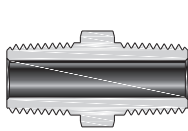




Instrumentation Pipe Fittings

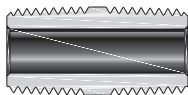
IPF Series

Contents



Hex Nipples

2-5



Close Nipples

2-6



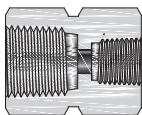
Special Pipe Nipples

2-7



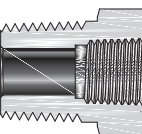
Hex Long Nipples

2-8



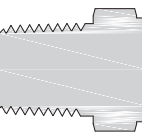
Hex Couplings

2-9



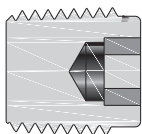
Reducing Bushings

2-10



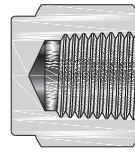
Pipe Plugs

2-12



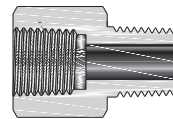
Hollow Hex Plugs

2-13



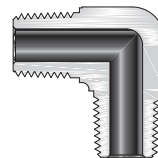
Pipe Caps

2-14



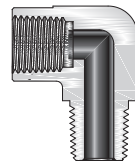
Adapters

2-15



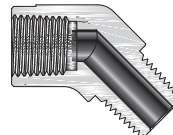
Male Elbows

2-17



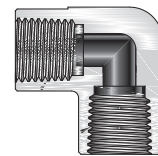
Street Elbows

2-18



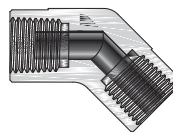
45° Street Elbows

2-20



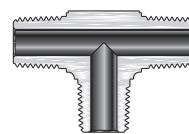
Female Elbows

2-22



45° Female Elbows

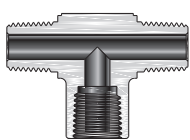
2-23



Male Tees

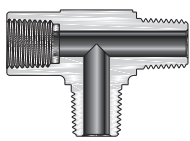
2-24

Contents



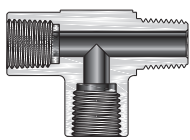
Female Branch Tees

2-25



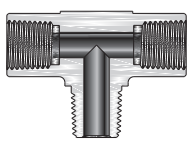
Female Run Tees

2-25



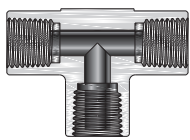
Male Street Tees

2-26



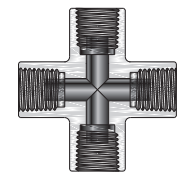
Male Branch Tees

2-26



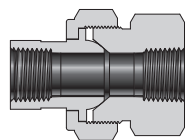
Female Tees

2-27



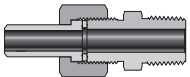
Female Crosses

2-27



Union Ball Joints (UBJ)

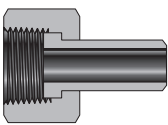
2-28



Male Pipe to
Tube Butt Weld (UGJ)

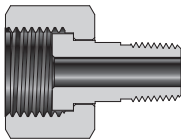
2-28

Pipe to Weld Fittings



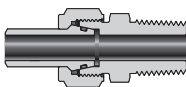
Pipe to Tube
Butt Weld (PTW)

2-29



Thread to Pipe Unions (TPU)

2-30



Male Pipe to
Tube Butt Weld (UOJ)

2-30

Features

- ❖ Available in sizes from 1/16 to 2 in. and 6 mm to 30 mm
- ❖ CIR-LOK pipe Fittings materials include stainless steel, alloy 400/R-405, brass, and carbon steel
- ❖ CIR-LOK provide NPT, ISO/BSP, SAE and ISO threads configurations
- ❖ Burrfree smooth thread provide optimum sealing and minimize galling

Materials Standards

Material	Bar Stock	Forgings
316 stainless steel	ASTM A276 ASME SA479, EN 1.4401	ASTM A182 ASME SA182, EN 1.4401

Thread Specifications

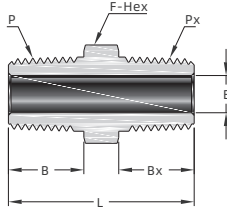
Thread Type(End Connection)	Reference Specification
NPT	ASME B1.20.1, SAE AS71051
ISO/BSP(parallel) (Based on DIN 3852) (CIR-LOK PPT,BP,and BS fittings)	ISO 228, JIS B0202
ISO/BSP(tapered) (Based on DIN 3852) (CIR-LOK BT fittings)	ISO 7, BS EN 10226-1, JIS B0203
ISO/BSP(gauge) (Based on EN 837-1 and 837-3) (CIR-LOK BG)	ISO 228
Unified (SAE) (CIR-LOK SA fittings)	ASME B1.1

Working Temperature Rating

Material	Working Temperature Rating °F(°C)
316 stainless steel	-65 (-53) to 1000 (537)
Brass	-20 (-28) to 400 (204)
Carbon steel	-65 (-53) to 375 (190)
BS gaskets (FKM)	-5 (-15) to 400 (204)
BG BP gaskets (copper)	-325 (-198) to 400 (204)
SAE O-ring (FKM)	-20 (-28) to 400 (204)

- ❖ System temperatures may be limited by the thread sealant or, when applicable, the gasket or O-ring material.

Hex Nipples



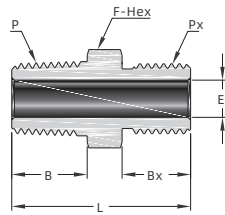
Male NPT Threads

P-NPT Size	Px-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/16	1/16	NPT1-THN-NPT1-	25.6	7.9	9.7	9.7	3.0	11000 (757)	5500 (378)
1/8	1/16	NPT2-THN-NPT1-	25.6	11.1	9.7	9.7	3.0	11000 (757)	5500 (378)
1/8	1/8	NPT2-THN-NPT2-	25.6	11.1	9.7	9.7	4.8	10000 (689)	5000 (344)
1/4	1/16	NPT4-THN-NPT1-	31.0	14.3	14.2	9.7	3.0	11000 (757)	5500 (378)
1/4	1/8	NPT4-THN-NPT2-	31.0	14.3	14.2	9.7	4.8	10000 (689)	5000 (344)
1/4	1/4	NPT4-THN-NPT4-	35.6	14.3	14.2	14.2	7.1	8000 (551)	4000 (275)
3/8	1/16	NPT6-THN-NPT1-	31.8	17.5	14.2	9.7	3.0	11000 (757)	5500 (378)
3/8	1/8	NPT6-THN-NPT2-	31.8	17.5	14.2	9.7	4.8	10000 (689)	5000 (344)
3/8	1/4	NPT6-THN-NPT4-	36.3	17.5	14.2	14.2	7.1	8000 (551)	4000 (275)
3/8	3/8	NPT6-THN-NPT6-	36.3	17.5	14.2	14.2	9.6	7800 (537)	3900 (268)
1/2	1/8	NPT8-THN-NPT2-	37.3	22.2	19.1	9.7	4.8	7700 (530)	3800 (261)
1/2	1/4	NPT8-THN-NPT4-	41.9	22.2	19.1	14.2	7.1	8000 (551)	4000 (275)
1/2	3/8	NPT8-THN-NPT6-	41.9	22.2	19.1	14.2	9.6	7800 (537)	3900 (268)
1/2	1/2	NPT8-THN-NPT8-	46.7	22.2	19.1	19.1	11.9	7700 (530)	3800 (261)
3/4	1/8	NPT12-THN-NPT2-	40.4	27.0	19.1	9.7	4.8	10000 (689)	5000 (344)
3/4	1/4	NPT12-THN-NPT4-	41.9	27.0	19.1	14.2	7.1	8000 (551)	4000 (275)
3/4	3/8	NPT12-THN-NPT6-	45.2	27.0	19.1	14.2	9.6	7800 (537)	3900 (268)
3/4	1/2	NPT12-THN-NPT8-	46.7	27.0	19.1	19.1	11.9	7700 (530)	3800 (261)
3/4	3/4	NPT12-THN-NPT12-	46.7	27.0	19.1	19.1	15.7	7300 (502)	3600 (248)
1	1/8	NPT16-THN-NPT2-	45.2	34.9	23.9	9.7	4.8	10000 (689)	5000 (344)
1	1/4	NPT16-THN-NPT4-	49.3	34.9	23.9	14.2	7.1	5300 (365)	2600 (179)
1	3/8	NPT16-THN-NPT6-	50.0	34.9	23.9	14.2	9.6	7800 (537)	3900 (268)
1	1/2	NPT16-THN-NPT8-	54.1	34.9	23.9	19.1	11.9	7700 (530)	3800 (261)
1	3/4	NPT16-THN-NPT12-	54.1	34.9	23.9	19.1	15.7	7300 (502)	3600 (248)
1	1	NPT16-THN-NPT16-	58.9	34.9	23.9	23.9	22.4	5300 (365)	2600 (179)
1 1/4	1	NPT20-THN-NPT16-	62.2	44.5	23.9	23.9	22.4	5300 (365)	2600 (179)
1 1/4	1 1/4	NPT20-THN-NPT20-	62.9	44.5	23.9	23.9	28.6	6000 (410)	3000 (200)
1 1/2	1 1/2	NPT24-THN-NPT24-	66.3	50.8	26.2	26.2	34.0	5000 (344)	2500 (172)
2	2	NPT32-THN-NPT32-	77.7	69.9	26.2	26.2	45.0	3900 (268)	1900 (130)
Heavy-Wall Male NPT Threads									
1/4	1/4	NPT4-THN1-NPT4-	35.6	14.3	14.2	14.2	5.8	10000 (689)	—
1/2	1/4	NPT8-THN1-NPT4-	41.9	22.2	19.1	14.2	5.8	10000 (689)	—
1/2	1/2	NPT8-THN1-NPT8-	46.7	22.2	19.1	19.1	9.9	10000 (689)	—

Male ISO Tapered Threads

P-BSPT Size	Px-BSPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/8	MBT2-THN-MBT2-	25.6	11.1	9.7	9.7	4.8	10000 (689)	5000 (344)
1/4	1/4	MBT4-THN-MBT4-	35.6	14.3	14.2	14.2	7.1	8000 (551)	4000 (275)
3/8	3/8	MBT6-THN-MBT6-	36.3	17.5	14.2	14.2	9.6	7800 (537)	3900 (268)
1/2	1/2	MBT8-THN-MBT8-	46.7	22.2	19.1	19.1	11.9	7700 (530)	3800 (261)
3/4	3/4	MBT12-THN-MBT12-	46.7	27.0	19.1	19.1	15.7	7300 (502)	3600 (248)
1	1	MBT16-THN-MBT16-	58.9	34.9	23.9	23.9	22.4	5300 (365)	2600 (179)

Hex Nipples



Male NPT Threads

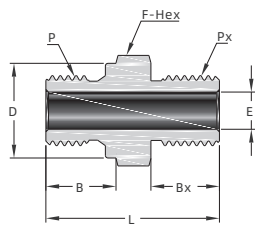
P-NPT Size	Px-Metric Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
			L	F	B	Bx	E	
1/8	M20 x 1.5	NPT2-THN-MS20-	32.7	22.2	9.7	16	5.0	7700 (530)
1/4	M8 x 1	NPT4-THN-MS8-	29.0	14.3	14.2	9	3.2	8000 (551)
1/4	M14 x 1.5	NPT4-THN-MS14-	34.2	15.9	14.2	13	7.0	8000 (551)
1/4	M16 x 1.5	NPT4-THN-MS16-	35.2	17.5	14.2	14	7.1	7800 (537)
1/4	M20 x 1.5	NPT4-THN-MS20-	37.2	22.2	14.2	16	7.1	7700 (530)
3/8	M14 x 1.5	NPT6-THN-MS14-	34.2	17.5	14.2	13	7.0	7800 (537)
3/8	M20 x 1.5	NPT6-THN-MS20-	37.2	22.2	14.2	16	9.5	7700 (530)
3/8	M24 x 1.5	NPT6-THN-MS24-	38.2	27	14.2	17	9.5	7400 (509)
1/2	M14 x 1.5	NPT8-THN-MS14-	39.1	22.2	19.1	13	7.2	7700 (530)
1/2	M20 x 1.5	NPT8-THN-MS20-	42.0	22.2	19.1	16	10.0	7700 (530)
1/2	M24 x 1.5	NPT8-THN-MS24-	43.5	27	19.1	17	11.9	7400 (509)
3/4	M20 x 1.5	NPT12-THN-MS20-	42.1	27	19.1	16	10.8	7300 (502)
3/4	M27 x 2	NPT12-THN-MS27-	46.7	31.8	19.1	18	15.8	6100 (420)
1	M30 x 2	NPT16-THN-MS30-	55.0	34.9	23.9	20	19.4	6100 (420)

Male Metric Threads

Male ISO Tapered Threads

P-BSPT Size	Px-Metric Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
			L	F	B	Bx	E	
1/8	M20 x 1.5	MBT2-THN-MS20-	32.7	22.2	9.7	16	5.0	7700 (530)
1/4	M12 x 1.5	MBT4-THN-MS12-	33.4	14.3	14.2	15	6.0	8000 (551)
1/4	M20 x 1.5	MBT4-THN-MS20-	37.2	22.2	14.2	16	7.0	7700 (530)
3/8	M20 x 1.5	MBT6-THN-MS20-	37.2	22.2	14.2	16	9.5	7700 (530)
1/2	M20 x 1.5	MBT8-THN-MS20-	42.0	22.2	19.1	16	10.0	7700 (530)

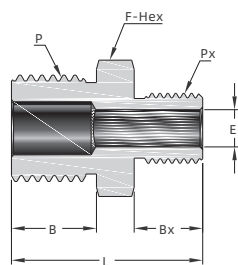
Male Metric Threads



Male ISO Parallel Threads

P-BS Size	Px-Metric Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar) 316 SS, Steel
			L	F	B	Bx	E	D	
1/8	M20 x 1.5	MBS2-THN-MS20-	32.6	22.2	7.1	16	4.0	13.7	7700 (530)
1/4	M18 x 1.5	MBS4-THN-MS18-	34.2	20.6	11.2	15	5.9	18.0	7800 (537)
1/4	M20 x 1.5	MBS4-THN-MS20-	37.2	22.2	11.2	16	5.9	18.0	7700 (530)
3/8	M20 x 1.5	MBS6-THN-MS20-	37.2	22.2	11.2	16	7.9	21.6	7700 (530)
1/2	M20 x 1.5	MBS8-THN-MS20-	40.2	27	14.0	16	11.9	25.9	7700 (530)

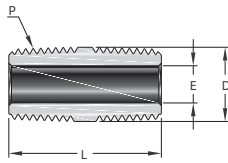
Male Metric Threads



Male Metric Threads

P-Metric Size	Px-Metric Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
			L	F	B	Bx	E	
M20 x 1.5	M10 x 1	MS20-THN-MS10-	34	22.2	16	11	4.7	10000 (689)
M20 x 1.5	M12 x 1.5	MS20-THN-MS12-	35	22.2	16	12	6.0	9000 (620)
M20 x 1.5	M14 x 1.5	MS20-THN-MS14-	36	22.2	16	13	7.2	8000 (551)
M20 x 1.5	M16 x 1.5	MS20-THN-MS16-	37	22.2	16	14	8.4	7800 (537)
M20 x 1.5	M20 x 1.5	MS20-THN-MS20-	39	22.2	16	16	10.8	7700 (530)
M27 x 2	M27 x 2	MS27-THN-MS27-	44.5	30.0	18	18	16.1	7300 (502)

Close Nipples



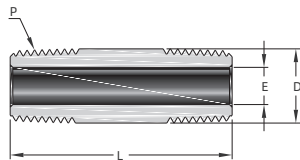
Male NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	D	E	316 SS, Steel	Brass
1/16	NPT1-TCN-NPT1-	19.1	7.9	3.0	11000 (757)	5500 (378)
1/8	NPT2-TCN-NPT2-	19.1	10.3	4.8	10000 (689)	5000 (344)
1/4	NPT4-TCN-NPT4-	28.4	13.7	7.1	8000 (551)	4000 (275)
3/8	NPT6-TCN-NPT6-	28.4	17.1	9.6	7800 (537)	3900 (268)
1/2	NPT8-TCN-NPT8-	38.1	21.3	11.9	7700 (530)	3800 (261)
3/4	NPT12-TCN-NPT12-	38.1	26.7	15.7	7300 (502)	3600 (248)
1	NPT16-TCN-NPT16-	47.8	33.4	22.4	5300 (365)	2600 (179)

Male ISO Tapered Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	D	E	316 SS, Steel	Brass
1/16	MBT1-TCN-MBT1-	19.1	7.9	3.0	11000 (757)	5500 (378)
1/8	MBT2-TCN-MBT2-	19.1	10.3	4.8	10000 (689)	5000 (344)
1/4	MBT4-TCN-MBT4-	28.4	13.7	7.1	8000 (551)	4000 (275)
3/8	MBT6-TCN-MBT6-	28.4	17.1	9.6	7800 (537)	3900 (268)
1/2	MBT8-TCN-MBT8-	38.1	21.3	11.9	7700 (530)	3800 (261)
3/4	MBT12-TCN-MBT12-	38.1	26.7	15.7	7300 (502)	3600 (248)
1	MBT16-TCN-MBT16-	47.8	33.4	22.4	5300 (365)	2600 (179)

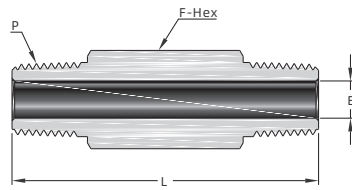
Special Pipe Nipples



Male NPT Threads

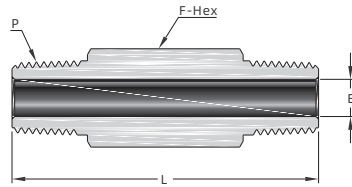
P-NPT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	D	E	316 SS, Steel	Brass
1/8	NPT2-TPN-NPT2-38.1-	38.1	10.3	4.8	10000 (689)	5000 (344)
1/8	NPT2-TPN-NPT2-50.8-	50.8	10.3	4.8	10000 (689)	5000 (344)
1/8	NPT2-TPN-NPT2-63.5-	63.5	10.3	4.8	10000 (689)	5000 (344)
1/8	NPT2-TPN-NPT2-76.2-	76.2	10.3	4.8	10000 (689)	5000 (344)
1/4	NPT4-TPN-NPT4-38.1-	38.1	13.7	7.1	8000 (551)	4000 (275)
1/4	NPT4-TPN-NPT4-50.8-	50.8	13.7	7.1	8000 (551)	4000 (275)
1/4	NPT4-TPN-NPT4-63.5-	63.5	13.7	7.1	8000 (551)	4000 (275)
1/4	NPT4-TPN-NPT4-76.2-	76.2	13.7	7.1	8000 (551)	4000 (275)
1/4	NPT4-TPN-NPT4-101.6-	101.6	13.7	7.1	8000 (551)	4000 (275)
3/8	NPT6-TPN-NPT6-38.1-	38.1	17.1	9.6	7800 (537)	3900 (268)
3/8	NPT6-TPN-NPT6-50.8-	50.8	17.1	9.6	7800 (537)	3900 (268)
3/8	NPT6-TPN-NPT6-63.5-	63.5	17.1	9.6	7800 (537)	3900 (268)
3/8	NPT6-TPN-NPT6-76.2-	76.2	17.1	9.6	7800 (537)	3900 (268)
3/8	NPT6-TPN-NPT6-101.6-	101.6	17.1	9.6	7800 (537)	3900 (268)
1/2	NPT8-TPN-NPT8-50.8-	50.8	21.3	11.9	7700 (530)	3800 (261)
1/2	NPT8-TPN-NPT8-76.2-	76.2	21.3	11.9	7700 (530)	3800 (261)
1/2	NPT8-TPN-NPT8-101.6-	101.6	21.3	11.9	7700 (530)	3800 (261)
1/2	NPT8-TPN-NPT8-152.4-	152.4	21.3	11.9	7700 (530)	3800 (261)
3/4	NPT12-TPN-NPT12-50.8-	50.8	26.7	15.7	7300 (502)	3600 (248)
3/4	NPT12-TPN-NPT12-76.2-	76.2	26.7	15.7	7300 (502)	3600 (248)
3/4	NPT12-TPN-NPT12-101.6-	101.6	26.7	15.7	7300 (502)	3600 (248)
1	NPT16-TPN-NPT16-76.2-	76.2	33.4	22.4	5300 (365)	2600 (179)
1	NPT16-TPN-NPT16-101.6-	101.6	33.4	22.4	5300 (365)	2600 (179)

Hex Long Nipples



Male NPT Threads

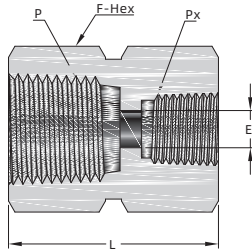
P-NPT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	F	E	316 SS, Steel	Brass
1/8	NPT2-TLN-NPT2-38.1-	38.1	11.1	4.8	10000 (689)	5000 (344)
1/8	NPT2-TLN-NPT2-50.8-	50.8	11.1	4.8	10000 (689)	5000 (344)
1/8	NPT2-TLN-NPT2-63.5-	63.5	11.1	4.8	10000 (689)	5000 (344)
1/8	NPT2-TLN-NPT2-76.2-	76.2	11.1	4.8	10000 (689)	5000 (344)
1/4	NPT4-TLN-NPT4-38.1-	38.1	14.3	7.1	8000 (551)	4000 (275)
1/4	NPT4-TLN-NPT4-50.8-	50.8	14.3	7.1	8000 (551)	4000 (275)
1/4	NPT4-TLN-NPT4-63.5-	63.5	14.3	7.1	8000 (551)	4000 (275)
1/4	NPT4-TLN-NPT4-76.2-	76.2	14.3	7.1	8000 (551)	4000 (275)
1/4	NPT4-TLN-NPT4-101.6-	101.6	14.3	7.1	8000 (551)	4000 (275)
3/8	NPT6-TLN-NPT6-38.1-	38.1	17.5	9.6	7800 (537)	3900 (268)
3/8	NPT6-TLN-NPT6-50.8-	50.8	17.5	9.6	7800 (537)	3900 (268)
3/8	NPT6-TLN-NPT6-63.5-	63.5	17.5	9.6	7800 (537)	3900 (268)
3/8	NPT6-TLN-NPT6-76.2-	76.2	17.5	9.6	7800 (537)	3900 (268)
3/8	NPT6-TLN-NPT6-101.6-	101.6	17.5	9.6	7800 (537)	3900 (268)
1/2	NPT8-TLN-NPT8-50.8-	50.8	22.2	11.9	7700 (530)	3800 (261)
1/2	NPT8-TLN-NPT8-76.2-	76.2	22.2	11.9	7700 (530)	3800 (261)
1/2	NPT8-TLN-NPT8-101.6-	101.6	22.2	11.9	7700 (530)	3800 (261)
1/2	NPT8-TLN-NPT8-152.4-	152.4	22.2	11.9	7700 (530)	3800 (261)
3/4	NPT12-TLN-NPT12-50.8-	50.8	27.0	15.7	7300 (502)	3600 (248)
3/4	NPT12-TLN-NPT12-76.2-	76.2	27.0	15.7	7300 (502)	3600 (248)
3/4	NPT12-TLN-NPT12-101.6-	101.6	27.0	15.7	7300 (502)	3600 (248)
1	NPT16-TLN-NPT16-76.2-	76.2	34.9	22.4	5300 (365)	2600 (179)
1	NPT16-TLN-NPT16-101.6-	101.6	34.9	22.4	5300 (365)	2600 (179)



Male ISO Tapered Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	F	E	316 SS, Steel	Brass
1/8	MBT2-TLN-MBT2-38.1-	38.1	11.1	4.8	10000 (689)	5000 (344)
1/8	MBT2-TLN-MBT2-50.8-	50.8	11.1	4.8	10000 (689)	5000 (344)
1/8	MBT2-TLN-MBT2-63.5-	63.5	11.1	4.8	10000 (689)	5000 (344)
1/8	MBT2-TLN-MBT2-76.2-	76.2	11.1	4.8	10000 (689)	5000 (344)
1/4	MBT4-TLN-MBT4-38.1-	38.1	14.3	7.1	8000 (551)	4000 (275)
1/4	MBT4-TLN-MBT4-50.8-	50.8	14.3	7.1	8000 (551)	4000 (275)
1/4	MBT4-TLN-MBT4-63.5-	63.5	14.3	7.1	8000 (551)	4000 (275)
1/4	MBT4-TLN-MBT4-76.2-	76.2	14.3	7.1	8000 (551)	4000 (275)
1/4	MBT4-TLN-MBT4-101.6-	101.6	14.3	7.1	8000 (551)	4000 (275)
3/8	MBT6-TLN-MBT6-38.1-	38.1	17.5	9.6	7800 (537)	3900 (268)
3/8	MBT6-TLN-MBT6-50.8-	50.8	17.5	9.6	7800 (537)	3900 (268)
3/8	MBT6-TLN-MBT6-63.5-	63.5	17.5	9.6	7800 (537)	3900 (268)
3/8	MBT6-TLN-MBT6-76.2-	76.2	17.5	9.6	7800 (537)	3900 (268)
3/8	MBT6-TLN-MBT6-101.6-	101.6	17.5	9.6	7800 (537)	3900 (268)
1/2	MBT8-TLN-MBT8-50.8-	50.8	22.2	11.9	7700 (530)	3800 (261)
1/2	MBT8-TLN-MBT8-76.2-	76.2	22.2	11.9	7700 (530)	3800 (261)
1/2	MBT8-TLN-MBT8-101.6-	101.6	22.2	11.9	7700 (530)	3800 (261)
1/2	MBT8-TLN-MBT8-152.4-	152.4	22.2	11.9	7700 (530)	3800 (261)
3/4	MBT12-TLN-MBT12-50.8-	50.8	27.0	15.7	7300 (502)	3600 (248)
3/4	MBT12-TLN-MBT12-76.2-	76.2	27.0	15.7	7300 (502)	3600 (248)
3/4	MBT12-TLN-MBT12-101.6-	101.6	27.0	15.7	7300 (502)	3600 (248)
1	MBT16-TLN-MBT16-76.2-	76.2	34.9	22.4	5300 (365)	2600 (179)
1	MBT16-TLN-MBT16-101.6-	101.6	34.9	22.4	5300 (365)	2600 (179)

Hex Couplings



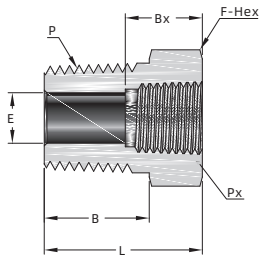
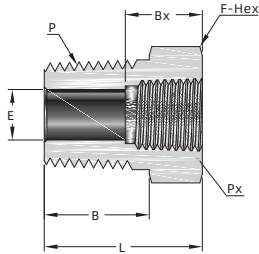
Female NPT Threads

P-NPT Size	Px-NPT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
			L	F	E	316 SS, Steel	Brass
1/16	1/16	FNPT1-THC-FNPT1-	19.8	11.1	4.8	6700 (460)	3300 (227)
1/8	1/8	FNPT2-THC-FNPT2-	20.6	14.3	8.6	6500 (447)	3200 (220)
1/4	1/8	FNPT4-THC-FNPT2-	31.0	19.1	8.6	6600 (454)	3300 (227)
1/4	1/4	FNPT4-THC-FNPT4-	30.2	19.1	11.4	6600 (454)	3300 (227)
3/8	1/4	FNPT6-THC-FNPT4-	35.1	22.2	11.4	5300 (365)	2600 (179)
3/8	3/8	FNPT6-THC-FNPT6-	33.3	22.2	15.0	5300 (365)	2600 (179)
1/2	1/8	FNPT8-THC-FNPT2-	39.6	27.0	8.6	4900 (337)	2400 (165)
1/2	1/4	FNPT8-THC-FNPT4-	44.4	27.0	11.4	4900 (337)	2400 (165)
1/2	3/8	FNPT8-THC-FNPT6-	45.2	27.0	15.0	4900 (337)	2400 (165)
1/2	1/2	FNPT8-THC-FNPT8-	39.6	27.0	18.5	4900 (337)	2400 (165)
3/4	1/4	FNPT12-THC-FNPT4-	46.0	33.3	11.4	4600 (316)	2300 (158)
3/4	1/2	FNPT12-THC-FNPT8-	52.3	33.3	18.5	4600 (316)	2300 (158)
3/4	3/4	FNPT12-THC-FNPT12-	41.1	33.3	23.9	4600 (316)	2300 (158)
1	1/2	FNPT16-THC-FNPT8-	55.6	41.3	18.5	4400 (303)	2200 (151)
1	3/4	FNPT16-THC-FNPT12-	57.2	41.3	23.9	4400 (303)	2200 (151)
1	1	FNPT16-THC-FNPT16-	50.8	41.3	29.7	4400 (303)	2200 (151)
Heavy-Wall Female NPT Threads							
1/4	1/4	FNPT4-THC1-FNPT4-	30.2	25.4	11.4	10000 (689)	—
1/2	1/4	FNPT8-THC1-FNPT4-	44.4	38.1	11.4	10000 (689)	—
1/2	1/2	FNPT8-THC1-FNPT8-	39.6	38.1	18.5	10000 (689)	—

Female ISO Tapered Threads

P-BSPT Size	Px-BSPT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
			L	F	E	316 SS, Steel	Brass
1/8	1/8	FBT2-THC-FBT2-	20.6	14.3	8.4	6500 (447)	3200 (220)
1/4	1/4	FBT4-THC-FBT4-	30.2	19.1	11.2	6600 (454)	3300 (227)
3/8	1/4	FBT6-THC-FBT4-	35.1	22.2	11.2	5300 (365)	2600 (179)
3/8	3/8	FBT6-THC-FBT6-	33.3	22.2	14.7	5300 (365)	2600 (179)
1/2	1/4	FBT8-THC-FBT4-	44.4	27.0	11.2	4900 (337)	2400 (165)
1/2	3/8	FBT8-THC-FBT6-	45.2	27.0	14.7	4900 (337)	2400 (165)
1/2	1/2	FBT8-THC-FBT8-	39.6	27.0	18.3	4900 (337)	2400 (165)

Reducing Bushings



Male NPT Threads

Female NPT Threads

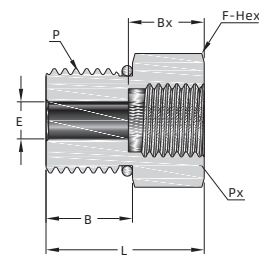
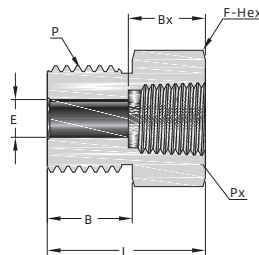
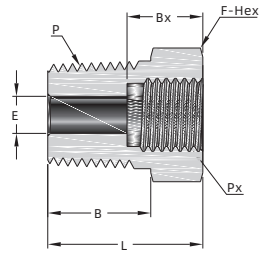
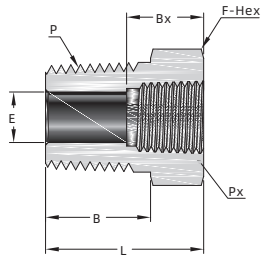
P-NPT Size	Px-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/16	NPT2-TRB-FNPT1-	26.2	11.1	9.7	9.9	4.8	6500 (447)	3200 (220)
1/4	1/16	NPT4-TRB-FNPT1-	21.8	14.3	14.2	9.9	4.8	8000 (551)	4000 (275)
1/4	1/8	NPT4-TRB-FNPT2-	26.9	14.3	14.2	10.4	7.1	6500 (447)	3300 (227)
3/8	1/16	NPT6-TRB-FNPT1-	21.8	17.5	14.2	9.9	4.8	13300 (971)	6600 (454)
3/8	1/8	NPT6-TRB-FNPT2-	21.8	17.5	14.2	10.4	8.6	9200 (633)	4700 (323)
3/8	1/4	NPT6-TRB-FNPT4-	30.2	19.1	14.2	15.0	9.6	6600 (454)	3300 (227)
1/2	1/8	NPT8-TRB-FNPT2-	27.4	22.2	19.1	10.4	8.6	12200 (840)	6200 (427)
1/2	1/4	NPT8-TRB-FNPT4-	27.4	22.2	19.1	15.0	11.4	8300 (571)	4400 (303)
1/2	3/8	NPT8-TRB-FNPT6-	35.8	22.2	19.1	15.0	11.9	5300 (365)	2600 (179)
3/4	1/8	NPT12-TRB-FNPT2-	27.4	27.0	19.1	10.4	7.1	20000 (1378)	10000 (689)
3/4	1/4	NPT12-TRB-FNPT4-	27.4	27.0	19.1	15.0	11.4	12000 (826)	6000 (410)
3/4	3/8	NPT12-TRB-FNPT6-	27.4	27.0	19.1	15.0	15.0	8200 (564)	4300 (296)
3/4	1/2	NPT12-TRB-FNPT8-	41.4	27.0	19.1	19.8	15.7	4900 (337)	2400 (165)
1	1/8	NPT16-TRB-FNPT2-	34.8	34.9	23.9	10.4	7.1	20000 (1378)	10000 (689)
1	1/4	NPT16-TRB-FNPT4-	34.8	34.9	23.9	15.0	11.4	14500 (999)	7400 (509)
1	3/8	NPT16-TRB-FNPT6-	34.8	34.9	23.9	15.0	15.0	11600 (799)	5900 (406)
1	1/2	NPT16-TRB-FNPT8-	34.8	34.9	23.9	19.8	18.5	8600 (592)	4300 (296)
1	3/4	NPT16-TRB-FNPT12-	47.0	34.9	23.9	20.6	22.4	5300 (365)	2600 (179)
1 1/4	3/4	NPT20-TRB-FNPT12-	37.3	44.5	23.9	20.6	22.4	7800 (537)	3900 (268)
1 1/4	1	NPT20-TRB-FNPT16-	37.3	44.5	23.9	25.4	22.4	3500 (241)	1750 (120)
1 1/2	1	NPT24-TRB-FNPT16-	40.1	50.8	26.2	25.4	22.4	6600 (454)	3300 (227)
1 1/2	1 1/4	NPT24-TRB-FNPT20-	56.0	54.0	26.2	25.4	34.0	5000 (344)	2500 (172)

Male NPT Threads

Female ISO Tapered Pipe Threads

P-NPT Size	Px-BSPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (ba	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/16	NPT2-TRB-FBT1-	26.2	11.1	9.7	9.9	4.8	6500 (447)	3200 (220)
1/4	1/16	NPT4-TRB-FBT1-	21.8	14.3	14.2	9.9	4.8	8000 (551)	4000 (275)
1/4	1/8	NPT4-TRB-FBT2-	26.9	14.3	14.2	10.4	7.1	6500 (447)	3300 (227)
3/8	1/16	NPT6-TRB-FBT1-	21.8	17.5	14.2	9.9	4.8	13300 (917)	6600 (454)
3/8	1/8	NPT6-TRB-FBT2-	21.8	17.5	14.2	10.4	7.1	9200 (633)	4700 (323)
3/8	1/4	NPT6-TRB-FBT4-	30.2	19.1	14.2	15.0	9.6	6600 (454)	3300 (227)
1/2	1/8	NPT8-TRB-FBT2-	27.4	22.2	19.1	10.4	7.1	12200 (840)	6200 (427)
1/2	1/4	NPT8-TRB-FBT4-	27.4	22.2	19.1	15.0	10.4	8300 (571)	4400 (303)
1/2	3/8	NPT8-TRB-FBT6-	35.8	22.2	19.1	15.0	11.9	5300 (365)	2600 (179)
3/4	1/8	NPT12-TRB-FBT2-	27.4	27.0	19.1	10.4	7.1	20000 (1378)	10000 (689)
3/4	1/4	NPT12-TRB-FBT4-	27.4	27.0	19.1	15.0	10.4	12000 (826)	6000 (410)
3/4	3/8	NPT12-TRB-FBT6-	27.4	27.0	19.1	15.0	12.7	8200 (564)	4300 (296)
3/4	1/2	NPT12-TRB-FBT8-	41.4	27.0	19.1	19.8	15.7	4900 (337)	2400 (165)
1	1/8	NPT16-TRB-FBT2-	34.8	34.9	23.9	10.4	7.1	20000 (1378)	10000 (689)
1	1/4	NPT16-TRB-FBT4-	34.8	34.9	23.9	15.0	10.4	14500 (999)	7400 (509)
1	3/8	NPT16-TRB-FBT6-	34.8	34.9	23.9	15.0	12.7	11600 (799)	5900 (406)
1	1/2	NPT16-TRB-FBT8-	34.8	34.9	23.9	19.8	15.7	8600 (592)	4300 (296)
1	3/4	NPT16-TRB-FBT12-	47.0	34.9	23.9	20.6	22.4	5300 (365)	2600 (179)
1 1/4	3/4	NPT20-TRB-FBT12-	37.3	44.5	23.9	20.6	22.4	7800 (537)	3900 (268)
1 1/4	1	NPT20-TRB-FBT16-	37.3	44.5	23.9	25.4	22.4	3500 (241)	1750 (120)
1 1/2	1	NPT24-TRB-FBT16-	40.1	50.8	26.2	25.4	22.4	6600 (454)	3300 (227)
1 1/2	1 1/4	NPT24-TRB-FBT20-	56.0	54.0	26.2	25.4	34.0	5000 (344)	2500 (172)

Reducing Bushings



Male ISO Tapered Threads

P-BSPT Size	Px-BSPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/4	1/8	MBT4-TRB-FBT2-	26.9	14.3	14.2	10.4	7.1	6500 (447)	3200 (220)
3/8	1/4	MBT6-TRB-FBT4-	30.2	19.1	14.2	15.0	9.6	6600 (454)	3300 (227)
1/2	1/4	MBT8-TRB-FBT4-	27.4	22.2	19.1	15.0	11.2	8300 (571)	4400 (303)
1/2	3/8	MBT8-TRB-FBT6-	35.8	22.2	19.1	15.0	11.9	5300 (365)	2600 (179)

Female ISO Tapered Threads

Male NPT Threads

P-NPT Size	Px-BG Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
			L	F	B	Bx	E	
3/8	1/4	NPT6-TRB-FBP4-	30.2	19.1	14.2	12.9	5.6	5700 (392)
1/2	3/8	NPT8-TRB-FBP6-	35.8	22.2	19.1	14.2	6.6	5700 (392)
3/4	1/2	NPT12-TRB-FBP8-	41.4	27.0	19.1	18.8	7.1	3900 (268)

Female ISO Parallel Threads

Male ISO Parallel Threads

P-BG Size	Px-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/4	1/8	MBP4-TRB-FNPT2-	26.9	14.3	12.9	10.4	4.5	6500 (447)	3200 (220)
3/8	1/4	MBP6-TRB-FNPT4-	31.0	19.1	14.2	15	7.1	6600 (454)	3300 (227)
1/2	3/8	MBP8-TRB-FNPT6-	35.8	22.2	18.8	15	6.6	5300 (365)	2600 (179)

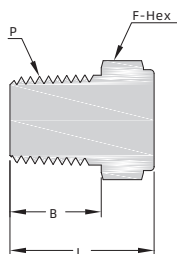
Female NPT Threads

Male SAE Straight Threads

P-SAE/MS Thread Size	Px-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
			L	F	B	Bx	E	
9/16-18	7/16-20	OST9-TRB-FST7-	28.4	20.6	9.9	14.0	7.1	4500 (310)
3/4-16	7/16-20	OST12-TRB-FST7-	24.9	22.2	11.2	14.0	9.9	4500 (310)
3/4-16	9/16-18	OST12-TRB-FST9-	30.2	25.4	11.2	16.0	10.7	4500 (310)
7/8-14	9/16-18	OST14-TRB-FST9-	27.9	25.4	12.7	16.0	12.7	3600 (248)
7/8-14	3/4-16	OST14-TRB-FST12-	36.1	30.2	12.7	18.0	12.7	3600 (248)
1 1/16-12	3/4-16	OST17-TRB-FST12-	32.3	31.8	15.0	18.0	16.5	3600 (248)
1 5/16-12	1 1/16-12	OST21-TRB-FST17-	40.9	41.3	15.0	24.0	22.1	2900 (199)
1 5/8-12	1 5/16-12	OST26-TRB-FST21-	50.3	54.0	15.0	24.0	27.7	2300 (158)
1 7/8-12	1 5/16-12	OST30-TRB-FST21-	50.3	54.0	15.0	24.0	31.2	2300 (158)

Female MS Straight Threads

Pipe Plugs

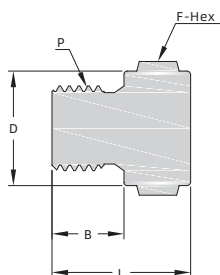


Male NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm		
		L	F	B
1/16	TP-NPT1-	14.2	7.9	9.7
1/8	TP-NPT2-	14.2	11.1	9.7
1/4	TP-NPT4-	19.1	14.3	14.2
3/8	TP-NPT6-	19.8	17.5	14.2
1/2	TP-NPT8-	24.6	22.2	19.1
3/4	TP-NPT12-	30.7	27.0	19.1
1	TP-NPT16-	38.1	34.9	23.9
1 1/4	TP-NPT20-	38.4	44.5	23.9
1 1/2	TP-NPT24-	43.7	50.8	26.2
2	TP-NPT32-	50.8	69.9	26.2

Male ISO Tapered Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm		
		L	F	B
1/16	TP-MBT1-	14.2	7.9	9.7
1/8	TP-MBT2-	14.2	11.1	9.7
1/4	TP-MBT4-	19.1	14.3	14.2
3/8	TP-MBT6-	19.8	17.5	14.2
1/2	TP-MBT8-	24.6	22.2	19.1
3/4	TP-MBT12-	30.7	27.0	19.1
1	TP-MBT16-	38.1	34.9	23.9
1 1/4	TP-MBT20-	38.4	44.5	23.9
1 1/2	TP-MBT24-	43.7	50.8	26.2
2	TP-MBT32-	50.8	69.9	26.2

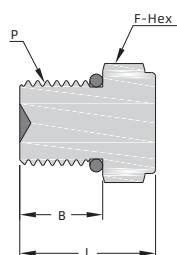


Male ISO parallel Threads

P-BS Size	Basic Ordering Number	Dimension, mm			
		L	F	B	D
1/8	TP-MBS2-	14.0	14.3	7.1	13.7
1/4	TP-MBS4-	19.8	19.1	11.2	18.0
3/8	TP-MBS6-	19.8	22.2	11.2	21.8
1/2	TP-MBS8-	25.1	27.0	14.0	25.9
3/4	TP-MBS12-	28.7	33.3	15.7	32.0
1	TP-MBS16-	30.7	41.3	18.0	39.1

Male Metric Threads

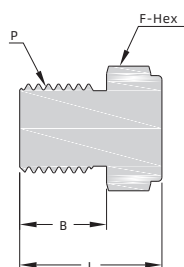
P-Metric Size	Basic Ordering Number	Dimension, mm			
		L	F	B	D
M14 x 1.5	TP-BSMS14-	21	20.6	12	18.8
M16 x 1.5	TP-BSMS16-	23	22.2	12	20.8
M18 x 1.5	TP-BSMS18-	25	23.8	12	22.8
M20 x 1.5	TP-BSMS20-	26.5	25.4	14	24.8
M22 x 1.5	TP-BSMS22-	28.8	28.6	14	26.8
M24 x 1.5	TP-BSMS24-	29	35.0	14	28.8
M27 x 2	TP-BSMS27-	30	36.5	16	31.8



Male SAE/MS Straight Threads

P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm		
		L	F	B
7/16-20	TP-OST7-	19.3	14.3	9.1
9/16-18	TP-OST9-	20.8	17.5	9.9
3/4-16	TP-OST12-	22.6	22.2	11.2
1 1/16-12	TP-OST17-	28.4	31.8	15.0
1 5/16-12	TP-OST21-	30.0	38.1	15.0

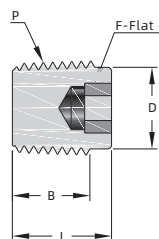
Pipe Plugs



Male Metric Threads

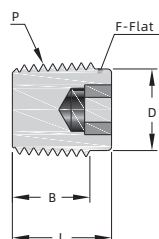
P-Metric Size	Basic Ordering Number	Dimension, mm		
		L	F	B
M14 x 1.5	TP-MS14-	18	16	13
M16 x 1.5	TP-MS16-	20	18	14
M18 x 1.5	TP-MS18-	22	19	15
M20 x 1.5	TP-MS20-	24	22	16
M22 x 1.5	TP-MS22-	26	24	17
M24 x 1.5	TP-MS24-	26	27	17
M27 x 2	TP-MS27-	27	30	18
M30 x 2	TP-MS30-	32	32	20

Hollow Hex Plugs



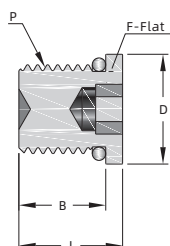
Male ISO Tapered Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm			
		L	F	B	D
1/16	THP-MBT1-	7.6	4.0	7.4	7.4
1/8	THP-MBT2-	10.4	4.8	7.4	9.4
1/4	THP-MBT4-	15.5	6.4	12.4	12.1
3/8	THP-MBT6-	15.5	7.9	12.4	15.7
1/2	THP-MBT8-	19.3	9.5	16.2	19.3
3/4	THP-MBT12-	19.8	14.3	16.7	25.7
1	THP-MBT16-	20.8	15.9	17.7	31.8



Male NPT Threads

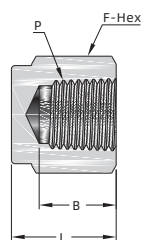
P-NPT Size	Basic Ordering Number	Dimension, mm			
		L	F	B	D
1/16	THP-NPT1-	7.6	4.0	7.4	7.4
1/8	THP-NPT2-	10.4	4.8	7.4	9.4
1/4	THP-NPT4-	15.5	6.4	12.4	12.1
3/8	THP-NPT6-	15.0	7.9	11.9	15.7
1/2	THP-NPT8-	19.3	9.5	16.2	19.3
3/4	THP-NPT12-	19.8	14.3	16.7	25.7
1	THP-NPT16-	20.8	15.9	17.7	31.8



Male SAE/MS Straight Threads

P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm			
		L	F	B	D
7/16-20	THP-OST7-	11.4	4.8	9.1	14.2
9/16-18	THP-OST9-	12.2	6.4	9.9	17.5
3/4-16	THP-OST12-	14.2	7.9	11.2	22.4
1 1/16-12	THP-OST17-	19.1	14.3	15.0	31.8
1 5/16-12	THP-OST21-	19.1	15.9	15.0	38.1

Pipe Caps



Female NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	F	B	316 SS, Steel	Brass
1/16	PC-FNPT1-	12.7	11.1	9.9	6700 (460)	3300 (227)
1/8	PC-FNPT2-	19.1	14.3	10.4	6500 (447)	3200 (220)
1/4	PC-FNPT4-	23.1	19.1	15.0	6600 (454)	3300 (277)
3/8	PC-FNPT6-	26.2	22.2	15.0	5300 (365)	2600 (179)
1/2	PC-FNPT8-	34.0	27.0	19.8	4900 (337)	2400 (165)
3/4	PC-FNPT12-	36.6	33.3	20.6	4600 (316)	2300 (158)
1	PC-FNPT16-	41.1	41.3	25.4	4400 (303)	2200 (151)

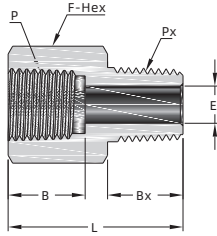
Heavy-Wall Female NPT Threads

1/4	PC1-FNPT4	28.2	25.4	15.0	10000 (689)	—
1/2	PC1-FNPT8	40.1	38.1	19.8	10000 (689)	—

Female ISO Tapered Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	F	B	316 SS, Steel	Brass
1/16	PC-FBT1-	12.7	11.1	9.9	6700 (460)	3300 (227)
1/8	PC-FBT2-	19.1	14.3	10.4	6500 (447)	3200 (220)
1/4	PC-FBT4-	23.1	19.1	15.0	6600 (454)	3300 (277)
3/8	PC-FBT6-	26.2	22.2	15.0	5300 (365)	2600 (179)
1/2	PC-FBT8-	34.0	27.0	19.8	4900 (337)	2400 (165)
3/4	PC-FBT12-	36.6	33.3	20.6	4600 (316)	2300 (158)
1	PC-FBT16-	41.1	41.3	25.4	4400 (303)	2200 (151)

Adapters



Female NPT Threads

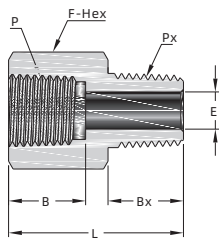
Male NPT Threads

P-NPT Size	Px-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/16	FNPT2-TA-NPT1-	27.7	14.3	10.4	9.7	3.0	6500 (447)	3200 (220)
1/8	1/8	FNPT2-TA-NPT2-	27.9	14.3	10.4	9.7	4.8	6500 (447)	3200 (220)
1/4	1/16	FNPT4-TA-NPT1-	30.5	19.1	15.0	9.7	3.0	6600 (454)	3300 (227)
1/4	1/8	FNPT4-TA-NPT2-	32.0	19.1	15.0	9.7	4.8	6600 (454)	3300 (227)
1/4	1/4	FNPT4-TA-NPT4-	35.6	19.1	15.0	14.2	7.1	6600 (454)	3300 (227)
3/8	1/16	FNPT6-TA-NPT1-	31.8	22.2	15.0	9.7	3.0	5300 (365)	2600 (179)
3/8	1/8	FNPT6-TA-NPT2-	33.8	22.2	15.0	9.7	4.8	5300 (365)	2600 (179)
3/8	1/4	FNPT6-TA-NPT4-	38.1	22.2	15.0	14.2	7.1	5300 (365)	2600 (179)
3/8	3/8	FNPT6-TA-NPT6-	38.4	22.2	15.0	14.2	9.6	5300 (365)	2600 (179)
1/2	1/8	FNPT8-TA-NPT2-	40.1	27.0	19.8	9.7	4.8	4900 (337)	2400 (165)
1/2	1/4	FNPT8-TA-NPT4-	44.7	27.0	19.8	14.2	7.1	4900 (337)	2400 (165)
1/2	3/8	FNPT8-TA-NPT6-	44.4	27.0	19.8	14.2	9.6	4900 (337)	2400 (165)
1/2	1/2	FNPT8-TA-NPT8-	49.3	27.0	19.8	19.1	11.9	4900 (337)	2400 (165)
3/4	1/8	FNPT12-TA-NPT2-	39.6	33.3	20.6	9.7	4.8	4600 (316)	2300 (158)
3/4	1/4	FNPT12-TA-NPT4-	47.0	33.3	20.6	14.2	7.1	4600 (316)	2300 (158)
3/4	3/8	FNPT12-TA-NPT6-	46.2	33.3	20.6	14.2	9.6	4600 (316)	2300 (158)
3/4	1/2	FNPT12-TA-NPT8-	51.3	33.3	20.6	19.1	11.9	4600 (316)	2300 (158)
3/4	3/4	FNPT12-TA-NPT12-	51.3	33.3	20.6	19.1	15.7	4600 (316)	2300 (158)
1	1/8	FNPT16-TA-NPT2-	46.0	41.3	25.4	9.7	4.8	4400 (303)	2200 (151)
1	1/4	FNPT16-TA-NPT4-	49.8	41.3	25.4	14.2	7.1	4400 (303)	2200 (151)
1	3/8	FNPT16-TA-NPT6-	50.8	41.3	25.4	14.2	9.6	4400 (303)	2200 (151)
1	1/2	FNPT16-TA-NPT8-	54.9	41.3	25.4	19.1	11.9	4400 (303)	2200 (151)
1	3/4	FNPT16-TA-NPT12-	55.1	41.3	25.4	19.1	15.7	4400 (303)	2200 (151)
1	1	FNPT16-TA-NPT16-	57.9	41.3	25.4	23.9	22.4	4400 (303)	2200 (151)
1 1/4	1	FNPT20-TA-NPT16-	62.7	54.0	25.4	23.9	22.4	5000 (344)	2500 (172)

Heavy-Wall Female to male NPT Threads

1/4	1/4	FNPT4-TA1-NPT4-	36.3	25.4	15.0	14.2	5.8	10000 (689)	/
1/2	1/4	FNPT8-TA1-NPT4-	46.0	38.1	19.8	14.2	5.8	10000 (689)	/
1/2	1/2	FNPT8-TA1-NPT8-	51.3	38.1	19.8	19.1	9.9	10000 (689)	/

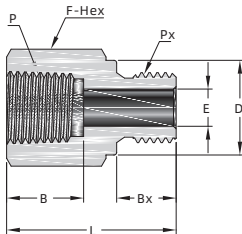
Adapters



Female NPT Threads

Male ISO Tapered Threads

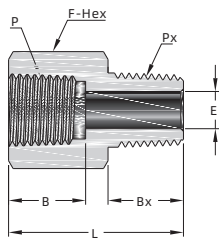
P-NPT Size	Px-BSPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/8	FNPT2-TA-MBT2-	27.7	14.3	10.4	9.7	4.8	6500 (447)	3200 (220)
1/4	1/4	FNPT4-TA-MBT4-	36.1	19.1	15.0	14.2	7.1	6600 (454)	3300 (227)
3/8	3/8	FNPT6-TA-MBT6-	38.1	22.2	15.0	14.2	9.6	5300 (365)	2600 (179)
1/2	1/2	FNPT8-TA-MBT8-	49.3	27.0	19.8	19.1	11.9	4900 (337)	2400 (165)
3/4	3/4	FNPT12-TA-MBT12-	51.3	33.3	20.6	19.1	15.7	4600 (316)	2300 (158)
1	1	FNPT16-TA-MBT16-	58.4	41.3	25.4	23.9	22.4	4400 (303)	2200 (151)



Female NPT Threads

Male ISO Parallel Threads

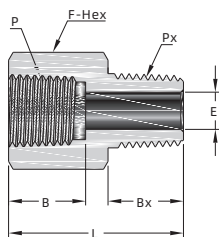
P-NPT Size	Px-BS Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	Bx	D	E	316 SS, Steel	Brass
1/8	1/8	FNPT2-TA-MBS2-	25.1	14.3	9.9	7.1	13.7	4.1	6500 (447)	3200 (220)
1/4	1/4	FNPT4-TA-MBS4-	33.5	19.1	10.4	11.2	18.0	5.8	6600 (454)	3300 (227)
3/8	3/8	FNPT6-TA-MBS6-	35.8	22.2	15.0	11.2	21.6	7.9	5300 (365)	2600 (179)
1/2	1/2	FNPT8-TA-MBS8-	44.2	27.0	15.0	14.2	25.9	11.9	4900 (337)	2400 (165)
3/4	3/4	FNPT12-TA-MBS12-	48.0	33.3	20.6	15.7	32.0	15.7	4600 (316)	2300 (158)
1	1	FNPT16-TA-MBS16-	53.3	41.3	25.4	18.3	38.9	19.8	4400 (303)	2200 (151)



Female ISO Tapered Threads

Male ISO Tapered Threads

P-BSPT Size	Px-BSPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/8	FBT2-TA-MBT2-	27.7	14.3	10.4	9.7	4.8	6500 (447)	3200 (220)
1/4	1/8	FBT4-TA-MBT2-	32.0	19.1	15.0	9.7	4.8	6600 (454)	3300 (227)
1/4	1/4	FBT4-TA-MBT4-	36.1	19.1	15.0	14.2	7.1	6600 (454)	3300 (227)
3/8	1/4	FBT6-TA-MBT4-	38.1	22.2	15.0	14.2	7.1	5300 (365)	2600 (179)
3/8	3/8	FBT6-TA-MBT6-	38.1	22.2	15.0	14.2	9.6	5300 (365)	2600 (179)
1/2	1/4	FBT8-TA-MBT4-	44.7	27.0	19.8	14.2	7.1	4900 (337)	2400 (165)
1/2	3/8	FBT8-TA-MBT6-	44.4	27.0	19.8	14.2	9.6	4900 (337)	2400 (165)
1/2	1/2	FBT8-TA-MBT8-	49.5	27.0	19.8	19.1	11.9	4900 (337)	2400 (165)
3/4	3/4	FBT12-TA-MBT12-	51.3	33.3	20.6	19.1	15.7	4600 (316)	2300 (158)
1	1	FBT16-TA-MBT16-	58.4	41.3	25.4	23.9	22.4	4400 (303)	2200 (151)

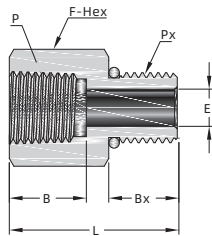


Female ISO Tapered Threads

Male NPT Threads

P-BSPT Size	Px-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/8	FBT2-TA-NPT2-	27.7	14.3	10.4	9.7	4.8	6500 (447)	3200 (220)
1/4	1/4	FBT4-TA-NPT4-	36.3	19.1	15.0	14.2	7.1	6600 (454)	3300 (227)
3/8	3/8	FBT6-TA-NPT6-	38.4	22.2	15.0	14.2	9.6	5300 (365)	2600 (179)
1/2	1/2	FBT8-TA-NPT8-	49.8	27.0	19.8	19.1	11.9	4900 (337)	2400 (165)
3/4	3/4	FBT12-TA-NPT12-	51.3	33.3	20.6	19.1	15.7	4600 (316)	2300 (158)
1	1	FBT16-TA-NPT16-	58.4	41.3	25.4	23.9	22.4	4400 (303)	2200 (151)

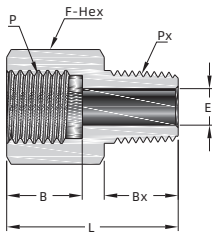
Adapters



Female NPT Threads

Male SAE/MS Straight Threads

P-NPT Size	Px-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
			L	F	B	Bx	E	
1/4	7/16-20	FNPT4-TA-OST7-	33.5	19.1	15.0	9.1	5.1	4500 (310)
3/8	9/16-18	FNPT6-TA-OST9-	35.3	23.8	15.0	9.9	7.1	4500 (310)
1/2	3/4-16	FNPT8-TA-OST12-	44.7	27.0	19.8	11.2	10.7	4500 (310)
3/4	1 1/16-12	FNPT12-TA-OST17-	50.5	34.9	20.6	15.0	16.7	3600 (248)
1	1 5/16-12	FNPT16-TA-OST21-	53.8	41.3	25.4	15.0	22.4	2900 (199)

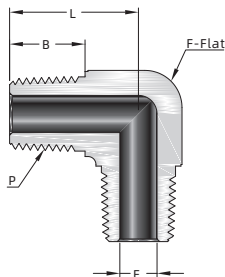


Female ISO Parallel Threads

Male NPT Threads

P-BG Size	Px-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
			L	F	B	Bx	E	
1/8	1/8	FBP2-TA-NPT2-	21.8	14.3	6.5	9.7	4.8	6100 (420)
1/4	1/4	FBP4-TA-NPT4-	30.2	19.1	12.9	14.2	5.6	5700 (392)
3/8	3/8	FBP6-TA-NPT6-	32.2	23.8	14.2	14.2	6.6	5700 (392)
1/2	1/2	FBP8-TA-NPT8-	42.7	27.0	18.8	19.1	7.1	3900 (268)

Male Elbows



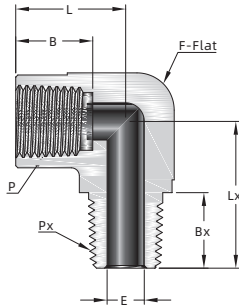
Male NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	B	E	316 SS, Steel	Brass
1/16	NPT1-TME-NPT1-	15.5	9.5	9.7	3.0	11000 (757)	5500 (378)
1/8	NPT2-TME-NPT2-	22.4	11.1	9.7	4.8	10000 (689)	5000 (344)
1/4	NPT4-TME-NPT4-	26.7	12.7	14.2	7.1	8000 (551)	4000 (275)
3/8	NPT6-TME-NPT6-	29.7	17.5	14.2	9.6	7800 (537)	3900 (268)
1/2	NPT8-TME-NPT8-	36.8	20.6	19.1	11.9	7700 (530)	3800 (261)
3/4	NPT12-TME-NPT12-	40.4	27.0	19.1	15.7	7300 (502)	3600 (248)
1	NPT16-TME-NPT16-	50.0	34.9	23.9	22.4	5300 (365)	2600 (179)

Male ISO Tapered Pipe Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	B	E	316 SS, Steel	Brass
1/16	MBT1-TME-MBT1-	15.5	9.5	9.7	3.0	11000 (757)	5500 (378)
1/8	MBT2-TME-MBT2-	22.4	11.1	9.7	4.8	10000 (689)	5000 (344)
1/4	MBT4-TME-MBT4-	26.7	12.7	14.2	7.1	8000 (551)	4000 (275)
3/8	MBT6-TME-MBT6-	29.7	17.5	14.2	9.6	7800 (537)	3900 (268)
1/2	MBT8-TME-MBT8-	36.8	20.6	19.1	11.9	7700 (530)	3800 (261)
3/4	MBT12-TME-MBT12-	40.4	27.0	19.1	15.7	7300 (502)	3600 (248)
1	MBT16-TME-MBT16-	50.0	34.9	23.9	22.4	5300 (365)	2600 (179)

Street Elbows

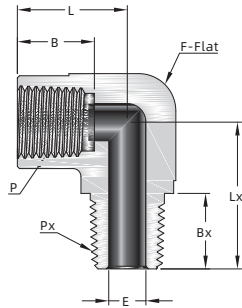


Female NPT Threads

Male NPT Threads

P-NPT Size	Px-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	FNPT1-TSE-NPT1-	21.8	11.1	9.9	3.0	22.4	9.7	9200 (633)	4600 (316)
1/16	1/8	FNPT1-TSE-NPT2-	21.8	11.1	9.9	4.8	22.4	9.7	9200 (633)	4600 (316)
1/16	1/4	FNPT1-TSE-NPT4-	22.4	14.3	9.9	4.8	27.7	14.2	8000 (551)	4000 (275)
1/16	3/8	FNPT1-TSE-NPT6-	22.4	17.5	9.9	4.8	29.7	14.2	7800 (537)	3900 (268)
1/8	1/16	FNPT2-TSE-NPT1-	26.4	12.7	10.4	3.0	22.1	9.7	6200 (426)	3100 (213)
1/8	1/8	FNPT2-TSE-NPT2-	26.4	12.7	10.4	4.8	22.1	9.7	6200 (426)	3100 (213)
1/8	1/4	FNPT2-TSE-NPT4-	22.4	14.3	10.4	7.1	27.7	14.2	6500 (447)	3200 (220)
1/8	3/8	FNPT2-TSE-NPT6-	22.4	17.5	10.4	7.1	29.7	14.2	7800 (537)	3900 (268)
1/8	1/2	FNPT2-TSE-NPT8-	24.1	20.6	10.4	7.1	36.8	19.1	7700 (530)	3800 (261)
1/8	3/4	FNPT2-TSE-NPT12-	25.4	27.0	10.4	7.1	40.4	19.1	7300 (502)	3600 (248)
1/8	1	FNPT2-TSE-NPT16-	26.4	34.9	10.4	7.1	50.0	23.9	5300 (365)	2600 (179)
1/4	1/8	FNPT4-TSE-NPT2-	29.7	17.5	15.0	4.8	25.4	9.7	7200 (496)	3600 (248)
1/4	1/4	FNPT4-TSE-NPT4-	29.7	17.5	15.0	7.1	29.7	14.2	7200 (496)	3600 (248)
1/4	3/8	FNPT4-TSE-NPT6-	29.7	17.5	15.0	8.6	29.7	14.2	7200 (496)	3600 (248)
1/4	1/2	FNPT4-TSE-NPT8-	25.4	20.6	15.0	8.6	36.8	19.1	7200 (496)	3600 (248)
1/4	3/4	FNPT4-TSE-NPT12-	25.4	27.0	15.0	8.6	40.4	19.1	7300 (502)	3600 (248)
1/4	1	FNPT4-TSE-NPT16-	41.4	34.9	15.0	8.6	50.0	23.9	5300 (365)	2600 (179)
3/8	1/4	FNPT6-TSE-NPT4-	36.1	20.6	15.0	7.1	32.0	14.2	5600 (385)	2800 (192)
3/8	3/8	FNPT6-TSE-NPT6-	36.1	20.6	15.0	9.6	32.0	14.2	5600 (385)	2800 (192)
3/8	1/2	FNPT6-TSE-NPT8-	36.1	20.6	15.0	11.9	36.8	19.1	5600 (385)	2800 (192)
3/8	3/4	FNPT6-TSE-NPT12-	31.2	27.0	15.0	11.9	40.4	19.1	7300 (502)	3600 (248)
3/8	1	FNPT6-TSE-NPT16-	41.4	34.9	15.0	11.9	50.0	23.9	5300 (365)	2600 (179)
1/2	1/4	FNPT8-TSE-NPT4-	39.6	25.4	19.8	7.1	35.1	14.2	5600 (385)	2800 (192)
1/2	3/8	FNPT8-TSE-NPT6-	39.6	25.4	19.8	9.6	35.1	14.2	5600 (385)	2800 (192)
1/2	1/2	FNPT8-TSE-NPT8-	39.6	25.4	19.8	11.9	39.6	19.1	5600 (385)	2800 (192)
1/2	3/4	FNPT8-TSE-NPT12-	31.2	27.0	19.8	15.7	40.4	19.1	5600 (385)	2800 (192)
1/2	1	FNPT8-TSE-NPT16-	41.4	34.9	19.8	15.7	50.0	23.9	5300 (365)	2600 (179)
3/4	3/4	FNPT12-TSE-NPT12-	48.8	31.8	20.6	15.7	42.4	19.1	5100 (351)	2500 (172)
3/4	1	FNPT12-TSE-NPT16-	41.4	34.9	20.6	22.4	50.0	23.9	5100 (351)	2500 (172)
1	1	FNPT16-TSE-NPT16-	48.5	42.9	25.4	22.4	49.3	23.9	5300 (365)	2600 (179)
1 1/4	1 1/4	FNPT20-TSE-NPT20-	60.5	50.8	25.4	31.8	60.5	23.9	3100 (213)	1600 (110)

Street Elbows

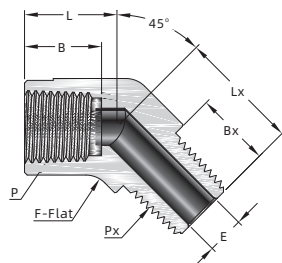


Female ISO Tapered Pipe Threads

Male ISO Tapered Threads

P-BSPT Size	Px-BSPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	FBT1-TSE-MBT1-	21.8	11.1	9.9	3.0	22.4	9.7	9200 (633)	4600 (316)
1/16	1/8	FBT1-TSE-MBT2-	21.8	11.1	9.9	4.8	22.4	9.7	9200 (633)	4600 (316)
1/16	1/4	FBT1-TSE-MBT4-	22.4	14.3	9.9	4.8	27.7	14.2	8000 (551)	4000 (275)
1/16	3/8	FBT1-TSE-MBT6-	22.4	17.5	9.9	4.8	29.7	14.2	7800 (537)	3900 (268)
1/8	1/16	FBT2-TSE-MBT1-	26.4	12.7	10.4	3.0	22.1	9.7	6200 (426)	3100 (213)
1/8	1/8	FBT2-TSE-MBT2-	26.4	12.7	10.4	4.8	22.1	9.7	6200 (426)	3100 (213)
1/8	1/4	FBT2-TSE-MBT4-	22.4	14.3	10.4	7.1	27.7	14.2	6500 (447)	3200 (220)
1/8	3/8	FBT2-TSE-MBT6-	22.4	17.5	10.4	7.1	29.7	14.2	7800 (537)	3900 (268)
1/8	1/2	FBT2-TSE-MBT8-	24.1	20.6	10.4	7.1	36.8	19.1	7700 (530)	3800 (261)
1/8	3/4	FBT2-TSE-MBT12-	25.4	27.0	10.4	7.1	40.4	19.1	7300 (502)	3600 (248)
1/8	1	FBT2-TSE-MBT16-	26.4	34.9	10.4	7.1	50.0	23.9	5300 (365)	2600 (179)
1/4	1/8	FBT4-TSE-MBT2-	29.7	17.5	15.0	4.8	25.4	9.7	7200 (496)	3600 (248)
1/4	1/4	FBT4-TSE-MBT4-	29.7	17.5	15.0	7.1	29.7	14.2	7200 (496)	3600 (248)
1/4	3/8	FBT4-TSE-MBT6-	29.7	17.5	15.0	8.6	29.7	14.2	7200 (496)	3600 (248)
1/4	1/2	FBT4-TSE-MBT8-	25.4	20.6	15.0	8.6	36.8	19.1	7200 (496)	3600 (248)
1/4	3/4	FBT4-TSE-MBT12-	25.4	27.0	15.0	8.6	40.4	19.1	7300 (502)	3600 (248)
1/4	1	FBT4-TSE-MBT16-	41.4	34.9	15.0	8.6	50.0	23.9	5300 (365)	2600 (179)
3/8	1/4	FBT6-TSE-MBT4-	36.1	20.6	15.0	7.1	32.0	14.2	5600 (385)	2800 (192)
3/8	3/8	FBT6-TSE-MBT6-	36.1	20.6	15.0	9.6	32.0	14.2	5600 (385)	2800 (192)
3/8	1/2	FBT6-TSE-MBT8-	36.1	20.6	15.0	11.9	36.8	19.1	5600 (385)	2800 (192)
3/8	3/4	FBT6-TSE-MBT12-	31.2	27.0	15.0	11.9	40.4	19.1	7300 (502)	3600 (248)
3/8	1	FBT6-TSE-MBT16-	41.4	34.9	15.0	11.9	50.0	23.9	5300 (365)	2600 (179)
1/2	1/4	FBT8-TSE-MBT4-	39.6	25.4	19.8	7.1	35.1	14.2	5600 (385)	2800 (192)
1/2	3/8	FBT8-TSE-MBT6-	39.6	25.4	19.8	9.6	35.1	14.2	5600 (385)	2800 (192)
1/2	1/2	FBT8-TSE-MBT8-	39.6	25.4	19.8	11.9	39.6	19.1	5600 (385)	2800 (192)
1/2	3/4	FBT8-TSE-MBT12-	31.2	27.0	19.8	15.7	40.4	19.1	5600 (385)	2800 (192)
1/2	1	FBT8-TSE-MBT16-	41.4	34.9	19.8	15.7	50.0	23.9	5300 (365)	2600 (179)
3/4	3/4	FBT12-TSE-MBT12-	48.8	31.8	20.6	15.7	42.4	19.1	5100 (351)	2500 (172)
3/4	1	FBT12-TSE-MBT16-	41.4	34.9	20.6	22.4	50.0	23.9	5100 (351)	2500 (172)
1	1	FBT16-TSE-MBT16-	48.5	42.9	25.4	22.4	49.3	23.9	5300 (365)	2600 (179)
1 1/4	1 1/4	FBT20-TSE-MBT20-	60.5	50.8	25.4	31.8	60.5	23.9	3100 (213)	1600 (110)

45° Street Elbows

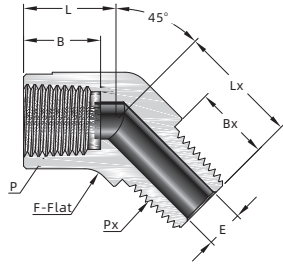


Female NPT Threads

Male NPT Threads

P-NPT Size	Px-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	FNPT1-T45E-NPT1-	16.8	11.1	9.9	3.0	16.8	9.7	9200 (633)	4600 (316)
1/16	1/8	FNPT1-T45E-NPT2-	16.8	11.1	9.9	4.8	16.8	9.7	9200 (633)	4600 (316)
1/16	1/4	FNPT1-T45E-NPT4-	16.8	14.3	9.9	4.8	21.8	14.2	8000 (551)	4000 (275)
1/16	3/8	FNPT1-T45E-NPT6-	22.4	17.5	9.9	4.8	23.8	14.2	7800 (537)	3900 (268)
1/8	1/16	FNPT2-T45E-NPT1-	20.2	12.7	10.4	3.0	17.2	9.7	6200 (426)	3100 (213)
1/8	1/8	FNPT2-T45E-NPT2-	20.2	12.7	10.4	4.8	17.2	9.7	6200 (426)	3100 (213)
1/8	1/4	FNPT2-T45E-NPT4-	16.8	14.3	10.4	7.1	21.8	14.2	6500 (447)	3200 (220)
1/8	3/8	FNPT2-T45E-NPT6-	22.4	17.5	10.4	7.1	23.8	14.2	7800 (537)	3900 (268)
1/8	1/2	FNPT2-T45E-NPT8-	22.2	20.6	10.4	7.1	29.0	19.1	7700 (530)	3800 (261)
1/8	3/4	FNPT2-T45E-NPT12-	25.4	27.0	10.4	7.1	30.5	19.1	7300 (502)	3600 (248)
1/8	1	FNPT2-T45E-NPT16-	26.4	34.9	10.4	7.1	49.3	23.9	5300 (365)	2600 (179)
1/4	1/8	FNPT4-T45E-NPT2-	25.4	17.5	15.0	4.8	19.3	9.7	7200 (496)	3600 (248)
1/4	1/4	FNPT4-T45E-NPT4-	25.4	17.5	15.0	7.1	19.3	14.2	7200 (496)	3600 (248)
1/4	3/8	FNPT4-T45E-NPT6-	25.4	17.5	15.0	8.6	23.8	14.2	7200 (496)	3600 (248)
1/4	1/2	FNPT4-T45E-NPT8-	22.2	20.6	15.0	8.6	29.0	19.1	7200 (496)	3600 (248)
1/4	3/4	FNPT4-T45E-NPT12-	25.4	27.0	15.0	8.6	30.5	19.1	7300 (502)	3600 (248)
1/4	1	FNPT4-T45E-NPT16-	32.0	34.9	15.0	8.6	37.6	23.9	5300 (365)	2600 (179)
3/8	1/4	FNPT6-T45E-NPT4-	27.0	20.6	15.0	7.1	24.2	14.2	5600 (385)	2800 (192)
3/8	3/8	FNPT6-T45E-NPT6-	27.0	20.6	15.0	9.6	24.2	14.2	5600 (385)	2800 (192)
3/8	1/2	FNPT6-T45E-NPT8-	27.0	20.6	15.0	11.9	29.0	19.1	5600 (385)	2800 (192)
3/8	3/4	FNPT6-T45E-NPT12-	27.0	27.0	15.0	11.9	30.5	19.1	7300 (502)	3600 (248)
3/8	1	FNPT6-T45E-NPT16-	32.0	34.9	15.0	11.9	37.6	23.9	5300 (365)	2600 (179)
1/2	1/4	FNPT8-T45E-NPT4-	32.0	25.4	19.8	7.1	25.2	14.2	5600 (385)	2800 (192)
1/2	3/8	FNPT8-T45E-NPT6-	32.0	25.4	19.8	9.6	25.2	14.2	5600 (385)	2800 (192)
1/2	1/2	FNPT8-T45E-NPT8-	32.0	25.4	19.8	11.9	32.0	19.1	5600 (385)	2800 (192)
1/2	3/4	FNPT8-T45E-NPT12-	32.5	27.0	19.8	15.7	30.5	19.1	5600 (385)	2800 (192)
1/2	1	FNPT8-T45E-NPT16-	37.6	34.9	19.8	15.7	37.6	23.9	5300 (365)	2600 (179)
3/4	3/4	FNPT12-T45E-NPT12-	34.5	31.8	20.6	15.7	34.5	19.1	5100 (351)	2500 (172)
3/4	1	FNPT12-T45E-NPT16-	37.6	34.9	20.6	22.4	37.6	23.9	5100 (351)	2500 (172)
1	1	FNPT16-T45E-NPT16-	46.0	42.9	25.4	22.4	46.0	23.9	5300 (365)	2600 (179)
1 1/4	1 1/4	FNPT20-T45E-NPT20-	50.8	50.8	25.4	31.8	50.8	23.9	3100 (213)	1600 (110)

45° Street Elbows

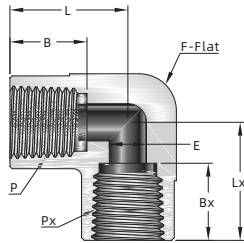


Female ISO Tapered Threads

Male ISO Tapered Threads

P-BSPT Size	Px-BSPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	FBT1-T45E-MBT1-	16.8	11.1	9.9	3.0	16.8	9.7	9200 (633)	4600 (316)
1/16	1/8	FBT1-T45E-MBT2-	16.8	11.1	9.9	4.8	16.8	9.7	9200 (633)	4600 (316)
1/16	1/4	FBT1-T45E-MBT4-	16.8	14.3	9.9	4.8	21.8	14.2	8000 (551)	4000 (275)
1/16	3/8	FBT1-T45E-MBT6-	22.4	17.5	9.9	4.8	23.8	14.2	7800 (537)	3900 (268)
1/8	1/16	FBT2-T45E-MBT1-	20.2	12.7	10.4	3.0	17.2	9.7	6200 (426)	3100 (213)
1/8	1/8	FBT2-T45E-MBT2-	20.2	12.7	10.4	4.8	17.2	9.7	6200 (426)	3100 (213)
1/8	1/4	FBT2-T45E-MBT4-	16.8	14.3	10.4	7.1	21.8	14.2	6500 (447)	3200 (220)
1/8	3/8	FBT2-T45E-MBT6-	22.4	17.5	10.4	7.1	23.8	14.2	7800 (537)	3900 (268)
1/8	1/2	FBT2-T45E-MBT8-	22.2	20.6	10.4	7.1	29.0	19.1	7700 (530)	3800 (261)
1/8	3/4	FBT2-T45E-MBT12-	25.4	27.0	10.4	7.1	30.5	19.1	7300 (502)	3600 (248)
1/8	1	FBT2-T45E-MBT16-	26.4	34.9	10.4	7.1	49.3	23.9	5300 (365)	2600 (179)
1/4	1/8	FBT4-T45E-MBT2-	25.4	17.5	15.0	4.8	19.3	9.7	7200 (496)	3600 (248)
1/4	1/4	FBT4-T45E-MBT4-	25.4	17.5	15.0	7.1	19.3	14.2	7200 (496)	3600 (248)
1/4	3/8	FBT4-T45E-MBT6-	25.4	17.5	15.0	8.6	23.8	14.2	7200 (496)	3600 (248)
1/4	1/2	FBT4-T45E-MBT8-	22.2	20.6	15.0	8.6	29.0	19.1	7200 (496)	3600 (248)
1/4	3/4	FBT4-T45E-MBT12-	25.4	27.0	15.0	8.6	30.5	19.1	7300 (502)	3600 (248)
1/4	1	FBT4-T45E-MBT16-	32.0	34.9	15.0	8.6	37.6	23.9	5300 (365)	2600 (179)
3/8	1/4	FBT6-T45E-MBT4-	27.0	20.6	15.0	7.1	24.2	14.2	5600 (385)	2800 (192)
3/8	3/8	FBT6-T45E-MBT6-	27.0	20.6	15.0	9.6	24.2	14.2	5600 (385)	2800 (192)
3/8	1/2	FBT6-T45E-MBT8-	27.0	20.6	15.0	11.9	29.0	19.1	5600 (385)	2800 (192)
3/8	3/4	FBT6-T45E-MBT12-	27.0	27.0	15.0	11.9	30.5	19.1	7300 (502)	3600 (248)
3/8	1	FBT6-T45E-MBT16-	32.0	34.9	15.0	11.9	37.6	23.9	5300 (365)	2600 (179)
1/2	1/4	FBT8-T45E-MBT4-	32.0	25.4	19.8	7.1	25.2	14.2	5600 (385)	2800 (192)
1/2	3/8	FBT8-T45E-MBT6-	32.0	25.4	19.8	9.6	25.2	14.2	5600 (385)	2800 (192)
1/2	1/2	FBT8-T45E-MBT8-	32.0	25.4	19.8	11.9	32.0	19.1	5600 (385)	2800 (192)
1/2	3/4	FBT8-T45E-MBT12-	32.5	27.0	19.8	15.7	30.5	19.1	5600 (385)	2800 (192)
1/2	1	FBT8-T45E-MBT16-	37.6	34.9	19.8	15.7	37.6	23.9	5300 (365)	2600 (179)
3/4	3/4	FBT12-T45E-MBT12-	34.5	31.8	20.6	15.7	34.5	19.1	5100 (351)	2500 (172)
3/4	1	FBT12-T45E-MBT16-	37.6	34.9	20.6	22.4	37.6	23.9	5100 (351)	2500 (172)
1	1	FBT16-T45E-MBT16-	46.0	42.9	25.4	22.4	46.0	23.9	5300 (365)	2600 (179)
1 1/4	1 1/4	FBT20-T45E-MBT20-	50.8	50.8	25.4	31.8	50.8	23.9	3100 (213)	1600 (110)

Female Elbows



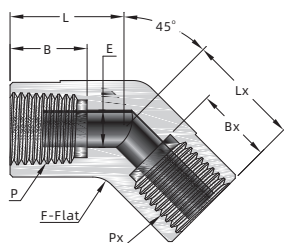
Female NPT Threads

P-FNPT Size	Px-FNPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	FNPT1-TFE-FNPT1-	21.8	11.1	9.9	4.8	21.8	9.9	6700 (460)	3300 (227)
1/8	1/16	FNPT2-TFE-FNPT1-	26.4	12.7	10.4	4.8	26.4	9.9	6200 (427)	3100 (213)
1/8	1/8	FNPT2-TFE-FNPT2-	26.4	12.7	10.4	8.6	26.4	10.4	6200 (427)	3100 (213)
1/4	1/8	FNPT4-TFE-FNPT2-	29.7	17.5	15.0	7.1	29.7	10.4	7200 (496)	3600 (248)
1/4	1/4	FNPT4-TFE-FNPT4-	29.7	17.5	15.0	11.4	29.7	15.0	7200 (496)	3600 (248)
3/8	3/8	FNPT6-TFE-FNPT6-	36.1	20.6	15.0	15.0	36.1	15.0	5600 (385)	2800 (192)
1/2	1/2	FNPT8-TFE-FNPT8-	39.6	25.4	19.8	18.5	39.6	19.8	5600 (385)	2800 (192)
3/4	3/4	FNPT12-TFE-FNPT12-	48.8	31.8	20.6	23.9	48.8	20.6	5100 (351)	2500 (172)
1	1	FNPT16-TFE-FNPT16-	48.5	42.9	25.4	29.7	48.5	25.4	6400 (440)	3200 (220)
1 1/4	1 1/4	FNPT20-TFE-FNPT20-	59.8	50.8	25.4	27.7	50.8	25.4	3100 (213)	1600 (110)
1 1/2	1 1/2	FNPT24-TFE-FNPT24-	65.0	63.5	27.7	34.0	52.8	27.7	5100 (351)	2500 (172)
Heavy-Wall Female NPT Threads										
1/4	1/4	FNPT4-TFE1-FNPT4-	39.6	25.4	15.0	11.4	29.7	15.0	10000 (689)	—
1/2	1/2	FNPT8-TFE1-FNPT8-	50.0	42.9	19.8	18.5	39.6	19.8	10000 (689)	—

Female ISO Tapered Threads

P-BSPT Size	Px-BSPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	FBT1-TFE-FBT1-	21.8	11.1	9.9	4.8	21.6	9.9	6700 (460)	3300 (227)
1/8	1/16	FBT2-TFE-FBT1-	16.8	12.7	10.4	4.8	16.8	9.9	6200 (427)	3100 (213)
1/8	1/8	FBT2-TFE-FBT2-	26.4	12.7	10.4	7.1	26.4	10.4	6200 (427)	3100 (213)
1/4	1/8	FBT4-TFE-FBT2-	29.7	17.5	15.0	7.1	29.7	10.4	7200 (496)	3600 (248)
1/4	1/4	FBT4-TFE-FBT4-	29.7	17.5	15.0	10.4	29.7	15.0	7200 (496)	3600 (248)
3/8	3/8	FBT6-TFE-FBT6-	36.1	20.6	15.0	12.7	36.1	15.0	5600 (385)	2800 (192)
1/2	1/2	FBT8-TFE-FBT8-	39.6	25.4	19.8	15.7	39.6	19.8	5600 (385)	2800 (192)
3/4	3/4	FBT12-TFE-FBT12-	48.8	31.8	20.6	22.4	48.8	20.6	5100 (351)	2500 (172)
1	1	FBT16-TFE-FBT16-	48.5	42.9	25.4	22.4	48.5	25.4	6400 (440)	3200 (220)
1 1/4	1 1/4	FBT20-TFE-FBT20-	59.8	50.8	25.4	27.7	50.8	25.4	3100 (213)	1600 (110)
1 1/2	1 1/2	FBT24-TFE-FBT24-	65.0	63.5	27.7	34.0	52.8	27.7	5100 (351)	2500 (172)

45° Female Elbows



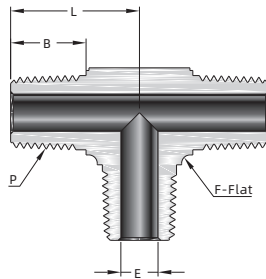
Female NPT Threads

P-NPT Size	Px-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	FNPT1-T45FE-FNPT1-	16.8	11.1	9.9	4.8	16.8	9.9	6700 (460)	3300 (227)
1/8	1/16	FNPT2-T45FE-FNPT1-	20.2	12.7	10.4	4.8	20.2	9.9	6200 (427)	3100 (213)
1/8	1/8	FNPT2-T45FE-FNPT2-	20.2	12.7	10.4	7.1	20.2	10.4	6200 (427)	3100 (213)
1/4	1/8	FNPT4-T45FE-FNPT2-	25.4	17.5	15.0	7.1	25.4	10.4	7200 (496)	3600 (248)
1/4	1/4	FNPT4-T45FE-FNPT4-	25.4	17.5	15.0	10.4	25.4	15.0	7200 (496)	3600 (248)
3/8	3/8	FNPT6-T45FE-FNPT6-	27.0	20.6	15.0	12.7	27.0	15.0	5600 (385)	2800 (192)
1/2	1/2	FNPT8-T45FE-FNPT8-	32.0	25.4	19.8	15.7	32.0	19.8	5600 (385)	2800 (192)
3/4	3/4	FNPT12-T45FE-FNPT12-	34.5	31.8	20.6	22.4	34.5	20.6	5100 (351)	2500 (172)
1	1	FNPT16-T45FE-FNPT16-	46.0	42.9	25.4	22.4	46.0	25.4	6400 (440)	3200 (220)
1 1/4	1 1/4	FNPT20-T45FE-FNPT20-	43.2	50.8	25.4	27.7	43.2	25.4	3100 (213)	1600 (110)
1 1/2	1 1/2	FNPT24-T45FE-FNPT24-	46.0	63.5	27.7	34.0	46.0	27.7	5100 (351)	2500 (172)

Female ISO Tapered Pipe Threads

P-BSPT Size	Px-BSPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	FBT1-T45FE-FBT1-	16.8	11.1	9.9	4.8	16.8	9.9	6700 (460)	3300 (227)
1/8	1/16	FBT2-T45FE-FBT1-	20.2	12.7	10.4	4.8	20.2	9.9	6200 (427)	3100 (213)
1/8	1/8	FBT2-T45FE-FBT2-	20.2	12.7	10.4	7.1	20.2	10.4	6200 (427)	3100 (213)
1/4	1/8	FBT4-T45FE-FBT2-	25.4	17.5	15.0	7.1	25.4	10.4	7200 (496)	3600 (248)
1/4	1/4	FBT4-T45FE-FBT4-	25.4	17.5	15.0	10.4	25.4	15.0	7200 (496)	3600 (248)
3/8	3/8	FBT6-T45FE-FBT6-	27.0	20.6	15.0	12.7	27.0	15.0	5600 (385)	2800 (192)
1/2	1/2	FBT8-T45FE-FBT8-	32.0	25.4	19.8	15.7	32.0	19.8	5600 (385)	2800 (192)
3/4	3/4	FBT12-T45FE-FBT12-	34.5	31.8	20.6	22.4	34.5	20.6	5100 (351)	2500 (172)
1	1	FBT16-T45FE-FBT16-	46.0	42.9	25.4	22.4	46.0	25.4	6400 (440)	3200 (220)
1 1/4	1 1/4	FBT20-T45FE-FBT20-	43.2	50.8	25.4	27.7	43.2	25.4	3100 (213)	1600 (110)
1 1/2	1 1/2	FBT24-T45FE-FBT24-	46.0	63.5	27.7	34.0	46.0	27.7	5100 (351)	2500 (172)

Male Tees



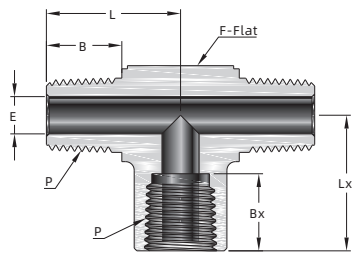
Male NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	B	E	316 SS, Steel	Brass
1/16	NPT1-TMT-NPT1-NPT1-	15.5	9.5	9.7	3.0	11000 (757)	5500 (378)
1/8	NPT2-TMT-NPT2-NPT2-	22.4	11.1	9.7	4.8	10000 (689)	5000 (344)
1/4	NPT4-TMT-NPT4-NPT4-	26.7	12.7	14.2	7.1	8000 (551)	4000 (275)
3/8	NPT6-TMT-NPT6-NPT6-	29.7	17.5	14.2	9.6	7800 (537)	3900 (268)
1/2	NPT8-TMT-NPT8-NPT8-	36.8	20.6	19.1	11.9	7700 (530)	3800 (261)
3/4	NPT12-TMT-NPT12-NPT12-	42.4	27.0	19.1	15.7	7300 (502)	3600 (248)
1	NPT16-TMT-NPT16-NPT16-	49.3	34.9	23.9	22.4	5300 (365)	2600 (179)
1 1/4	NPT20-TMT-NPT20-NPT20-	56.4	42.9	23.9	27.7	6000 (410)	3000 (200)
1 1/2	NPT24-TMT-NPT24-NPT24-	67.1	47.6	26.2	34.0	5000 (344)	2500 (172)

Male ISO Tapered Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	B	E	316 SS, Steel	Brass
1/16	MBT1-TMT-MBT1-MBT1-	15.5	9.5	9.7	3.0	11000 (757)	5500 (378)
1/8	MBT2-TMT-MBT2-MBT2-	22.4	11.1	9.7	4.8	10000 (689)	5000 (344)
1/4	MBT4-TMT-MBT4-MBT4-	26.7	12.7	14.2	7.1	8000 (551)	4000 (275)
3/8	MBT6-TMT-MBT6-MBT6-	29.7	17.5	14.2	9.6	7800 (537)	3900 (268)
1/2	MBT8-TMT-MBT8-MBT8-	36.8	20.6	19.1	11.9	7700 (530)	3800 (261)
3/4	MBT12-TMT-MBT12-MBT12-	42.4	27.0	19.1	15.7	7300 (502)	3600 (248)
1	MBT16-TMT-MBT16-MBT16-	49.3	34.9	23.9	22.4	5300 (365)	2600 (179)
1 1/4	MBT20-TMT-MBT20-MBT20-	56.4	42.9	23.9	27.7	6000 (410)	3000 (200)
1 1/2	MBT24-TMT-MBT24-MBT24-	67.1	47.6	26.2	34.0	5000 (344)	2500 (172)

Female Branch Tees



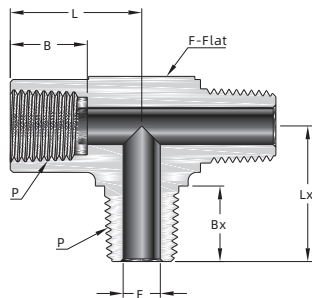
NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	NPT1-TFBT-NPT1-FNPT1-	18.3	11.1	3.0	9.7	21.8	9.9	9200 (633)	4600 (316)
1/8	NPT2-TFBT-NPT2-FNPT2-	22.1	12.7	4.8	9.7	26.4	10.4	6200 (427)	3100 (213)
1/4	NPT4-TFBT-NPT4-FNPT4-	29.7	17.5	7.1	14.2	29.7	15.0	7200 (496)	3600 (248)
3/8	NPT6-TFBT-NPT6-FNPT6-	32.0	20.6	9.6	14.2	36.1	15.0	5600 (385)	2800 (192)
1/2	NPT8-TFBT-NPT8-FNPT8-	39.6	25.4	11.9	19.1	39.6	19.8	5600 (385)	2800 (192)
3/4	NPT12-TFBT-NPT12-FNPT12-	42.4	31.8	15.7	19.1	48.8	20.6	5100 (351)	2500 (172)
1	NPT16-TFBT-NPT16-FNPT16-	49.3	42.9	22.4	23.9	48.5	25.4	5300 (365)	2600 (179)

ISO Tapered Pipe Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	MBT1-TFBT-MBT1-FBT1-	18.3	11.1	3.0	9.7	21.8	9.9	9200 (633)	4600 (316)
1/8	MBT2-TFBT-MBT2-FBT2-	22.1	12.7	4.8	9.7	26.4	10.4	6200 (427)	3100 (213)
1/4	MBT4-TFBT-MBT4-FBT4-	29.7	17.5	7.1	14.2	29.7	15.0	7200 (496)	3600 (248)
3/8	MBT6-TFBT-MBT6-FBT6-	32.0	20.6	9.6	14.2	36.1	15.0	5600 (385)	2800 (192)
1/2	MBT8-TFBT-MBT8-FBT8-	39.6	25.4	11.9	19.1	39.6	19.8	5600 (385)	2800 (192)
3/4	MBT12-TFBT-MBT12-FBT12-	42.4	31.8	15.7	19.1	48.8	20.6	5100 (351)	2500 (172)
1	MBT16-TFBT-MBT16-FBT16-	49.3	42.9	22.4	23.9	48.5	25.4	5300 (365)	2600 (179)

Female Run Tees



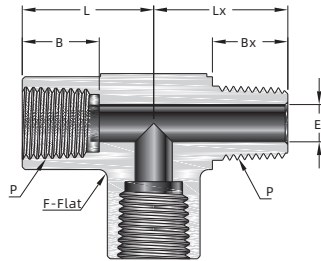
NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	FNPT1-TFRT-NPT1-NPT1-	21.8	11.1	3.0	9.7	18.3	9.7	9200 (633)	4600 (316)
1/8	FNPT2-TFRT-NPT2-NPT2-	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	FNPT4-TFRT-NPT4-NPT4-	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	FNPT6-TFRT-NPT6-NPT6-	36.1	20.6	9.6	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	FNPT8-TFRT-NPT8-NPT8-	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	FNPT12-TFRT-NPT12-NPT12-	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	FNPT16-TFRT-NPT16-NPT16-	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

ISO Tapered Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	FBT1-TFRT-MBT1-MBT1-	21.8	11.1	3.0	9.7	18.3	9.7	9200 (633)	4600 (316)
1/8	FBT2-TFRT-MBT2-MBT2-	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	FBT4-TFRT-MBT4-MBT4-	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	FBT6-TFRT-MBT6-MBT6-	36.1	20.6	9.6	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	FBT8-TFRT-MBT8-MBT8-	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	FBT12-TFRT-MBT12-MBT12-	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	FBT16-TFRT-MBT16-MBT16-	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

Male Street Tees



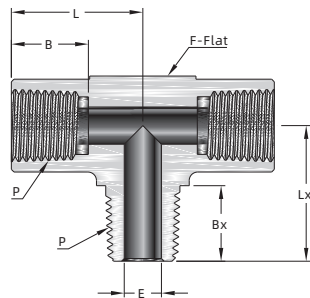
NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	FNPT1-TMST-NPT1-FNPT1-	21.8	11.1	3.0	9.9	18.3	9.7	9200 (633)	4600 (316)
1/8	FNPT2-TMST-NPT2-FNPT2-	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	FNPT4-TMST-NPT4-FNPT4-	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	FNPT6-TMST-NPT6-FNPT6-	36.1	20.6	9.6	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	FNPT8-TMST-NPT8-FNPT8-	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	FNPT12-TMST-NPT12-FNPT12-	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	FNPT16-TMST-NPT16-FNPT16-	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

ISO Tapered Pipe Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	FBT1-TMST-MBT1-FBT1-	21.8	11.1	3.0	9.9	18.3	9.7	9200 (633)	4600 (316)
1/8	FBT2-TMST-MBT2-FBT2-	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	FBT4-TMST-MBT4-FBT4-	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	FBT6-TMST-MBT6-FBT6-	36.1	20.6	9.6	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	FBT8-TMST-MBT8-FBT8-	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	FBT12-TMST-MBT12-FBT12-	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	FBT16-TMST-MBT16-FBT16-	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

Male Branch Tees



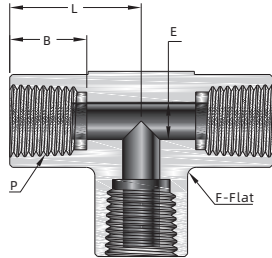
NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	FNPT1-TMBT-FNPT1-NPT1-	21.8	11.1	3.0	9.9	18.3	9.7	9200 (633)	4600 (316)
1/8	FNPT2-TMBT-FNPT2-NPT2-	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	FNPT4-TMBT-FNPT4-NPT4-	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	FNPT6-TMBT-FNPT6-NPT6-	36.1	20.6	9.6	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	FNPT8-TMBT-FNPT8-NPT8-	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	FNPT12-TMBT-FNPT12-NPT12-	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	FNPT16-TMBT-FNPT16-NPT16-	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

ISO Tapered Pipe Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	FBT1-TMBT-FBT1-MBT1-	21.8	11.1	3.0	9.9	18.3	9.7	9200 (633)	4600 (316)
1/8	FBT2-TMBT-FBT2-MBT2-	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	FBT4-TMBT-FBT4-MBT4-	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	FBT6-TMBT-FBT6-MBT6-	36.1	20.6	9.6	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	FBT8-TMBT-FBT8-MBT8-	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	FBT12-TMBT-FBT12-MBT12-	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	FBT16-TMBT-FBT16-MBT16-	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

Female Tees



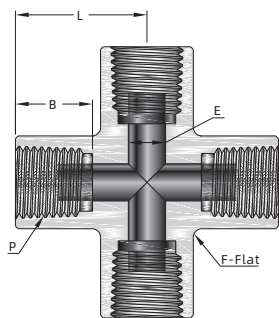
Female NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	E	B	316 SS, Steel	Brass
1/16	FNPT1-TFT-FNPT1-FNPT1-	21.8	11.1	4.8	9.9	6700 (460)	3300 (227)
1/8	FNPT2-TFT-FNPT2-FNPT2-	26.4	12.7	8.6	10.4	6200 (427)	3100 (213)
1/4	FNPT4-TFT-FNPT4-FNPT4-	29.7	17.5	11.4	15.0	7200 (496)	3600 (248)
3/8	FNPT6-TFT-FNPT6-FNPT6-	36.1	20.6	15.0	15.0	5600 (385)	2800 (192)
1/2	FNPT8-TFT-FNPT8-FNPT8-	39.6	25.4	18.5	19.8	5600 (385)	2800 (192)
3/4	FNPT12-TFT-FNPT12-FNPT12-	48.8	31.8	23.9	20.6	5100 (351)	2500 (172)
1	FNPT16-TFT-FNPT16-FNPT16-	48.5	42.9	29.7	25.4	6400 (440)	3200 (220)
1 1/4	FNPT20-TFT-FNPT20-FNPT20-	59.8	50.8	37.2	25.4	3100 (213)	1600 (110)
1 1/2	FNPT24-TFT-FNPT24-FNPT24-	65.0	63.5	43.3	27.7	5100 (351)	2500 (172)
Heavy-Wall Female NPT Threads							
1/4	FNPT4-TFT1-FNPT4-FNPT4-	39.6	25.4	11.4	15.0	10000 (689)	—
1/2	FNPT8-TFT1-FNPT8-FNPT8-	50.0	27.0	18.5	19.8	10000 (689)	—

Female ISO Tapered Pipe Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	E	B	316 SS, Steel	Brass
1/16	FBT1-TFT-FBT1-FBT1-	21.8	11.1	4.8	9.9	6700 (460)	3300 (227)
1/8	FBT2-TFT-FBT2-FBT2-	26.4	12.7	8.6	10.4	6200 (427)	3100 (213)
1/4	FBT4-TFT-FBT4-FBT4-	29.7	17.5	11.2	15.0	7200 (496)	3600 (248)
3/8	FBT6-TFT-FBT6-FBT6-	36.1	20.6	14.7	15.0	5600 (385)	2800 (192)
1/2	FBT8-TFT-FBT8-FBT8-	39.6	25.4	18.3	19.8	5600 (385)	2800 (192)
3/4	FBT12-TFT-FBT12-FBT12-	48.8	31.8	23.9	20.6	5100 (351)	2500 (172)
1	FBT16-TFT-FBT16-FBT16-	48.5	42.9	29.7	25.4	6400 (440)	3200 (220)
1 1/4	FBT20-TFT-FBT20-FBT20-	59.8	50.8	37.2	25.4	3100 (213)	1600 (110)
1 1/2	FBT24-TFT-FBT24-FBT24-	65.0	63.5	43.3	27.7	5100 (351)	2500 (172)

Female Crosses



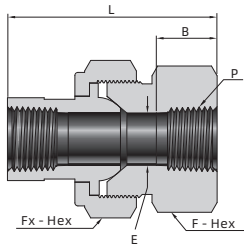
Female NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	E	B	316 SS, Steel	Brass
1/16	FNPT1-TFC-FNPT1-FNPT1-FNPT1-	21.8	11.1	4.8	9.9	6700 (460)	3300 (227)
1/8	FNPT2-TFC-FNPT2-FNPT2-FNPT2-	26.4	12.7	8.6	10.4	6200 (427)	3100 (213)
1/4	FNPT4-TFC-FNPT4-FNPT4-FNPT4-	29.7	17.5	11.4	15.0	7200 (496)	3600 (248)
3/8	FNPT6-TFC-FNPT6-FNPT6-FNPT6-	36.1	20.6	15.0	15.0	5600 (385)	2800 (192)
1/2	FNPT8-TFC-FNPT8-FNPT8-FNPT8-	39.6	25.4	18.5	19.8	5600 (385)	2800 (192)
3/4	FNPT12-TFC-FNPT12-FNPT12-FNPT12-	48.8	31.8	23.9	20.6	5100 (351)	2500 (172)
1	FNPT16-TFC-FNPT16-FNPT16-FNPT16-	48.5	42.9	29.7	25.4	6400 (440)	3200 (220)

Female ISO Tapered Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	E	B	316 SS, Steel	Brass
1/16	FBT1-TFC-FBT1-FBT1-FBT1-	21.8	11.1	4.8	9.9	6700 (460)	3300 (227)
1/8	FBT2-TFC-FBT2-FBT2-FBT2-	26.4	12.7	8.6	10.4	6200 (427)	3100 (213)
1/4	FBT4-TFC-FBT4-FBT4-FBT4-	29.7	17.5	11.4	15.0	7200 (496)	3600 (248)
3/8	FBT6-TFC-FBT6-FBT6-FBT6-	36.1	20.6	15.0	15.0	5600 (385)	2800 (192)
1/2	FBT8-TFC-FBT8-FBT8-FBT8-	39.6	25.4	18.5	19.8	5600 (385)	2800 (192)
3/4	FBT12-TFC-FBT12-FBT12-FBT12-	48.8	31.8	23.9	20.6	5100 (351)	2500 (172)
1	FBT16-TFC-FBT16-FBT16-FBT16-	48.5	42.9	29.7	25.4	6400 (440)	3200 (220)

Union Ball Joints (UBJ)



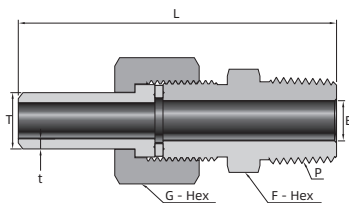
Female NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
		L	F	Fx	B	E	
1/8	FNPT2-UBJ-FNPT2-	46.0	23.8	28.6	10.4	6.8	8400 (578)
1/4	FNPT4-UBJ-FNPT4-	59.4	30.2	34.9	15.0	9.1	6600 (454)
3/8	FNPT6-UBJ-FNPT6-	63.5	33.3	38.1	15.0	13.2	5300 (365)
1/2	FNPT8-UBJ-FNPT8-	68.3	41.3	44.5	19.8	15.7	6000 (410)
3/4	FNPT12-UBJ-FNPT12-	79.2	47.6	54.0	20.6	22.4	4600 (316)
1	FNPT16-UBJ-FNPT16-	90.4	60.3	63.5	25.4	26.2	6800 (468)

Female ISO Tapered Threads

P-BSPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
		L	F	Fx	B	E	
1/8	FBT2-UBJ-FBT2-	46.0	23.8	28.6	10.4	6.8	8400 (578)
1/4	FBT4-UBJ-FBT4-	59.4	30.2	34.9	15.0	9.1	6600 (454)
3/8	FBT6-UBJ-FBT6-	63.5	33.3	38.1	15.0	13.2	5300 (365)
1/2	FBT8-UBJ-FBT8-	68.3	41.3	44.5	19.8	15.7	6000 (410)
3/4	FBT12-UBJ-FBT12-	79.2	47.6	54.0	20.6	22.4	4600 (316)
1	FBT16-UBJ-FBT16-	90.4	60.3	63.5	25.4	26.2	6800 (468)

Male Pipe to Tube Butt Weld (UGJ)



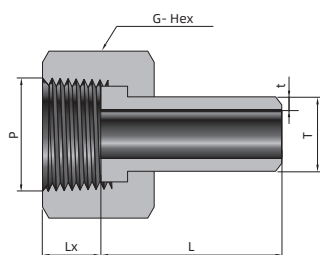
NPT Thread

P-NPT Size	T-Tube O.D. (mm)	t-Wall Thickness (mm)	Basic Ordering Number	Dimension, mm(in.)				Working Pressure psig (bar)
				L	F	G	E	
1/8	14	2.0	MBW14-UGJ-NPT2-	69.0 (2.72)	19.0 (0.75)	22.0 (0.87)	4.8 (0.19)	6280 (433)
1/4	6	1.8	MBW6-UGJ-NPT4-	60.0 (2.36)	14.0 (0.55)	14.0 (0.55)	3.0 (0.12)	8240 (566)
1/4	8	1.8	MBW8-UGJ-NPT4-	73.2 (2.88)	14.0 (0.55)	16.0 (0.63)	4.0 (0.16)	8240 (566)
1/4	10	2.2	MBW10-UGJ-NPT4-	73.2 (2.88)	15.0 (0.59)	18.0 (0.71)	6.0 (0.24)	8160 (563)
1/4	12	2.2	MBW12-UGJ-NPT4-	73.2 (2.88)	18.0 (0.71)	22.0 (0.87)	7.0 (0.28)	6470 (446)
1/4	14	2.0	MBW14-UGJ-NPT4-	73.2 (2.88)	19.0 (0.75)	22.0 (0.87)	7.1 (0.28)	6280 (433)
1/4	16	3.0	MBW16-UGJ-NPT4-	73.2 (2.88)	22.0 (0.87)	25.0 (0.98)	7.1 (0.28)	6140 (423)
1/4	18	2.8	MBW18-UGJ-NPT4-	74.2 (2.92)	24.0 (0.94)	27.0 (1.06)	7.1 (0.28)	5670 (392)
3/8	14	2.0	MBW14-UGJ-NPT6-	73.2 (2.88)	19.0 (0.75)	22.0 (0.87)	9.7 (0.38)	6280 (433)
1/2	12	2.2	MBW12-UGJ-NPT8-	78.0 (3.07)	18.0 (0.71)	22.0 (0.87)	7.0 (0.28)	6470 (446)
1/2	14	2.0	MBW14-UGJ-NPT8-	78.0 (3.07)	19.0 (0.75)	22.0 (0.87)	9.0 (0.35)	6280 (433)
1/2	16	3.0	MBW16-UGJ-NPT8-	78.0 (3.07)	22.0 (0.87)	25.0 (0.98)	10.0 (0.39)	6140 (423)
1/2	22	3.0	MBW22-UGJ-NPT8-	82.0 (3.23)	30.0 (1.18)	32.0 (1.26)	11.9 (0.47)	4620 (319)
1/2	25	3.5	MBW25-UGJ-NPT8-	86.0 (3.39)	32.0 (1.26)	35.0 (1.38)	11.9 (0.47)	4730 (326)
1	25	3.5	MBW25-UGJ-NPT16-	103.0 (4.06)	35.0 (1.38)	35.0 (1.38)	17.0 (0.67)	4730 (326)

Metric Tube

Pipe to Weld Fittings

Pipe to Tube Butt Weld



ISO Parallel Thread

Metric Tube

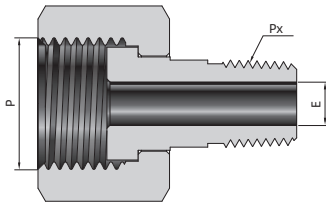
P-ISO Thread Size	T-Tube O.D. (mm)	t-Wall Thickness (mm)	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)
				L	G	Lx	
1/2	12	2.2	FBP8-PTW-MBW12-	34	27.0	9.2	6470 (446)
1/2	14	2.0	FBP8-PTW-MBW14-	34	27.0	9.2	6280 (433)
1/2	16	3.0	FBP8-PTW-MBW16-	34	27.0	9.2	6140 (423)

Metric Thread

Metric Tube

P-Metric Thread Size	T-Tube O.D. (mm)	t-Wall Thickness (mm)	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)
				L	G	Lx	
M12 x 1.5	6	1.8	FMS12-PTW-MBW6-	25	16	8	12660 (873)
M12 x 1.5	8	1.8	FMS12-PTW-MBW8-	30	16	9	8320 (574)
M14 x 1.5	8	1.8	FMS14-PTW-MBW8-	30	18	9	8320 (574)
M14 x 1.5	10	2.2	FMS14-PTW-MBW10-	30	18	9	8160 (563)
M16 x 1.5	8	1.8	FMS16-PTW-MBW8-	30	22	9	8320 (574)
M16 x 1.5	10	2.2	FMS16-PTW-MBW10-	30	22	9	8160 (563)
M16 x 1.5	12	2.2	FMS16-PTW-MBW12-	34	22	9	6470 (446)
M18 x 1.5	10	2.2	FMS18-PTW-MBW10-	34	22	10	8160 (563)
M18 x 1.5	12	2.2	FMS18-PTW-MBW12-	34	22	10	6470 (446)
M18 x 1.5	14	2.0	FMS18-PTW-MBW14-	34	22	10	6280 (433)
M20 x 1.5	10	2.2	FMS20-PTW-MBW10-	34	25	11	8160 (563)
M20 x 1.5	12	2.2	FMS20-PTW-MBW12-	34	25	11	6470 (446)
M20 x 1.5	14	2.0	FMS20-PTW-MBW14-	34	25	11	6280 (433)
M20 x 1.5	15	2.5	FMS20-PTW-MBW15-	34	25	11	6160 (425)
M20 x 1.5	16	3.0	FMS20-PTW-MBW16-	34	25	11	6140 (423)
M22 x 1.5	14	2.0	FMS22-PTW-MBW14-	34	27	11	6280 (433)
M22 x 1.5	16	3.0	FMS22-PTW-MBW16-	34	27	11	6140 (423)
M24 x 1.5	16	3.0	FMS24-PTW-MBW16-	34	30	11	6140 (423)
M24 x 1.5	18	2.8	FMS24-PTW-MBW18-	34	30	11	5670 (392)
M24 x 1.5	20	3.0	FMS24-PTW-MBW20-	34	30	11	5110 (352)
M27 x 2	14	2.0	FMS27-PTW-MBW14-	34	32	14	6280 (433)
M27 x 2	16	3.0	FMS27-PTW-MBW16-	34	32	14	6140 (423)
M27 x 2	18	2.8	FMS27-PTW-MBW18-	34	32	14	5670 (392)
M27 x 2	20	3.0	FMS27-PTW-MBW20-	40	32	14	5110 (352)
M27 x 2	22	3.0	FMS27-PTW-MBW22-	40	32	14	4620 (319)
M30 x 2	22	3.0	FMS30-PTW-MBW22-	40	35	18	4620 (319)
M30 x 2	25	3.5	FMS30-PTW-MBW25-	45	35	18	4730 (326)
M33 x 2	28	4.0	FMS33-PTW-MBW28-	45	41	18	5160 (356)
M36 x 2	30	4.0	FMS36-PTW-MBW30-	45	41	18	4760 (328)

Pipe to Pipe Unions (TPU)



Metric Thread

P-Metric Thread Size	Px-NPT Size	Basic Ordering Number	Dimension, mm	Working Pressure psig (bar) 316 SS, Steel
			E	
M20 x 1.5	1/8	FMS20-TPU-NPT2-	4.8	4500 (310)
M20 x 1.5	1/4	FMS20-TPU-NPT4-	7.1	4500 (310)

NPT Threads

Metric Thread

P-Metric Thread Size	Px-BSPT Size	Basic Ordering Number	Dimension, mm	Working Pressure psig (bar) 316 SS, Steel
			E	
M20 x 1.5	1/8	FMS20-TPU-MBT2-	4.8	4500 (310)
M20 x 1.5	1/4	FMS20-TPU-MBT4-	7.1	4500 (310)

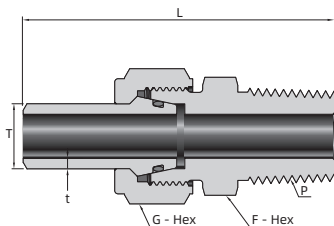
ISO Tapered Pipe Threads

ISO Parallel Thread

P-BG Size	Px-NPT Size	Basic Ordering Number	Dimension, mm	Working Pressure psig (bar) 316 SS, Steel
			E	
1/2	1/8	FBP8-TPU-NPT2	4.8	4900 (337)
1/2	1/4	FBP8-TPU-NPT4	7.1	4900 (337)

NPT Threads

Male Pipe to Tube Butt Weld (UOJ)



NPT Thread

P-NPT Size	T-Tube O.D. (mm)	t-Wall Thickness (mm)	Basic Ordering Number	Dimension, mm (in.)				Working Pressure psig (bar)
				L	F	G	E	
1/8	14	2.0	MBW14-UOJ-NPT2-	69.0 (2.72)	19.0 (0.75)	22.0 (0.87)	4.8 (0.19)	6280 (433)
1/4	6	1.8	MBW6-UOJ-NPT4-	60.0 (2.36)	14.0 (0.55)	14.0 (0.55)	3.0 (0.12)	8240 (566)
1/4	8	1.8	MBW8-UOJ-NPT4-	73.2 (2.88)	14.0 (0.55)	16.0 (0.63)	4.0 (0.16)	8240 (566)
1/4	10	2.2	MBW10-UOJ-NPT4-	73.2 (2.88)	15.0 (0.59)	18.0 (0.71)	6.0 (0.24)	8160 (563)
1/4	12	2.2	MBW12-UOJ-NPT4-	73.2 (2.88)	18.0 (0.71)	22.0 (0.87)	7.0 (0.28)	6470 (446)
1/4	14	2.0	MBW14-UOJ-NPT4-	73.2 (2.88)	19.0 (0.75)	22.0 (0.87)	7.1 (0.28)	6280 (433)
1/4	16	3.0	MBW16-UOJ-NPT4-	73.2 (2.88)	22.0 (0.87)	25.0 (0.98)	7.1 (0.28)	6140 (423)
1/4	18	2.8	MBW18-UOJ-NPT4-	74.2 (2.92)	24.0 (0.94)	27.0 (1.06)	7.1 (0.28)	5670 (392)
3/8	14	2.0	MBW14-UOJ-NPT6-	73.2 (2.88)	19.0 (0.75)	22.0 (0.87)	9.7 (0.38)	6280 (433)
1/2	12	2.2	MBW12-UOJ-NPT8-	78.0 (3.07)	18.0 (0.71)	22.0 (0.87)	7.0 (0.28)	6470 (446)
1/2	14	2.0	MBW14-UOJ-NPT8-	78.0 (3.07)	19.0 (0.75)	22.0 (0.87)	9.0 (0.35)	6280 (433)
1/2	16	3.0	MBW16-UOJ-NPT8-	78.0 (3.07)	22.0 (0.87)	25.0 (0.98)	10.0 (0.39)	6140 (423)
1/2	22	3.0	MBW22-UOJ-NPT8-	82.0 (3.23)	30.0 (1.18)	32.0 (1.26)	11.9 (0.47)	4620 (319)
1/2	25	3.5	MBW25-UOJ-NPT8-	86.0 (3.39)	32.0 (1.26)	35.0 (1.38)	11.9 (0.47)	4730 (326)
1	25	3.5	MBW25-UOJ-NPT16-	103.0 (4.06)	35.0 (1.38)	35.0 (1.38)	17.0 (0.67)	4730 (326)

Metric Tube

How to Order

FNPT8 — **TSE** — **NPT4** — **316**

Port 1 Type	Port 1 Size	Fitting Configuration	Port 2 Port 3 and Port 4	Material
FNPT Female NPT	2 1/8 in.	TP Pipe Plug	Same as the Port 1 or as follow:	316 316 S.S.
NPT Male NPT	4 1/4 in.	THP Hollow Hex Plug	FMS Female Metric	316L 316L S.S.
NPTO O-ring with Male NPT	5 5/16-24	TCN Close Nipple	MS Male Metric (for BG)	304 304 S.S.
FBT Female BSPT	6 3/8 in. or 3/8-24	TPN Special Pipe Nipple	BPMS Male Metric (for BP)	304L 304L S.S.
MBT Male BSPT	7 7/16-20	THN Hex Nipple	BSMS Male Metric (for BS)	
MBTO O-ring with Male BSPT	8 1/2 in. or M8 x 1	TLN Hex Long Nipple	OMS O-ring with Male Metric	
FBP Female BSPP	9 9/16-18	TRB Reducing Bushing	FST Female SAE	
PMBP Male BSPP (for BP)	10 M10 x 1	PC Pipe Cap	MST Male SAE (for BG)	
MBS Male BSPP (for BS)	12 3/4 in. or M12 x 1.5 or 3/4-16	THC Hex Coupling	BPST Male SAE (for BP)	
MBP Male BSPP (for BG)	14 M14 x 1.5 or 7/8-14	UBJ Union Ball Joints	BSST Male SAE (for BS)	
	16 1 in. or M16 x 1.5	UGJ Union Gasket Joints	OST O-ring with Male SAE	
	17 1 1/16-12	UOJ Union O-Ring Joints	PPT Positionable BSPP Thread	
	18 M18 x 1.5	TA Adapter	PMS Positionable Metric Parallel Thread	
	19 1 3/16-12	TME Male Elbow	PST Positionable SAE Parallel Thread	
	20 1 1/4 in. or M20 x 1.5	TSE Street Elbow		
	21 1 5/16-12	T45E 45°Street Elbow		
	22 M22 x 1.5	TFE Female Elbow		
	24 1 1/2 in. or M24 x 1.5	T45FE 45°Female Elbow		
	26 1 5/8-12	TMT Male Tee		
	27 M27 x 2	TFBT Female Branch Tee		
	30 1 7/8-12 or M30 x 2	TFRT Female Run Tee		
	32 2 in.	TMST Male Street Tee		
		TMBT Male Branch Tee		
		TFT Female Tee		
		TFC Female Cross		
		TPU Pipe to Pipe Unions		

