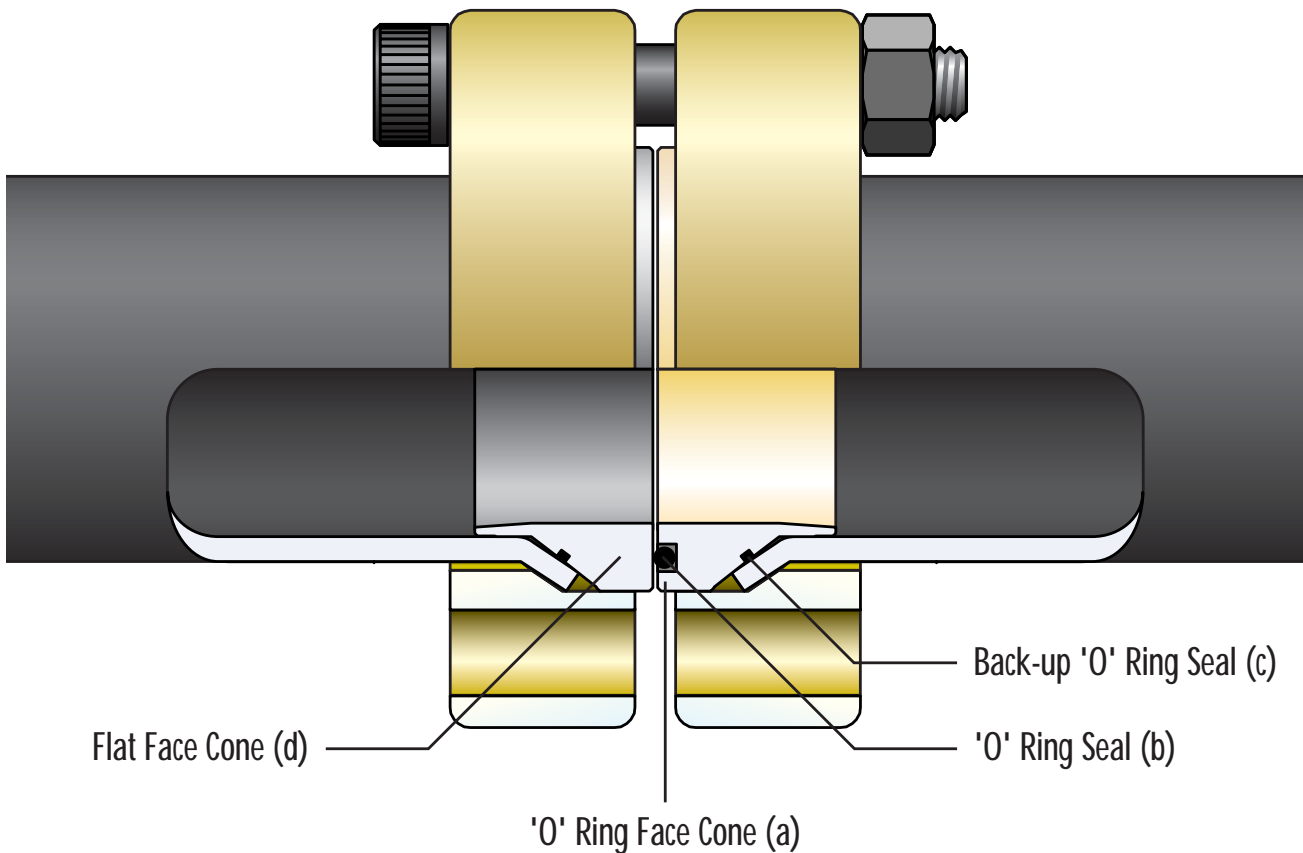


Flared System



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.



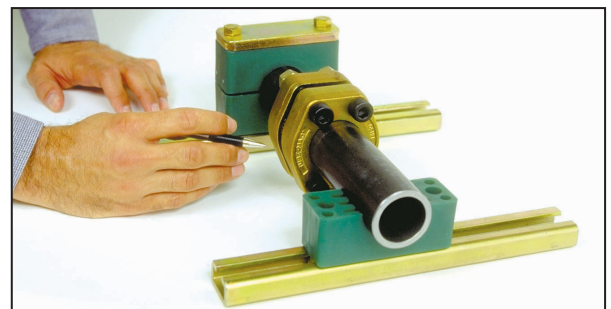
Step 3: Clean and visually inspect the flare. The surface of the flare should be smooth and free of any defects.



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

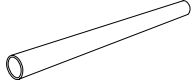
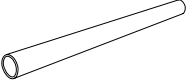
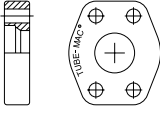
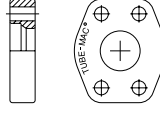
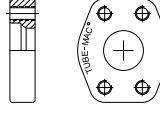
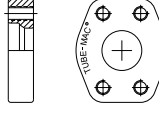
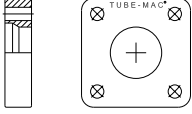

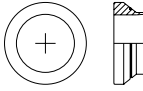
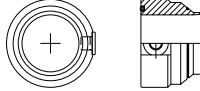
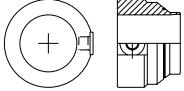
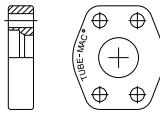
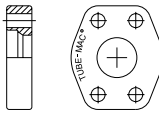
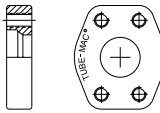
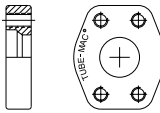

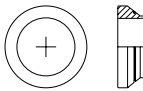
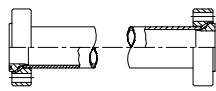
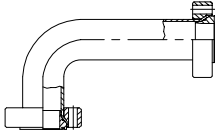
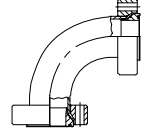


Step 5: Select the required bolting hardware from section Section R of this catalogue.

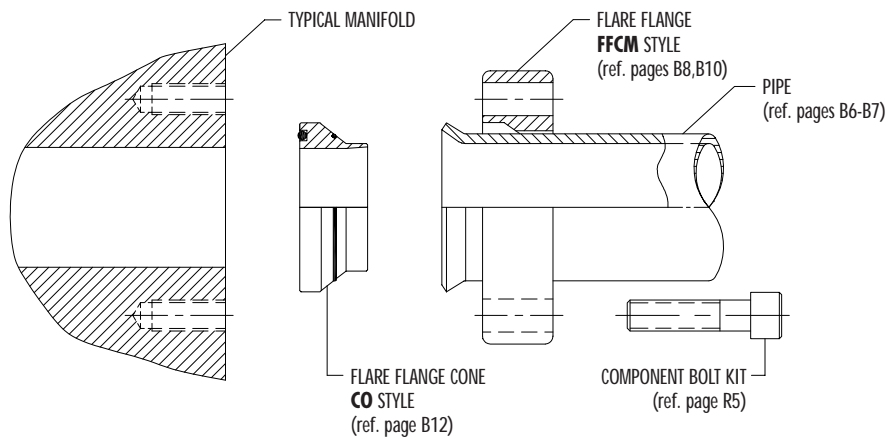
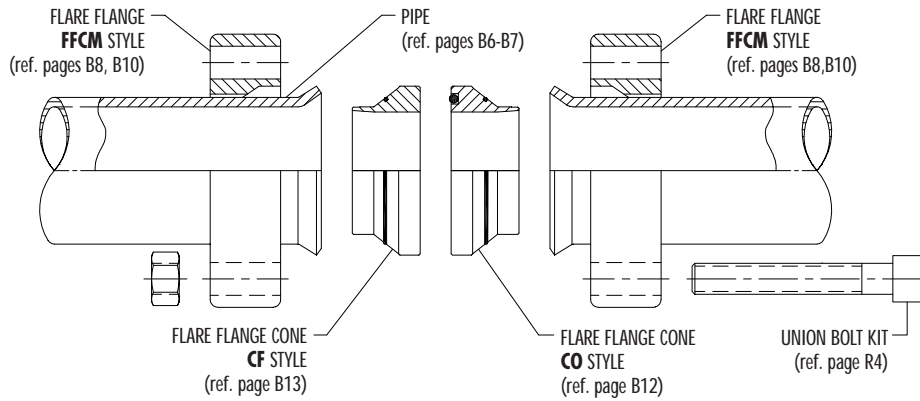


Step 6: Tighten bolts to the torque values specified. Always tighten bolts in a cross-over sequence and ensure that the flanges are parallel.

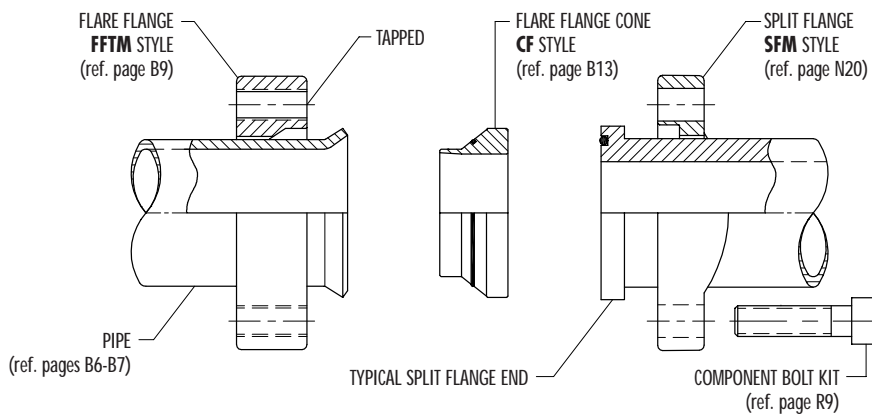
Flared System - Metric Visual Index

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

Typical Flare Union Connection

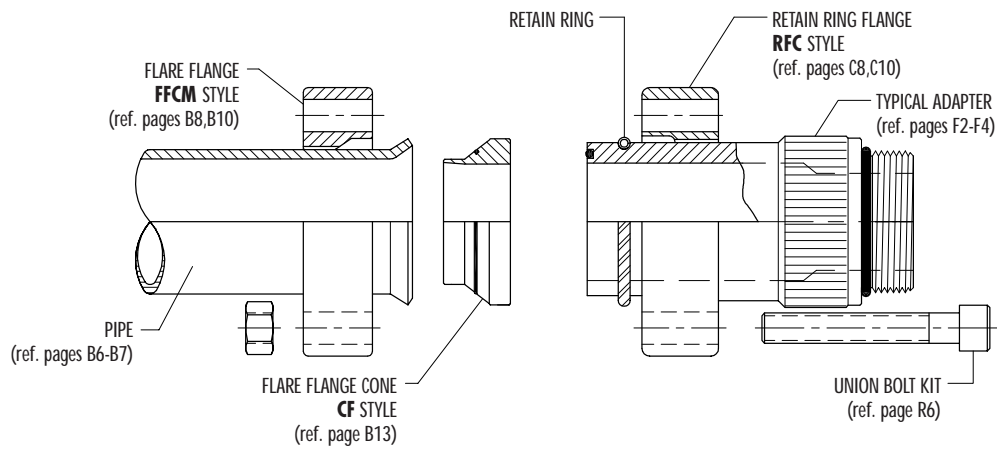


Typical Flare (Flat Face) to Split Flange Connection

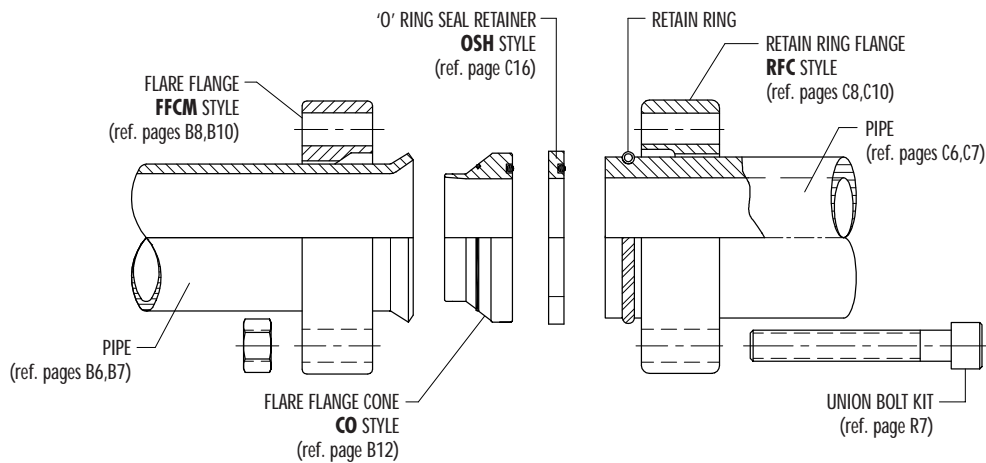


Flare Flange Connections - Metric

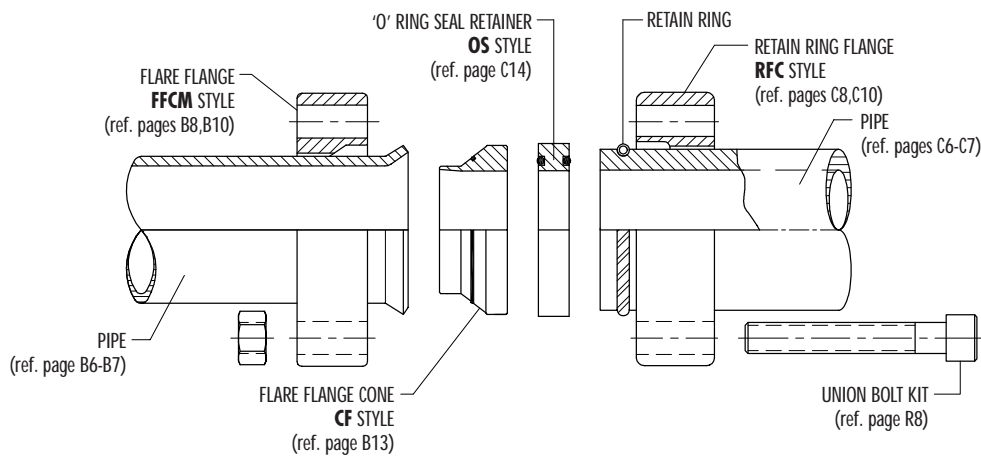
Typical Flare (Flat Face) to 'O' Ring Face Component Connection



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

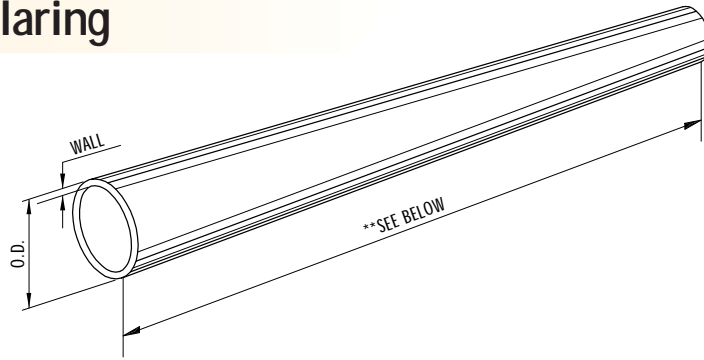


Typical Flare (Flat Face) to Retain Ring Pipe Connection



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

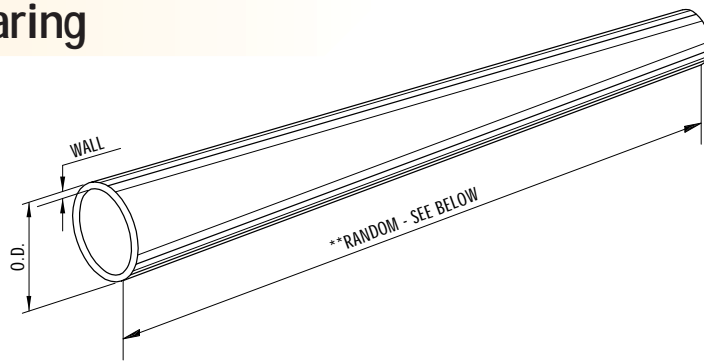
DIN, STE460 NBK Phosphated High Quality Bendable Cold Drawn Seamless Carbon Steel

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

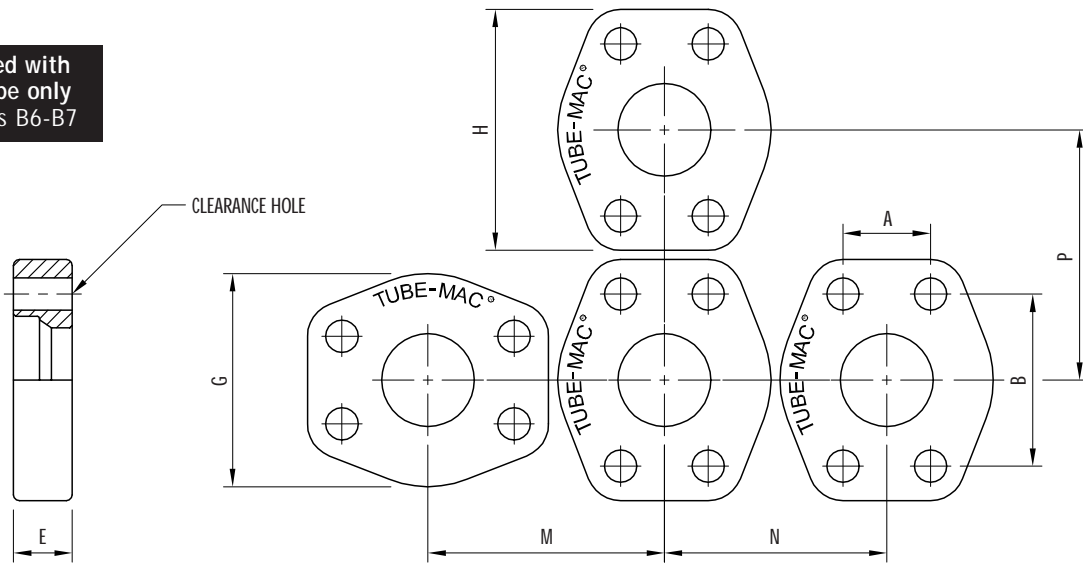
** INDICATE LENGTH (mm), AVAILABLE IN RANDOM LENGTHS UP TO 6000mm

- 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

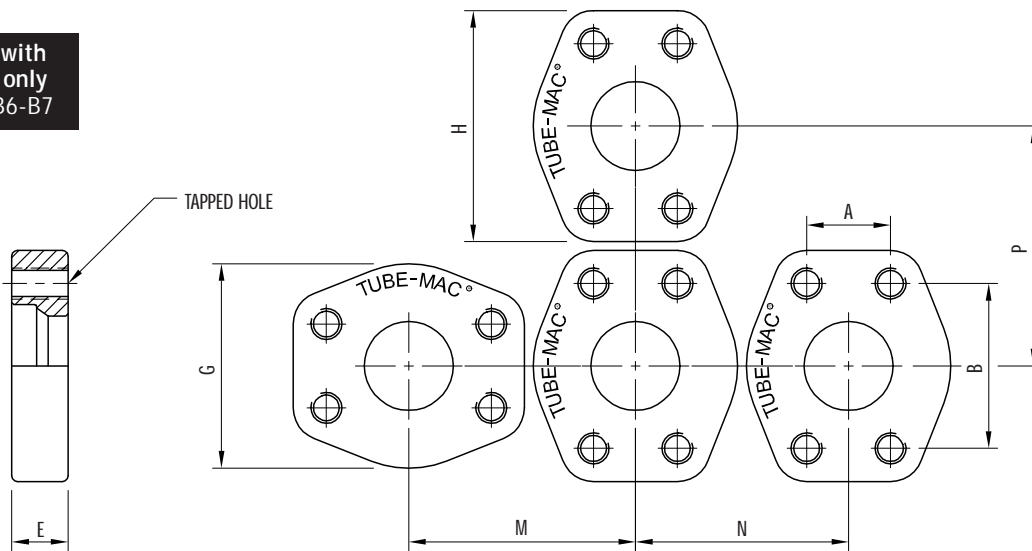
• FOR BOLT KITS - REFERENCE SECTION R

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

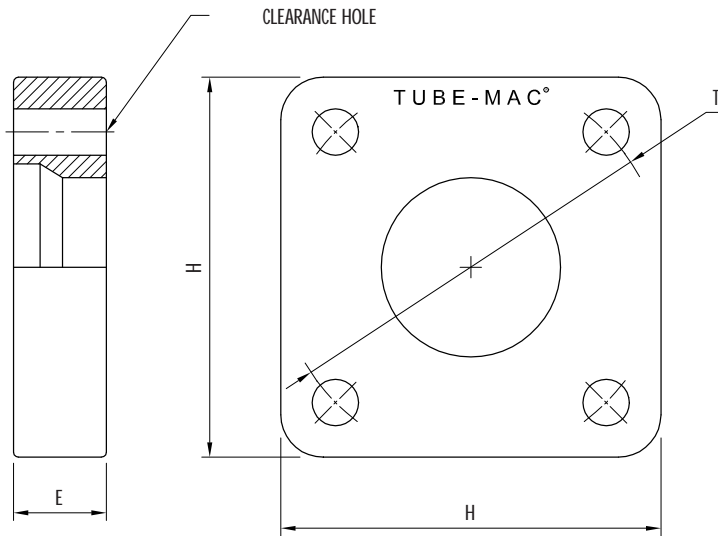
Size (inch)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
1/2"	FFTM64-050	18.3	40.4	47.8	56.4	55.9	53.1	58.9	20.6	M8 x 1.25	0.25	420	20-25
3/4"	FFTM64-075	23.9	50.8	60.5	71.4	70.1	68.1	74.9	25.9	M10 x 1.50	0.47	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

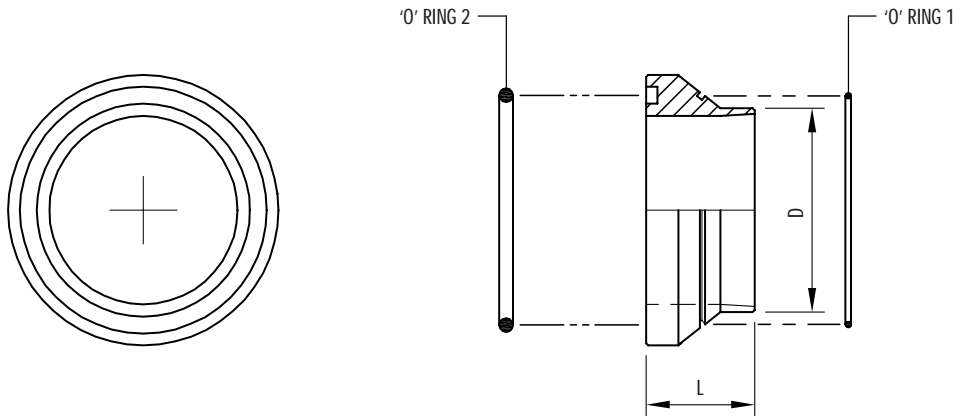
Size (inch)	Flange Part No.	Dimensions (mm)			Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		T	H	E				
2 1/2"	FFCM74-250	118.1	119.9	37.6	M20	2.30	400	165-175
3"	FFCM74-300	145.0	150.1	43.9	M24	4.00	400	475-550

• 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)

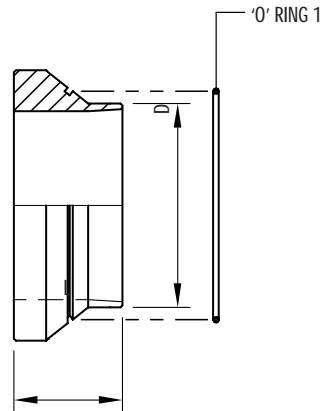
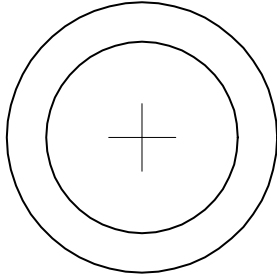
Size (inch)	Cone Part No.	Dimensions (mm)		'O' Ring 1 (Nitrile) Part No.	'O' Ring 2 (Nitrile) Part No.	WT. kgs./pc
		D	L			
1/2"	CO-20x3-050	13.8	24.6	OR*-1715	OR*-2-210	0.05
3/4"	CO-25x3-075	18.8	23.4	OR*-2315	OR*-2-214	0.05
1"	CO-30x4-100	21.8	26.7	OR*-2815	OR*-2-219	0.09
1 1/4"	CO-38x4-125	29.8	27.4	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)

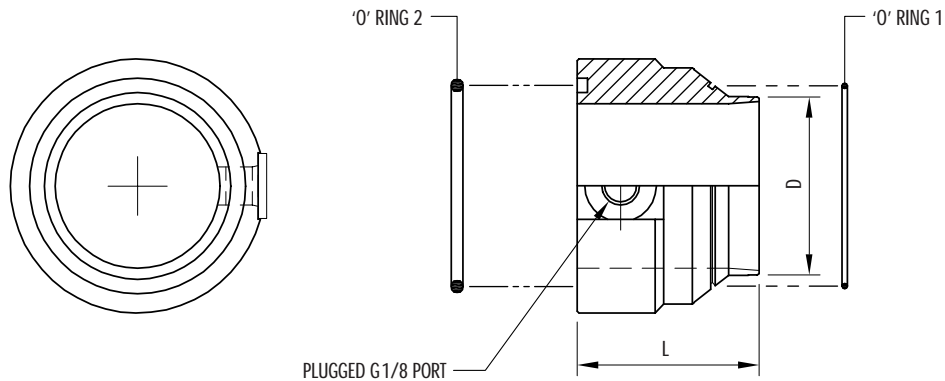
Size (inch)	Cone Part No.	Dimensions (mm)		'O' Ring 1 (Nitrile) Part No.	WT. kgs./pc
		D	L		
1/2"	CF-20x3-050	13.8	24.6	OR*-1715	0.05
3/4"	CF-25x3-075	18.8	23.4	OR*-2315	0.05
1"	CF-30x4-100	21.8	26.7	OR*-2815	0.09
1 1/4"	CF-38x4-125	29.8	27.4	OR*-3515	0.11
1 1/2"	CF-50x5-150	39.8	28.4	OR*-4515	0.19
2"	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)

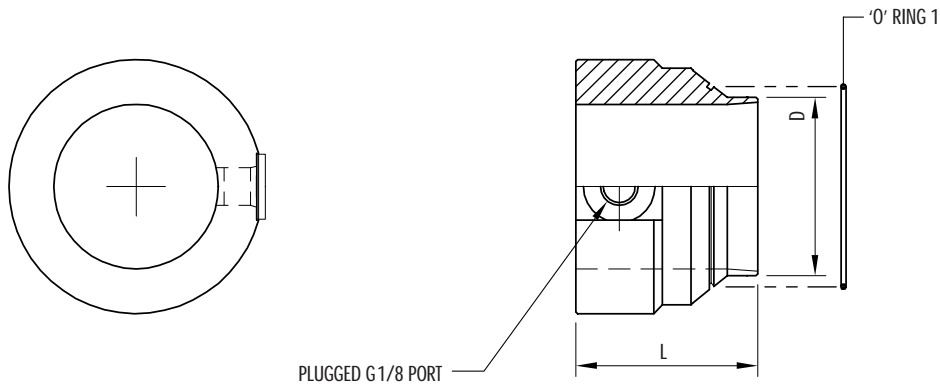
Size (inch)	Cone Part No.	Dimensions (mm)		'O' Ring 1 (Nitrile) Part No.	'O' Ring 2 (Nitrile) Part No.	WT. kgs./pc
		D	L			
1/2"	COP-20x3-050	13.8	50.0	OR*-1715	OR*-2-210	0.07
3/4"	COP-25x3-075	18.8	48.8	OR*-2315	OR*-2-214	0.09
1"	COP-30x4-100	21.8	52.1	OR*-2815	OR*-2-219	0.19
1 1/4"	COP-38x4-125	29.8	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

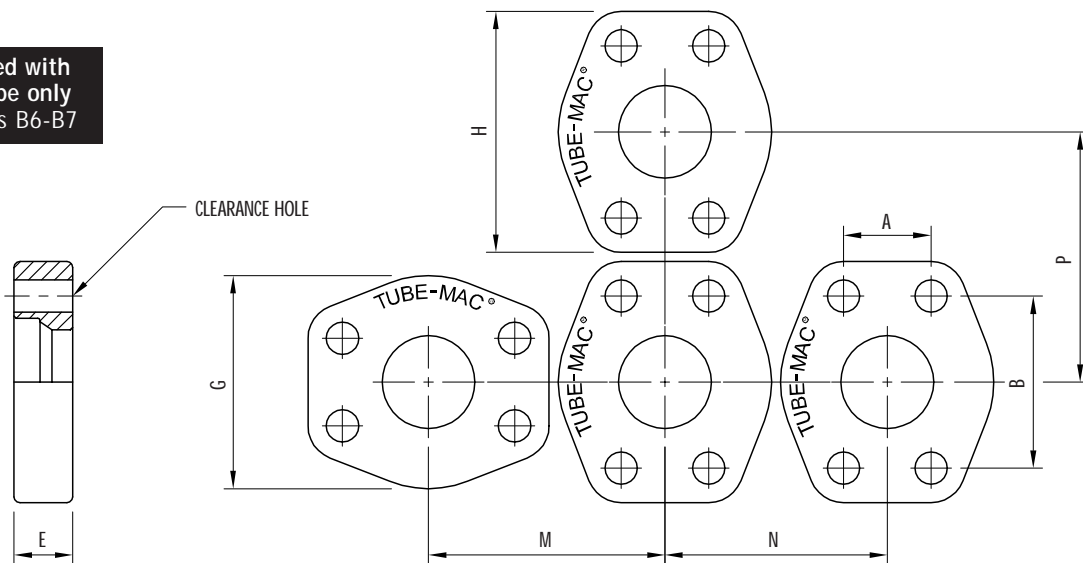
* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING AND 'O' RING FOR G 1/8 PLUG

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

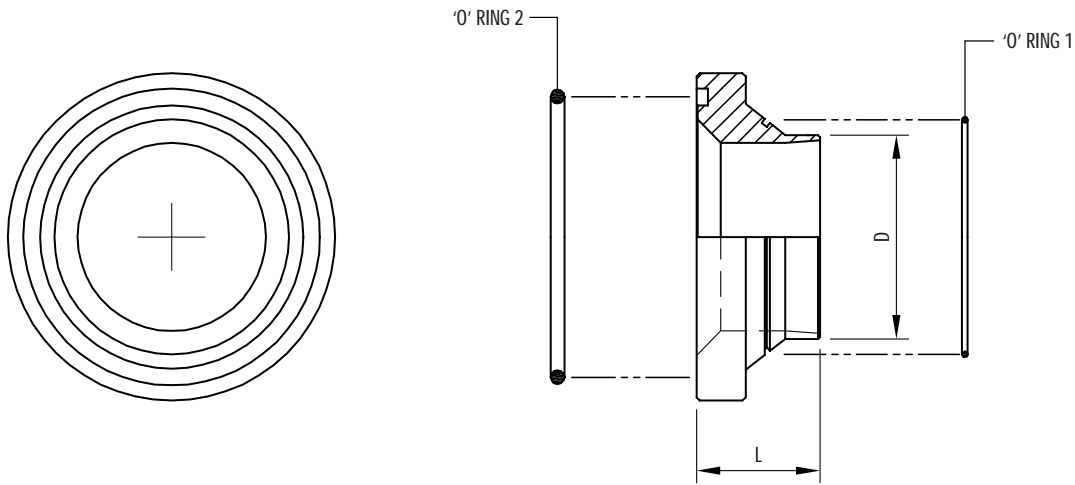
Size (inch) (flange x pipe)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
3/4" x 1/2"	FFCRM64-075x050	23.9	50.8	60.5	71.4	70.1	68.1	74.9	25.9	M10	0.52	420	55-68
1" x 3/4"	FFCRM64-100x075	27.7	57.2	69.9	81.0	81.0	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

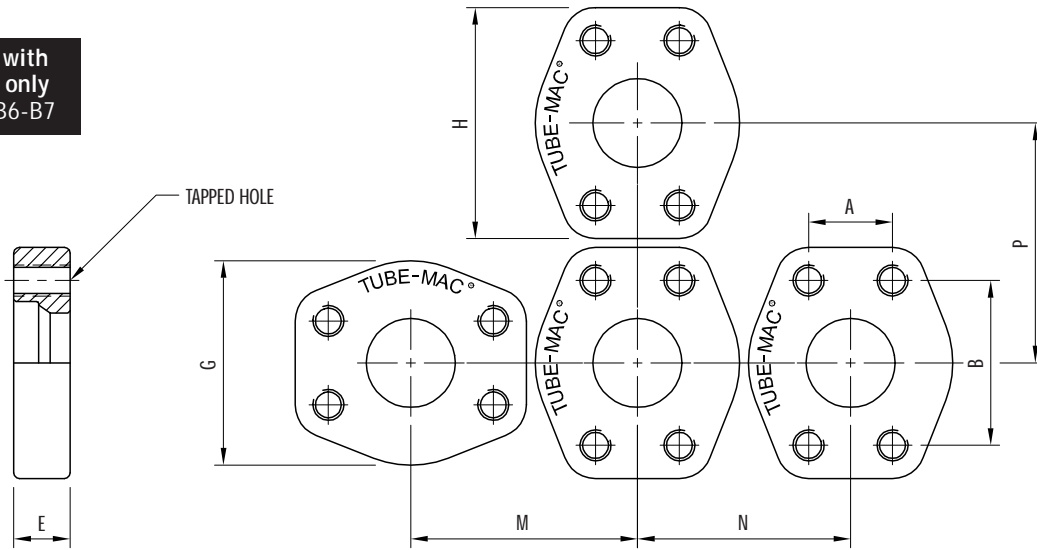
• OTHER REDUCER SIZES ARE AVAILABLE

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

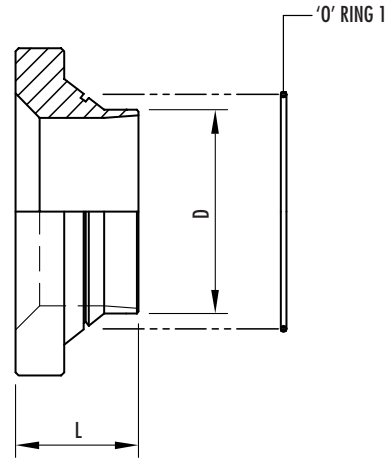
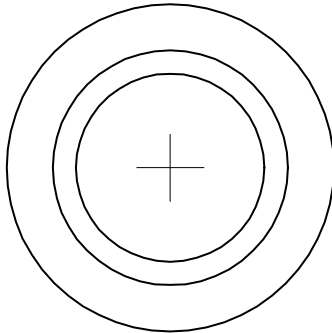
Size (inch) (flange x pipe)	Flange Part No.	Dimensions (millimeters)								Bolt Minimum 10.9	WT. kgs./pc	Working Pressure (bar)	Bolt Torque Nm
		A	B	G	H	M	N	P	E				
3/4" x 1"	FFTRM64-075x050	23.9	50.8	60.5	71.4	70.1	68.1	74.9	25.9	M10 x 1.50	0.52	420	55-68
1" x 3/4"	FFTRM64-100x075	27.7	57.2	69.9	81.0	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

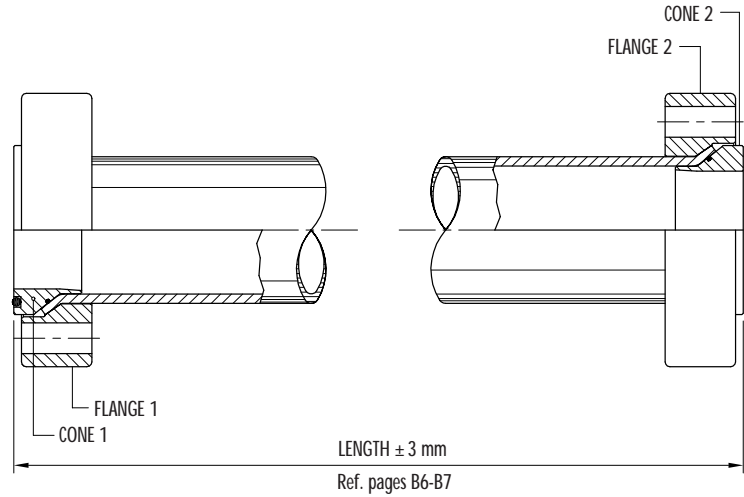
* INSERT ' V ' TO INDICATE OPTIONAL VITON 'O' RING

• 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									
	FTM34 ISO 6162-1 W/Metric Tapped Holes	FTM34									
	FFCM64 ISO 6162-2 W/Metric Clearance Holes	FCM64									
	FTM64 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

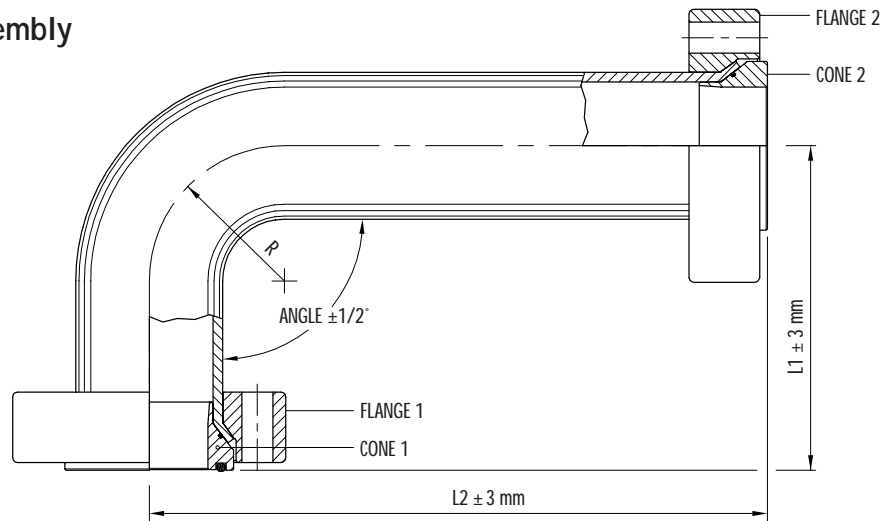
PART NO. (EXAMPLE): PAF/52 - 20x3-050 - FCM34 - FCM34 - CO - CF - 6000

- 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

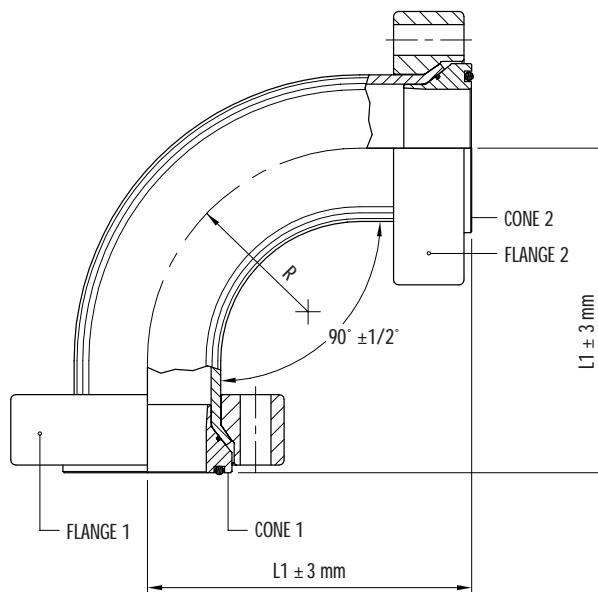
Short Radius Bent Elbow

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																	
	3"	90x5-300																	
Flange Type Carbon Steel Yellow Zinc Dichromate Plated Ref. pages (B8-B11)	FFCM34 ISO 6162-1 W/Metric Clearance Holes	FCM34																	
	FTM34 ISO 6162-1 W/Metric Tapped Holes	FTM34																	
	FFCM64 ISO 6162-2 W/Metric Clearance Holes	FCM64																	
	FTM64 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

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- SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS
- FOR BOLT KITS - REFERENCE SECTION R



