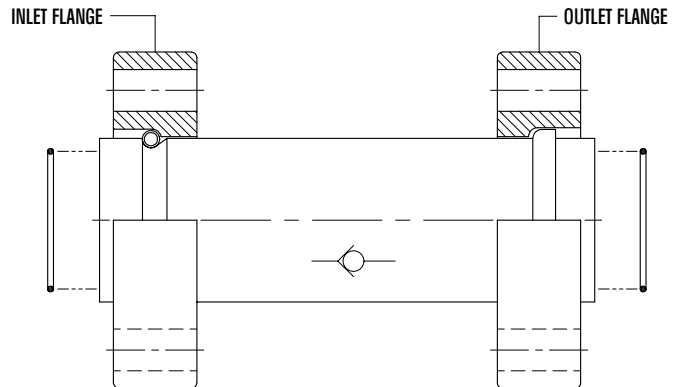
Performance Curves: Measured using oil at 190SUS and 50°C



Check Valve Assembly

Complete Assembly Part Number

Typical A/CV Assembly



COMPLETE ASSEMBLY CONSISTS OF:

- ONE (1) CHECK VALVE BODY - POPPET STYLE
(REF. PAGE P4)
- TWO (2) RETAIN RING FLANGES (REF. PAGES C8-C10)
- ONE (1) RETAIN RING
- BUNA 'O' RINGS (STANDARD)

		Code	A	/	CV	-	Valve Size	-	Inlet Flange	-	Outlet Flange	-	Opening Pressure	-	Options
Assembly		A													
Valve Body Ref. page (P16)	Check Valve	CV													
Valve Size	3/4"	075													
	1"	100													
	1 1/4"	125													
	1 1/2"	150													
	2"	200													
	2 1/2"	250													
	3"	300													
Flange Type Carbon Steel Yellow Zinc Dicromate Plated Ref. pages (C8-C10)	RFC34 ISO 6162-1 W/Clearance Holes	FC34													
	*RFTM34 ISO 6162-1 W/Tapped Holes	FTM34													
	RFC64 ISO 6162-2 W/Clearance Holes	FC64													
	*RFTM64 ISO 6162-3 W/Tapped Holes	FTM64													
	RFC74 ISO 6164 W/Clearance Holes	FC74													
Opening Pressure	0.5 BAR - Standard	07													
	1.5 BAR - Optional	21													
	3.0 BAR - Optional	43													
Options	Viton	V													

Opening Pressure		
	PSI	(bar)
Standard	7	(0.5)
Optional	21	(1.5)
Optional	43	(3.0)

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

• FOR CONNECTION TO HOSE USE CONNECTOR PLATE **OCP** (TO BE ORDERED SEPARATELY) REFERENCE PAGE C17

PART NO. (EXAMPLE): A/CV - 075 - FC64 - FTM64 - 07

- ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR THE CHECK VALVE RATINGS
- SEE REFERENCE PAGE INDICATED ABOVE FOR PRESSURE RATINGS
- OTHER MATERIALS ARE AVAILABLE
- FOR BOLT KITS - REFERENCE SECTION R



Bolt Kits and Elastomer Seals- Metric Index (pg 1)

Bolt Kit Order Example	R3
Flare Flange	
Union Style	R4
Flare 'O' Ring Face to Flat Face Component	R5
Flare Flat Face to 'O'Ring Face Retain Ring Component	R6
Flare 'O' Ring Face to Retain Ring Pipe	R7
Flare Flat Face to Retain Ring Pipe	R8
Flare Flat Face to Split Flange	R9
Retain Ring Flange	
Pipe Union	R10
Pipe to Flat Face Component	R11
"O" Ring Face Retain Ring Component to Flat Face Component	R12
Pipe to 'O' Ring Face Retain Ring Component	R13
Pipe to 'O' Ring Face Component	R14
'O' Ring Face Retain Ring Component to Split Flange	R15
Pipe to Split Flange	R16
Butt Weld Adapter to 'O' Ring Face Retain Ring Component	R17
Butt Weld Adapter Union	R18
Butt Weld Adapter to Flat Face Component	R19
Butt Weld Adapter to SAE Split Flange	R20
Low Pressure Retain Ring Flange	
Union Style	R21
Union Style with Pilot Tee	R22
Pipe to Retain Ring Component	R23
'O' Ring Face to Flat Face Component	R24
Female Thread Flange	
'O' Ring Face to Flat Face	R25
Socket Weld Flange	
'O' Ring Face to Flat Face	R26
Butt Weld Flange	
'O' Ring Face to Flat Face	R27
Elastomer Seals	
'O' Ring	R28
'D' Ring	R29
Bonded Seal	R29



Bolt Kits and Elastomer Seals- Metric Index (pg 2)

SAE Split Flange

Split Flange to Component R30

Flare Flange with Pilot Port Connection

Union Style

'O' Ring Face Cone with Pilot Port R31

Flat Face Cone with Pilot Port R32

Flare Flange to Flat Face Component R33

Flare Flange to Retain Ring Component R34

Retian Ring Flange with Pilot Port Connection

Pipe Union R35

Pipe to Flat Face Component R36

Butt Weld Adapter Union R37

Butt Weld Adapter to Flat Face Component R38

Blanking Flange

Blanking Flange to Flat Face Component

ISO 6162-1, ISO 6162-2, ISO 6164 R39

TMI 8-Bolt R40

Low Pressure Blanking Flange to Flat Face Component

TMI 6-Bolt, TMI 8-Bolt R41

Transition Plate Reducer

Manifold Mount Style to Flat Face Component

ISO 6162-1 R42

ISO 6162-2, ISO 6162-2/6161-1 R43

ISO 6164, ISO 6164/6162-1, ISO 6164/6162-2 R44

TMI 8-Bolt, TMI 8-Bolt/ISO 6164 R45

Transition Plate

Manifold Mount Style to Flat Face Component

ISO 6162-2/6162-1 R46

ISO 6164/6162-1 R46





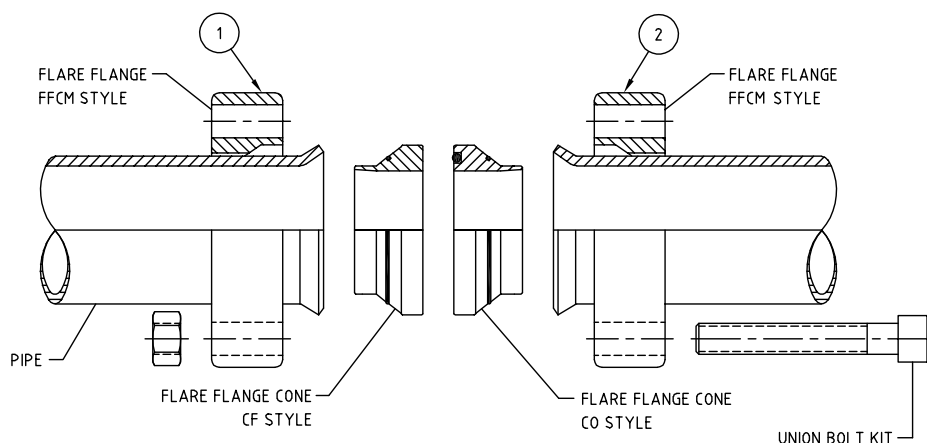
Bolt Kit Order Example

Bolt Kit part number example:		Bolt Kit	Flange #1	Seal (if necessary)	Flange #2 or Connection	Flange Code	Flange Size	NUT	Bolt Style	Lock-washer	Design number								
Bolt Kit part number example:		BKM	-	FFCM	-	OS	-	RFC	-	34	-	100	-	N	-	SC	-	LW	
Bolt Kit	BKM (insert 'M' to indicate Metric threads)																		
Flange #1	FFCM Flare Flg Clearance RFC Retain Ring Flg Clearance (1/2"-4") RFAC Retain Ring Flg Clearance (5"-8") BWFO Butt weld Flg Oring Face SWFO Socket Weld Flg Oring Face SFM SAE Split Flange BFOM Blanking Flange TPROM Transition Plate Reducer TPOM Transition Plate																		
Seal	OS Oring Seal Retainer (1/2"-4") OSA Oring Seal Retainer (5"-8") OSPM Oring Seal Retainer with Pilot Port OSAPM Oring Seal Retainer with Pilot Port OSS Oring Seal Retainer -4" BV only OSH Oring Seal Retainer OSHS Oring Seal Retainer -4" BV only OCP Oring Connector Plate LPTM Low Pressure Pilot Tee LOCP Low Pressure Oring Connector Plate COP Cone-O'Ring Face with Pilot Port CFP Cone-Flat Face with pilot Port																		
Flange or connection #2	FFCM Flare Flg Clearance FFTM Flare Flg Tapped RFC Retain Ring Flg Clearance (1/2"-4") RFAC Retain Ring Flg Clearance (5"-8") RFTM Retain Ring Flg Tapped BWFF Butt weld Flg Flat Face SWFF Socket Weld Flg Flat Face COMP Component																		
Flange code	34 (ISO 6162-1) 64 (ISO 6162-2) 74 (ISO 6164) 48 (TMI 8-Bolt) 16 (low pressure 6-Bolt) 18 (low pressure 8-Bolt) 6-34 (ISO 6162-2/6162-1) 7-34 (ISO 6164/6162-1) 7-64 (ISO 6164/6162-2) 4-74 (TMI 8-Bolt/ISO 6164) 1-16 (low pressure TMI 8-Bolt/6-Bolt)																		
Flange size	050 1/2" 075 3/4" 100 1" 125 1 1/4" 150 1 1/2" 200 2" 250 2 1/2" 300 3" 400 4" 500 5" 600 6" 800 8"																		
NUT	N Nut N-N (to be used with stud)																		
Bolt Style	SC Socket Cap HH Hex Head																		
Lock Washer	LW Lockwasher HLW High Collar Lockwasher																		
Design Number	Indicate if design changes																		



Bolt Kits - Flare Flange - Metric

Union Style



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-FFCM-34-050-SC	M8 x 60-SC	20 - 25
3/4"	BKM-FFCM-FFCM-34-075-SC	M10 x 65-SC	55 - 68
1"	BKM-FFCM-FFCM-34-100-SC	M10 x 65-SC	55 - 68
1 1/4"	BKM-FFCM-FFCM-34-125-SC	M10 x 65-SC	55 - 68
1 1/2"	BKM-FFCM-FFCM-34-150-SC	M12 x 75-SC	76 - 83
2"	BKM-FFCM-FFCM-34-200-SC	M12 x 80-SC	110 - 125
2 1/2"	BKM-FFCM-FFCM-34-250-SC	M12 x 100-SC	110 - 125
3"	BKM-FFCM-FFCM-34-300-SC	M16 x 120-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

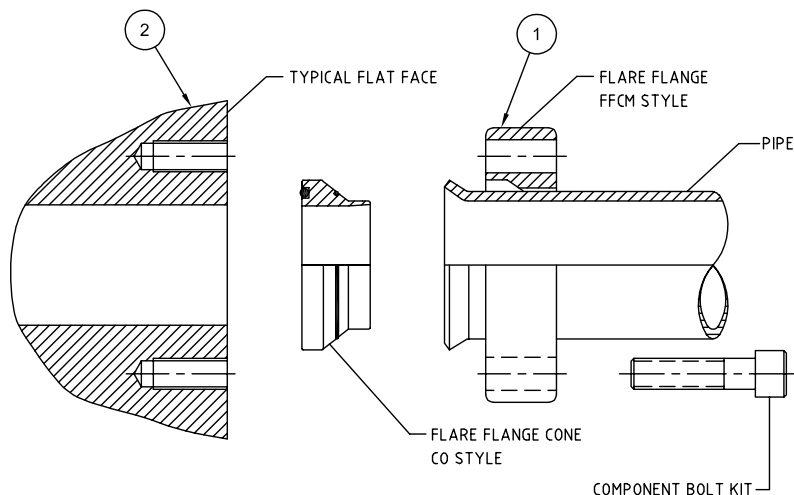
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-FFCM-64-050-SC	M8 x 60-SC	20 - 25
3/4"	BKM-FFCM-FFCM-64-075-SC	M10 x 70-SC	55 - 68
1"	BKM-FFCM-FFCM-64-100-SC	M12 x 70-SC	110 - 125
1 1/4"	BKM-FFCM-FFCM-64-125-SC	M12 x 80-SC	110 - 125
1 1/2"	BKM-FFCM-FFCM-64-150-SC	M16 x 100-SC	150 - 165
2"	BKM-FFCM-FFCM-64-200-SC	M20 x 120-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-FFCM-FFCM-74-250-SC	M20 x 120-SC	165 - 175
3"	BKM-FFCM-FFCM-74-300-HH	M24 x 130-HH	475 - 550

Bolt Kits - Flare Flange - Metric

Flare 'O' Ring Face to Flat Face Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-COMP-34-050-SC	M8 x 40-N-SC	20 - 25
3/4"	BKM-FFCM-COMP-34-075-SC	M10 x 40-N-SC	55 - 68
1"	BKM-FFCM-COMP-34-100-SC	M10 x 40-N-SC	55 - 68
1 1/4"	BKM-FFCM-COMP-34-125-SC	M10 x 45-N-SC	55 - 68
1 1/2"	BKM-FFCM-COMP-34-150-SC	M12 x 50-N-SC	76 - 83
2"	BKM-FFCM-COMP-34-200-SC	M12 x 50-N-SC	110 - 125
2 1/2"	BKM-FFCM-COMP-34-250-SC	M12 x 65-N-SC	110 - 125
3"	BKM-FFCM-COMP-34-300-SC	M16 x 70-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

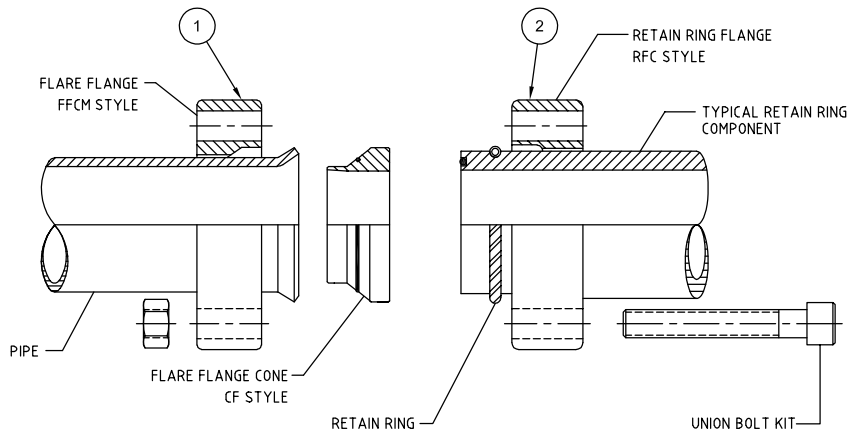
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-COMP-64-050-SC	M8 x 40-N-SC	20 - 25
3/4"	BKM-FFCM-COMP-64-075-SC	M10 x 45-N-SC	55 - 68
1"	BKM-FFCM-COMP-64-100-SC	M12 x 45-N-SC	110 - 125
1 1/4"	BKM-FFCM-COMP-64-125-SC	M12 x 50-N-SC	110 - 125
1 1/2"	BKM-FFCM-COMP-64-150-SC	M16 x 65-N-SC	150 - 165
2"	BKM-FFCM-COMP-64-200-SC	M20 x 70-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-FFCM-COMP-74-250-SC	M20 x 75-N-SC	165 - 175
3"	BKM-FFCM-COMP-74-300-HH	M24 x 90-N-HH	475 - 550

Bolt Kits - Flare Flange - Metric

Flare Flat Face to 'O' Ring Face Retain Ring Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-RFC-34-050-N-SC	M8 x 60-N-SC	20 - 25
3/4"	BKM-FFCM-RFC-34-075-N-SC	M10 x 65-N-SC	55 - 68
1"	BKM-FFCM-RFC-34-100-N-SC	M10 x 65-N-SC	55 - 68
1 1/4"	BKM-FFCM-RFC-34-125-N-SC	M10 x 65-N-SC	55 - 68
1 1/2"	BKM-FFCM-RFC-34-150-N-SC	M12 x 75-N-SC	76 - 83
2"	BKM-FFCM-RFC-34-200-N-SC	M12 x 80-N-SC	110 - 125
2 1/2"	BKM-FFCM-RFC-34-250-N-SC	M12 x 100-N-SC	110 - 125
3"	BKM-FFCM-RFC-34-300-N-SC	M16 x 120-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

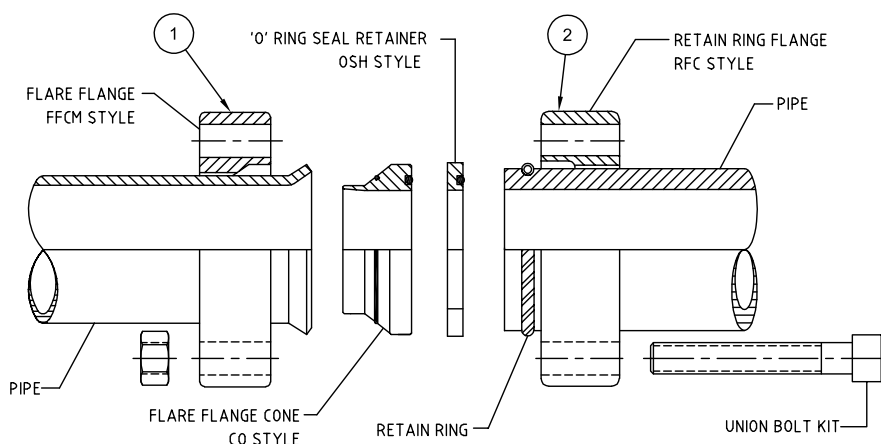
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-RFC-64-050-N-SC	M8 x 60-N-SC	20 - 25
3/4"	BKM-FFCM-RFC-64-075-N-SC	M10 x 70-N-SC	55 - 68
1"	BKM-FFCM-RFC-64-100-N-SC	M12 x 70-N-SC	110 - 125
1 1/4"	BKM-FFCM-RFC-64-125-N-SC	M12 x 80-N-SC	110 - 125
1 1/2"	BKM-FFCM-RFC-64-150-N-SC	M16 x 100-N-SC	150 - 165
2"	BKM-FFCM-RFC-64-200-N-SC	M20 x 120-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-FFCM-RFC-74-250-N-SC	M20 x 120-N-SC	165 - 175
3"	BKM-FFCM-RFC-74-300-N-HH	M24 x 130-N-HH	475 - 550

Bolt Kits - Flare Flange - Metric

Flare 'O' Ring Face to Retain Ring Pipe



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-FFCM-OSH-RFC-34-150-N-SC	M12 x 75-N-SC	76 - 83
2"	BKM-FFCM-OSH-RFC-34-200-N-SC	M12 x 90-N-SC	110 - 125
2 1/2"	BKM-FFCM-OSH-RFC-34-250-N-SC	M12 x 100-N-SC	110 - 125
3"	BKM-FFCM-OSH-RFC-34-300-N-SC	M16 x 130-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

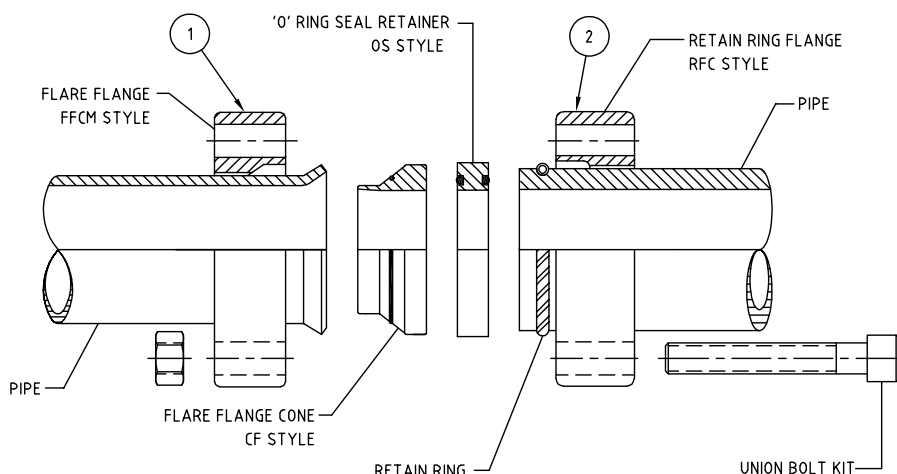
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-FFCM-OSH-RFC-64-150-N-SC	M16 x 100-N-SC	150 - 165
2"	BKM-FFCM-OSH-RFC-64-200-N-SC	M20 x 120-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-FFCM-OSH-RFC-74-250-N-SC	M20 x 120-N-SC	165 - 175
3"	BKM-FFCM-OSH-RFC-74-300-N-HH	M24 x 130-N-HH	475 - 550

Bolt Kits - Flare Flange - Metric

Flare Flat Face to Retain Ring Pipe



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-FFCM-OS-RFC-34-150-N-SC	M12 x 80-N-SC	76 - 83
2"	BKM-FFCM-OS-RFC-34-200-N-SC	M12 x 100-N-SC	110 - 125
2 1/2"	BKM-FFCM-OS-RFC-34-250-N-SC	M12 x 120-N-SC	110 - 125
3"	BKM-FFCM-OS-RFC-34-300-N-SC	M16 x 130-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

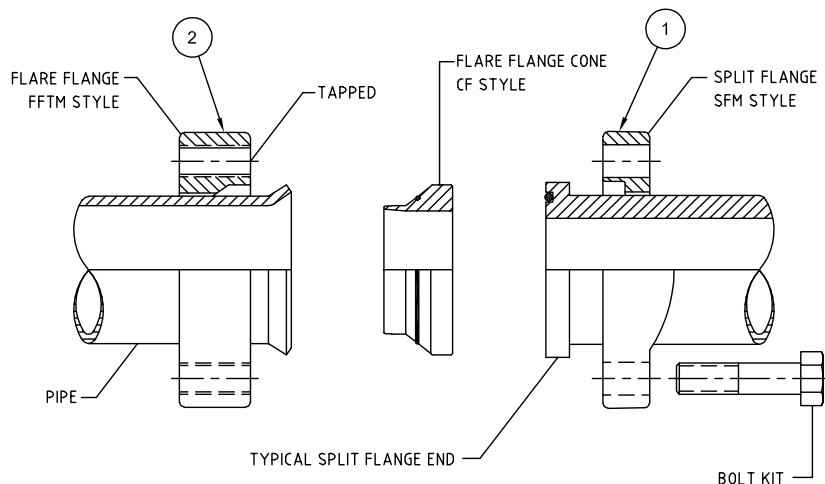
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-FFCM-OS-RFC-64-150-N-SC	M16 x 100-N-SC	150 - 165
2"	BKM-FFCM-OS-RFC-64-200-N-SC	M20 x 130-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-FFCM-OS-RFC-74-250-N-SC	M20 x 130-N-SC	165 - 175
3"	BKM-FFCM-OS-RFC-74-300-N-HH	M24 x 140-N-HH	475 - 550

Bolt Kits - Flare Flange - Metric

Flare Flat Face to Split Flange



ISO 6162-1 - 4-Bolt Flange Connection

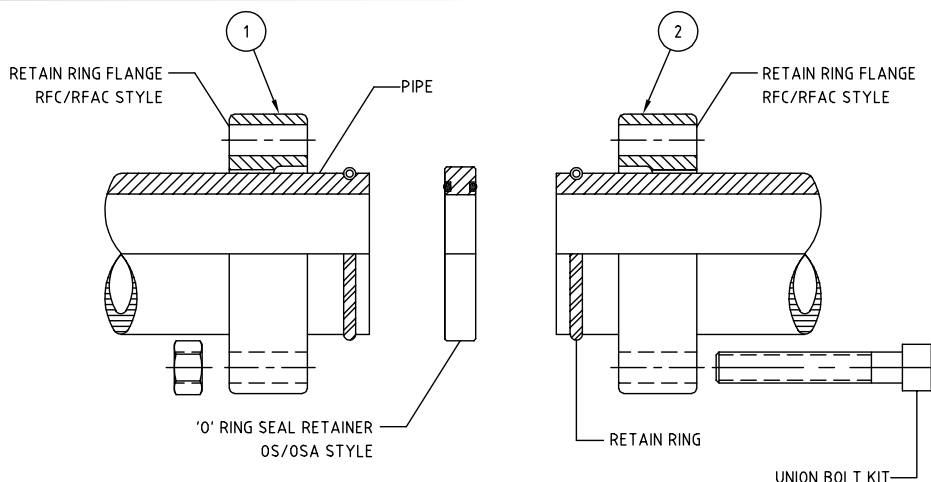
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-SFM-FFTM-34-050-HH	M8 x 40-HH	20 - 25
3/4"	BKM-SFM-FFTM-34-075-HH	M10 x 40-HH	55 - 68
1"	BKM-SFM-FFTM-34-100-HH	M10 x 40-HH	55 - 68
1 1/4"	BKM-SFM-FFTM-34-125-HH	M10 x 40-HH	55 - 68
1 1/2"	BKM-SFM-FFTM-34-150-HH	M12 x 45-HH	76 - 83
2"	BKM-SFM-FFTM-34-200-HH	M12 x 50-HH	110 - 125
2 1/2"	BKM-SFM-FFTM-34-250-HH	M12 x 50-HH	110 - 125
3"	BKM-SFM-FFTM-34-300-HH	M16 x 65-HH	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-SFM-FFTM-64-050-HH	M8 x 40-HH	20 - 25
3/4"	BKM-SFM-FFTM-64-075-HH	M10 x 45-HH	55 - 68
1"	BKM-SFM-FFTM-64-100-HH	M12 x 50-HH	110 - 125
1 1/4"	BKM-SFM-FFTM-64-125-HH	M12 x 60-HH	110 - 125
1 1/2"	BKM-SFM-FFTM-64-150-HH	M16 x 70-HH	150 - 165
2"	BKM-SFM-FFTM-64-200-HH	M20 x 80-HH	165 - 175

Bolt Kits - Retain Ring Flange - Metric

Pipe Union



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-RFC-OS-RFC-34-150-N-SC	M12 x 75-N-SC	76 - 83
2"	BKM-RFC-OS-RFC-34-200-N-SC	M12 x 80-N-SC	110 - 125
2 1/2"	BKM-RFC-OS-RFC-34-250-N-SC	M12 x 100-N-SC	110 - 125
3"	BKM-RFC-OS-RFC-34-300-N-SC	M16 x 130-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-RFC-OS-RFC-64-150-N-SC	M16 x 100-N-SC	150 - 165
2"	BKM-RFC-OS-RFC-64-200-N-SC	M20 x 110-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

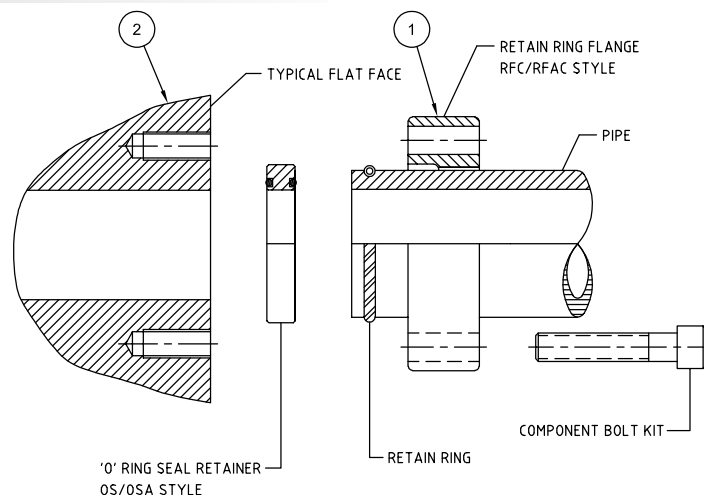
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-OS-RFC-74-250-N-SC	M20 x 110-N-SC	165 - 175
3"	BKM-RFC-OS-RFC-74-300-N-HH	M24 x 140-N-HH	475 - 550
4"	BKM-RFC-OS-RFC-74-400-N-N	M30 x 200-N-N	665 - 730

TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
5"	BKM-RFAC-OSA-RFAC-48-500-N-HH	M24 x 140-N-HH	475 - 550
6"	BKM-RFAC-OSA-RFAC-48-600-N-N	M30 x 250-N-N	665 - 730
8"	BKM-RFAC-OSA-RFAC-48-800-N-N	M36 x 300-N-N	1460 - 1595

Bolt Kits - Retain Ring Flange - Metric

Pipe to Flat Face Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-RFC-OS-COMP-34-150-SC	M12 x 60-SC	76 - 83
2"	BKM-RFC-OS-COMP-34-200-SC	M12 x 65-SC	110 - 125
2 1/2"	BKM-RFC-OS-COMP-34-250-SC	M12 x 75-SC	110 - 125
3"	BKM-RFC-OS-COMP-34-300-SC	M16 x 90-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-RFC-OS-COMP-64-150-SC	M16 x 70-SC	150 - 165
2"	BKM-RFC-OS-COMP-64-200-SC	M20 x 80-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

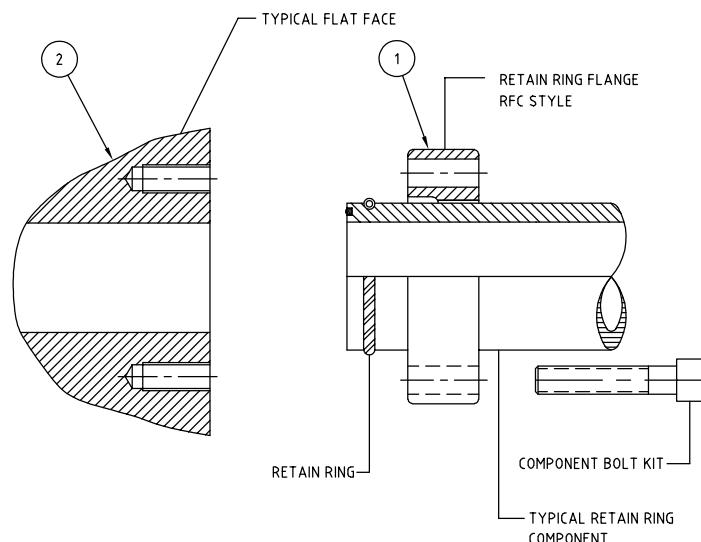
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-OS-COMP-74-250-SC	M20 x 90-SC	165 - 175
3"	BKM-RFC-OS-COMP-74-300-HH	M24 x 100-HH	475 - 550
4"	BKM-RFC-OS-COMP-74-400-HH	M30 x 110-HH	665 - 730

TMI® 8-Bolt - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
5"	BKM-RFAC-OSA-COMP-48-500-HH	M24 x 110-HH	475 - 550
6"	BKM-RFAC-OSA-COMP-48-600-HH	M30 x 130-HH	665 - 730
8"	BKM-RFAC-OSA-COMP-48-800-HH	M36 x 150-HH	1460 - 1595

Bolt Kits - Retain Ring Flange - Metric

'O' Ring Face Retain Ring Component to Flat Face Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-COMP-34-050-SC	M8 x 40-SC	20 - 25
3/4"	BKM-RFC-COMP-34-075-SC	M10 x 40-SC	55 - 68
1"	BKM-RFC-COMP-34-100-SC	M10 x 40-SC	55 - 68
1 1/4"	BKM-RFC-COMP-34-125-SC	M10 x 45-SC	55 - 68
1 1/2"	BKM-RFC-COMP-34-150-SC	M12 x 50-SC	76 - 83
2"	BKM-RFC-COMP-34-200-SC	M12 x 50-SC	110 - 125
2 1/2"	BKM-RFC-COMP-34-250-SC	M12 x 65-SC	110 - 125
3"	BKM-RFC-COMP-34-300-SC	M16 x 80-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

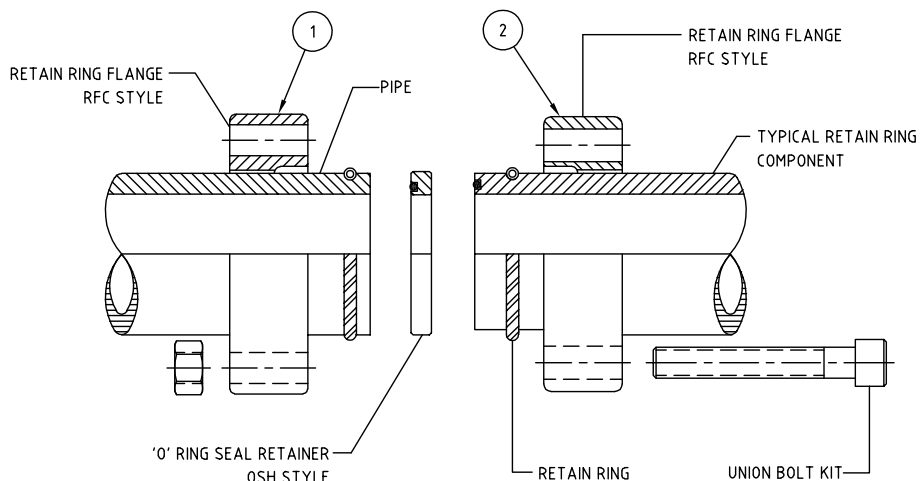
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-COMP-64-050-SC	M8 x 40-SC	20 - 25
3/4"	BKM-RFC-COMP-64-075-SC	M10 x 45-SC	55 - 68
1"	BKM-RFC-COMP-64-100-SC	M12 x 45-SC	110 - 125
1 1/4"	BKM-RFC-COMP-64-125-SC	M12 x 50-SC	110 - 125
1 1/2"	BKM-RFC-COMP-64-150-SC	M16 x 65-SC	150 - 165
2"	BKM-RFC-COMP-64-200-SC	M20 x 70-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-COMP-74-250-SC	M20 x 75-SC	165 - 175
3"	BKM-RFC-COMP-74-300-HH	M24 x 90-HH	475 - 550
4"	BKM-RFC-COMP-74-400-HH	M30 x 90-HH	665 - 730

Bolt Kits - Retain Ring Flange - Metric

Pipe to 'O' Ring Face Retain Ring Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-RFC-OSH-RFC-34-150-N-SC	M12 x 75-N-SC	76 - 83
2"	BKM-RFC-OSH-RFC-34-200-N-SC	M12 x 90-N-SC	110 - 125
2 1/2"	BKM-RFC-OSH-RFC-34-250-N-SC	M12 x 100-N-SC	110 - 125
3"	BKM-RFC-OSH-RFC-34-300-N-SC	M16 x 130-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

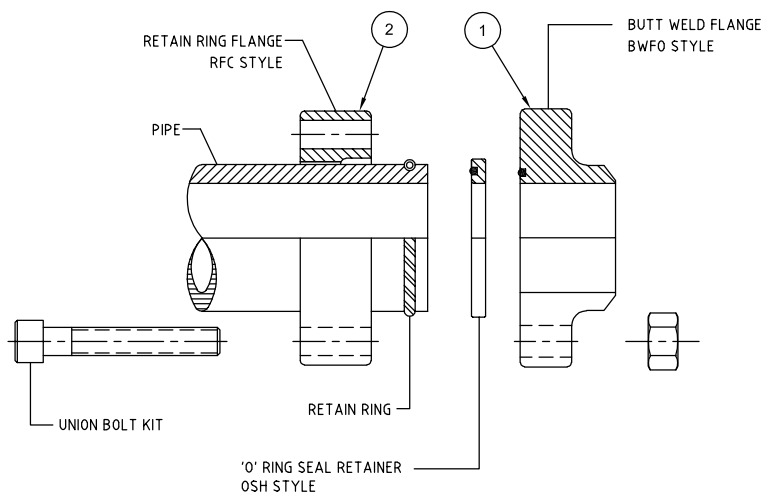
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-RFC-OSH-RFC-64-150-N-SC	M16 x 100-N-SC	150 - 165
2"	BKM-RFC-OSH-RFC-64-200-N-SC	M20 x 120-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-OSH-RFC-74-250-N-SC	M20 x 120-N-SC	165 - 175
3"	BKM-RFC-OSH-RFC-74-300-N-HH	M24 x 140-N-HH	475 - 550
4"	BKM-RFC-OSH-RFC-74-400-N-N	M30 x 200-N-N	665 - 730

Bolt Kits - Retain Ring Flange - Metric

Pipe to 'O' Ring Face Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-BWFO-OSH-RFC-34-150-N-SC	M12 x 75-N-SC	76 - 83
2"	BKM-BWFO-OSH-RFC-34-200-N-SC	M12 x 75-N-SC	110 - 125
2 1/2"	BKM-BWFO-OSH-RFC-34-250-N-SC	M12 x 90-N-SC	110 - 125
3"	BKM-BWFO-OSH-RFC-34-300-N-SC	M16 x 100-N-SC	150 - 165

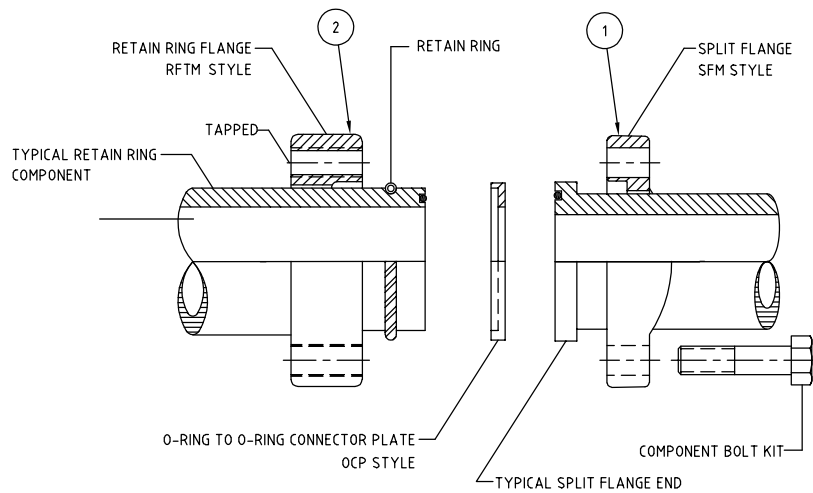
ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-BWFO-OSH-RFC-64-150-N-SC	M16 x 90-N-SC	150 - 165
2"	BKM-BWFO-OSH-RFC-64-200-N-SC	M20 x 100-N-SC	165 - 175



Bolt Kits - Retain Ring Flange - Metric

'O' Ring Face Retain Ring Component to Split Flange



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-SFM-OCF-RFTM-34-050-HH	M8 x 40-HH	20 - 25
3/4"	BKM-SFM-OCF-RFTM-34-075-HH	M10 x 45-HH	55 - 68
1"	BKM-SFM-OCF-RFTM-34-100-HH	M10 x 45-HH	55 - 68
1 1/4"	BKM-SFM-OCF-RFTM-34-125-HH	M10 x 45-HH	55 - 68
1 1/2"	BKM-SFM-OCF-RFTM-34-150-HH	M12 x 50-HH	76 - 83
2"	BKM-SFM-OCF-RFTM-34-200-HH	M12 x 50-HH	110 - 125
2 1/2"	BKM-SFM-OCF-RFTM-34-250-HH	M12 x 60-HH	110 - 125
3"	BKM-SFM-OCF-RFTM-34-300-HH	M16 x 65-HH	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-SFM-OCF-RFTM-64-050-HH	M8 x 40-HH	20 - 25
3/4"	BKM-SFM-OCF-RFTM-64-075-HH	M10 x 50-HH	55 - 68
1"	BKM-SFM-OCF-RFTM-64-100-HH	M12 x 60-HH	110 - 125
1 1/4"	BKM-SFM-OCF-RFTM-64-125-HH	M12 x 70-HH	110 - 125
1 1/2"	BKM-SFM-OCF-RFTM-64-150-HH	M16 x 75-HH	150 - 165
2"	BKM-SFM-OCF-RFTM-64-200-HH	M20 x 90-HH	165 - 175



Pipe to Split Flange



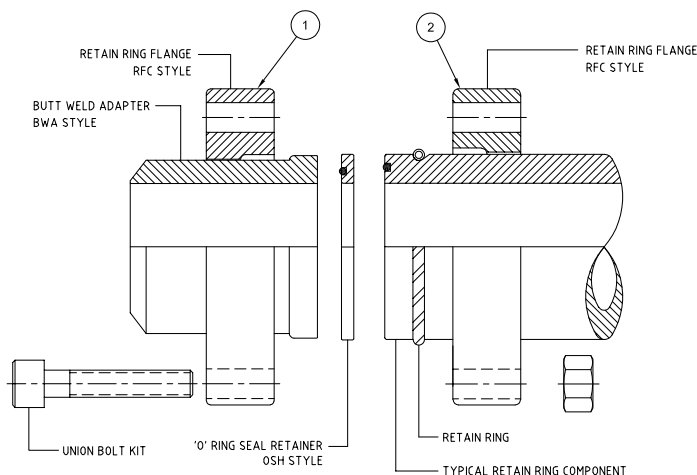
ISO 6162-2 - 4-Bolt Flange Connection

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16



Bolt Kits - Retain Ring Flange Metric

Butt Weld Adapter to 'O' Ring Face Retain Ring Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-OSH-RFC-34-050-N-SC	M8 x 60-N-SC	20 - 25
3/4"	BKM-RFC-OSH-RFC-34-075-N-SC	M10 x 65-N-SC	55 - 68
1"	BKM-RFC-OSH-RFC-34-100-N-SC	M10 x 65-N-SC	55 - 68
1 1/4"	BKM-RFC-OSH-RFC-34-125-N-SC	M10 x 65-N-SC	55 - 68
1 1/2"	BKM-RFC-OSH-RFC-34-150-N-SC	M12 x 75-N-SC	76 - 83
2"	BKM-RFC-OSH-RFC-34-200-N-SC	M12 x 90-N-SC	110 - 125
2 1/2"	BKM-RFC-OSH-RFC-34-250-N-SC	M12 x 100-N-SC	110 - 125
3"	BKM-RFC-OSH-RFC-34-300-N-SC	M16 x 130-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-OSH-RFC-64-050-N-SC	M8 x 60-N-SC	20 - 25
3/4"	BKM-RFC-OSH-RFC-64-075-N-SC	M10 x 70-N-SC	55 - 68
1"	BKM-RFC-OSH-RFC-64-100-N-SC	M12 x 70-N-SC	110 - 125
1 1/4"	BKM-RFC-OSH-RFC-64-125-N-SC	M12 x 80-N-SC	110 - 125
1 1/2"	BKM-RFC-OSH-RFC-64-150-N-SC	M16 x 100-N-SC	150 - 165
2"	BKM-RFC-OSH-RFC-64-200-N-SC	M20 x 120-N-SC	165 - 175

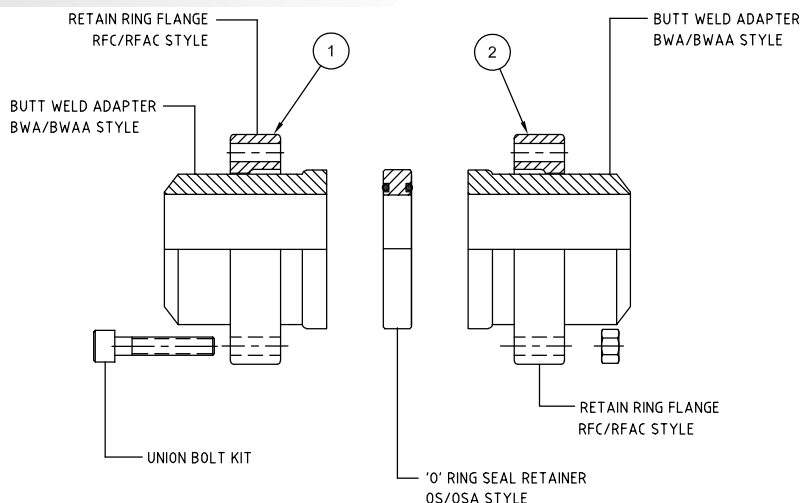
ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-OSH-RFC-74-250-N-SC	M20 x 120-N-SC	165 - 175
3"	BKM-RFC-OSH-RFC-74-300-N-HH	M24 x 140-N-HH	475 - 550
4"	BKM-RFC-OSH-RFC-74-400-N-N	M30 x 200-N-N	665 - 730



Bolt Kits - Retain Ring Flange - Metric

Butt Weld Adapter Union



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-OS-RFC-34-050-N-SC	M8 x 60-N-SC	20 - 25
3/4"	BKM-RFC-OS-RFC-34-075-N-SC	M10 x 65-N-SC	55 - 68
1"	BKM-RFC-OS-RFC-34-100-N-SC	M10 x 65-N-SC	55 - 68
1 1/4"	BKM-RFC-OS-RFC-34-125-N-SC	M10 x 65-N-SC	55 - 68
1 1/2"	BKM-RFC-OS-RFC-34-150-N-SC	M12 x 75-N-SC	76 - 83
2"	BKM-RFC-OS-RFC-34-200-N-SC	M12 x 80-N-SC	110 - 125
2 1/2"	BKM-RFC-OS-RFC-34-250-N-SC	M12 x 100-N-SC	110 - 125
3"	BKM-RFC-OS-RFC-34-300-N-SC	M16 x 130-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-OS-RFC-64-050-N-SC	M8 x 60-N-SC	20 - 25
3/4"	BKM-RFC-OS-RFC-64-075-N-SC	M10 x 70-N-SC	55 - 68
1"	BKM-RFC-OS-RFC-64-100-N-SC	M12 x 70-N-SC	110 - 125
1 1/4"	BKM-RFC-OS-RFC-64-125-N-SC	M12 x 80-N-SC	110 - 125
1 1/2"	BKM-RFC-OS-RFC-64-150-N-SC	M16 x 100-N-SC	150 - 165
2"	BKM-RFC-OS-RFC-64-200-N-SC	M20 x 120-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

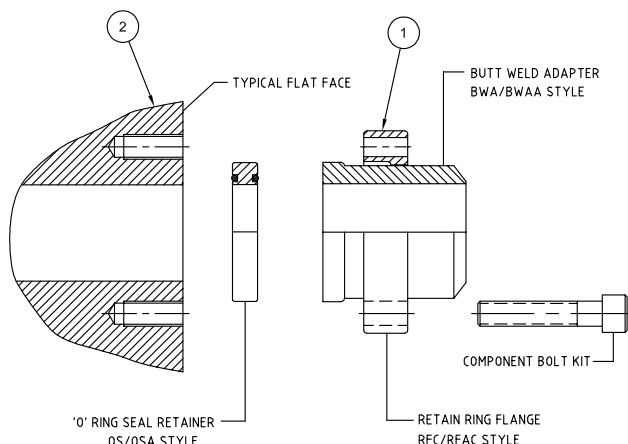
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-OS-RFC-74-250-N-SC	M20 x 120-N-SC	165 - 175
3"	BKM-RFC-OS-RFC-74-300-N-HH	M24 x 140-N-HH	475 - 550
4"	BKM-RFC-OS-RFC-74-400-N-N	M30 x 200-N-N	665 - 730

TMI® 8-Bolt - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
5"	BKM-RFAC-OSA-RFAC-48-500-N-HH	M24 x 170-N-HH	475 - 550
6"	BKM-RFAC-OSA-RFAC-48-600-N-N	M30 x 250-N-N	665 - 730
8"	BKM-RFAC-OSA-RFAC-48-800-N-N	M36 x 300-N-N	1460 - 1595

Bolt Kits - Retain Ring Flange - Metric

Butt Weld Adapter to Flat Face Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-OS-COMP-34-050-SC	M8 x 45-SC	20 - 25
3/4"	BKM-RFC-OS-COMP-34-075-SC	M10 x 45-SC	55 - 68
1"	BKM-RFC-OS-COMP-34-100-SC	M10 x 45-SC	55 - 68
1 1/4"	BKM-RFC-OS-COMP-34-125-SC	M10 x 50-SC	55 - 68
1 1/2"	BKM-RFC-OS-COMP-34-150-SC	M12 x 60-SC	76 - 83
2"	BKM-RFC-OS-COMP-34-200-SC	M12 x 65-SC	110 - 125
2 1/2"	BKM-RFC-OS-COMP-34-250-SC	M12 x 75-SC	110 - 125
3"	BKM-RFC-OS-COMP-34-300-SC	M16 x 90-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-OS-COMP-64-050-SC	M8 x 45-SC	20 - 25
3/4"	BKM-RFC-OS-COMP-64-075-SC	M10 x 50-SC	55 - 68
1"	BKM-RFC-OS-COMP-64-100-SC	M12 x 50-SC	110 - 125
1 1/4"	BKM-RFC-OS-COMP-64-125-SC	M12 x 65-SC	110 - 125
1 1/2"	BKM-RFC-OS-COMP-64-150-SC	M16 x 70-SC	150 - 165
2"	BKM-RFC-OS-COMP-64-200-SC	M20 x 80-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

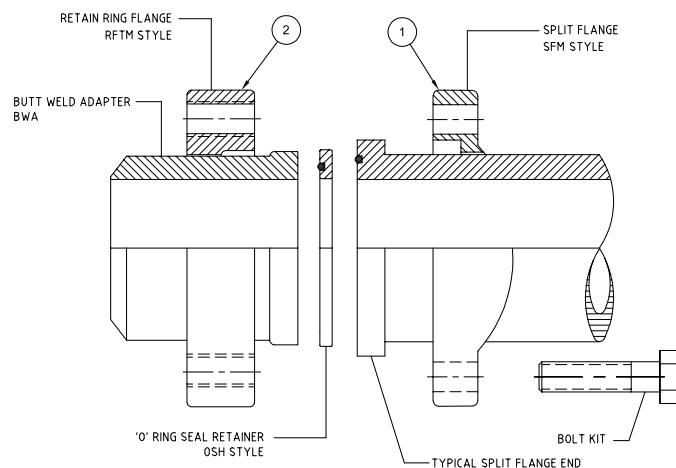
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-OS-COMP-74-250-SC	M20 x 90-SC	165 - 175
3"	BKM-RFC-OS-COMP-74-300-HH	M24 x 100-HH	475 - 550
4"	BKM-RFC-OS-COMP-74-400-HH	M30 x 110-HH	665 - 730

TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
5"	BKM-RFAC-OSA-COMP-48-500-HH	M24 x 130-HH	475 - 550
6"	BKM-RFAC-OSA-COMP-48-600-HH	M30 x 130-HH	665 - 730
8"	BKM-RFAC-OSA-COMP-48-800-HH	M36 x 165-HH	1460 - 1595

Bolt Kits - Retain Ring Flange - Metric

Butt Weld Adapter to SAE Split Flange



ISO 6162-1 - 4-Bolt Flange Connection

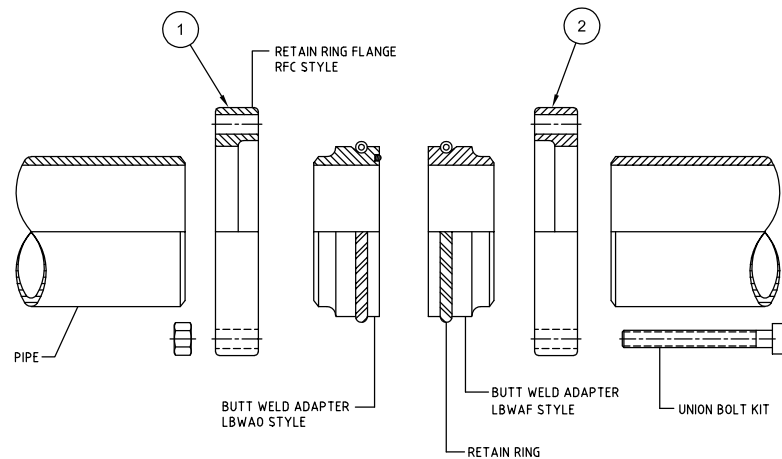
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-SFM-OSH-RFTM-34-050-HH	M8 x 40-HH	20 - 25
3/4"	BKM-SFM-OSH-RFTM-34-075-HH	M10 x 45-HH	55 - 68
1"	BKM-SFM-OSH-RFTM-34-100-HH	M10 x 45-HH	55 - 68
1 1/4"	BKM-SFM-OSH-RFTM-34-125-HH	M10 x 45-HH	55 - 68
1 1/2"	BKM-SFM-OSH-RFTM-34-150-HH	M12 x 50-HH	76 - 83
2"	BKM-SFM-OSH-RFTM-34-200-HH	M12 x 50-HH	110 - 125
2 1/2"	BKM-SFM-OSH-RFTM-34-250-HH	M12 x 60-HH	110 - 125
3"	BKM-SFM-OSH-RFTM-34-300-HH	M16 x 65-HH	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-SFM-OSH-RFTM-64-050-HH	M8 x 40-HH	20 - 25
3/4"	BKM-SFM-OSH-RFTM-64-075-HH	M10 x 50-HH	55 - 68
1"	BKM-SFM-OSH-RFTM-64-100-HH	M12 x 60-HH	110 - 125
1 1/4"	BKM-SFM-OSH-RFTM-64-125-HH	M12 x 65-HH	110 - 125
1 1/2"	BKM-SFM-OSH-RFTM-64-150-HH	M16 x 70-HH	150 - 165
2"	BKM-SFM-OSH-RFTM-64-200-HH	M20 x 80-HH	165 - 175



Bolt Kits - Low Pressure Retain Ring Flange - Metric Union Style



TMI® 6-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-RFC-16-250-N-SC	M12 x 65-N-SC	110 - 125
3"	BKM-RFC-RFC-16-300-N-SC	M16 x 80-N-SC	150 - 165
4"	BKM-RFC-RFC-16-400-N-SC	M16 x 80-N-SC	150 - 165
5"	BKM-RFC-RFC-16-500-N-SC	M16 x 90-N-SC	150 - 165
6"	BKM-RFC-RFC-16-600-N-SC	M16 x 100-N-SC	150 - 165

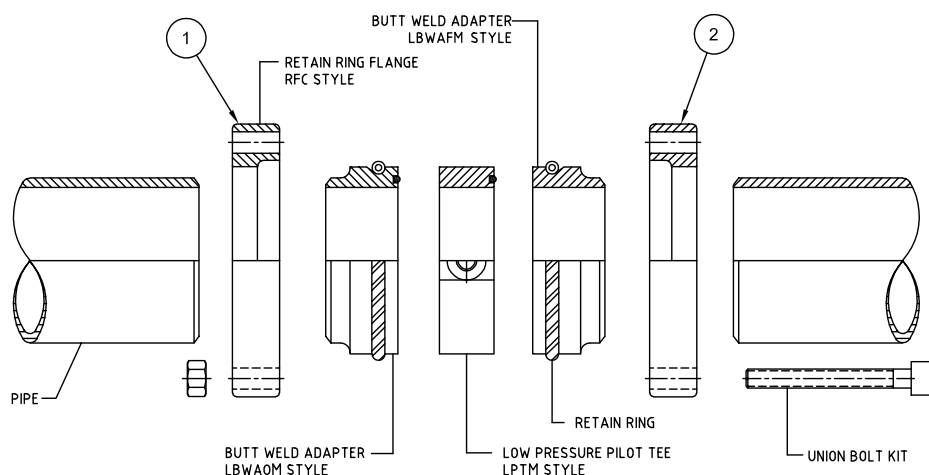
TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
8"	BKM-RFC-RFC-18-800-N-SC	M20 x 120-N-SC	165 - 175



Bolt Kits - Low Pressure Retain Ring Flange - Metric

Union Style with Pilot Tee



TMI® 6-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-LPTM-RFC-16-250-N-SC	M12 x 90-N-SC	110 - 125
3"	BKM-RFC-LPTM-RFC-16-300-N-SC	M16 x 100-N-SC	150 - 165
4"	BKM-RFC-LPTM-RFC-16-400-N-SC	M16 x 100-N-SC	150 - 165
5"	BKM-RFC-LPTM-RFC-16-500-N-SC	M16 x 120-N-SC	150 - 165
6"	BKM-RFC-LPTM-RFC-16-600-N-SC	M16 x 130-N-SC	150 - 165

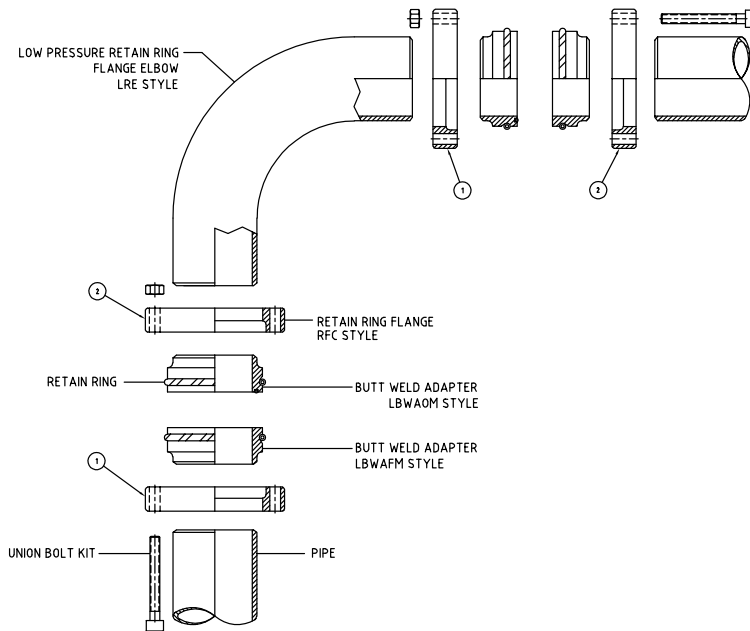
TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
8"	BKM-RFC-LPTM-RFC-18-800-N-SC	M20 x 140-N-SC	165 - 175



Bolt Kits - Low Pressure Retain Ring Flange - Metric

Pipe to Retain Ring Component



TMI® 6-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-RFC-16-250-N-SC	M12 x 60-N-SC	110 - 125
3"	BKM-RFC-RFC-16-300-N-SC	M16 x 80-N-SC	150 - 165
4"	BKM-RFC-RFC-16-400-N-SC	M16 x 80-N-SC	150 - 165
5"	BKM-RFC-RFC-16-500-N-SC	M16 x 90-N-SC	150 - 165
6"	BKM-RFC-RFC-16-600-N-SC	M16 x 100-N-SC	150 - 165

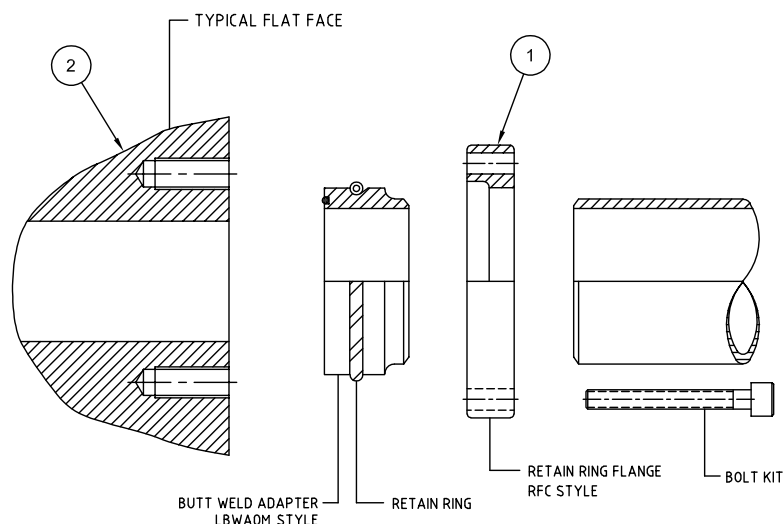
TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
8"	BKM-RFC-RFC-18-800-N-SC	M20 x 120-N-SC	165 - 175



Bolt Kits - Low Pressure Retain Ring Flange - Metric

'O' Ring Face to Flat Face Component



TMI® 6-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-COMP-16-250-SC	M12 x 60-N-SC	110 - 125
3"	BKM-RFC-COMP-16-300-SC	M16 x 50-N-SC	150 - 165
4"	BKM-RFC-COMP-16-400-SC	M16 x 50-N-SC	150 - 165
5"	BKM-RFC-COMP-16-500-SC	M16 x 60-N-SC	150 - 165
6"	BKM-RFC-COMP-16-600-SC	M16 x 65-N-SC	150 - 165

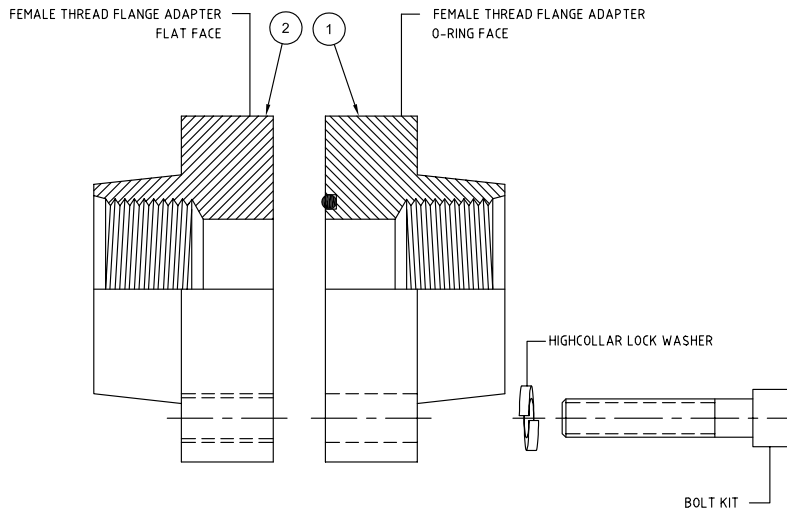
TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
8"	BKM-RFC-COMP-18-800-SC	M20 x 75-N-SC	165 - 175



Bolt Kits - Female Thread Flange - Metric

'O' Ring Face to Flat Face



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No. Female NPT Thread	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-NTFO-NTFF-34-050-SC-HLW	BKM-STFO-STFF-34-050-SC-HLW	M8 x 30-SC-HLW	20 - 25
3/4"	BKM-NTFO-NTFF-34-075-SC-HLW	BKM-STFO-STFF-34-075-SC-HLW	M10 x 40-SC-HLW	55 - 68
1"	BKM-NTFO-NTFF-34-100-SC-HLW	BKM-STFO-STFF-34-100-SC-HLW	M10 x 40-SC-HLW	55 - 68
1 1/4"	BKM-NTFO-NTFF-34-125-SC-HLW	BKM-STFO-STFF-34-125-SC-HLW	M10 x 45-SC-HLW	55 - 68
1 1/2"	BKM-NTFO-NTFF-34-150-SC-HLW	BKM-STFO-STFF-34-150-SC-HLW	M12 x 50-SC-HLW	110 - 125
2"	BKM-NTFO-NTFF-34-200-SC-HLW	BKM-STFO-STFF-34-200-SC-HLW	M12 x 50-SC-HLW	110 - 125
2 1/2"	BKM-NTFO-NTFF-34-250-SC-HLW	BKM-STFO-STFF-34-250-SC-HLW	M12 x 50-SC-HLW	110 - 125
3"	BKM-NTFO-NTFF-34-300-SC-HLW	BKM-STFO-STFF-34-300-SC-HLW	M16 x 50-SC-HLW	150 - 165

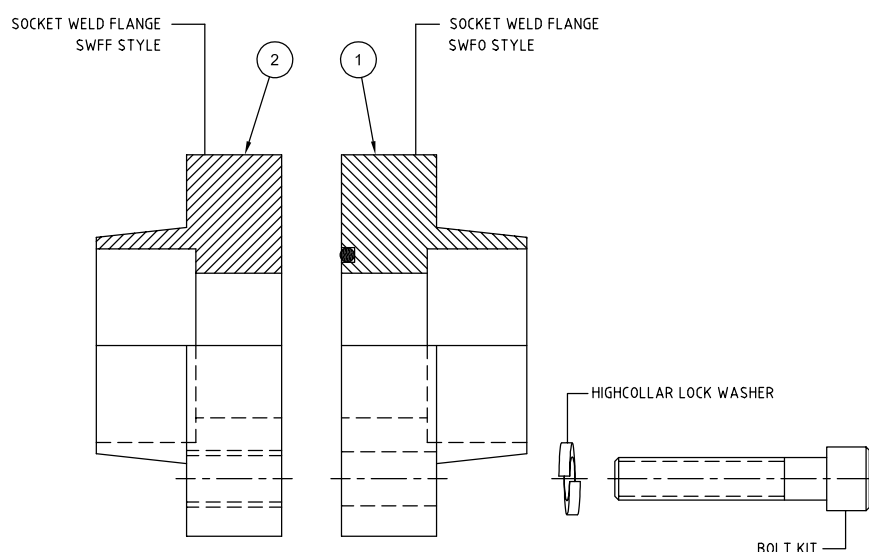
ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No. Female NPT Thread	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-NTFO-NTFF-64-050-SC-HLW	BKM-STFO-STFF-64-050-SC-HLW	M8 x 30-SC-HLW	20 - 25
3/4"	BKM-NTFO-NTFF-64-075-SC-HLW	BKM-STFO-STFF-64-075-SC-HLW	M10 x 45-SC-HLW	55 - 68
1"	BKM-NTFO-NTFF-64-100-SC-HLW	BKM-STFO-STFF-64-100-SC-HLW	M12 x 50-SC-HLW	110 - 125
1 1/4"	BKM-NTFO-NTFF-64-125-SC-HLW	BKM-STFO-STFF-64-125-SC-HLW	M12 x 50-SC-HLW	110 - 125
1 1/2"	BKM-NTFO-NTFF-64-150-SC-HLW	BKM-STFO-STFF-64-150-SC-HLW	M16 x 65-SC-HLW	110 - 125
2"	BKM-NTFO-NTFF-64-200-SC-HLW	BKM-STFO-STFF-64-200-SC-HLW	M20 x 75-SC-HLW	165 - 175



Bolt Kits - Socket Weld Flange - Metric

'O' Ring Face to Flat Face



ISO 6162-1 - 4-Bolt Flange Connection

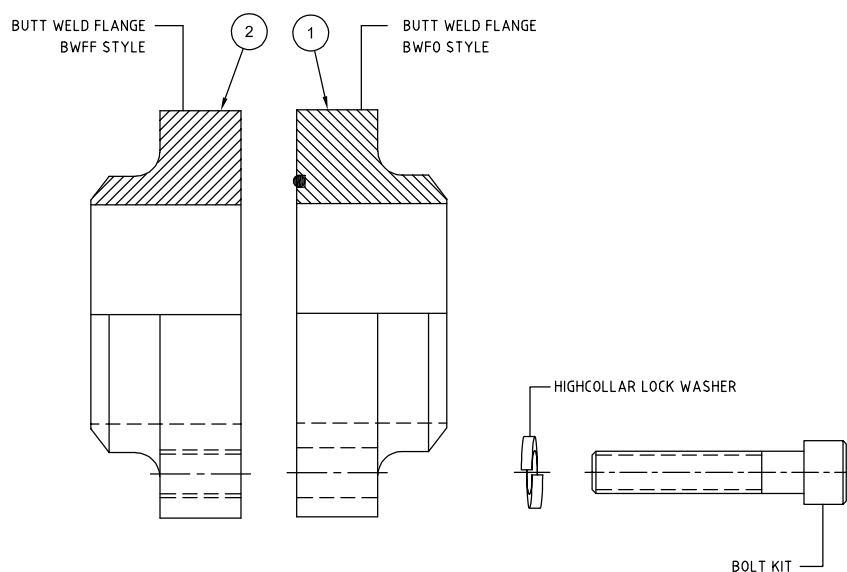
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-SWFO-SWFF-34-050-SC-HLW	M8 x 30-SC-HLW	20 - 25
3/4"	BKM-SWFO-SWFF-34-075-SC-HLW	M10 x 40-SC-HLW	55 - 68
1"	BKM-SWFO-SWFF-34-100-SC-HLW	M10 x 40-SC-HLW	55 - 68
1 1/4"	BKM-SWFO-SWFF-34-125-SC-HLW	M10 x 45-SC-HLW	55 - 68
1 1/2"	BKM-SWFO-SWFF-34-150-SC-HLW	M12 x 50-SC-HLW	110 - 125
2"	BKM-SWFO-SWFF-34-200-SC-HLW	M12 x 50-SC-HLW	110 - 125
2 1/2"	BKM-SWFO-SWFF-34-250-SC-HLW	M12 x 50-SC-HLW	110 - 125
3"	BKM-SWFO-SWFF-34-300-SC-HLW	M16 x 50-SC-HLW	150 - 165
4"	BKM-SWFO-SWFF-34-400-SC-HLW	M16 x 50-SC-HLW	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-SWFO-SWFF-64-050-SC-HLW	M8 x 30-SC-HLW	20 - 25
3/4"	BKM-SWFO-SWFF-64-075-SC-HLW	M10 x 45-SC-HLW	55 - 68
1"	BKM-SWFO-SWFF-64-100-SC-HLW	M12 x 50-SC-HLW	110 - 125
1 1/4"	BKM-SWFO-SWFF-64-125-SC-HLW	M12 x 50-SC-HLW	110 - 125
1 1/2"	BKM-SWFO-SWFF-64-150-SC-HLW	M16 x 60-SC-HLW	150 - 165
2"	BKM-SWFO-SWFF-64-200-SC-HLW	M20 x 75-SC-HLW	165 - 175

Bolt Kits - Butt Weld Flange - Metric

'O' Ring Face to Flat Face



ISO 6162-1 - 4-Bolt Flange Connection

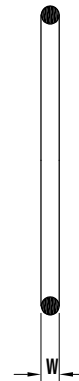
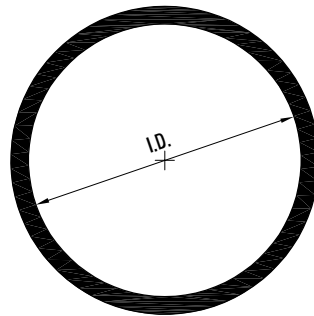
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-BWFO-BWFF-34-050-SC-HLW	M8 x 30-SC-HLW	20 - 25
3/4"	BKM-BWFO-BWFF-34-075-SC-HLW	M10 x 40-SC-HLW	55 - 68
1"	BKM-BWFO-BWFF-34-100-SC-HLW	M10 x 40-SC-HLW	55 - 68
1 1/4"	BKM-BWFO-BWFF-34-125-SC-HLW	M10 x 45-SC-HLW	55 - 68
1 1/2"	BKM-BWFO-BWFF-34-150-SC-HLW	M12 x 50-SC-HLW	110 - 125
2"	BKM-BWFO-BWFF-34-200-SC-HLW	M12 x 50-SC-HLW	110 - 125
2 1/2"	BKM-BWFO-BWFF-34-250-SC-HLW	M12 x 50-SC-HLW	110 - 125
3"	BKM-BWFO-BWFF-34-300-SC-HLW	M16 x 50-SC-HLW	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-BWFO-BWFF-64-050-SC-HLW	M8 x 30-SC-HLW	20 - 25
3/4"	BKM-BWFO-BWFF-64-075-SC-HLW	M10 x 45-SC-HLW	55 - 68
1"	BKM-BWFO-BWFF-64-100-SC-HLW	M12 x 50-SC-HLW	110 - 125
1 1/4"	BKM-BWFO-BWFF-64-125-SC-HLW	M12 x 50-SC-HLW	110 - 125
1 1/2"	BKM-BWFO-BWFF-64-150-SC-HLW	M16 x 60-SC-HLW	150 - 165
2"	BKM-BWFO-BWFF-64-200-SC-HLW	M20 x 75-SC-HLW	165 - 175

Elastomer Seals - Metric

'O' Ring



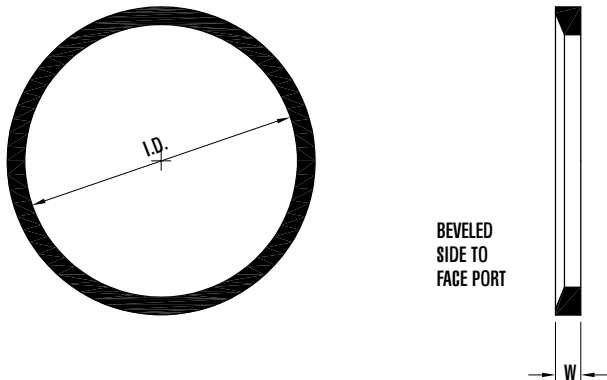
OR 'O' Ring

'O' Ring (Nitrile) Part No.	'O' Ring (VITON) Part No.	Dimensions(mm) I.D. x W
OR-2-210	ORV-2-210	18.6 x 3.5
OR-2-214	ORV-2-214	25 x 3.5
OR-2-219	ORV-2-219	32.9 x 3.5
OR-2-222	ORV-2-222	37.7 x 3.5
OR-2-225	ORV-2-225	47.2 x 3.5
OR-2-228	ORV-2-228	56.7 x 3.5
OR-2-232	ORV-2-232	69.4 x 3.5
OR-2-237	ORV-2-237	85.3 x 3.5
OR-2-241	ORV-2-241	98 x 3.5
OR-2-243	ORV-2-243	104.4 x 3.5
OR-2-245	ORV-2-245	110.7 x 3.5
OR-2-253	ORV-2-253	136.1 x 3.5
OR-2-259	ORV-2-259	158.3 x 3.5
OR-2-353	ORV-2-353	126.4 x 5.3
OR-2-359	ORV-2-359	145.4 x 5.3
OR-2-368	ORV-2-368	196.2 x 5.3
OR-2-372	ORV-2-372	221.6 x 5.3
OR-3-906	ORV-3-906	11.9 x 2
OR-3-908	ORV-3-908	16.4 x 2.2
OR-3-909	ORV-3-909	17.9 x 2.5
OR-3-910	ORV-3-910	19.2 x 2.5
OR-3-912	ORV-3-912	23.5 x 3
OR-3-913	ORV-3-913	25 x 3
OR-3-916	ORV-3-916	30 x 3
OR-3-918	ORV-3-918	34.4 x 3
OR-3-920	ORV-3-920	37.5 x 3
OR-3-924	ORV-3-924	43.7 x 3
OR-3-928	ORV-3-928	53.1 x 3
OR-3-932	ORV-3-932	59.4 x 3

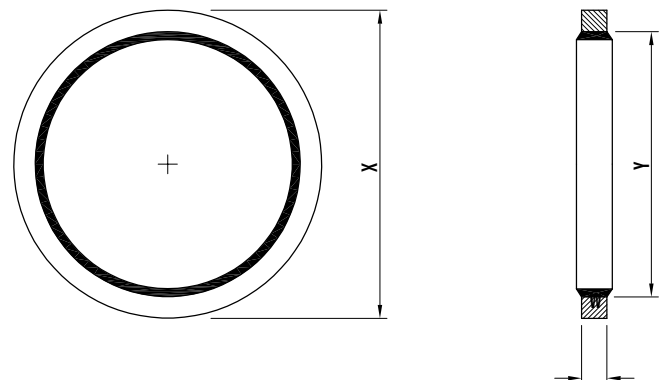
'O' Ring (Nitrile) Part No.	'O' Ring (VITON) Part No.	Dimensions(mm) I.D. x W
OR-1715	ORV-1715	17 x 1.5
OR-1915	ORV-1915	19 x 1.5
OR-2315	ORV-2315	23 x 1.5
OR-2515	ORV-2515	25 x 1.5
OR-2815	ORV-2815	28 x 1.5
OR-3015	ORV-3015	30 x 1.5
OR-3515	ORV-3515	35 x 1.5
OR-4515	ORV-4515	45 x 1.5
OR-5615	ORV-5615	56 x 1.5
OR-6715	ORV-6715	67 x 1.5
OR-8015	ORV-8015	80 x 1.5

Elastomer Seals - Metric

'D' Ring



Bonded Seal



DR 'D' Ring

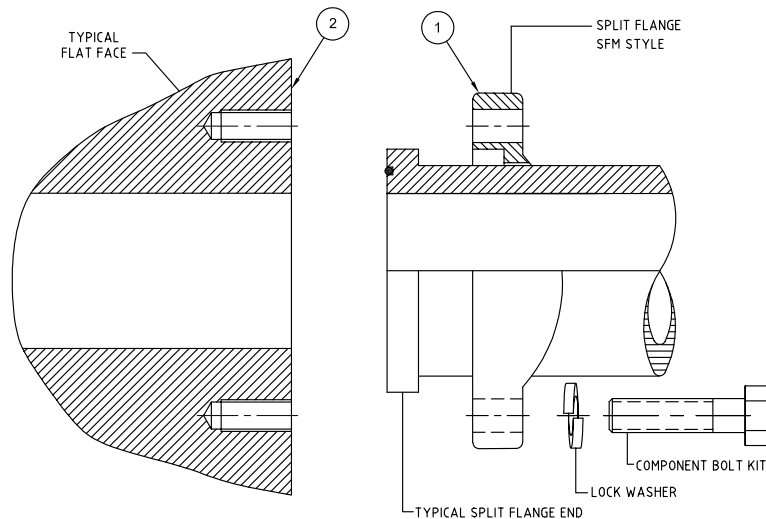
'D' Ring (Nitrile) Part No.	'D' Ring (VITON) Part No.	Dimensions(mm) I.D. x W
DR-G050	DRV-G050	18.5 x 1.5
DR-G075	DRV-G075	23.9 x 1.5
DR-G100	DRV-G100	29.7 x 2
DR-G125	DRV-G125	38.8 x 2
DR-G150	DRV-G150	44.7 x 2

BS Bonded Seal

Bonded Seal (Nitrile) Part No.	Bonded Seal (VITON) Part No.	Dimensions (mm)		
		X	Y	W
BS-3236	BSV-3236	73	60.5	3.3

Bolt Kits - SAE Split Flange - Metric

Split Flange to Component



ISO 6162-1 - 4-Bolt Flange Connection

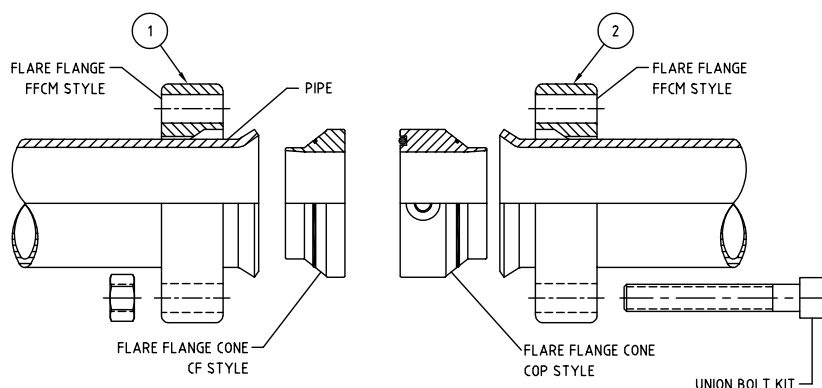
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-SFM-COMP-34-050-HH-LW	M8 x 30-HH-HLW	20 - 25
3/4"	BKM-SFM-COMP-34-075-HH-LW	M10 x 30-HH-HLW	55 - 68
1"	BKM-SFM-COMP-34-100-HH-LW	M10 x 30-HH-HLW	55 - 68
1 1/4"	BKM-SFM-COMP-34-125-HH-LW	M10 x 40-HH-HLW	55 - 68
1 1/2"	BKM-SFM-COMP-34-150-HH-LW	M12 x 40-HH-HLW	110 - 125
2"	BKM-SFM-COMP-34-200-HH-LW	M12 x 40-HH-HLW	110 - 125
2 1/2"	BKM-SFM-COMP-34-250-HH-LW	M12 x 45-HH-HLW	110 - 125
3"	BKM-SFM-COMP-34-300-HH-LW	M16 x 45-HH-HLW	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-SFM-COMP-64-050-HH-LW	M8 x 40-HH-HLW	20 - 25
3/4"	BKM-SFM-COMP-64-075-HH-LW	M10 x 40-HH-HLW	55 - 68
1"	BKM-SFM-COMP-64-100-HH-LW	M12 x 45-HH-HLW	110 - 125
1 1/4"	BKM-SFM-COMP-64-125-HH-LW	M12 x 45-HH-HLW	110 - 125
1 1/2"	BKM-SFM-COMP-64-150-HH-LW	M16 x 55-HH-HLW	150 - 165
2"	BKM-SFM-COMP-64-200-HH-LW	M20 x 70-HH-HLW	165 - 175

Bolt Kits - Flare Flange with Pilot Port Connection - Metric

Union Style - 'O' Ring Face Cone with Pilot Port



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-COP-FFCM-34-050-N-SC	M8 x 80-N-SC	20 - 25
3/4"	BKM-FFCM-COP-FFCM-34-075-N-SC	M10 x 90-N-SC	55 - 68
1"	BKM-FFCM-COP-FFCM-34-100-N-SC	M10 x 90-N-SC	55 - 68
1 1/4"	BKM-FFCM-COP-FFCM-34-125-N-SC	M10 x 90-N-SC	55 - 68
1 1/2"	BKM-FFCM-COP-FFCM-34-150-N-SC	M12 x 100-N-SC	76 - 83
2"	BKM-FFCM-COP-FFCM-34-200-N-SC	M12 x 120-N-SC	110 - 125
2 1/2"	BKM-FFCM-COP-FFCM-34-250-N-SC	M12 x 130-N-SC	110 - 125
3"	BKM-FFCM-COP-FFCM-34-300-N-SC	M16 x 140-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

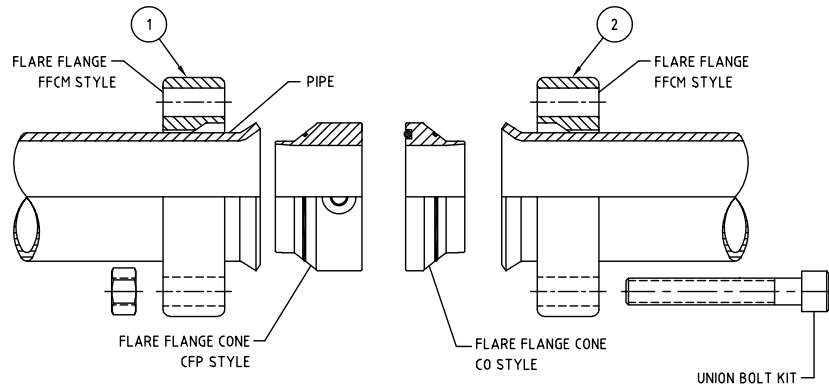
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-COP-FFCM-64-050-N-SC	M8 x 80-N-SC	20 - 25
3/4"	BKM-FFCM-COP-FFCM-64-075-N-SC	M10 x 100-N-SC	55 - 68
1"	BKM-FFCM-COP-FFCM-64-100-N-SC	M12 x 100-N-SC	110 - 125
1 1/4"	BKM-FFCM-COP-FFCM-64-125-N-SC	M12 x 120-N-SC	110 - 125
1 1/2"	BKM-FFCM-COP-FFCM-64-150-N-SC	M16 x 130-N-SC	150 - 165
2"	BKM-FFCM-COP-FFCM-64-200-N-SC	M20 x 140-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-FFCM-COP-FFCM-74-250-N-SC	M20 x 140-N-SC	165 - 175
3"	BKM-FFCM-COP-FFCM-74-300-N-HH	M24 x 150-N-HH	475 - 550

Bolt Kits - Flare Flange with Pilot Port Connection - Metric

Union Style - Flat Face Cone with Pilot Port



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-CFP-FFCM-34-050-N-SC	M8 x 80-N-SC	20 - 25
3/4"	BKM-FFCM-CFP-FFCM-34-075-N-SC	M10 x 90-N-SC	55 - 68
1"	BKM-FFCM-CFP-FFCM-34-100-N-SC	M10 x 90-N-SC	55 - 68
1 1/4"	BKM-FFCM-CFP-FFCM-34-125-N-SC	M10 x 90-N-SC	55 - 68
1 1/2"	BKM-FFCM-CFP-FFCM-34-150-N-SC	M12 x 100-N-SC	76 - 83
2"	BKM-FFCM-CFP-FFCM-34-200-N-SC	M12 x 120-N-SC	110 - 125
2 1/2"	BKM-FFCM-CFP-FFCM-34-250-N-SC	M12 x 130-N-SC	110 - 125
3"	BKM-FFCM-CFP-FFCM-34-300-N-SC	M12 x 140-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

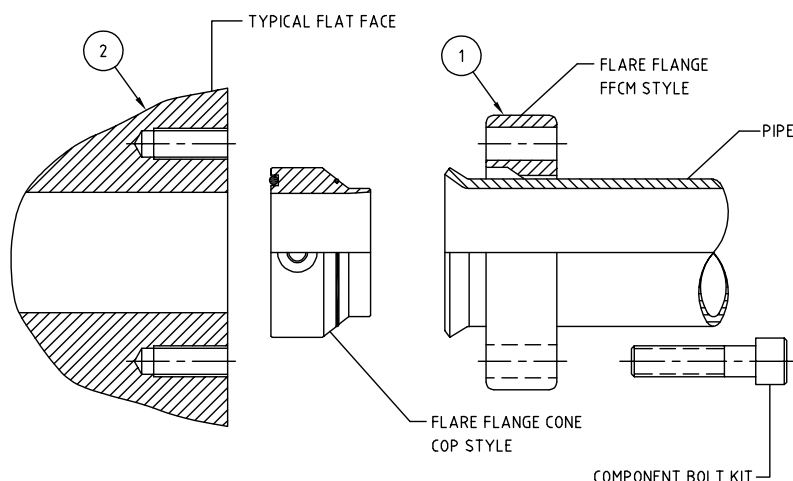
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-CFP-FFCM-64-050-N-SC	M8 x 80-N-SC	20 - 25
3/4"	BKM-FFCM-CFP-FFCM-64-075-N-SC	M10 x 100-N-SC	55 - 68
1"	BKM-FFCM-CFP-FFCM-64-100-N-SC	M12 x 100-N-SC	110 - 125
1 1/4"	BKM-FFCM-CFP-FFCM-64-125-N-SC	M12 x 120-N-SC	110 - 125
1 1/2"	BKM-FFCM-CFP-FFCM-64-150-N-SC	M16 x 130-N-SC	150 - 165
2"	BKM-FFCM-CFP-FFCM-64-200-N-SC	M20 x 140-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-FFCM-CFP-FFCM-74-250-N-SC	M20 x 140-N-SC	165 - 175
3"	BKM-FFCM-CFP-FFCM-74-300-N-HH	M24 x 150-N-HH	475 - 550

Bolt Kits - Flare Flange with Pilot Port Connection - Metric

Flare Flange to Flat Face Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-COP-COMP-34-050-SC	M8 x 65-SC	20 - 25
3/4"	BKM-FFCM-COP-COMP-34-075-SC	M10 x 65-SC	55 - 68
1"	BKM-FFCM-COP-COMP-34-100-SC	M10 x 65-SC	55 - 68
1 1/4"	BKM-FFCM-COP-COMP-34-125-SC	M10 x 70-SC	55 - 68
1 1/2"	BKM-FFCM-COP-COMP-34-150-SC	M12 x 75-SC	76 - 83
2"	BKM-FFCM-COP-COMP-34-200-SC	M12 x 75-SC	110 - 125
2 1/2"	BKM-FFCM-COP-COMP-34-250-SC	M12 x 90-SC	110 - 125
3"	BKM-FFCM-COP-COMP-34-300-SC	M16 x 90-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

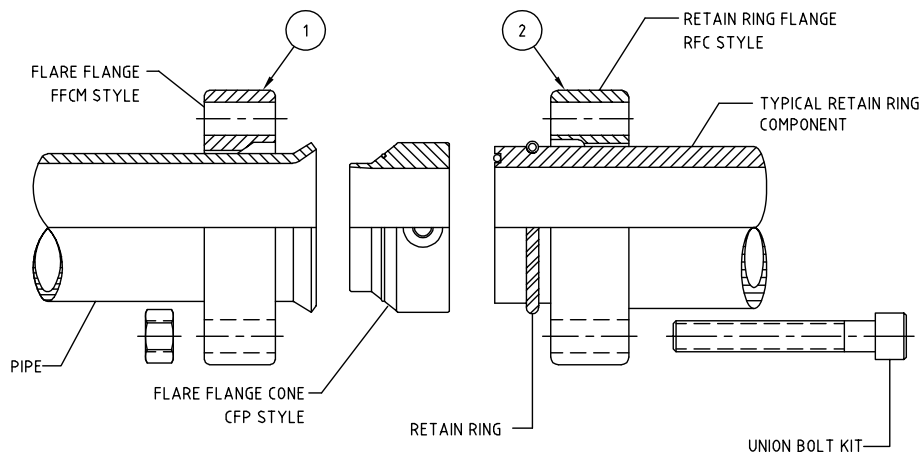
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-COP-COMP-64-050-SC	M8 x 65-SC	20 - 25
3/4"	BKM-FFCM-COP-COMP-64-075-SC	M10 x 70-SC	55 - 68
1"	BKM-FFCM-COP-COMP-64-100-SC	M12 x 70-SC	110 - 125
1 1/4"	BKM-FFCM-COP-COMP-64-125-SC	M12 x 75-SC	110 - 125
1 1/2"	BKM-FFCM-COP-COMP-64-150-SC	M16 x 90-SC	150 - 165
2"	BKM-FFCM-COP-COMP-64-200-SC	M20 x 90-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-FFCM-COP-COMP-74-250-SC	M20 x 100-SC	165 - 175
3"	BKM-FFCM-COP-COMP-74-300-HH	M24 x 155-HH	475 - 550

Bolt Kits - Flare Flange with Pilot Port Connection - Metric

Flare Flange to Retain Ring Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-CFP-RFC-34-050-N-SC	M8 x 80-N-SC	20 - 25
3/4"	BKM-FFCM-CFP-RFC-34-075-N-SC	M10 x 90-N-SC	55 - 68
1"	BKM-FFCM-CFP-RFC-34-100-N-SC	M10 x 90-N-SC	55 - 68
1 1/4"	BKM-FFCM-CFP-RFC-34-125-N-SC	M10 x 90-N-SC	55 - 68
1 1/2"	BKM-FFCM-CFP-RFC-34-150-N-SC	M12 x 100-N-SC	76 - 83
2"	BKM-FFCM-CFP-RFC-34-200-N-SC	M12 x 120-N-SC	110 - 125
2 1/2"	BKM-FFCM-CFP-RFC-34-250-N-SC	M12 x 130-N-SC	110 - 125
3"	BKM-FFCM-CFP-RFC-34-300-N-SC	M16 x 140-N-SC	150 - 165

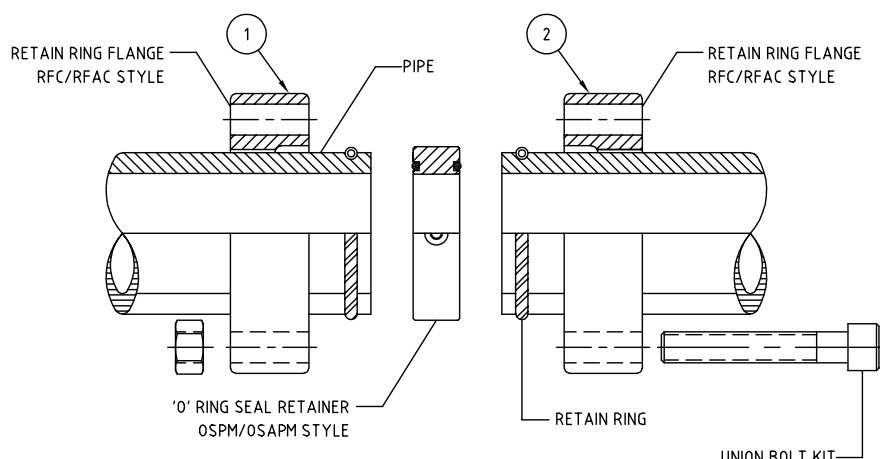
ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-FFCM-CFP-RFC-64-050-N-SC	M8 x 80-N-SC	20 - 25
3/4"	BKM-FFCM-CFP-RFC-64-075-N-SC	M10 x 100-N-SC	55 - 68
1"	BKM-FFCM-CFP-RFC-64-100-N-SC	M12 x 100-N-SC	110 - 125
1 1/4"	BKM-FFCM-CFP-RFC-64-125-N-SC	M12 x 120-N-SC	110 - 125
1 1/2"	BKM-FFCM-CFP-RFC-64-150-N-SC	M16 x 130-N-SC	150 - 165
2"	BKM-FFCM-CFP-RFC-64-200-N-SC	M20 x 140-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Bolt Size Minimum Grade 5	Bolt Torque ft.lbs.
2 1/2"	BKM-FFCM-CFP-RFC-74-250-N-SC	M20 x 140-N-SC	165 - 175
3"	BKM-FFCM-CFP-RFC-74-300-N-HH	M24 x 150-N-HH	475 - 550

Bolt Kits - Retain Ring Flange with Pilot Port Connection - Metric Pipe Union



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-RFC-OSPM-RFC-34-150-N-SC	M12 x 100-N-SC	76 - 83
2"	BKM-RFC-OSPM-RFC-34-200-N-SC	M12 x 120-N-SC	110 - 125
2 1/2"	BKM-RFC-OSPM-RFC-34-250-N-SC	M12 x 120-N-SC	110 - 125
3"	BKM-RFC-OSPM-RFC-34-300-N-SC	M16 x 140-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-RFC-OSPM-RFC-64-150-N-SC	M16 x 130-N-SC	150 - 165
2"	BKM-RFC-OSPM-RFC-64-200-N-SC	M20 x 140-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

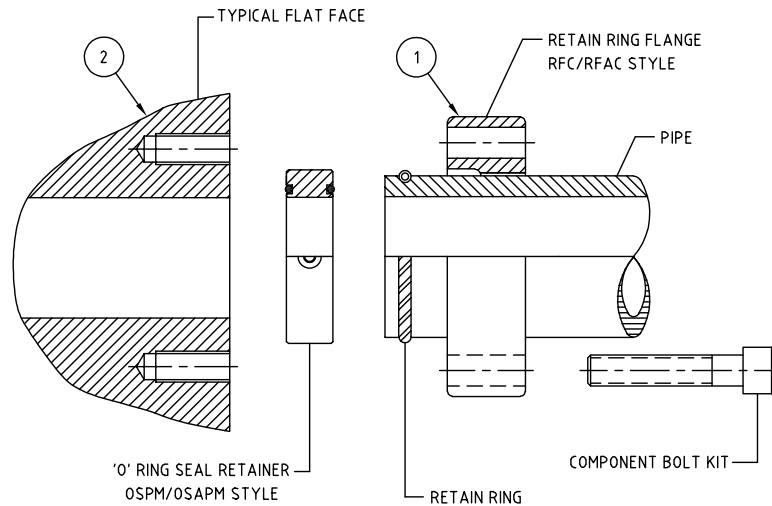
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-OSPM-RFC-74-250-N-SC	M20 x 130-N-SC	165 - 175
3"	BKM-RFC-OSPM-RFC-74-300-N-HH	M24 x 150-N-HH	475 - 550
4"	BKM-RFC-OSPM-RFC-74-400-N-N	M30 x 200-N-N	665 - 730

TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
5"	BKM-RFAC-OSAPM-RFAC-48-500-N-HH	M24 x 160-N-HH	475 - 550
6"	BKM-RFAC-OSAPM-RFAC-48-600-N-N	M30 x 250-N-N	665 - 730
8"	BKM-RFAC-OSAPM-RFAC-48-800-N-N	M36 x 300-N-N	1460 - 1595

Bolt Kits - Retain Ring Flange with Pilot Port Connection - Metric

Pipe to Flat Face Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-RFC-OSPM-COMP-34-150-SC	M12 x 80-SC	76 - 83
2"	BKM-RFC-OSPM-COMP-34-200-SC	M12 x 90-SC	110 - 125
2 1/2"	BKM-RFC-OSPM-COMP-34-250-SC	M12 x 90-SC	110 - 125
3"	BKM-RFC-OSPM-COMP-34-300-SC	M16 x 100-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1 1/2"	BKM-RFC-OSPM-COMP-64-150-SC	M16 x 90-SC	150 - 165
2"	BKM-RFC-OSPM-COMP-64-200-SC	M20 x 100-SC	165 - 175

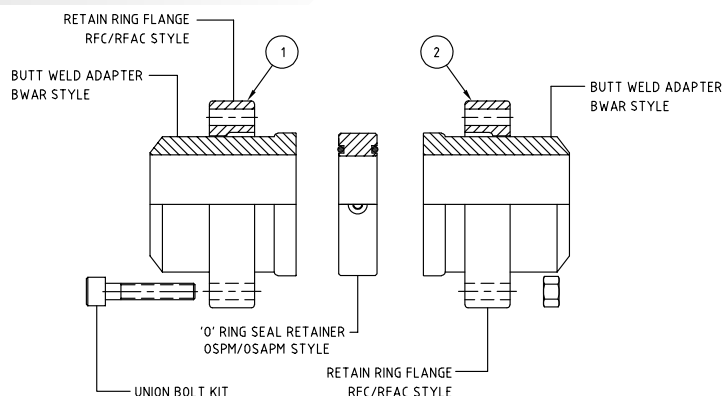
ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-OSPM-COMP-74-250-SC	M20 x 100-SC	165 - 175
3"	BKM-RFC-OSPM-COMP-74-300-HH	M24 x 115-HH	475 - 550
4"	BKM-RFC-OSPM-COMP-74-400-HH	M30 x 125-HH	665 - 730

TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
5"	BKM-RFAC-OSAPM-COMP-48-500-HH	M24 x 130-HH	475 - 550
6"	BKM-RFAC-OSAPM-COMP-48-600-HH	M30 x 130-HH	665 - 730
8"	BKM-RFAC-OSAPM-COMP-48-800-HH	M36 x 165-HH	1460 - 1595

Bolt Kits - Retain Ring Flange with Pilot Port Connection - Metric Butt Weld Adapter Union



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-OSPM-RFC-34-050-N-SC	M8 x 80-N-SC	20 - 25
3/4"	BKM-RFC-OSPM-RFC-34-075-N-SC	M10 x 90-N-SC	55 - 68
1"	BKM-RFC-OSPM-RFC-34-100-N-SC	M10 x 90-N-SC	55 - 68
1 1/4"	BKM-RFC-OSPM-RFC-34-125-N-SC	M10 x 90-N-SC	55 - 68
1 1/2"	BKM-RFC-OSPM-RFC-34-150-N-SC	M12 x 100-N-SC	76 - 83
2"	BKM-RFC-OSPM-RFC-34-200-N-SC	M12 x 120-N-SC	110 - 125
2 1/2"	BKM-RFC-OSPM-RFC-34-250-N-SC	M12 x 120-N-SC	110 - 125
3"	BKM-RFC-OSPM-RFC-34-300-N-SC	M16 x 140-N-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-OSPM-RFC-64-050-N-SC	M8 x 80-N-SC	20 - 25
3/4"	BKM-RFC-OSPM-RFC-64-075-N-SC	M10 x 100-N-SC	55 - 68
1"	BKM-RFC-OSPM-RFC-64-100-N-SC	M12 x 100-N-SC	110 - 125
1 1/4"	BKM-RFC-OSPM-RFC-64-125-N-SC	M12 x 120-N-SC	110 - 125
1 1/2"	BKM-RFC-OSPM-RFC-64-150-N-SC	M16 x 130-N-SC	150 - 165
2"	BKM-RFC-OSPM-RFC-64-200-N-SC	M20 x 140-N-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

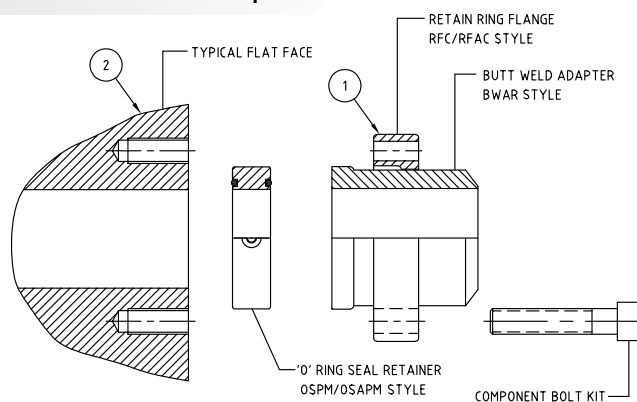
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-OSPM-RFC-74-250-N-SC	M20 x 130-N-SC	165 - 175
3"	BKM-RFC-OSPM-RFC-74-300-N-HH	M24 x 150-N-HH	475 - 550
4"	BKM-RFC-OSPM-RFC-74-400-N-HH	M30 x 200-N-HH	665 - 730

TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
5"	BKM-RFAC-OSAPM-RFAC-48-500-N-HH	M24 x 160-N-HH	475 - 550
6"	BKM-RFAC-OSAPM-RFAC-48-600-N-N	M30 x 255-N-N	665 - 730
8"	BKM-RFAC-OSAPM-RFAC-48-800-N-N	M36 x 305-N-N	1460 - 1595

Bolt Kits - Retain Ring Flange with Pilot Port Connection - Metric

Butt Weld Adapter to Flat Face Component



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-OSPM-COMP-34-050-SC	M8 x 70-SC	20 - 25
3/4"	BKM-RFC-OSPM-COMP-34-075-SC	M10 x 70-SC	55 - 68
1"	BKM-RFC-OSPM-COMP-34-100-SC	M10 x 70-SC	55 - 68
1 1/4"	BKM-RFC-OSPM-COMP-34-125-SC	M10 x 80-SC	55 - 68
1 1/2"	BKM-RFC-OSPM-COMP-34-150-SC	M12 x 80-SC	76 - 83
2"	BKM-RFC-OSPM-COMP-34-200-SC	M12 x 90-SC	110 - 125
2 1/2"	BKM-RFC-OSPM-COMP-34-250-SC	M12 x 90-SC	110 - 125
3"	BKM-RFC-OSPM-COMP-34-300-SC	M16 x 100-SC	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-RFC-OSPM-COMP-64-050-SC	M8 x 70-SC	20 - 25
3/4"	BKM-RFC-OSPM-COMP-64-075-SC	M10 x 80-SC	55 - 68
1"	BKM-RFC-OSPM-COMP-64-100-SC	M12 x 80-SC	110 - 125
1 1/4"	BKM-RFC-OSPM-COMP-64-125-SC	M12 x 90-SC	110 - 125
1 1/2"	BKM-RFC-OSPM-COMP-64-150-SC	M16 x 100-SC	150 - 165
2"	BKM-RFC-OSPM-COMP-64-200-SC	M20 x 120-SC	165 - 175

ISO 6164 - 4-Bolt Flange Connection

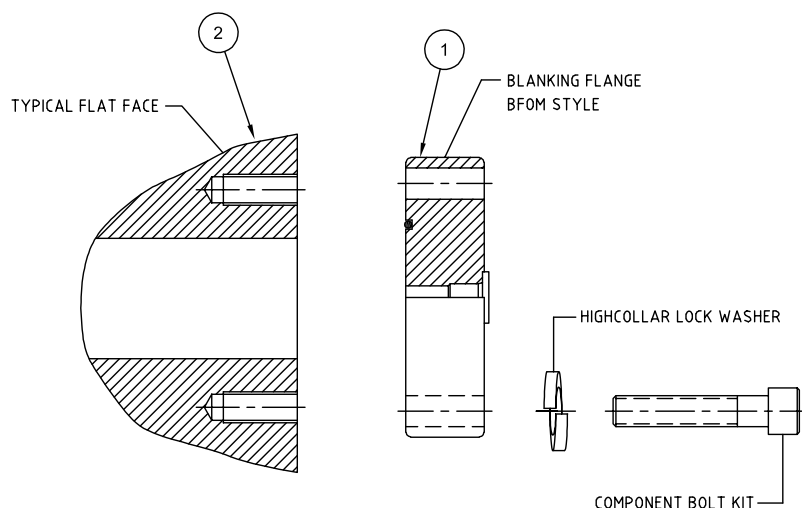
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-RFC-OSPM-COMP-74-250-SC	M20 x 100-SC	165 - 175
3"	BKM-RFC-OSPM-COMP-74-300-HH	M24 x 115-HH	475 - 550
4"	BKM-RFC-OSPM-COMP-74-400-HH	M30 x 130-HH	665 - 730

TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
5"	BKM-RFAC-OSAPM-COMP-48-500-HH	M24 x 130-HH	475 - 550
6"	BKM-RFAC-OSAPM-COMP-48-600-HH	M30 x 130-HH	665 - 730
8"	BKM-RFAC-OSAPM-COMP-48-800-HH	M36 x 165-HH	1460 - 1595

Bolt Kits - Blanking Flange to Flat Face Component - Metric

ISO 6162-1, ISO 6162-2, ISO 6164



ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-BFOM-COMP-34-050-SC-HLW	M8 x 30-SC-HLW	20 - 25
3/4"	BKM-BFOM-COMP-34-075-SC-HLW	M10 x 40-SC-HLW	55 - 68
1"	BKM-BFOM-COMP-34-100-SC-HLW	M10 x 40-SC-HLW	55 - 68
1 1/4"	BKM-BFOM-COMP-34-125-SC-HLW	M10 x 45-SC-HLW	55 - 68
1 1/2"	BKM-BFOM-COMP-34-150-SC-HLW	M12 x 50-SC-HLW	76 - 83
2"	BKM-BFOM-COMP-34-200-SC-HLW	M12 x 50-SC-HLW	110 - 125
2 1/2"	BKM-BFOM-COMP-34-250-SC-HLW	M12 x 60-SC-HLW	110 - 125
3"	BKM-BFOM-COMP-34-300-SC-HLW	M16 x 70-SC-HLW	150 - 165
4"	BKM-BFOM-COMP-34-400-SC-HLW	M16 x 70-SC-HLW	150 - 165

ISO 6162-2 - 4-Bolt Flange Connection

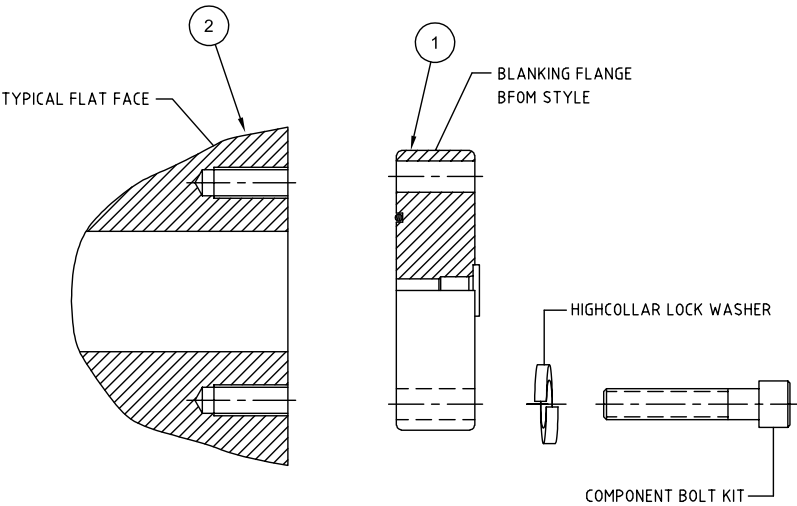
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-BFOM-COMP-64-050-SC-HLW	M8 x 30-SC-HLW	20 - 25
3/4"	BKM-BFOM-COMP-64-075-SC-HLW	M10 x 45-SC-HLW	55 - 68
1"	BKM-BFOM-COMP-64-100-SC-HLW	M12 x 45-SC-HLW	110 - 125
1 1/4"	BKM-BFOM-COMP-64-125-SC-HLW	M12 x 50-SC-HLW	110 - 125
1 1/2"	BKM-BFOM-COMP-64-150-SC-HLW	M16 x 65-SC-HLW	150 - 165
2"	BKM-BFOM-COMP-64-200-SC-HLW	M20 x 75-SC-HLW	165 - 175

ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-BFOM-COMP-74-250-SC-HLW	M20 x 70-SC-HLW	165 - 175
3"	BKM-BFOM-COMP-74-300-SC-HLW	M24 x 65-SC-HLW	475 - 550
4"	BKM-BFOM-COMP-74-300-SC-HLW	M30 x 100-SC-HLW	665 - 730

Bolt Kits - Blanking Flange to Flat Face Component - Metric

TMI 8-Bolt



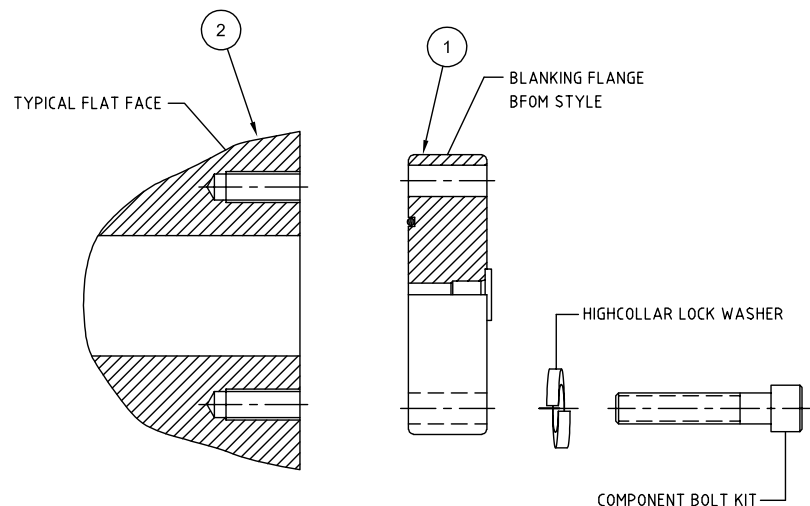
TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
5"	BKM-BFOM-COMP-48-500-SC-HLW	M24 x 90-SC-HLW	475 - 550
6"	BKM-BFOM-COMP-48-600-SC-HLW	M30 x 100-SC-HLW	665 - 730
8"	BKM-BFOM-COMP-48-800-SC-HLW	M36 x 120-SC-HLW	1460 - 1595



Bolt Kits - Low Pressure Blanking Flange to Flat Face Component - Metric

TMI 6-Bolt, TMI 8-Bolt



TMI® 6-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-BFOM-COMP-16-250-SC-HLW	M12 x 45-SC-HLW	110 - 125
3"	BKM-BFOM-COMP-16-300-SC-HLW	M16 x 50-SC-HLW	150 - 165
4"	BKM-BFOM-COMP-16-400-SC-HLW	M16 x 50-SC-HLW	150 - 165
5"	BKM-BFOM-COMP-16-500-SC-HLW	M16 x 60-SC-HLW	150 - 165
6"	BKM-BFOM-COMP-16-600-SC-HLW	M16 x 65-SC-HLW	150 - 165

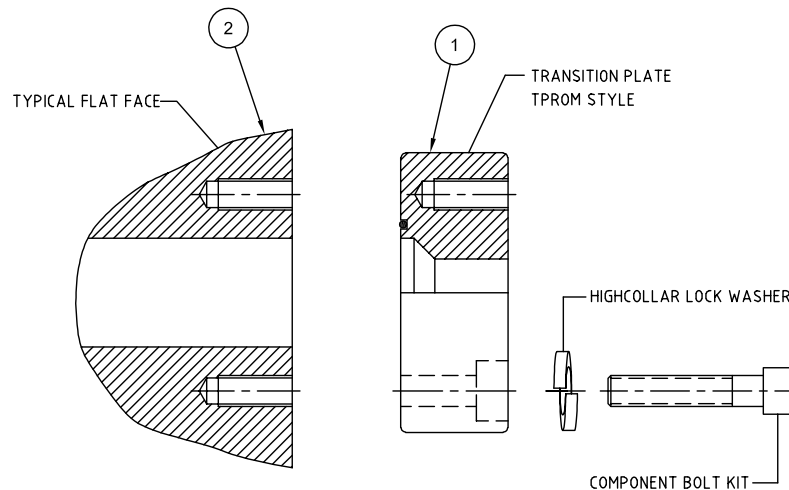
TMI® 8-Bolt - Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
8"	BKM-BFOM-COMP-18-800-SC-HLW	M20 x 75-SC-HLW	165 - 175



Bolt Kits - Transition Plate Reducer - Metric

Manifold Mount Style to Flat Face Component - ISO 6162-1

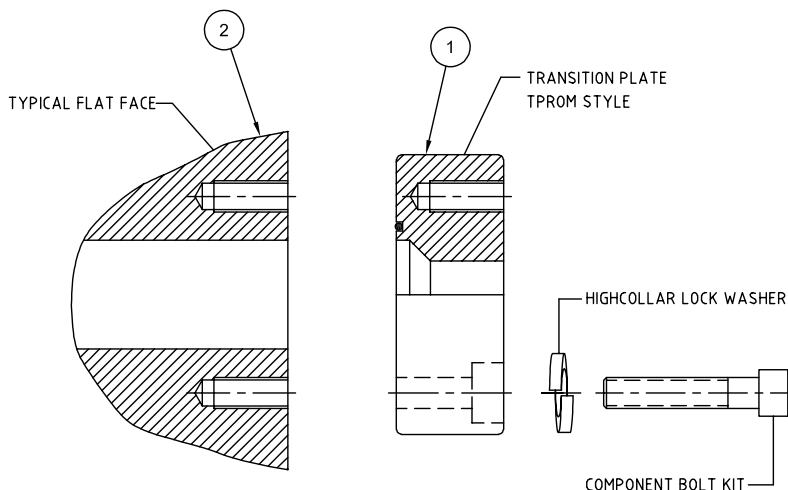


ISO 6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
3/4"x1/2"	BKM-TPROM-COMP-34-075x050-SC-HLW	M10 x 25-SC-HLW	55 - 68
1"x1/2"	BKM-TPROM-COMP-34-100x050-SC-HLW	M10 x 45-SC-HLW	55 - 68
1"x3/4"	BKM-TPROM-COMP-34-100x075-SC-HLW	M10 x 45-SC-HLW	55 - 68
1 1/4"x3/4"	BKM-TPROM-COMP-34-125x075-SC-HLW	M10 x 45-SC-HLW	55 - 68
1 1/4"x1"	BKM-TPROM-COMP-34-125x100-SC-HLW	M10 x 40-SC-HLW	55 - 68
1 1/2"x1"	BKM-TPROM-COMP-34-150x100-SC-HLW	M12 x 45-SC-HLW	110 - 125
1 1/2"x1 1/4"	BKM-TPROM-COMP-34-150x125-SC-HLW	M12 x 45-SC-HLW	110 - 125
2"x1 1/4"	BKM-TPROM-COMP-34-200x125-SC-HLW	M12 x 60-SC-HLW	110 - 125
2"x1 1/2"	BKM-TPROM-COMP-34-200x150-SC-HLW	M12 x 50-SC-HLW	110 - 125
2 1/2"x1 1/2"	BKM-TPROM-COMP-34-250x150-SC-HLW	M12 x 60-SC-HLW	110 - 125
2 1/2"x2"	BKM-TPROM-COMP-34-250x200-SC-HLW	M12 x 50-SC-HLW	110 - 125
3"x2"	BKM-TPROM-COMP-34-300x200-SC-HLW	M16 x 60-SC-HLW	150 - 165
3"x2 1/2"	BKM-TPROM-COMP-34-300x250-SC-HLW	M16 x 50-SC-HLW	150 - 165

Bolt Kits - Transition Plate Reducer - Metric

Manifold Mount Style to Flat Face Component - ISO 6162-2, ISO 6162-2/6162-1



ISO 6162-2 - 4-Bolt Flange Connection

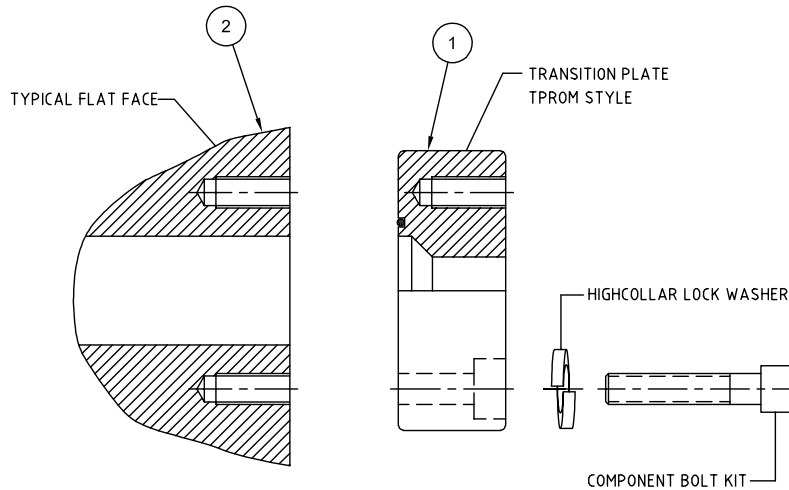
Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
3/4"x1/2"	BKM-TPROM-COMP-64-075x050-SC-HLW	M10 x 30-SC-HLW	55 - 68
1"x1/2"	BKM-TPROM-COMP-64-100x050-SC-HLW	M12 x 45-SC-HLW	110 - 125
1"x3/4"	BKM-TPROM-COMP-64-100x075-SC-HLW	M12 x 45-SC-HLW	110 - 125
1 1/4"x3/4"	BKM-TPROM-COMP-64-125x075-SC-HLW	M12 x 45-SC-HLW	110 - 125
1 1/4"x1"	BKM-TPROM-COMP-64-125x100-SC-HLW	M12 x 40-SC-HLW	110 - 125
1 1/2"x 1"	BKM-TPROM-COMP-64-150x100-SC-HLW	M16 x 50-SC-HLW	150 - 165
1 1/2"x1 1/4"	BKM-TPROM-COMP-64-150x125-SC-HLW	M16 x 45-SC-HLW	150 - 165
2"x1 1/4"	BKM-TPROM-COMP-64-200x125-SC-HLW	M20 x 50-SC-HLW	165 - 175
2"x1 1/2"	BKM-TPROM-COMP-64-200x150-SC-HLW	M20 x 50-SC-HLW	165 - 175

ISO 6162-2/6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
3/4"x1/2"	BKM-TPROM-COMP-6-34-075x050-SC-HLW	M10 x 45-SC-HLW	55 - 68
1"x1/2"	BKM-TPROM-COMP-6-34-100x050-SC-HLW	M12 x 45-SC-HLW	110 - 125
1"x3/4"	BKM-TPROM-COMP-6-34-100x075-SC-HLW	M12 x 45-SC-HLW	110 - 125
1 1/4"x3/4"	BKM-TPROM-COMP-6-34-125x075-SC-HLW	M12 x 45-SC-HLW	110 - 125
1 1/4"x1"	BKM-TPROM-COMP-6-34-125x100-SC-HLW	M12 x 30-SC-HLW	110 - 125
1 1/2"x 1"	BKM-TPROM-COMP-6-34-150x100-SC-HLW	M16 x 50-SC-HLW	150 - 165
1 1/2"x1 1/4"	BKM-TPROM-COMP-6-34-150x125-SC-HLW	M16 x 50-SC-HLW	150 - 165
2"x1 1/4"	BKM-TPROM-COMP-6-34-200x125-SC-HLW	M20 x 50-SC-HLW	165 - 175
2"x1 1/2"	BKM-TPROM-COMP-6-34-200x150-SC-HLW	M20 x 50-SC-HLW	165 - 175

Bolt Kits - Transition Plate Reducer - Metric

Manifold Mount Style to Flat Face Component - ISO 6164, ISO 6164/6162-1, ISO 6164/6162-2



ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
3"x2 1/2"	BKM-TPROM-COMP-74-300x250-SC-HLW	M24 x 60-SC-HLW	475 - 550
4"x2 1/2"	BKM-TPROM-COMP-74-400x250-SC-HLW	M30 x 70-SC-HLW	665 - 730
4"x3"	BKM-TPROM-COMP-74-400x300-SC-HLW	M30 x 65-SC-HLW	665 - 730

ISO 6164/6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"x1 1/2"	BKM-TPROM-COMP-7-34-250x150-SC-HLW	M20 x 60-SC-HLW	165 - 175
2 1/2"x2"	BKM-TPROM-COMP-7-34-250x200-SC-HLW	M20 x 50-SC-HLW	165 - 175
3"x2"	BKM-TPROM-COMP-7-34-300x200-SC-HLW	M24 x 65-SC-HLW	475 - 550
3"x2 1/2"	BKM-TPROM-COMP-7-34-300x250-SC-HLW	M24 x 65-SC-HLW	475 - 550
4"x2 1/2"	BKM-TPROM-COMP-7-34-400x250-SC-HLW	M30 x 65-SC-HLW	665 - 730
4"x 3"	BKM-TPROM-COMP-7-34-400x300-SC-HLW	M30 x 65-SC-HLW	665 - 730

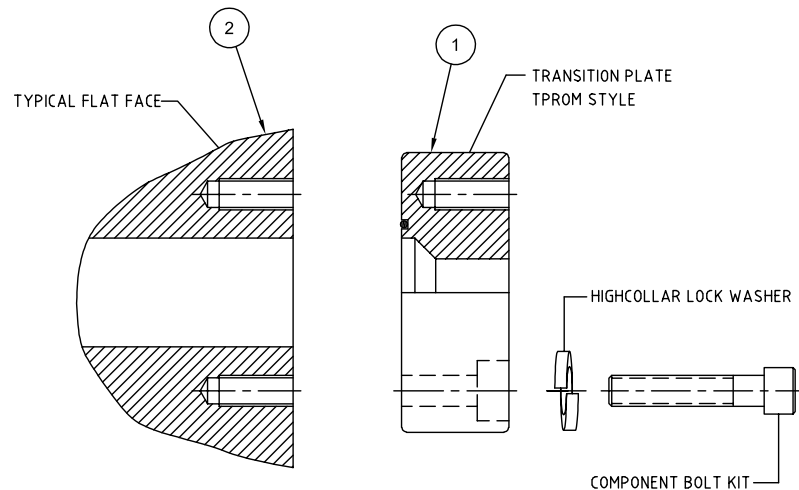
ISO 6164/6162-2 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"x1 1/2"	BKM-TPROM-COMP-7-64-250x150-SC-HLW	M20 x 60-SC-HLW	165 - 175
3"x2"	BKM-TPROM-COMP-7-64-300x200-SC-HLW	M24 x 70-SC-HLW	475 - 550
4"x2"	BKM-TPROM-COMP-7-64-400x200-SC-HLW	M30 x 75-SC-HLW	665 - 730



Bolt Kits - Transition Plate Reducer - Metric

Manifold Mount Style to Flat Face Component - TMI 8-Bolt, TMI 8-Bolt/ISO 6164



ISO 6164 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
6"x5"	BKM-TPROM-COMP-48-600x500-SC-HLW	M30 x 65-SC-HLW	665 - 730
8"x5"	BKM-TPROM-COMP-48-800x500-SC-HLW	M36 x 95-SC-HLW	1460 - 1595
8"x6"	BKM-TPROM-COMP-48-800x600-SC-HLW	M36 x 85-SC-HLW	1460 - 1595

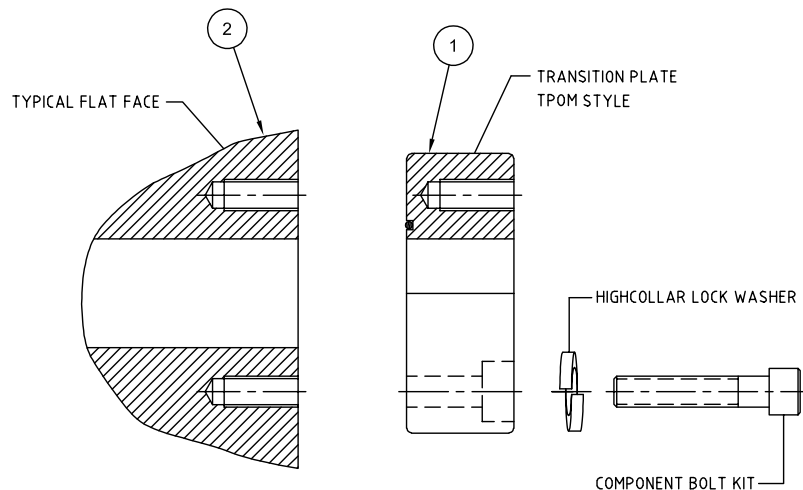
TMI® 8-Bolt/ISO 6164 - 8-Bolt/4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
5"x4"	BKM-TPROM-COMP-4-74-500x400-SC-HLW	M24 x 65-SC-HLW	475 - 550



Bolt Kits - Transition Plate - Metric

Manifold Mount Style to Flat Face Component



ISO 6162-2/6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
1/2"	BKM-TPOM-COMP-6-34-050-SC-HLW	M8 x 25-SC-HLW	20 - 25
3/4"	BKM-TPOM-COMP-6-34-075-SC-HLW	M10 x 25-SC-HLW	55 - 68
1"	BKM-TPOM-COMP-6-34-100-SC-HLW	M12 x 25-SC-HLW	110 - 125
1 1/4"	BKM-TPOM-COMP-6-34-125-SC-HLW	M12 x 40-SC-HLW	110 - 125
1 1/2"	BKM-TPOM-COMP-6-34-150-SC-HLW	M16 x 40-SC-HLW	150 - 165
2"	BKM-TPOM-COMP-6-34-200-SC-HLW	M20 x 40-SC-HLW	165 - 175

ISO 6164/6162-1 - 4-Bolt Flange Connection

Size	Bolt Kit Part No.	Metric Sizes	Bolt Torque Nm
2 1/2"	BKM-TPOM-COMP-7-34-250-SC-HLW	M20 x 40-SC-HLW	165 - 175
3"	BKM-TPOM-COMP-7-34-300-SC-HLW	M24 x 60-SC-HLW	475 - 550



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TUBE-MAC® INDUSTRIES WARRANTS ITS PRODUCTS TO BE FREE FROM VISIBLE DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FOLLOWING THE DATE OF DELIVERY TO THE ORIGINAL BUYER. THE WARRANTY EXTENDS ONLY TO THE ORIGINAL BUYER.

TUBE-MAC® INDUSTRIES makes no warranty, express or implied, as to the merchantability or fitness for a particular purpose except as stated in this Warranty.

This Warranty shall be in lieu of any other Warranty, whether express or implied, by this Agreement or at law or in equity or by any statute or otherwise. The Buyer agrees that the foregoing shall be pleaded by TUBE-MAC® INDUSTRIES as an estoppel in any action brought by the Buyer against TUBE-MAC® INDUSTRIES.

The Buyer agrees that porosity or pin holes in steel may not be commercially detectable. Therefore, TUBE-MAC® INDUSTRIES offers no warranty with respect to steel integrity and TUBE-MAC® INDUSTRIES shall not be liable for any damages, claims, injuries or otherwise caused by or in any way related to steel integrity.

TUBE-MAC® INDUSTRIES' liability shall be limited to the repair or replacement of defective product(s) free of charge at the seller's sole option and discretion. TUBE-MAC® INDUSTRIES reserves the right at its sole option and discretion to refund a portion or all of the purchase price paid by the Buyer in lieu of any other obligations TUBE-MAC® INDUSTRIES has under this Warranty. In no event shall TUBE-MAC® INDUSTRIES be liable for any incidental, consequential, general or special damage of any kind or nature whatsoever including but not limited to loss of profit arising out of any incident(s) involving the use or utilization of the product and/or system covered under this Warranty. In no event shall TUBE-MAC® INDUSTRIES be liable for any personal injury or any special or general damages arising out of the personal injury of any kind or nature whatsoever.

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TUBE-MAC® INDUSTRIES neither assumes nor authorizes any person to assume for it any other liability in connection with the sale of such products and/or systems.

WARNING: Failure or improper selection or improper use of the products and/or systems described herein or related items can cause death, personal injury and property damage.



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