



Tube Fittings

Pipe Fittings

Weld Fittings

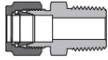
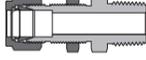
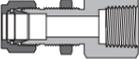
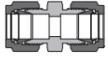
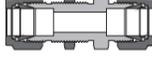
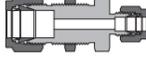
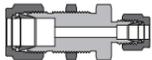
37° Flared Fittings

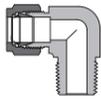
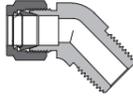
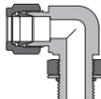
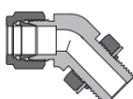
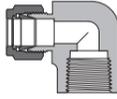
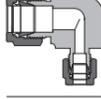
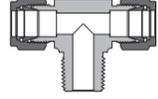
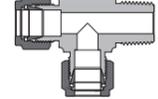
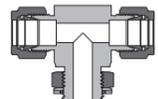
Shanghai Also JOE Fluid Connectors CO.,LTD  
No.1871 Huming Road, Minhang District, Shanghai, China  
Tel: 86-21-64192603/13764653321  
<http://www.e-joe.cn>

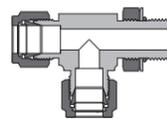
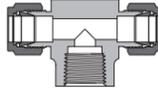
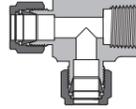
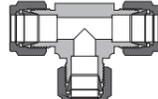
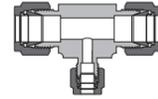
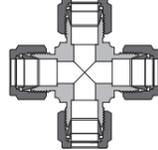
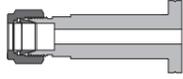
**SHANGHAI ALSO JOE FLUID CONNECTORS CO.,LTD**

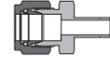
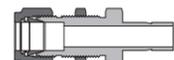
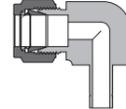
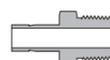
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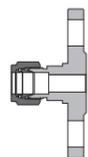
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# Contents

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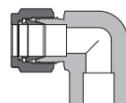
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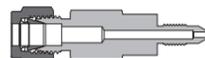
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## RP, RG, RJ Gaskets



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## O-Rings



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## Features

- Sizes range from 1/16" to 1 1/2" and 2 mm to 38 mm.
- Diverse materials and configurations are available.
- Precision machined components ensure perfect deformation of the ferrules and tubing.
- Hardened threads with smooth surface finish avoid galling and help to extend the fitting service life.
- Female nut threads are silver-plated to reduce the friction against the body threads.
- Radius junction design with elbows provides smooth FJow path.
- Every fitting is stamped with size, material, and heat code.
- Fittings are easy to disconnect and retighten.



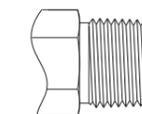
## Technical Data

### Thread Ends

#### NPT Threads (NPT)

Comply with ASME B1.20.1, SAE AS71051.  
Installation torque complies with UL 842.

- 60° thread angle
- Pitch measured in inch
- Truncation of root and crest are parallel
- Taper 1:16
- Type of sealing: thread sealant



Thread Size	Thread/in.	Dia. at Reference Plane (mm)			Handtight Engagement (mm)	required Torque N·m(lbf·in)
		Max. Dia.	Pitch Dia.	Min. Dia.		
1/16	27	7.894	7.142	6.389	4.064	—
1/8		10.242	9.489	8.737	4.102	17 (150.5)
1/4	18	13.616	12.487	11.358	5.785	28 (247.8)
3/8		17.055	15.926	14.797	6.096	51 (451.4)
1/2	14	21.224	19.772	18.321	8.128	90 (796.5)
3/4		26.569	25.117	23.666	8.618	113 (1000)
1	11.5	33.228	31.461	29.694	10.160	137 (1212.5)
1 1/4		41.985	40.218	38.451	10.668	164 (1451.4)
1 1/2		48.054	46.287	44.520	10.668	175 (1548.8)
2		60.092	58.325	56.558	11.065	186 (1646.1)

### Working Pressures of NPT Thread Ends

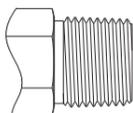
Thread Size	316 Stainless Steel and Carbon Steel				Brass			
	Male		Female		Male		Female	
	psig	bar	psig	bar	psig	bar	psig	bar
1/16	11000	757	6700	460	5500	378	3300	227
1/8	10000	689	6500	447	5000	344	3200	220
1/4	8000	551	6600	454	4000	275	3300	227
3/8	7800	537	5300	365	3900	268	2600	179
1/2	7700	530	4900	337	3800	261	2400	165
3/4	7300	502	4600	316	3600	248	2300	158
1	5300	365	4400	303	2600	179	2200	151
1 1/4	6000	410	5000	344	3000	200	2500	172
1 1/2	5000	344	4600	317	2500	172	2300	158
2	3900	268	3900	268	1900	130	1900	130

Working pressure are based on ANSI/ASME B31.3 at ambient temperature.

ISO Tapered Threads (R, R1, R2, Rc, RT, PT, BSPT, ZG)

Comply with ISO 7-1, EN 10226-1, BS 21, DIN 2999, JIS B0203. The installation torque is the same as that of NPT thread ends.

- 55° thread angle
- Pitch measured in inch
- Truncation of root and crest are round
- Taper 1:16
- Type of sealing: thread sealant



Thread Data

Thread Size	Thread/ in.	Dia. at Reference Plane (mm)			Gauge Length
		Max. Dia.	Pitch Dia.	Min. Dia.	
1/16	28	7.723	7.142	6.561	4.0
1/8		9.728	9.147	8.566	4.0
1/4	19	13.157	12.301	11.445	6.0
3/8		16.662	15.806	14.950	6.4
1/2	14	20.955	19.793	18.631	8.2
3/4		26.441	25.279	24.117	9.5
1	11	33.249	31.770	30.291	10.4
1 1/4		41.910	40.431	38.952	12.7
1 1/2		47.803	46.324	44.845	12.7
2		59.614	58.135	56.656	15.9

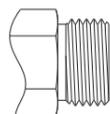
Working Pressures of ISO Tapered Thread Ends

The working pressures of ISO tapered thread ends are the same with that of the NPT thread ends.

ISO Parallel Threads (G, RP, PF, BSPP)

Comply with ISO 228-1, DIN ISO 228-1, JIS B0202, BS 2779.

- 55° thread angle
- Pitch measured in inch
- Truncation of root and crest are round



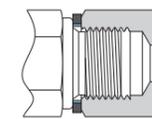
Thread Data

Thread Size	Thread/ in.	Basic Dia. (mm)		
		Max. Dia.	Pitch Dia.	Min. Dia.
1/16	28	7.723	7.142	6.561
1/8		9.728	9.147	8.566
1/4	19	13.157	12.301	11.445
3/8		16.662	15.806	14.950
1/2	14	20.955	19.793	18.631
5/8		22.911	21.749	20.587
3/4		26.441	25.279	24.117
7/8		30.201	29.039	27.877
1		33.249	31.770	30.291
1 1/8	11	37.897	36.418	34.939
1 1/4		41.910	40.431	38.952
1 1/2		47.803	46.324	44.845
1 3/4		53.746	52.267	50.788
2		59.614	58.135	56.656

Types of Sealing for ISO parallel threads

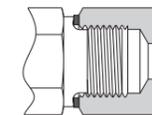
1. RS Stud End, RS Gasket and RP Port

- RS stud end complies with DIN 3852-2 type A
- For RS gasket, see page 81
- RP port complies with DIN 3852-2 type X



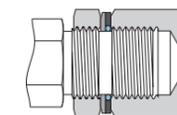
2. RP Stud End, RP Gasket and RP Port

- RP studs end complies with DIN 3852-2 type B
- For RP gasket, see page 82
- RP port complies with DIN 3852-2 type X
- The RP gasket can be used with a RS fitting



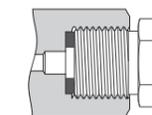
3. PP Stud End and RP Port

- RP port complies with DIN 3852-2 type X



4. RG Port, RG Gasket and BP Stud End

- RG port complies with EN 837-1/3
- For RG gasket, see page 82



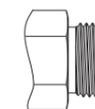
Working Pressures of Adjustable ISO Parallel Thread Ends(BSPP)

Thread Size	316 Stainless Steel and Carbon Steel	
	psig	bar
1/8 1/4 3/8	4568	315
1/2 3/4 1	2320	160

SAE/MS Straight Threads (UN, UNJ)

Comply with ASME B1.1, SAE J475, ISO R725.

- 60° thread angle
- Pitch measured in inch
- Truncation of root and crest are parallel



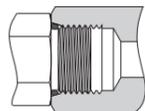
Thread Data

Thread Size	Thread/ in.	Basic Dia. (mm)		
		Max. Dia.	Pitch Dia.	Min. Dia.
5/16-24	24	7.938	7.249	6.792
3/8-24	24	9.525	8.837	8.380
7/16-20	20	11.113	10.287	9.738
1/2-20	20	12.700	11.875	11.326
9/16-18	18	14.288	13.325	12.761
3/4-16	16	19.050	18.019	17.330
7/8-14	14	22.225	21.046	20.262
1 1/16-12	12	26.988	25.613	24.719
1 3/16-12	12	30.163	28.788	27.871
1 5/16-12	12	33.338	31.963	31.046
1 5/8-12	12	41.275	39.901	38.984
1 7/8-12	12	47.625	46.251	45.324
2 1/2-12	12	63.500	62.126	61.209

Types of Sealing for SAE/MS threads

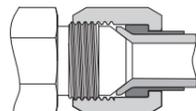
1. ST Stud End and ISO 11926-1 Port

- ST stud end complies with ISO 11926-3
- For O-ring, see page 83



2. 37° Flare (AN) Stud and Flared Tubing

- The type of sealing complies with SAE J514



Working Pressures of SAE/MS Thread Ends

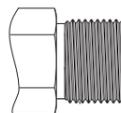
Thread Size	316 Stainless Steel and Carbon Steel			
	Non-adjustable		Adjustable	
	psig	bar	psig	bar
5/16-24	4568	315	4568	315
3/8-24				
7/16-20				
1/2-20				
9/16-18				
3/4-16	3626	250	3626	250
7/8-14				
1 1/16-12	3626	250	2900	200
1 3/16-12	2900	200	2320	160
1 5/16-12				
1 7/8-12				
2 1/2-12	1813	125	1450	100

Working pressures are based on ISO 11926-3 at ambient temperature.

Metric Threads (M)

Comply with ISO 261.

- 60° thread angle
- Pitch measured in mm
- Truncation of root and crest are parallel

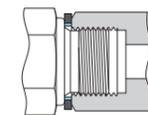


Thread Data

Thread Size	Pitch (mm)	Basic Dia. (mm)		
		Max. Dia.	Pitch Dia.	Min. Dia.
M6 x 1	1	6.000	5.350	4.917
M8 x 1		8.000	7.350	6.917
M10 x 1		10.000	9.350	8.917
M12 x 1.5	1.5	12.000	11.026	10.376
M14 x 1.5		14.000	13.026	12.376
M16 x 1.5		16.000	15.026	14.376
M18 x 1.5		18.000	17.026	16.376
M20 x 1.5		20.000	19.026	18.376
M22 x 1.5		22.000	21.026	20.376
M24 x 1.5		24.000	23.026	22.376
M27 x 2		2	27.000	25.701
M30 x 2	30.000		28.701	27.835
M33 x 2	33.000		31.701	30.835
M36 x 2	36.000		34.701	33.835
M39 x 2	39.000		37.701	36.835
M42 x 2	42.000		40.701	39.835
M45 x 2	45.000		43.701	42.835
M48 x 2	48.000		46.701	45.835

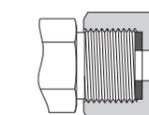
Types of Sealing for Metric Threads

1. MR Stud End, RS-M gasket and MS Port



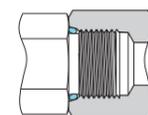
- MR stud end complies with DIN 3852-1 type A
- For RS-M gasket

2. MS Stud End, RG-M gasket and MS Port



- For RG-M gasket

3. MO Stud End and ISO 6149-1 Port



- MO stud end complies with ISO 6149-3
- For O-ring

Working Pressures of Metric Thread Ends

1. Working Pressures for MR/MS Stud End and MS Port

Thread Size	316 Stainless Steel and Carbon Steel			
	Male		Female	
	psig	bar	psig	bar
M6 x 1	12000	825	6900	476
M8 x 1	11000	759	6700	462
M10 x 1	10000	690	6500	448
M12 x 1.5	9000	621	6500	448
M14 x 1.5	8000	552	6600	455
M16 x 1.5	7800	538	5800	400
M18 x 1.5	7800	538	5300	366
M20 x 1.5	7700	531	5000	345
M22 x 1.5	7700	531	4900	338
M27 x 2	7300	503	4600	317
M30 x 2	6100	421	4500	310
M33 x 2	5300	366	4400	303
M36 x 2	5100	352	4000	276
M39 x 2	5000	345	3900	269
M42 x 2	6000	414	5000	345
M45 x 2	5400	372	4700	324
M48 x 2	5000	345	4600	317

2. Working Pressures for MO Stud Ends

Thread Size	Stainless Steel and Carbon Steel			
	Non-adjustable		Adjustable	
	psig	bar	psig	bar
M8 x 1	5800	400	4568	315
M10 x 1				
M12 x 1.5				
M14 x 1.5				
M16 x 1.5	4568	315	3626	250
M18 x 1.5				
M20 x 1.5				
M22 x 1.5				
M27 x 2	2900	200	2320	160
M30 x 2				
M33 x 2				
M42 x 2				
M48 x 2				
M60 x 2				

Working pressures are based on ISO 6149-3 at ambient temperature.

Working Temperatures

Tube Ends

Material	Minimum Temperature	Maximum Temperature
Stainless Steel	-325° F (-198° C)	800° F (426° C)
Brass	-325° F (-198° C)	400° F (204° C)
Alloy 400/R-405	-325° F (-198° C)	800° F (426° C)

Thread Ends

The working temperatures of the thread ends may be limited by the teFJon tape or thread sealant or, when applicable, the gaskets or O-rings as follows:

Component	Material	Minimum Temperature	Maximum Temperature
RS gasket	Buna N	-22° F (-30° C)	230° F (110° C)
	FJuurcarbon FKM	-4° F (-20° C)	400° F (204° C)
RP/RG gasket	Copper	-452° F (-269° C)	500° F (260° C)
	Stainless Steel	-425° F (-254° C)	1000° F (538° C)
	PTFE	-65° F (-54° C)	450° F (232° C)
O-ring	Vulcanized Fibre	-76° F (-60° C)	221° F (105° C)
	Buna N	-22° F (-30° C)	230° F (110° C)
	FJuurcarbon FKM	-4° F (-20° C)	400° F (204° C)

Working Pressures

- The maximum working pressure of the tube ends at ambient temperature are rated by the used E-JOE tubings. Refer to E-JOE tubing data.
- The maximum working pressure of the thread ends at ambient temperature are stated above.
- To get the maximum working pressure at elevated temperature, use the maximum working pressure at ambient temperature to multiply the factors in the form of Elevated Temperature Factors.
- The whole fitting is rated by the smallest value among its ends.

Materials

Material	Bar Stock	Forging	Designator
316 stainless steel	ASTM A276, ASME SA479, EN 1.4401	ASTM A182, ASME SA182, EN 1.4401	SS
304 stainless steel	ASTM A276, ASME SA479, EN 1.4301	ASTM A182, ASME SA182, EN 1.4301	S4
321 stainless steel	ASTM A276, ASME SA479, EN 1.4541	ASTM A182, ASME SA182, EN 1.4541	S1
Alloy 20	ASTM B473	ASTM B462	A20
Alloy 400/R-405	ASTM B164, ASME SB164	ASTM B564, ASME SB564	M
Alloy 600	ASTM B166, ASME SB166	ASTM B564, ASME SB564	INC
Alloy 625	ASTM B446	ASTM B564, ASME SB564	A65
Alloy C-276	ASTM B574	ASTM B564	HC
Aluminum	ASTM B211	ASTM B247	AL
Brass	ASTM B16/B453	ASTM B283	B
Carbon steel	ASTM A108	/	CS
Nylon	ASTM D4066	/	PA
PTFE	ASTM D1710	ASTM D3294	T
Duplex 2205	ASTM A479	ASTM A182	D5
Duplex 2507	ASTM A479	ASTM A182	D7
Titanium (grade 4)	ASTM B348	ASTM B381	TI

Ordering Information

Add material designator as a prefix to the basic ordering number to get the complete ordering number.

Example:

1. Straight connector with 1/4" Tube, 1/4 Male NPT thread and 316 stainless steel material, the complete ordering number is SSS-FJ4N4.

Ordering Information

Description	Schematic Diagram	E-JOE Designator	Description	Schematic Diagram	E-JOE Designator	Description	Schematic Diagram	E-JOE Designator
Female NPT ASME B1.20.1		FN	Male NPT (for O-Ring) ASME B1.20.1		NO	Fractional Tube Butt Weld		TB
Male NPT ASME B1.20.1		N	Male SAE (for O-Ring) UN,UNJ		STO	Metric Tube Butt Weld		MTB
Female BSPT ISO 7-1		FR	Fractional Tube Fitting		FJ	Fractional Pipe Butt Weld		PB
Male BSPT ISO 7-1		RT	Metric Tube Fitting		MJ	<b>Description</b>		<b>Schematic Diagram</b>
Female BSPP (for RS and RP) ISO 228-1		FP	Fractional Bulkhead Tube Fitting		BFJ	Pipe to Tube Butt Weld		PUW-
Female BSPP (for RG) ISO 228-1		FG	Metric Bulkhead Tube Fitting		BMJ	Pipe to Pipe Unions		PUP-
Male BSPP (for RS) ISO 228-1		BS	Fractional Thermocouple Tube Fitting		TFJ	Union Ball Joints		UBJ-
Male BSPP (for RP) ISO 228-1		BR	Metric Thermocouple Tube Fitting		TMJ	Male Pipe to Tube Butt Weld		MUW-
Male BSPP (for RG) ISO 228-1		BP	Fractional Tube Fitting		SFJ	Straight Connector		S-
Female ISO (for RS-M/O-ring) Metric Thread		MP	Metric Tube Fitting		SMJ	Elbow Connector		L-
Female ISO (for RG-M) Metric Thread		FM	Fractional Tube Fitting		FT	45° Elbow Connector		R-
Male ISO (for RP-M) Metric Thread		MR	Fractional Tube Insert for Soft Plastic Tubings		AT	Tee Connector		T-
Male ISO (for RG-M) Metric Thread		MS	Metric Tube Insert for Soft Plastic Tubings		NT	Cross Connector		C-
Male ISO (for O-ring) Metric Thread		MO	Male BSPP (PP Stud End and RP Port) ISO 228-1		SBP	Pipe Plug		HP-
Female SAE (for O-ring) UN,UNJ		FST	Male ISO (ST Stud End and RP Port) UN,UNJ		SOT	Pipe Plug		DP-
Male SAE (for O-ring) UN,UNJ		ST	Fractional Pipe Socket Weld		PS	Cap Plug		CP-
Male SAE (37° FJare) UN,UNJ		AN	Fractional Tube Socket Weld		TS	Cap Plug		TC-
			Metric Tube Socket Weld		MTS	Cap Plug		TP-
					FAN	Vent Protectors		VP-

## E-JOE Tube Fittings Installation Instructions

- ⦿ E-JOE tube fittings up to 1" or 25 mm
  1. Loosen the nut 1/4 turn from finger-tight position.
  2. Insert tubing into the tube fitting, make sure that the tubing rests firmly on the shoulder of the port.
  3. Finger-tighten the nut.
  4. Tighten the nut 1 1/4 turns with wrench while holding steady the body of the fitting or the valve (Fig.1).  
For small-sized fittings (1/16", 1/8" and 3/16", 2 mm, 3 mm and 4 mm), tighten the nut 3/4 turn with wrench (Fig.2).
- ⦿ E-JOE tube fittings over 1" or 25 mm
  1. Use presetting tool to install the ferrules onto the tube, please refer to the instruction of Hydraulic Presetting Tool for details.
  2. Insert the preset tubing with ferrules and nut into the body of fitting, finger tight.
  3. Tighten the nut one-half turn with wrench.
- ⦿ Reinstallation (all sizes)
  1. Mark on the nut and body before disassembling the fitting.
  2. Tighten the nut to the marked location before reinstallation.
  3. Tighten the nut slightly with wrench.
- ⦿ Plugs and Port Connectors
  1. Tighten the plug or port connector 1/4 turn from the finger-tight position while holding steady the body of the fitting.  
For small-sized fittings (1/16", 1/8" and 3/16", 2 mm, 3 mm and 4 mm), tighten the nut 1/8 turn with wrench.
  2. Reinstallation: Tighten slightly with a wrench from the finger-tight position.

The Installation Instructions of the tube adapter end of Port Connectors are the same as the E-JOE Tube Fittings.

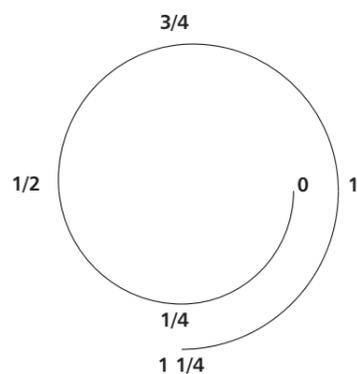


Fig.1

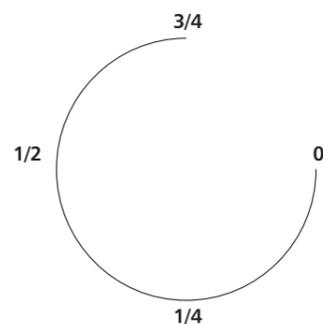


Fig.2

### Cautions:

- ⦿ Do not loosen or tighten fittings when system is pressurized.
- ⦿ Make sure that the tubing rests firmly on the shoulder of the port.
- ⦿ Always leave enough straight length of the tubing for the fittings.
- ⦿ Always use an insert for extremely soft plastic tubing.
- ⦿ Material of the metal tubing should be softer than that of the fitting. For example, stainless steel tubing should not be used with brass fittings. When tubing and fittings are made of the same material, the tubing must be fully annealed.
- ⦿ The allowable working pressure of the tube fitting is rated to the maximum working pressure of the corresponding tubing, which can be found in E-JOE tubing data sheet. For those which can not be found in E-JOE tubing data sheet, please contact the authorized representative or E-JOE for related information.
- ⦿ Keep the tubing end and surface clean and smooth.
- ⦿ Always use proper thread sealants on tapered pipe threads. Make sure that its working temperature does not exceed that of the sealants.
- ⦿ When assemble the tube fitting, hold the body with a wrench and turn the nut instead of holding the nut.
- ⦿ When install a valve with tube fitting end, hold the valve body with a wrench and turn the nut.
- ⦿ When assemble the fitting to a valve with thread, hold the valve body with a wrench and turn the body of the fitting.

## Stainless Steel Seamless Tubing

### Features

- ⦿ Sizes range from 1/16" to 1 1/2" and 3 mm to 38 mm.
- ⦿ Material, size, specification and heat code are indicated on the tubing surface.
- ⦿ Pickling surface finish and mechanical polished surface finish tubes are available.

### Material Standards

Grade	UNS Designation	ASTM	ASME
316/316L	S31600/S31603	A269/A213	SA213
304/304L	S31400/S31403		
321	S32100		

### Allowable Working Pressure

- ⦿ The allowable working pressures in the table below for fractional tubing and metric tubing are based on ASME B31.3 at ambient temperature.
- ⦿ The data in the table are applied to 316 SS, 304 SS and 321 SS. For 316L SS and 304L SS, multiply the data in the table by 0.84 to get the allowable working pressure.
- ⦿ To work out the allowable working pressure at elevated temperature, take allowable working pressure at ambient temperature to multiply the factors in the table of Elevated Temperature Factors.

### Fractional Tubing

Tube O.D. (in.)	Nominal Wall Thickness, in.															
	0.010	0.012	0.014	0.016	0.020	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120	0.134	0.156	0.188
	Working Pressure, psig															
	Note: For gas service, select a tube thickness outside of the shaded area															
1/16	5660	6870	8180	9490	12100											
1/8						8580	11000									
3/16						5450	7070	10300								
1/4						4040	5150	7570	10300							
5/16							4040	5860	8080							
3/8							3330	4850	5860							
1/2							2600	3530	4750	6260						
5/8								2930	4040	5250	6060					
3/4								2420	3330	4240	4950	5860				
7/8								2020	2830	3640	4240	4850				
1									2420	3130	3640	4240	4750			
1 1/4										2420	2830	3330	3640	4150	4950	
1 1/2											2320	2730	3030	3430	4040	4950

Metric Tubing

Tube O.D. (mm)	Nominal Wall Thickness, mm												
	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0	3.5	4.0	4.5
	Working Pressure, bar												
Note: For gas service, select a tube thickness outside of the shaded area													
3	677												
6	313	424	545	717									
8		313	394	525									
10		242	303	404	515	586							
12		202	252	333	414	475							
14		162	202	273	343	384	434						
15		151	192	252	313	364	404						
16			172	232	293	333	374	404					
18			151	202	263	293	323	374					
20			141	182	232	263	293	333	384				
22			121	162	202	232	263	303	343				
25					182	202	232	263	293	323			
28						182	202	232	263	283	333		
30						172	182	212	242	263	313		
32						162	172	202	222	242	293	333	
38							141	162	192	202	242	273	313

Elevated Temperature Factors

Temperature		Material				
°F	°C	316	316L	304	304L	321
100	38	1.0	1.0	1.0	1.0	1.0
200	93	1.0	1.0	1.0	1.0	1.0
300	149	1.0	1.0	1.0	1.0	1.0
400	204	0.97	0.93	0.94	0.94	1.0
500	260	0.90	0.86	0.88	0.88	0.97
600	316	0.85	0.81	0.82	0.84	0.92
650	343	0.84	0.79	0.81	0.82	0.90
700	371	0.82	0.77	0.80	0.81	0.88
750	399	0.8	0.75	0.78	0.80	0.86
800	427	0.80	0.74	0.76	0.78	0.85
850	454	0.79	0.72	0.75	0.77	0.84
900	486	0.78		0.73		0.83
950	510	0.77		0.72		0.82
1000	538	0.76		0.69		0.81

Example to calculate the allowable working pressure:

Type 316L SS 12 mm O.D. × 1.5 mm wall at 800°F (427°C)

1. The allowable working pressure for 316 SS at ambient temperature is 333 bar (shown in the table above), multiply by 0.84 to get 316L SS data. So allowable working pressure for 316L SS at ambient temperature is 333 bar × 0.84 = 280 bar.
2. The elevated temperature factor for 800°F (427°C) is 0.74 (shown in the table above). So the allowable working pressure for 316L SS 12 mm O.D. × 1.5 mm wall at 800°F (427°C) is 280 bar × 0.74 = 207 bar.

Ordering Information

Fractional Tubing

Tube O.D. (in.)	Nominal Wall Thickness (in.)	Basic Ordering Number					Weight	
		316	316L	304	304L	321	lb/ft	Kg/m
1/8	0.028	SSST2-028-	6LST2-028-	S4ST2-028-	4LST2-028-	S1ST2-028-	0.030	0.044
1/4	0.035	SSST4-035-	6LST4-035-	S4ST4-035-	4LST4-035-	S1ST4-035-	0.082	0.122
	0.049	SSST4-049-	6LST4-049-	S4ST4-049-	4LST4-049-	S1ST4-049-	0.107	0.159
	0.065	SSST4-065-	6LST4-065-	S4ST4-065-	4LST4-065-	S1ST4-065-	0.131	0.194
3/8	0.035	SSST6-035-	6LST6-035-	S4ST6-035-	4LST6-035-	S1ST6-035-	0.129	0.192
	0.049	SSST6-049-	6LST6-049-	S4ST6-049-	4LST6-049-	S1ST6-049-	0.173	0.258
	0.065	SSST6-065-	6LST6-065-	S4ST6-065-	4LST6-065-	S1ST6-065-	0.219	0.326
1/2	0.035	SSST8-035-	6LST8-035-	S4ST8-035-	4LST8-035-	S1ST8-035-	0.177	0.263
	0.049	SSST8-049-	6LST8-049-	S4ST8-049-	4LST8-049-	S1ST8-049-	0.240	0.357
	0.065	SSST8-065-	6LST8-065-	S4ST8-065-	4LST8-065-	S1ST8-065-	0.307	0.457
5/8	0.065	SSST10-065-	6LST10-065-	S4ST10-065-	4LST10-065-	S1ST10-065-	0.396	0.589
3/4	0.065	SSST12-065-	6LST12-065-	S4ST12-065-	4LST12-065-	S1ST12-065-	0.484	0.720
1	0.083	SSST16-083-	6LST16-083-	S4ST16-083-	4LST16-083-	S1ST16-083-	0.827	1.231
1 1/4	0.109	SSST20-109-	6LST20-109-	S4ST20-109-	4LST20-109-	S1ST20-109-	1.352	2.012
1 1/2	0.134	SSST24-134-	6LST24-134-	S4ST24-134-	4LST24-134-	S1ST24-134-	1.989	2.961

Metric Tubing

Tube O.D. (mm)	Nominal Wall Thickness (mm)	Basic Ordering Number					Weight	
		316	316L	304	304L	321	kg/m	
3	0.5	SSST3M-0.5-	6LST3M-0.5-	S4ST3M-0.5-	4LST3M-0.5-	S1ST3M-0.5-	0.031	
	0.7	SSST3M-0.7-	6LST3M-0.7-	S4ST3M-0.7-	4LST3M-0.7-	S1ST3M-0.7-	0.040	
6	1.0	SSST6M-1.0-	6LST6M-1.0-	S4ST6M-1.0-	4LST6M-1.0-	S1ST6M-1.0-	0.125	
	1.5	SSST6M-1.5-	6LST6M-1.5-	S4ST6M-1.5-	4LST6M-1.5-	S1ST6M-1.5-	0.169	
8	1.0	SSST8M-1.0-	6LST8M-1.0-	S4ST8M-1.0-	4LST8M-1.0-	S1ST8M-1.0-	0.175	
	1.5	SSST8M-1.5-	6LST8M-1.5-	S4ST8M-1.5-	4LST8M-1.5-	S1ST8M-1.5-	0.244	
10	1.0	SSST10M-1.0-	6LST10M-1.0-	S4ST10M-1.0-	4LST10M-1.0-	S1ST10M-1.0-	0.226	
	1.5	SSST10M-1.5-	6LST10M-1.5-	S4ST10M-1.5-	4LST10M-1.5-	S1ST10M-1.5-	0.320	
12	1.0	SSST12M-1.0-	6LST12M-1.0-	S4ST12M-1.0-	4LST12M-1.0-	S1ST12M-1.0-	0.276	
	1.5	SSST12M-1.5-	6LST12M-1.5-	S4ST12M-1.5-	4LST12M-1.5-	S1ST12M-1.5-	0.395	
	2.0	SSST12M-2.0-	6LST12M-2.0-	S4ST12M-2.0-	4LST12M-2.0-	S1ST12M-2.0-	0.501	
14	1.0	SSST14M-1.0-	6LST14M-1.0-	S4ST14M-1.0-	4LST14M-1.0-	S1ST14M-1.0-	0.326	
	1.5	SSST14M-1.5-	6LST14M-1.5-	S4ST14M-1.5-	4LST14M-1.5-	S1ST14M-1.5-	0.470	
	2.0	SSST14M-2.0-	6LST14M-2.0-	S4ST14M-2.0-	4LST14M-2.0-	S1ST14M-2.0-	0.602	
16	1.0	SSST16M-1.0-	6LST16M-1.0-	S4ST16M-1.0-	4LST16M-1.0-	S1ST16M-1.0-	0.376	
	1.5	SSST16M-1.5-	6LST16M-1.5-	S4ST16M-1.5-	4LST16M-1.5-	S1ST16M-1.5-	0.545	
	2.0	SSST16M-2.0-	6LST16M-2.0-	S4ST16M-2.0-	4LST16M-2.0-	S1ST16M-2.0-	0.702	
18	1.0	SSST18M-1.0-	6LST18M-1.0-	S4ST18M-1.0-	4LST18M-1.0-	S1ST18M-1.0-	0.426	
	1.5	SSST18M-1.5-	6LST18M-1.5-	S4ST18M-1.5-	4LST18M-1.5-	S1ST18M-1.5-	0.620	
	2.0	SSST18M-2.0-	6LST18M-2.0-	S4ST18M-2.0-	4LST18M-2.0-	S1ST18M-2.0-	0.802	
20	2.0	SSST20M-2.0-	6LST20M-2.0-	S4ST20M-2.0-	4LST20M-2.0-	S1ST20M-2.0-	0.903	
22	2.0	SSST22M-2.0-	6LST22M-2.0-	S4ST22M-2.0-	4LST22M-2.0-	S1ST22M-2.0-	1.003	
	2.0	SSST25M-2.0-	6LST25M-2.0-	S4ST25M-2.0-	4LST25M-2.0-	S1ST25M-2.0-	1.153	
25	2.5	SSST25M-2.5-	6LST25M-2.5-	S4ST25M-2.5-	4LST25M-2.5-	S1ST25M-2.5-	1.410	
28	2.8	SSST28M-2.8-	6LST28M-2.8-	S4ST28M-2.8-	4LST28M-2.8-	S1ST28M-2.8-	1.769	
30	3.0	SSST30M-3.0-	6LST30M-3.0-	S4ST30M-3.0-	4LST30M-3.0-	S1ST30M-3.0-	2.031	
32	3.5	SSST32M-3.5-	6LST32M-3.5-	S4ST32M-3.5-	4LST32M-3.5-	S1ST32M-3.5-	2.501	
38	4.0	SSST38M-4.0-	6LST38M-4.0-	S4ST38M-4.0-	4LST38M-4.0-	S1ST38M-4.0-	3.410	

Add the actual length (foot or meter) and surface finish code as a suffix to the basic ordering number to get the complete ordering number. "AP" for pickling surface finish, "MP" for mechanical polished surface finish.

For example:

- 12 feet long, outside diameter 1/2", wall thickness 0.049", and pickling surface finish 316L SS seamless tube, the complete ordering number is **6LST8-049-12-AP**.
- 3 meters long, outside diameter 1/2", wall thickness 0.049", and mechanical polished surface finish 316L SS seamless tube, the complete ordering number is **6LST8-049-3M-MP**.
- 3 meters long, outside diameter 12 mm, wall thickness 1.0 mm, and pickling surface finish 304L SS seamless tube, the complete ordering number is **4LST12M-1.0-3M-AP**.

Stainless Steel Seamless Pipe

Features

- Nominal pipe sizes from NPS 1/8 to NPS 2.
- Material, size, specification and heat code are indicated on the pipe surface.

Material Standard

Grade	UNS Designation	ASTM	ASME
316/316L	S31600/S31603	A312	SA312
304/304L	S31400/S31403		
321	S32100		

Allowable Working Pressure

- The allowable working pressures in the form are based on ASME B31.3 at ambient temperature.
- The data in the form are applied to 316 SS, 304 SS and 321 SS. For 316L SS and 304L SS, multiply the data in the form by 0.84 to get the allowable working pressure.
- The elevated temperature factors are the same with those of FITOK stainless steel seamless tubing.

NPS	Schedule Number (ASME B36.19M)			
	5S	10S	40S	80S
	Working Pressure, psig (bar)			
1/8	/	3940 (272)	5750 (397)	8700 (600)
1/4	/	3960 (273)	5620 (387)	8130 (560)
3/8	/	3110 (215)	4540 (313)	6660 (459)
1/2	2470 (170)	3220 (222)	4370 (301)	6190 (427)
3/4	1960 (135)	2540 (175)	3550 (245)	5040 (348)
1	1550 (107)	2680 (185)	3330 (229)	4650 (320)
1 1/4	1230 (85)	2110 (146)	2760 (190)	3890 (268)
1 1/2	1070 (74)	1830 (126)	2460 (170)	3520 (243)
2	840 (58)	1430 (99)	2060 (142)	2990 (206)

Ordering Information

NPS	Schedule Number	Basic Ordering Number					Weight	
		316	316L	304	304L	321	lb/ft	Kg/m
1/8	40S	SSSP2-40S-	6LSP2-40S-	S4SP2-40S-	4LSP2-40S-	S1SP2-40S-	0.250	0.372
	80S	SSSP2-80S-	6LSP2-80S-	S4SP2-80S-	4LSP2-80S-	S1SP2-80S-	0.321	0.478
1/4	40S	SSSP4-40S-	6LSP4-40S-	S4SP4-40S-	4LSP4-40S-	S1SP4-40S-	0.433	0.645
	80S	SSSP4-80S-	6LSP4-80S-	S4SP4-80S-	4LSP4-80S-	S1SP4-80S-	0.546	0.812
3/8	40S	SSSP6-40S-	6LSP6-40S-	S4SP6-40S-	4LSP6-40S-	S1SP6-40S-	0.579	0.862
	80S	SSSP6-80S-	6LSP6-80S-	S4SP6-80S-	4LSP6-80S-	S1SP6-80S-	0.754	1.122
1/2	40S	SSSP8-40S-	6LSP8-40S-	S4SP8-40S-	4LSP8-40S-	S1SP8-40S-	0.868	1.292
	80S	SSSP8-80S-	6LSP8-80S-	S4SP8-80S-	4LSP8-80S-	S1SP8-80S-	1.110	1.652
3/4	40S	SSSP12-40S-	6LSP12-40S-	S4SP12-40S-	4LSP12-40S-	S1SP12-40S-	1.154	1.717
	80S	SSSP12-80S-	6LSP12-80S-	S4SP12-80S-	4LSP12-80S-	S1SP12-80S-	1.504	2.238
1	40S	SSSP16-40S-	6LSP16-40S-	S4SP16-40S-	4LSP16-40S-	S1SP16-40S-	1.713	2.549
	80S	SSSP16-80S-	6LSP16-80S-	S4SP16-80S-	4LSP16-80S-	S1SP16-80S-	2.216	3.297
1 1/4	40S	SSSP20-40S-	6LSP20-40S-	S4SP20-40S-	4LSP20-40S-	S1SP20-40S-	2.319	3.450
	80S	SSSP20-80S-	6LSP20-80S-	S4SP20-80S-	4LSP20-80S-	S1SP20-80S-	3.057	4.549
1 1/2	40S	SSSP24-40S-	6LSP24-40S-	S4SP24-40S-	4LSP24-40S-	S1SP24-40S-	2.773	4.126
	80S	SSSP24-80S-	6LSP24-80S-	S4SP24-80S-	4LSP24-80S-	S1SP24-80S-	3.705	5.513
2	40S	SSSP32-40S-	6LSP32-40S-	S4SP32-40S-	4LSP32-40S-	S1SP32-40S-	3.727	5.546
	80S	SSSP32-80S-	6LSP32-80S-	S4SP32-80S-	4LSP32-80S-	S1SP32-80S-	5.123	7.624

Add the actual foot (feet)/meter (meters) as a suffix to the basic ordering number to complete the ordering number.

Example:

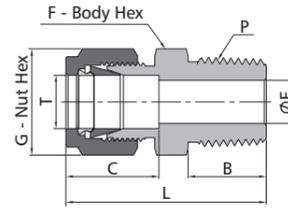
- 12 feet long, NPS 1/2, schedule number 40S, 316 SS seamless pipe, the complete ordering number is **SSSP8-40S-12**.
- 2 meters long, NPS 1/2, schedule number 40S, 316 SS seamless pipe, the complete ordering number is **SSSP8-40S-2M**.

NPS	Outside Diameter		Schedule Number																		
	In.	mm	5S	5	10S	10	20	30	40S	40	STD	60	80S	80	XS	100	120	140	160	XXS	
1/8	0.405	10.287			1.245	1.245		1.448	1.727	1.727	1.727		2.413	2.413	2.413						
1/4	0.540	13.716			1.651	1.651		1.854	2.235	2.235	2.235		3.023	3.023	3.023						
3/8	0.675	17.145			1.651	1.651		1.854	2.311	2.311	2.311		3.200	3.200	3.200						
1/2	0.840	21.336	1.651	1.651	2.108	2.108		2.413	2.769	2.769	2.769		3.734	3.734	3.734				4.775	7.468	
3/4	1.050	26.670	1.651	1.651	2.108	2.108		2.413	2.870	2.870	2.870		3.912	3.912	3.912				5.563	7.823	
1	1.315	33.401	1.651	1.651	2.769	2.769		2.900	3.378	3.378	3.378		4.547	4.547	4.547				6.350	9.093	
1 1/4	1.660	42.164	1.651	1.651	2.769	2.769		2.972	3.556	3.556	3.556		4.851	4.851	4.851				6.350	9.703	
1 1/2	1.900	48.260	1.651	1.651	2.769	2.769		3.175	3.683	3.683	3.683		5.080	5.080	5.080				7.137	10.160	
2	2.375	60.325	1.651	1.651	2.769	2.769		3.175	3.912	3.912	3.912		5.537	5.537	5.537				8.738	11.074	
2 1/2	2.875	73.025	2.108	2.108	3.048	3.048		4.775	5.156	5.156	5.156		7.010	7.010	7.010				9.525	14.021	
3	3.500	88.900	2.108	2.108	3.048	3.048		4.775	5.486	5.486	5.486		7.620	7.620	7.620				11.125	15.240	
3 1/2	4.000	101.600	2.108	2.108	3.048	3.048		4.775	5.740	5.740	5.740		8.077	8.077	8.077						
4	4.500	114.300	2.108	2.108	3.048	3.048		4.775	6.020	6.020	6.020		8.560	8.560	8.560				13.487	17.120	
5	5.563	141.300	2.769	2.769	3.404	3.404			6.553	6.553	6.553		9.525	9.525	9.525				15.875	19.050	
6	6.625	168.275	2.769	2.769	3.404	3.404			7.112	7.112	7.112		10.973	10.973	10.973				18.263	21.946	
8	8.625	219.075	2.769	2.769	3.759	3.759	6.350	7.036	8.179	8.179	8.179	10.312	12.700	12.700	12.700	15.088	18.263	20.625	23.012	22.225	
10	10.750	273.050	3.404	3.404	4.191	4.191	6.350	7.798	9.271	9.271	9.271	12.700	12.700	12.700	12.700	15.088	18.263	21.438	25.400	28.575	25.400
12	12.750	323.850	3.962	3.962	4.572	4.572	6.350	8.382	9.525	10.312	9.525	14.275	12.700	12.700	12.700	17.475	17.475	21.438	25.400	28.575	25.400
14	14.000	355.600	3.962	3.962	4.775	4.775	7.925	9.525	11.125	11.125	9.525	15.088	12.700	12.700	12.700	19.050	19.050	23.825	27.788	31.750	35.712
16	16.000	406.400	4.191	4.191	4.775	4.775	9.525	11.125	12.700	12.700	9.525	16.662	12.700	12.700	12.700	23.825	23.825	26.187	30.963	36.525	40.488
18	18.000	457.200	4.191	4.191	4.775	4.775	9.525	11.125	12.700	12.700	9.525	16.662	12.700	12.700	12.700	26.187	26.187	29.362	34.925	39.675	45.237
20	20.000	508.000	4.775	4.775	5.537	5.537	12.700	14.275	15.088	15.088	9.525	19.050	12.700	12.700	12.700	28.575	28.575	32.537	38.100	44.450	50.013
22	22.000	558.800	4.775	4.775	5.537	5.537	12.700	14.275	15.088	15.088	9.525	20.625	12.700	12.700	12.700	30.963	30.963	34.925	41.275	47.625	53.975
24	24.000	609.600	5.537	5.537	6.350	6.350	14.275	17.475	17.475	17.475	9.525	22.225	12.700	12.700	12.700	38.887	38.887	46.025	52.375	59.538	
26	26.000	660.400																			
28	28.000	711.200																			
30	30.000	762.000	6.350	6.350	7.925	7.925	15.875	15.875													
32	32.000	812.800																			
34	34.000	863.600																			
36	36.000	914.400																			

1. The schedule numbers of 5S, 10S, 40S, and 80S comply with ASME B36.19M.

2. The others comply with ASME B36.10M.

Male Connectors

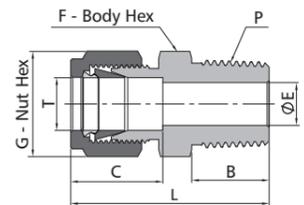


T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm					
			L	B	C	E	G	F
1/16	1/16	S-FJ1N1	23.9	9.7	8.6	1.3	7.9	7.9
1/16	1/8	S-FJ1N2	26.2	9.7	8.6	1.3	7.9	11.1
1/16	1/4	S-FJ1N4	31.0	14.2	8.6	1.3	7.9	14.3
1/8	1/16	S-FJ2N1	29.7	9.7	12.7	2.3	11.1	11.1
1/8	1/8	S-FJ2N2	30.5	9.7	12.7	2.3	11.1	11.1
1/8	1/4	S-FJ2N4	35.6	14.2	12.7	2.3	11.1	14.3
1/8	3/8	S-FJ2N6	35.8	14.2	12.7	2.3	11.1	17.5
1/8	1/2	S-FJ2N8	42.2	19.1	12.7	2.3	11.1	22.2
3/16	1/16	S-FJ3N1	31.2	9.7	13.7	2.3	12.7	11.1
3/16	1/8	S-FJ3N2	31.2	9.7	13.7	3.0	12.7	11.1
3/16	1/4	S-FJ3N4	36.3	14.2	13.7	3.0	12.7	14.3
1/4	1/16	S-FJ4N1	32.8	9.7	15.2	3.0	14.3	12.7
1/4	1/8	S-FJ4N2	32.8	9.7	15.2	4.8	14.3	12.7
1/4	1/4	S-FJ4N4	37.8	14.2	15.2	4.8	14.3	14.3
1/4	3/8	S-FJ4N6	38.4	14.2	15.2	4.8	14.3	17.5
1/4	1/2	S-FJ4N8	44.7	19.1	15.2	4.8	14.3	22.2
1/4	3/4	S-FJ4N12	46.2	19.1	15.2	4.8	14.3	27.0
5/16	1/8	S-FJ5N2	34.0	9.7	16.3	4.8	15.9	14.3
5/16	1/4	S-FJ5N4	38.6	9.7	16.3	6.4	15.9	14.3
5/16	3/8	S-FJ5N6	39.1	14.2	16.3	6.4	15.9	17.5
5/16	1/2	S-FJ5N8	45.5	19.1	16.3	6.4	15.9	22.2
3/8	1/8	S-FJ6N2	35.3	9.7	16.8	4.8	17.5	15.9
3/8	1/4	S-FJ6N4	39.9	14.2	16.8	7.1	17.5	15.9
3/8	3/8	S-FJ6N6	39.9	14.2	16.8	7.1	17.5	17.5
3/8	1/2	S-FJ6N8	46.2	19.1	16.8	7.1	17.5	22.2
3/8	3/4	S-FJ6N12	47.8	19.1	16.8	7.1	17.5	27.0
3/8	1	S-FJ6N16	47.0	23.9	16.8	7.1	17.5	34.9
1/2	1/8	S-FJ8N2	38.9	9.7	22.9	4.8	22.2	20.6
1/2	1/4	S-FJ8N4	43.4	14.2	22.9	7.1	22.2	20.6
1/2	3/8	S-FJ8N6	43.4	14.2	22.9	9.7	22.2	20.6
1/2	1/2	S-FJ8N8	49.0	19.1	22.9	10.4	22.2	22.2
1/2	3/4	S-FJ8N12	50.5	19.1	22.9	10.4	22.2	27.0
1/2	1	S-FJ8N16	57.2	23.9	22.9	10.4	22.2	34.9
5/8	1/4	S-FJ10N4	44.2	14.2	24.4	7.1	25.4	23.8
5/8	3/8	S-FJ10N6	44.2	14.2	24.4	9.7	25.4	23.8
5/8	1/2	S-FJ10N8	49.0	19.1	24.4	11.9	25.4	23.8
5/8	3/4	S-FJ10N12	50.5	19.1	24.4	12.7	25.4	27.0
3/4	3/8	S-FJ12N6	45.7	14.2	24.4	10.4	28.6	27.0
3/4	1/2	S-FJ12N8	50.5	19.1	24.4	11.9	28.6	27.0
3/4	3/4	S-FJ12N12	50.5	19.1	24.4	15.7	28.6	27.0
3/4	1	S-FJ12N16	57.2	23.9	24.4	15.7	28.6	34.9
7/8	1/2	S-FJ14N8	50.5	19.1	25.9	11.9	31.8	30.2
7/8	3/4	S-FJ14N12	50.5	19.1	25.9	15.7	31.8	30.2
7/8	1	S-FJ14N16	57.2	23.9	25.9	18.3	31.8	34.9
1	1/2	S-FJ16N8	57.4	19.1	31.2	11.9	38.1	34.9
1	3/4	S-FJ16N12	57.4	19.1	31.2	15.7	38.1	34.9
1	1	S-FJ16N16	62.2	23.9	31.2	22.4	38.1	34.9
1 1/8	1	S-FJ18N16	62.2	23.9	31.2	22.4	46.0	41.3
1 1/4	1	S-FJ20N16	77.2	23.9	41.1	22.4	47.6	44.5
1 1/4	1 1/4	S-FJ20N20	77.2	23.9	41.1	27.7	47.6	44.5
1 1/2	1 1/2	S-FJ24N24	88.9	26.2	50.0	34.0	57.2	54.0

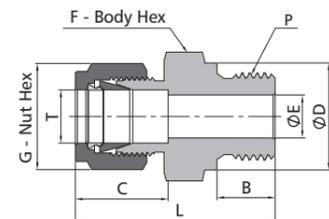
1. Dimensions are for reference only, subject to change.  
2. Dimensions shown are in finger-tight position.

E-JOE

Male Connectors

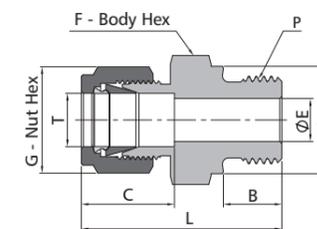


Fractional Tube			ISO Tapered Thread (RT)						
T-Tube O.D. (in.)	P-RT Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
1/8	1/8	S-FJ2RT2	30.5	9.7	12.7	2.3	11.1	11.1	
1/8	1/4	S-FJ2RT4	35.6	14.2	12.7	2.3	11.1	14.3	
1/4	1/8	S-FJ4RT2	32.8	9.7	15.2	4.8	14.3	12.7	
1/4	1/4	S-FJ4RT4	37.8	14.2	15.2	4.8	14.3	14.3	
1/4	3/8	S-FJ4RT6	38.4	14.2	15.2	4.8	14.3	17.5	
1/4	1/2	S-FJ4RT8	44.7	19.1	15.2	4.8	14.3	22.2	
5/16	1/8	S-FJ5RT2	34.0	9.7	16.3	4.8	15.9	14.3	
5/16	1/4	S-FJ5RT4	38.6	9.7	16.3	6.4	15.9	14.3	
3/8	1/8	S-FJ6RT2	35.3	9.7	16.8	4.8	17.5	15.9	
3/8	1/4	S-FJ6RT4	39.9	14.2	16.8	7.1	17.5	15.9	
3/8	3/8	S-FJ6RT6	39.9	14.2	16.8	7.1	17.5	17.5	
3/8	1/2	S-FJ6RT8	46.2	19.1	16.8	7.1	17.5	22.2	
3/8	3/4	S-FJ6RT12	47.8	19.1	16.8	7.1	17.5	27.0	
1/2	1/4	S-FJ8RT4	43.4	14.2	22.9	7.1	22.2	20.6	
1/2	3/8	S-FJ8RT6	43.4	14.2	22.9	9.7	22.2	20.6	
1/2	1/2	S-FJ8RT8	49.0	19.1	22.9	10.4	22.2	22.2	
1/2	3/4	S-FJ8RT12	50.5	19.1	22.9	10.4	22.2	27.0	
5/8	1/2	S-FJ10RT8	49.0	19.1	24.4	11.9	25.4	23.8	
3/4	3/4	S-FJ12RT12	50.5	19.1	24.4	15.7	28.6	27.0	
3/4	1	S-FJ12RT16	57.2	23.9	24.4	15.7	28.6	34.9	
1	3/4	S-FJ16RT12	57.4	19.1	31.2	15.7	38.1	34.9	
1	1	S-FJ16RT16	62.2	23.9	31.2	22.4	38.1	34.9	

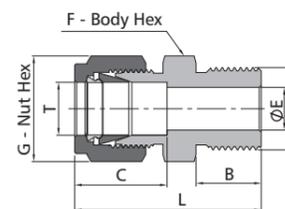


Fractional Tube			ISO Parallel Thread (BS)						
T-Tube O.D. (in.)	P-RS Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	D
1/8	1/8	S-FJ2BS2	30.0	7.1	12.7	2.3	11.1	14.3	13.7
1/8	1/4	S-FJ2BS4	35.3	11.2	12.7	2.3	11.1	19.1	18.0
1/8	3/8	S-FJ2BS6	36.3	11.2	12.7	2.3	11.1	22.2	21.8
1/4	1/8	S-FJ4BS2	32.3	7.1	15.2	4.0	14.3	14.3	13.7
1/4	1/4	S-FJ4BS4	37.6	11.2	15.2	4.8	14.3	19.1	18.0
1/4	3/8	S-FJ4BS6	38.9	11.2	15.2	4.8	14.3	22.2	21.8
1/4	1/2	S-FJ4BS8	44.7	14.2	15.2	4.8	14.3	27.0	25.9
3/8	1/8	S-FJ6BS2	37.8	7.1	16.8	4.0	17.5	15.9	13.7
3/8	1/4	S-FJ6BS4	39.1	11.2	16.8	5.9	17.5	19.1	18.0
3/8	3/8	S-FJ6BS6	40.4	11.2	16.8	7.1	17.5	22.2	21.8
3/8	1/2	S-FJ6BS8	46.2	14.2	16.8	7.1	17.5	27.0	25.9
1/2	1/4	S-FJ8BS4	42.7	11.2	22.9	5.9	22.2	20.6	18.0
1/2	3/8	S-FJ8BS6	43.2	11.2	22.9	7.9	22.2	22.2	21.8
1/2	1/2	S-FJ8BS8	49.0	14.2	22.9	10.4	22.2	27.0	25.9
3/4	1/2	S-FJ12BS8	49.0	14.2	24.4	11.9	28.6	27.0	25.9
3/4	3/4	S-FJ12BS12	52.9	15.7	24.4	15.7	28.6	33.3	32.0
1	1/2	S-FJ16BS8	55.5	14.2	31.2	11.9	38.1	34.9	25.9
1	3/4	S-FJ16BS12	57.7	15.7	31.2	16.0	38.1	34.9	32.0
1	1	S-FJ16BS16	59.9	18.3	31.2	19.8	38.1	41.3	39.1

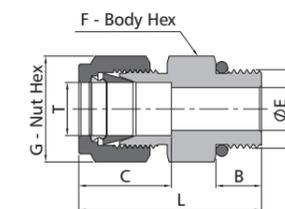
Male Connectors



Fractional Tube			ISO Parallel Thread (BR)						
T-Tube O.D. (in.)	P-RP Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	D
1/8	1/8	S-FJ2BR2	30.0	7.1	12.7	2.3	11.1	14.3	13.7
1/8	1/4	S-FJ2BR4	35.3	11.2	12.7	2.3	11.1	19.1	18.0
1/4	1/8	S-FJ4BR2	32.3	7.1	15.2	4.1	14.3	14.3	13.8
1/4	1/4	S-FJ4BR4	37.6	11.2	15.2	4.8	14.3	19.1	18.0
1/2	3/8	S-FJ8BR6	40.4	11.2	22.9	7.9	22.2	22.2	21.8
1/2	1/2	S-FJ8BR8	49.0	14.2	22.9	10.4	22.2	27.0	25.9
3/4	1/2	S-FJ12BR8	49.0	14.2	24.4	11.9	28.6	27.0	25.9
3/4	3/4	S-FJ12BR12	52.9	15.7	24.4	15.7	28.6	33.3	32.0
1	1	S-FJ16BR16	59.9	18.3	31.2	19.8	38.1	41.3	39.1



Fractional Tube			ISO Parallel Thread (BP)					
T-Tube O.D. (in.)	P-BP Size	Basic Ordering Number	Dimension, mm					
			L	B	C	E	G	F
1/4	3/8	S-FJ4BP6	38.4	14.2	15.2	4.8	14.3	17.5
3/8	3/8	S-FJ6BP6	39.9	14.2	16.8	7.1	17.5	17.5



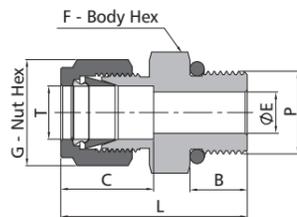
Adapt to straight thread boss of SAE J1926-1, ISO 11926-1 and MS 16142.

Fractional Tube			SAE/MS Straight Thread					
T-Tube O.D. (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm					
			L	B	C	E	G	F
1/16	5/16-24	S-FJ1ST5	23.4	7.6	8.6	1.3	7.9	11.1
1/8	5/16-24	S-FJ2ST5	30.0	7.6	12.7	2.3	11.1	11.1
1/8	7/16-20	S-FJ2ST7	31.5	9.1	12.7	2.3	11.1	14.3
1/8	9/16-18	S-FJ2ST9	33.3	9.9	12.7	2.3	11.1	17.5
3/16	3/8-24	S-FJ3ST6	30.5	7.6	13.7	3.0	12.7	12.7
1/4	5/16-24	S-FJ4ST5	32.3	7.6	15.2	2.3	14.3	12.7
1/4	7/16-20	S-FJ4ST7	34.0	9.1	15.2	4.8	14.3	14.3
1/4	9/16-18	S-FJ4ST9	35.6	9.9	15.2	4.8	14.3	17.5
1/4	3/4-16	S-FJ4ST12	37.6	11.2	15.2	4.8	14.3	22.2
1/4	7/8-14	S-FJ4ST14	40.6	12.7	15.2	4.8	14.3	25.4
5/16	1/2-20	S-FJ5ST8	34.8	9.1	16.3	6.4	15.9	15.9
3/8	7/16-20	S-FJ6ST7	35.6	9.1	16.8	5.1	17.5	15.9
3/8	9/16-18	S-FJ6ST9	37.1	9.9	16.8	7.1	17.5	17.5
3/8	3/4-16	S-FJ6ST12	39.1	11.2	16.8	7.1	17.5	22.2
3/8	7/8-14	S-FJ6ST14	42.2	12.7	16.8	7.1	17.5	25.4
1/2	9/16-18	S-FJ8ST9	39.1	9.9	22.9	7.1	22.2	20.6
1/2	3/4-16	S-FJ8ST12	41.9	11.2	22.9	10.4	22.2	22.2
1/2	7/8-14	S-FJ8ST14	45.0	12.7	22.9	10.4	22.2	25.4
1/2	1 1/16-12	S-FJ8ST17	49.0	15.0	22.9	10.4	22.2	31.8
5/8	3/4-16	S-FJ10ST12	41.9	11.2	24.4	10.7	25.4	23.8
5/8	7/8-14	S-FJ10ST14	45.2	12.7	24.4	12.7	25.4	25.4
3/4	3/4-16	S-FJ12ST12	46.0	11.2	24.4	10.7	28.6	27.0
3/4	1 1/16-12	S-FJ12ST17	49.0	15.0	24.4	15.7	28.6	31.8
3/4	1 5/16-12	S-FJ12ST21	49.8	15.0	24.4	16.0	28.6	38.1
7/8	1 3/16-12	S-FJ14ST19	49.0	15.0	25.9	18.3	31.8	34.9
1	1 1/16-12	S-FJ16ST17	53.3	15.0	31.2	16.8	38.1	34.9
1	1 5/16-12	S-FJ16ST21	54.4	15.0	31.2	22.4	38.1	38.1
1 1/4	1 5/8-12	S-FJ20ST26	68.3	15.0	41.1	27.7	47.6	47.6
1 1/2	1 7/8-12	S-FJ24ST30	77.7	15.0	50.0	34.0	57.2	54.0

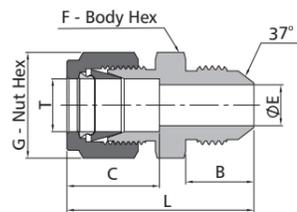
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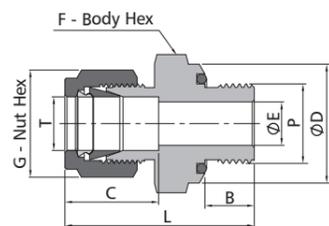
Male Connectors



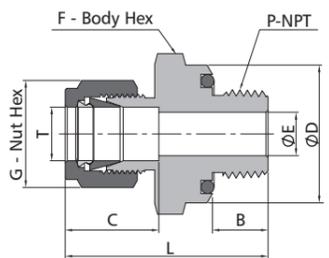
Fractional Tube			SAE/MS Straight Thread						
T-Tube O.D. (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
1/4	7/16-20	SL-FJ4ST7	57.4	9.1	15.2	4.8	14.3	14.3	
1/2	3/4-16	SL-FJ8ST12	76.5	11.2	22.9	10.4	22.2	22.2	



Fractional Tube			37° Flare (AN)						
T-Tube O.D. (in.)	AN Tube Flare Size (in.)	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
1/16	1/8	S-FJ1AN2	27.2	11.4	8.6	1.3	7.9	11.1	
1/8	1/8	S-FJ2AN2	32.3	11.4	12.7	1.5	11.1	11.1	
1/8	1/4	S-FJ2AN4	35.1	14.0	12.7	2.3	11.1	12.7	
3/16	3/16	S-FJ3AN3	33.5	12.2	13.7	2.3	12.7	11.1	
1/4	1/4	S-FJ4AN4	37.6	14.0	15.2	4.3	14.3	12.7	
5/16	5/16	S-FJ5AN5	38.4	14.0	16.2	5.8	15.9	14.3	
3/8	1/4	S-FJ6AN4	39.6	14.0	16.8	4.3	17.5	15.9	
3/8	3/8	S-FJ6AN6	39.6	14.1	16.8	7.1	17.5	15.9	
1/2	1/2	S-FJ8AN8	46.0	16.7	22.8	9.9	22.2	20.6	
5/8	5/8	S-FJ10AN10	49.0	19.3	24.5	12.3	25.4	23.8	
3/4	3/4	S-FJ12AN12	53.3	21.9	24.4	15.5	28.6	28.6	
1	1	S-FJ16AN16	61.5	23.1	31.2	21.3	38.1	34.9	

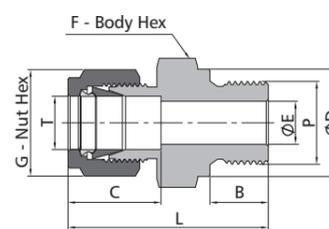


Fractional Tube			O-Seal with SAE/MS Straight Thread						
T-Tube O.D. (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	D
1/16	5/16-24	S-FJ1STO5	26.7	8.6	8.6	1.3	7.9	14.3	14.0
1/8	5/16-24	S-FJ2STO5	32.8	8.6	12.7	2.3	11.1	14.3	14.0
3/16	3/8-24	S-FJ3STO6	34.3	9.7	13.7	3.0	12.7	15.9	15.7
1/4	7/16-20	S-FJ4STO7	38.4	10.4	15.2	4.8	14.3	19.1	18.8
5/16	1/2-20	S-FJ5STO8	40.6	11.2	16.3	6.4	15.9	22.2	21.8
3/8	9/16-18	S-FJ6STO9	42.4	11.9	16.8	7.1	17.5	23.8	23.6
1/2	3/4-16	S-FJ8STO12	46.0	11.9	22.9	10.4	22.2	28.6	28.4
3/4	1 1/16-12	S-FJ12STO17	52.3	14.2	24.4	15.7	28.6	38.1	37.8
1	1 5/16-12	S-FJ16STO21	58.2	14.2	31.2	22.4	38.1	44.5	44.2

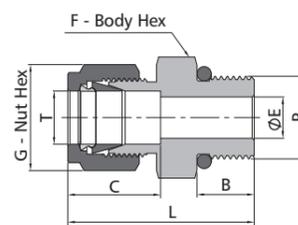


Fractional Tube			O-Seal with NPT Thread						
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	D
1/8	1/8	S-FJ2NO2	32.8	7.1	8.6	2.3	11.1	19.1	18.8
1/4	1/8	S-FJ4NO2	35.1	7.1	15.2	4.8	14.3	19.1	18.8
1/4	1/4	S-FJ4NO4	38.4	9.7	15.2	4.8	14.3	23.8	23.6
3/8	1/4	S-FJ6NO4	39.9	9.7	16.8	7.1	17.5	23.8	23.6
3/8	3/8	S-FJ6NO6	41.4	10.4	16.8	7.1	17.5	28.6	28.4
3/8	1/2	S-FJ6NO8	47.0	13.5	16.8	7.1	17.5	33.3	33.0
1/2	1/2	S-FJ8NO8	49.8	13.5	22.9	10.4	22.2	33.3	33.0

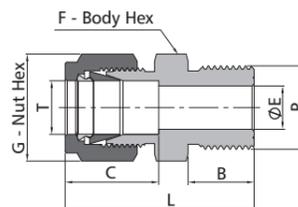
Male Connectors



Fractional Tube			Metric Thread (MR)						
T-Tube O.D. (in.)	P-Metric Thread Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	D
1/8	M14 x 1.5	S-FJ2MR14	36.7	12	12.7	2.3	11.1	19.1	19
1/8	M16 x 1.5	S-FJ2MR16	37.5	12	12.7	2.3	11.1	22.2	21
1/8	M18 x 1.5	S-FJ2MR18	38.5	12	12.7	2.3	11.1	23.8	23
1/8	M20 x 1.5	S-FJ2MR20	41.1	14	12.7	2.3	11.1	25.4	25
1/4	M14 x 1.5	S-FJ4MR14	38.0	12	15.2	4.8	14.3	19.1	19
1/4	M16 x 1.5	S-FJ4MR16	39.9	12	15.2	4.8	14.3	22.2	21
1/4	M18 x 1.5	S-FJ4MR18	40.8	12	15.2	4.8	14.3	23.8	23
1/4	M20 x 1.5	S-FJ4MR20	43.6	14	15.2	4.8	14.3	25.4	25
3/8	M14 x 1.5	S-FJ6MR14	41.3	12	16.8	7.1	17.5	19.1	19
3/8	M16 x 1.5	S-FJ6MR16	41.3	12	16.8	7.1	17.5	22.2	21
3/8	M18 x 1.5	S-FJ6MR18	41.8	12	16.8	7.1	17.5	23.8	23
3/8	M20 x 1.5	S-FJ6MR20	45.1	14	16.8	7.1	17.5	25.4	25
1/2	M16 x 1.5	S-FJ8MR16	44.0	12	22.9	9	22.2	22.2	21
1/2	M18 x 1.5	S-FJ8MR18	44.0	12	22.9	10	22.2	23.8	23
1/2	M20 x 1.5	S-FJ8MR20	47.9	14	22.9	10.4	22.2	25.4	25
1/2	M22 x 1.5	S-FJ8MR22	48.5	14	22.9	10.4	22.2	27.0	27



Adapt to straight thread boss of ISO 6149-1.



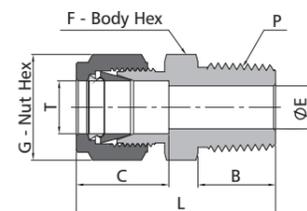
Fractional Tube			Metric Thread (MO)						
T-Tube O.D. (in.)	P-Metric Thread Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
1/4	M14X1.5	S-FJ4MO14	35.2	11	15.2	4.8	14.3	19.1	
3/8	M14X1.5	S-FJ6MO14	36.7	11	16.8	7.1	17.5	19.1	
3/8	M20X1.5	S-FJ6MO20	41.2	14	16.8	7.1	17.5	27.0	
1/2	M14X1.5	S-FJ8MO14	40.2	11	22.9	7.5	22.2	20.6	
1/2	M20X1.5	S-FJ8MO20	44.0	14	22.9	10.4	22.2	27.0	

Fractional Tube			Metric Thread (MS)						
T-Tube O.D. (in.)	P-Metric Thread Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
1/16	M5 x 0.8	S-FJ1MS5	21.8	8	8.6	1.3	7.9	7.9	
1/8	M14 x 1.5	S-FJ2MS14	34.8	13	12.7	2.3	11.1	15.9	
1/8	M16 x 1.5	S-FJ2MS16	35.8	14	12.7	2.3	11.1	17.5	
1/8	M18 x 1.5	S-FJ2MS18	37.2	15	12.7	2.3	11.1	19.1	
1/8	M20 x 1.5	S-FJ2MS20	38.2	16	12.7	2.3	11.1	22.2	
1/4	M14 x 1.5	S-FJ4MS14	36.9	13	15.2	4.8	14.3	15.9	
1/4	M16 x 1.5	S-FJ4MS16	38.1	14	15.2	4.8	14.3	17.5	
1/4	M18 x 1.5	S-FJ4MS18	39.5	15	15.2	4.8	14.3	19.1	
1/4	M20 x 1.5	S-FJ4MS20	40.7	16	15.2	4.8	14.3	22.2	
3/8	M10 x 1.0	S-FJ6MS10	36.4	11	16.8	4.8	17.5	15.9	
3/8	M14 x 1.5	S-FJ6MS14	39.3	13	16.8	7.1	17.5	15.9	
3/8	M16 x 1.5	S-FJ6MS16	39.7	14	16.8	7.1	17.5	17.5	
3/8	M18 x 1.5	S-FJ6MS18	41.5	15	16.8	7.1	17.5	19.1	
3/8	M20 x 1.5	S-FJ6MS20	42.3	16	16.8	7.1	17.5	22.2	
1/2	M16 x 1.5	S-FJ8MS16	43.2	14	22.9	8.4	22.2	20.6	
1/2	M18 x 1.5	S-FJ8MS18	43.7	15	22.9	9.6	22.2	20.6	
1/2	M20 x 1.5	S-FJ8MS20	44.9	16	22.9	10.4	22.2	22.2	
1/2	M22 x 1.5	S-FJ8MS22	47.0	17	22.9	10.4	22.2	23.8	

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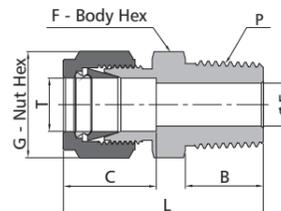
E-JOE

Male Connectors



Metric Tube			NPT Thread						
T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
2	1/8	S-MJ2N2	30.5	9.7	12.9	1.7	12	12	
3	1/8	S-MJ3N2	30.5	9.7	12.9	2.4	12	12	
3	1/4	S-MJ3N4	35.6	14.2	12.9	2.4	12	14	
4	1/8	S-MJ4N2	31.2	9.7	13.7	2.4	12	12	
4	1/4	S-MJ4N4	36.3	14.2	13.7	2.4	12	14	
6	1/8	S-MJ6N2	32.8	9.7	15.3	4.8	14	14	
6	1/4	S-MJ6N4	37.9	14.2	15.3	4.8	14	14	
6	3/8	S-MJ6N6	38.4	14.2	15.3	4.8	14	18	
6	1/2	S-MJ6N8	44.7	19.1	15.3	4.8	14	22	
8	1/8	S-MJ8N2	34.2	9.7	16.2	4.8	16	15	
8	1/4	S-MJ8N4	38.7	14.2	16.2	6.4	16	15	
8	3/8	S-MJ8N6	39.3	14.2	16.2	6.4	16	18	
8	1/2	S-MJ8N8	45.6	19.1	16.2	6.4	16	22	
10	1/8	S-MJ10N2	36.3	9.7	17.2	4.8	19	18	
10	1/4	S-MJ10N4	40.9	14.2	17.2	7.1	19	18	
10	3/8	S-MJ10N6	40.9	14.2	17.2	7.9	19	18	
10	1/2	S-MJ10N8	46.5	19.1	17.2	7.9	19	22	
10	3/4	S-MJ10N12	48.0	19.1	17.2	7.9	19	27	
10	1	S-MJ10N16	54.6	23.9	17.2	7.9	19	35	
12	1/8	S-MJ12N2	38.8	9.7	22.8	4.8	22	22	
12	1/4	S-MJ12N4	43.4	14.2	22.8	7.1	22	22	
12	3/8	S-MJ12N6	43.4	14.2	22.8	9.5	22	22	
12	1/2	S-MJ12N8	49.0	19.1	22.8	9.5	22	22	
12	3/4	S-MJ12N12	50.5	19.1	22.8	9.5	22	27	
14	1/8	S-MJ14N2	38.8	9.7	24.4	4.8	25	24	
14	1/4	S-MJ14N4	44.1	14.2	24.4	7.1	25	24	
14	3/8	S-MJ14N6	44.1	14.2	24.4	9.5	25	24	
14	1/2	S-MJ14N8	49.0	19.1	24.4	11.1	25	24	
14	3/4	S-MJ14N12	50.5	19.1	24.4	11.1	25	27	
15	1/2	S-MJ15N8	49.0	19.1	24.4	11.9	25	24	
15	3/4	S-MJ15N12	50.5	19.1	24.4	11.9	25	27	
15	1	S-MJ15N16	57.1	23.9	24.4	11.9	25	35	
16	1/4	S-MJ16N4	44.1	14.2	24.4	7.1	25	24	
16	3/8	S-MJ16N6	44.1	14.2	24.4	9.5	25	24	
16	1/2	S-MJ16N8	49.0	19.1	24.4	11.9	25	24	
16	3/4	S-MJ16N12	50.5	19.1	24.4	12.7	25	27	
18	3/8	S-MJ18N6	45.6	14.2	24.4	9.5	30	27	
18	1/2	S-MJ18N8	50.5	19.1	24.4	11.9	30	27	
18	3/4	S-MJ18N12	50.5	19.1	24.4	15.1	30	27	
20	1/2	S-MJ20N8	52.3	19.1	26.0	11.9	32	30	
20	3/4	S-MJ20N12	52.3	19.1	26.0	15.9	32	30	
20	1	S-MJ20N16	57.1	23.9	26.0	15.9	32	35	
22	1/2	S-MJ22N8	52.3	19.1	26.0	11.9	32	30	
22	3/4	S-MJ22N12	52.3	19.1	26.0	15.9	32	30	
22	1	S-MJ22N16	57.1	23.9	26.0	18.3	32	35	
25	1/2	S-MJ25N8	57.5	19.1	31.3	11.9	38	35	
25	3/4	S-MJ25N12	57.5	19.1	31.3	15.9	38	35	
25	1	S-MJ25N16	62.3	23.9	31.3	21.8	38	35	
28	1	S-MJ28N16	72.4	23.9	36.6	21.8	46	41	
28	1 1/4	S-MJ28N20	73.1	23.9	36.6	21.8	46	46	
30	1 1/4	S-MJ30N20	77.2	23.9	39.6	26.2	50	46	
32	1 1/4	S-MJ32N20	79.6	23.9	42.0	28.6	50	46	
38	1 1/2	S-MJ38N24	91.6	26.2	49.4	33.7	60	55	

Male Connectors

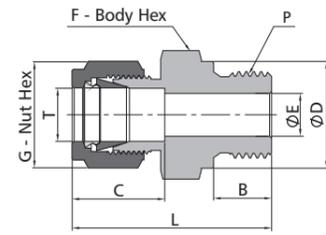


Metric Tube			ISO Tapered Thread (RT)						
T-Tube O.D. (mm)	P-RT Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
2	1/8	S-MJ2RT2	30.5	9.7	12.9	1.7	12	12	
3	1/8	S-MJ3RT2	30.5	9.7	12.9	2.4	12	12	
3	1/4	S-MJ3RT4	35.6	14.2	12.9	2.4	12	14	
4	1/8	S-MJ4RT2	31.2	9.7	13.7	2.4	12	12	
4	1/4	S-MJ4RT4	36.3	14.2	13.7	2.4	12	14	
6	1/8	S-MJ6RT2	32.8	9.7	15.3	4.8	14	14	
6	1/4	S-MJ6RT4	37.9	14.2	15.3	4.8	14	14	
6	3/8	S-MJ6RT6	38.4	14.2	15.3	4.8	14	18	
6	1/2	S-MJ6RT8	44.7	19.1	15.3	4.8	14	22	
8	1/8	S-MJ8RT2	34.2	9.7	16.2	4.8	16	15	
8	1/4	S-MJ8RT4	38.7	14.2	16.2	6.4	16	15	
8	3/8	S-MJ8RT6	39.2	14.2	16.2	6.4	16	18	
8	1/2	S-MJ8RT8	45.6	19.1	16.2	6.4	16	22	
10	1/8	S-MJ10RT2	36.3	9.7	17.2	4.8	19	18	
10	1/4	S-MJ10RT4	40.9	14.2	17.2	7.1	19	18	
10	3/8	S-MJ10RT6	40.9	14.2	17.2	7.9	19	18	
10	1/2	S-MJ10RT8	46.5	19.1	17.2	7.9	19	22	
10	3/4	S-MJ10RT12	48.0	19.1	17.2	7.9	19	27	
12	1/8	S-MJ12RT2	38.3	9.7	22.8	4.8	22	22	
12	1/4	S-MJ12RT4	43.4	14.2	22.8	7.1	22	22	
12	3/8	S-MJ12RT6	43.4	14.2	22.8	9.5	22	22	
12	1/2	S-MJ12RT8	49.0	19.1	22.8	9.5	22	22	
12	3/4	S-MJ12RT12	50.5	19.1	22.8	9.5	22	27	
14	1/8	S-MJ14RT2	38.8	9.7	24.4	4.8	25	24	
14	1/4	S-MJ14RT4	44.1	14.2	24.4	7.1	25	24	
14	3/8	S-MJ14RT6	44.1	14.2	24.4	7.9	25	24	
14	1/2	S-MJ14RT8	49.0	19.1	24.4	11.1	25	24	
14	3/4	S-MJ14RT12	50.5	19.1	24.4	11.1	25	27	
15	1/2	S-MJ15RT8	49.0	19.1	24.4	11.9	25	24	
16	1/4	S-MJ16RT4	44.1	14.2	24.4	7.1	25	24	
16	3/8	S-MJ16RT6	44.1	14.2	24.4	9.5	25	24	
16	1/2	S-MJ16RT8	49.0	19.1	24.4	11.9	25	24	
16	3/4	S-MJ16RT12	50.5	19.1	24.4	12.7	25	27	
18	1/2	S-MJ18RT8	50.5	19.1	24.4	11.9	30	27	
18	3/4	S-MJ18RT12	50.5	19.1	24.4	15.1	30	27	
20	1/2	S-MJ20RT8	52.3	19.1	26.0	11.9	32	30	
20	3/4	S-MJ20RT12	52.3	19.1	26.0	15.9	32	30	
22	3/4	S-MJ22RT12	52.3	19.1	26.0	15.9	32	30	
22	1	S-MJ22RT16	57.1	23.9	26.0	18.3	32	35	
25	1/2	S-MJ25RT8	57.5	19.1	31.3	11.9	38	35	
25	3/4	S-MJ25RT12	57.5	19.1	31.3	15.9	38	35	
25	1	S-MJ25RT16	62.3	23.9	31.3	21.8	38	35	
28	1	S-MJ28RT16	72.4	23.9	36.6	21.8	46	41	
28	1 1/4	S-MJ28RT20	73.1	23.9	36.6	21.8	46	46	
30	1 1/4	S-MJ30RT20	77.2	23.9	39.6	26.2	50	46	
32	1 1/4	S-MJ32RT20	79.6	23.9	42.0	28.6	50	46	
38	1 1/2	S-MJ38RT24	91.6	26.2	49.4	33.7	60	55	

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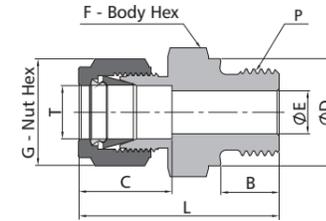
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Male Connectors



Metric Tube			ISO Parallel Thread (BS)							
T-Tube O.D. (mm)	P-RS Size	Basic Ordering Number	Dimension, mm							
			L	B	C	E	G	F	D	
2	1/8	S-MJ2BS2	30.0	7.1	12.9	1.7	12	14	13.7	
3	1/8	S-MJ3BS2	30.0	7.1	12.9	2.4	12	14	13.7	
3	1/4	S-MJ3BS4	35.3	11.2	12.9	2.4	12	19	18.0	
4	1/8	S-MJ4BS2	30.7	7.1	13.7	2.4	12	14	13.7	
4	1/4	S-MJ4BS4	36.0	11.2	13.7	2.4	12	19	18.0	
6	1/8	S-MJ6BS2	32.3	7.1	15.3	4.0	14	14	13.7	
6	1/4	S-MJ6BS4	37.6	11.2	15.3	4.8	14	19	18.0	
6	3/8	S-MJ6BS6	38.9	11.2	15.3	4.8	14	22	21.6	
6	1/2	S-MJ6BS8	44.7	14.2	15.3	4.8	14	27	25.9	
8	1/8	S-MJ8BS2	33.2	7.1	16.2	4.0	16	15	14.5	
8	1/4	S-MJ8BS4	38.5	11.2	16.2	6.4	16	19	18.0	
8	3/8	S-MJ8BS6	39.8	11.2	16.2	6.4	16	22	21.6	
8	1/2	S-MJ8BS8	45.6	14.2	16.2	6.4	16	27	25.9	
8	3/4	S-MJ8BS12	49.5	15.7	16.2	6.4	16	35	32.0	
10	1/4	S-MJ10BS4	39.4	11.2	17.2	5.9	19	19	18.0	
10	3/8	S-MJ10BS6	40.6	11.2	17.2	7.9	19	22	21.6	
10	1/2	S-MJ10BS8	46.5	14.2	17.2	7.9	19	27	25.9	
12	1/4	S-MJ12BS4	42.6	11.2	22.8	5.9	22	22	21.6	
12	3/8	S-MJ12BS6	43.1	11.2	22.8	7.9	22	22	21.6	
12	1/2	S-MJ12BS8	49.0	14.2	22.8	9.5	22	27	25.9	
12	3/4	S-MJ12BS12	52.8	15.7	22.8	9.5	22	35	32.0	
14	1/4	S-MJ14BS4	42.9	11.2	24.4	7.1	25	24	18.0	
14	3/8	S-MJ14BS6	43.9	11.2	24.4	7.9	25	24	21.6	
14	1/2	S-MJ14BS8	49.0	14.2	24.4	11.1	25	27	25.9	
14	3/4	S-MJ14BS12	52.8	15.7	24.4	11.1	25	35	32.0	
15	3/8	S-MJ15BS6	43.9	11.2	24.4	7.9	25	24	21.6	
15	1/2	S-MJ15BS8	49.0	14.2	24.4	11.9	25	27	25.9	
15	3/4	S-MJ15BS12	52.8	15.7	24.4	11.9	25	35	32.0	
16	3/8	S-MJ16BS6	43.9	11.2	24.4	7.9	25	24	21.6	
16	1/2	S-MJ16BS8	49.0	14.2	24.4	11.9	25	27	25.9	
16	3/4	S-MJ16BS12	52.8	15.7	24.4	12.7	25	35	32.0	
18	1/2	S-MJ18BS8	49.0	14.2	24.4	11.9	30	27	25.9	
18	3/4	S-MJ18BS12	52.8	15.7	24.4	15.1	30	35	32.0	
20	1/2	S-MJ20BS8	50.5	14.2	26.0	11.9	32	30	25.9	
20	3/4	S-MJ20BS12	52.8	15.7	26.0	15.9	32	35	32.0	
22	3/4	S-MJ22BS12	52.8	15.7	26.0	15.9	32	35	32.0	
22	1	S-MJ22BS16	55.3	18.3	26.0	18.3	32	41	39.1	
25	3/4	S-MJ25BS12	57.5	15.7	31.3	15.9	38	35	32.0	
25	1	S-MJ25BS16	60.1	18.3	31.3	19.8	38	41	39.1	
28	1	S-MJ28BS16	70.1	18.3	36.6	19.8	46	41	39.1	
28	1 1/4	S-MJ28BS20	73.9	19.8	36.6	21.8	46	50	49.0	
30	1 1/4	S-MJ30BS20	76.5	19.8	39.6	25.0	50	50	49.0	
32	1 1/4	S-MJ32BS20	78.9	19.8	42.0	25.0	50	50	49.0	
38	1 1/2	S-MJ38BS24	90.8	22.1	49.4	31.8	60	55	54.7	

Male Connectors

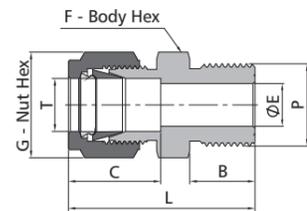


Metric Tube			ISO Parallel Thread (BR)							
T-Tube O.D. (mm)	P-RP Size	Basic Ordering Number	Dimension, mm							
			L	B	C	E	G	F	D	
3	1/8	S-MJ3BR2	30.0	7.1	12.9	2.4	12	14	13.8	
3	1/4	S-MJ3BR4	35.3	11.2	12.9	2.4	12	19	18.0	
4	1/8	S-MJ4BR2	30.7	7.1	13.7	2.4	12	14	13.8	
6	1/8	S-MJ6BR2	32.3	7.1	15.3	4.0	14	14	13.8	
6	1/4	S-MJ6BR4	37.6	11.2	15.3	4.8	14	19	18.0	
6	3/8	S-MJ6BR6	38.9	11.2	15.3	4.8	14	22	21.8	
6	1/2	S-MJ6BR8	44.7	14.2	15.3	4.8	14	27	26.0	
8	1/8	S-MJ8BR2	33.3	7.1	16.2	4.0	16	15	13.8	
8	1/4	S-MJ8BR4	38.5	11.2	16.2	5.9	16	19	18.0	
8	3/8	S-MJ8BR6	39.8	11.2	16.2	6.4	16	22	21.8	
8	1/2	S-MJ8BR8	45.6	14.2	16.2	6.4	16	27	26.0	
10	1/4	S-MJ10BR4	39.4	11.2	17.2	5.9	19	19	18.0	
10	3/8	S-MJ10BR6	40.6	11.2	17.2	7.9	19	22	21.8	
10	1/2	S-MJ10BR8	46.5	14.2	17.2	7.9	19	27	26.0	
12	1/4	S-MJ12BR4	42.6	11.2	22.8	5.9	22	22	18.0	
12	3/8	S-MJ12BR6	43.1	11.2	22.8	7.9	22	22	21.8	
12	1/2	S-MJ12BR8	49.0	14.2	22.8	9.5	22	27	26.0	
12	3/4	S-MJ12BR12	52.8	15.7	22.8	9.5	22	35	32.0	
15	1/2	S-MJ15BR8	49.0	14.2	24.4	11.9	25	27	26.0	
16	3/8	S-MJ16BR6	43.9	11.2	24.4	7.9	25	24	21.8	
16	1/2	S-MJ16BR8	49.0	14.2	24.4	11.9	25	27	26.0	
18	1/2	S-MJ18BR8	49.0	14.2	24.4	11.9	30	27	26.0	
18	3/4	S-MJ18BR12	52.8	15.7	24.4	15.1	30	35	32.0	
20	1/2	S-MJ20BR8	50.5	14.2	26.0	11.9	32	30	26.0	
20	3/4	S-MJ20BR12	52.8	15.7	26.0	15.9	32	35	32.0	
22	3/4	S-MJ22BR12	52.8	15.7	26.0	15.9	32	35	32.0	
22	1	S-MJ22BR16	55.3	18.3	26.0	18.3	32	41	39.0	
25	3/4	S-MJ25BR12	57.5	15.7	31.3	15.9	38	35	32.0	
25	1	S-MJ25BR16	60.1	18.3	31.3	19.8	38	41	39.0	
28	1	S-MJ28BR16	70.1	18.3	36.6	19.8	46	41	39.0	
28	1 1/4	S-MJ28BR20	73.9	19.8	36.6	21.8	46	50	49.0	
30	1 1/4	S-MJ30BR20	76.5	19.8	39.6	26.2	50	50	49.0	
32	1 1/4	S-MJ32BR20	78.9	19.8	42.0	28.6	50	50	49.0	
38	1 1/2	S-MJ38BR24	89.3	20.6	49.4	31.8	60	55	54.7	

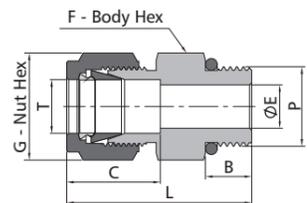
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Male Connectors

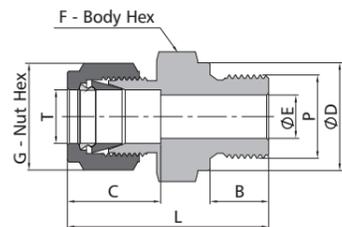


Metric Tube			ISO Parallel Thread (BP)						
T-Tube O.D. (mm)	P-BP Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
6	1/4	S-MJ6BP4	36.9	12.9	15.3	4.8	14	14	
6	3/8	S-MJ6BP6	39.5	14.2	15.3	4.8	14	18	
8	1/8	S-MJ8BP2	33.9	9.8	16.2	4.0	16	14	
8	1/4	S-MJ8BP4	37.0	12.9	16.2	6.4	16	14	
8	3/8	S-MJ8BP6	39.3	14.2	16.2	6.4	16	18	
8	1/2	S-MJ8BP8	45.4	18.8	16.2	6.4	16	22	
10	1/4	S-MJ10BP4	39.5	12.9	17.2	5.9	19	18	
10	1/2	S-MJ10BP8	46.3	18.8	17.2	7.9	19	22	
12	3/8	S-MJ12BP6	44.2	14.2	22.8	7.9	22	22	
12	1/2	S-MJ12BP8	49.0	18.8	22.8	9.5	22	22	
14	1/4	S-MJ14BP4	42.9	12.9	24.4	5.9	25	24	
16	3/8	S-MJ16BP6	43.4	14.2	24.4	7.9	25	24	
16	1/2	S-MJ16BP8	47.9	18.8	24.4	9.5	25	24	
18	1/2	S-MJ18BP8	49.8	18.8	24.4	9.5	30	27	



Adapt to straight thread boss of SAE J1926-1, ISO 11926-1 and MS 16142.

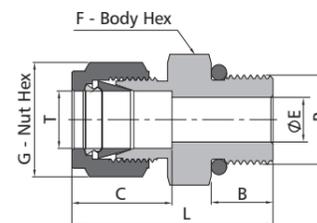
Metric Tube			SAE/MS Straight Thread						
T-Tube O.D. (mm)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
6	9/16-18	S-MJ6ST9	35.6	9.9	15.3	4.8	14	18	
10	9/16-18	S-MJ10ST9	37.3	9.9	17.2	7.1	19	22	
10	3/4-16	S-MJ10ST12	39.4	11.2	17.2	7.9	19	22	
12	7/16-20	S-MJ12ST7	40.6	9.1	22.8	5.2	22	22	
12	9/16-18	S-MJ12ST9	39.9	9.9	22.8	7.1	22	22	



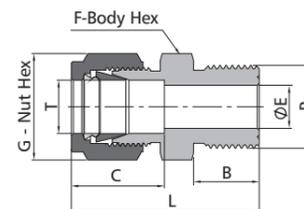
Metric Tube			Metric Thread (MR)						
T-Tube O.D. (mm)	P-Metric Thread Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	D
6	M8 x 1	S-MJ6MR8	33.3	8	15.3	3.0	14	14	12
6	M10 x 1	S-MJ6MR10	36.3	8	15.3	4.0	14	14	14
6	M12 x 1.5	S-MJ6MR12	38.2	12	15.3	4.8	14	18	17
6	M14 x 1.5	S-MJ6MR14	39.7	12	15.3	4.8	14	19	19
8	M8 x 1	S-MJ8MR8	34.1	8	16.2	3.0	16	14	12
8	M10 x 1	S-MJ8MR10	34.1	8	16.2	5.0	16	15	14
8	M12 x 1.5	S-MJ8MR12	40.4	12	16.2	6.0	16	18	17
8	M14 x 1.5	S-MJ8MR14	40.4	12	16.2	6.4	16	19	19
10	M12 x 1.5	S-MJ10MR12	40.7	12	17.2	6.0	19	18	17
10	M14 x 1.5	S-MJ10MR14	41.5	12	17.2	7.9	19	19	19
12	M16 x 1.5	S-MJ12MR16	45.5	12	22.8	9	22	22	21
12	M20 x 1.5	S-MJ12MR20	48.0	14	22.8	9.5	22	25	25
12	M22 x 1.5	S-MJ12MR22	49.5	14	22.8	9.5	22	27	27
14	M14 x 1.5	S-MJ14MR14	44.9	12	24.4	8	25	24	19
14	M20 x 1.5	S-MJ14MR20	48.0	14	24.4	11.1	25	25	25
16	M20 x 1.5	S-MJ16MR20	48.0	14	24.4	12	25	25	25
18	M20 x 1.5	S-MJ18MR20	48.5	14	24.4	12	30	27	25
20	M20 x 1.5	S-MJ20MR20	50.0	14	26.0	12	32	30	25
22	M24 x 1.5	S-MJ22MR24	50.5	14	26.0	15	32	30	29
25	M27 x 2	S-MJ25MR27	57.5	16	31.3	16.8	38	35	32

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Male Connectors



Adapt to straight thread boss of ISO 6149-1.

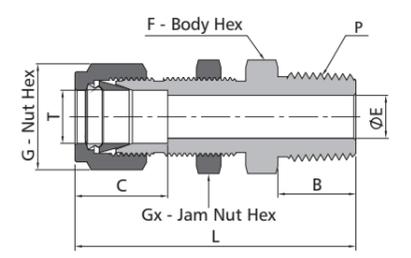


Metric Tube			Metric Thread (MO)						
T-Tube O.D. (mm)	P-Metric Thread Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
6	M14 x 1.5	S-MJ6MO14	35.2	11	15.3	4.8	14	19	
10	M14 x 1.5	S-MJ10MO14	36.7	11	17.2	7.5	19	19	
10	M20 x 1.5	S-MJ10MO20	41.2	14	17.2	7.9	19	27	
12	M14 x 1.5	S-MJ12MO14	40.2	11	22.8	7.5	22	22	
12	M20 x 1.5	S-MJ12MO20	44.0	14	22.8	10.4	22	27	

Metric Tube			Metric Thread (MS)						
T-Tube O.D. (mm)	P-Metric Thread Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
6	M6 x 1	S-MJ6MS6	32.4	8	15.3	2.0	14	14	
6	M8 x 1	S-MJ6MS8	32.4	9	15.3	3.0	14	14	
6	M10 x 1	S-MJ6MS10	35.2	11	15.3	4.7	14	14	
6	M12 x 1.5	S-MJ6MS12	36.4	12	15.3	4.8	14	14	
6	M14 x 1.5	S-MJ6MS14	37.4	13	15.3	4.8	14	16	
6	M16 x 1.5	S-MJ6MS16	38.4	14	15.3	4.8	14	18	
6	M18 x 1.5	S-MJ6MS18	40.0	15	15.3	4.8	14	19	
6	M20 x 1.5	S-MJ6MS20	41.7	16	15.3	4.8	14	22	
8	M8 x 1	S-MJ8MS8	34.5	9	16.2	3.0	16	14	
8	M10 x 1	S-MJ8MS10	35.6	11	16.2	4.7	16	14	
8	M12 x 1.5	S-MJ8MS12	36.6	12	16.2	6.0	16	14	
8	M14 x 1.5	S-MJ8MS14	37.7	13	16.2	6.4	16	16	
8	M20 x 1.5	S-MJ8MS20	42.5	16	16.2	6.4	16	22	
10	M12 x 1.5	S-MJ10MS12	38.7	12	17.2	6.0	19	18	
10	M14 x 1.5	S-MJ10MS14	39.7	13	17.2	7.2	19	18	
10	M20 x 1.5	S-MJ10MS20	43.5	16	17.2	7.9	19	22	
12	M12 x 1.5	S-MJ12MS12	41.2	12	22.8	6.0	22	22	
12	M16 x 1.5	S-MJ12MS16	43.2	14	22.8	9.5	22	22	
12	M18 x 1.5	S-MJ12MS18	44.2	15	22.8	9.5	22	22	
12	M20 x 1.5	S-MJ12MS20	45.2	16	22.8	9.5	22	22	
14	M14 x 1.5	S-MJ14MS14	42.5	13	24.4	7.2	25	24	
14	M16 x 1.5	S-MJ14MS16	43.9	14	24.4	8.4	25	24	
14	M20 x 1.5	S-MJ14MS20	45.1	16	24.4	10.8	25	24	
16	M20 x 1.5	S-MJ16MS20	46.1	16	24.4	10.8	25	24	
18	M20 x 1.5	S-MJ18MS20	47.5	16	24.4	10.8	30	27	
18	M22 x 1.5	S-MJ18MS22	48.5	17	24.4	12	30	27	
20	M20 x 1.5	S-MJ20MS20	49.5	16	26.0	10.8	32	30	
22	M24 x 1.5	S-MJ22MS24	50.5	17	26.0	14.4	32	30	
25	M27 x 2	S-MJ25MS27	57.0	18	31.3	16.1	38	35	

# E-JOE

## Bulkhead Male Connectors



### Fractional Tube NPT Thread

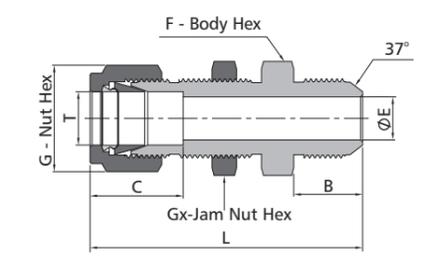
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm							Panel Hole Size (mm)	Max. Panel Thickness (mm)
			L	B	C	E	G	F	Gx		
1/16	1/16	S-BFJ1N1	30.2	9.7	8.6	1.3	7.9	7.9	7.9	5.2	6.4
1/16	1/8	S-BFJ1N2	32.3	9.7	8.6	1.3	7.9	11.1	7.9	5.2	6.4
1/8	1/8	S-BFJ2N2	46.5	9.7	12.7	2.3	11.1	12.7	12.7	8.3	12.7
3/16	1/8	S-BFJ3N2	48.0	9.7	13.7	3.0	12.7	14.3	14.3	9.9	12.7
1/4	1/8	S-BFJ4N2	49.5	9.7	15.2	4.8	14.3	15.9	15.9	11.5	10.2
1/4	1/4	S-BFJ4N4	54.1	14.2	15.2	4.8	14.3	15.9	15.9	11.5	10.2
1/4	3/8	S-BFJ4N6	54.9	14.2	15.2	4.8	14.3	17.5	15.9	11.5	10.2
1/4	1/2	S-BFJ4N8	60.3	19.1	15.2	4.8	14.3	22.2	15.9	11.5	10.2
5/16	1/8	S-BFJ5N2	52.8	9.7	16.3	4.8	15.9	17.5	17.5	13.1	11.2
5/16	1/4	S-BFJ5N4	57.7	14.2	16.3	6.4	15.9	17.5	17.5	13.1	11.2
3/8	1/8	S-BFJ6N2	52.9	9.7	16.8	4.8	17.5	19.1	19.1	14.7	11.2
3/8	1/4	S-BFJ6N4	57.4	14.2	16.8	7.1	17.5	19.1	19.1	14.7	11.2
3/8	3/8	S-BFJ6N6	57.4	14.2	16.8	7.1	17.5	19.1	19.1	14.7	11.2
3/8	1/2	S-BFJ6N8	63.8	19.1	16.8	7.1	17.5	22.2	19.1	14.7	11.2
1/2	1/8	S-BFJ8N2	58.7	9.7	22.9	4.8	22.2	23.8	23.8	19.4	12.7
1/2	1/4	S-BFJ8N4	63.2	14.2	22.9	7.1	22.2	23.8	23.8	19.4	12.7
1/2	3/8	S-BFJ8N6	63.2	14.2	22.9	9.7	22.2	23.8	23.8	19.4	12.7
1/2	1/2	S-BFJ8N8	68.8	19.1	22.9	10.4	22.2	23.8	23.8	19.4	12.7
5/8	3/8	S-BFJ10N6	66.7	14.2	24.4	9.7	25.4	27.0	27.0	22.6	15.1
5/8	1/2	S-BFJ10N8	71.5	19.1	24.4	11.9	25.4	27.0	27.0	22.6	15.1
3/4	1/2	S-BFJ12N8	76.2	19.1	24.4	11.9	28.6	30.2	30.2	25.8	16.8
3/4	3/4	S-BFJ12N12	76.2	19.1	24.4	15.7	28.6	30.2	30.2	25.8	16.8
7/8	3/4	S-BFJ14N12	84.1	19.1	25.9	15.7	31.8	33.3	33.3	29.0	19.1
1	3/4	S-BFJ16N12	88.4	19.1	31.2	15.7	38.1	41.3	41.3	33.7	19.1
1	1	S-BFJ16N16	93.2	23.9	31.2	22.4	38.1	41.3	41.3	33.7	19.1

### Metric Tube NPT Thread

T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm							Panel Hole Size (mm)	Max. Panel Thickness (mm)
			L	B	C	E	G	F	Gx		
6	1/8	S-BMJ6N2	49.6	9.7	15.3	4.8	14	16	16	11.5	10.2
6	1/4	S-BMJ6N4	53.6	14.2	15.3	4.8	14	16	16	11.5	10.2
8	1/8	S-BMJ8N2	52.3	9.7	16.2	4.8	16	18	18	13.1	11.2
8	1/4	S-BMJ8N4	57.5	14.2	16.2	6.4	16	18	18	13.1	11.2
10	1/4	S-BMJ10N4	58.4	14.2	17.2	7.9	19	22	22	16.3	11.2
10	3/8	S-BMJ10N6	58.4	14.2	17.2	7.9	19	22	22	16.3	11.2
10	1/2	S-BMJ10N8	63.1	19.1	17.2	7.9	19	22	22	16.3	11.2
12	1/4	S-BMJ12N4	63.9	14.2	22.8	7.9	22	24	24	19.5	12.7
12	3/8	S-BMJ12N6	63.9	14.2	22.8	9.5	22	24	24	19.5	12.7
12	1/2	S-BMJ12N8	68.8	19.1	22.8	9.5	22	24	24	19.5	12.7

# E-JOE

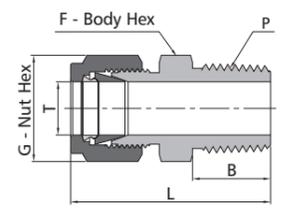
## Bulkhead Male Connectors



### Fractional Tube 37° TFJare (AN)

T-Tube O.D. (in.)	AN Tube TFJare Size	Basic Ordering Number	Dimension, mm							Panel Hole Size (mm)	Max. Panel Thickness (mm)
			L	B	C	E	G	F	Gx		
1/8	1/8	S-BFJ2AN2	48.5	11.4	12.7	1.5	11.1	12.7	12.7	8.3	12.7
1/8	1/4	S-BFJ2AN4	51.8	14.0	12.7	2.3	11.1	15.9	12.7	8.3	12.7
3/16	3/16	S-BFJ3AN3	50.3	12.2	13.7	2.3	12.7	14.3	14.3	9.9	12.7
1/4	1/4	S-BFJ4AN4	53.8	14.0	15.2	4.3	14.3	15.9	15.9	11.5	10.2
5/16	5/16	S-BFJ5AN5	56.1	14.0	16.2	5.8	15.9	17.5	17.5	13.1	14.3
3/8	1/4	S-BFJ6AN4	57.2	14.0	16.8	4.3	17.5	19.1	19.1	14.7	11.2
3/8	3/8	S-BFJ6AN6	57.2	14.2	16.8	7.1	17.5	19.1	19.1	14.7	11.2
1/2	1/2	S-BFJ8AN8	65.8	16.8	22.8	9.9	22.2	23.8	23.8	19.4	12.7
5/8	5/8	S-BFJ10AN10	69.6	19.3	24.4	12.3	25.4	27.0	27.0	22.6	15.1
3/4	3/4	S-BFJ12AN12	79.0	21.8	24.4	15.5	28.6	30.2	30.2	25.8	16.8
1	1	S-BFJ16AN16	92.5	23.1	31.2	21.3	38.1	41.3	41.3	33.7	19.1

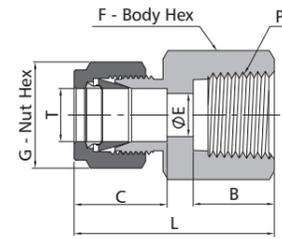
## Thermocouple Connectors



### Fractional Tube NPT Thread

T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm			
			L	B	G	F
1/16	1/16	S-TFJ1N1	23.9	9.7	7.9	7.9
1/16	1/8	S-TFJ1N2	26.2	9.7	7.9	11.1
1/16	1/4	S-TFJ1N4	31.0	14.2	7.9	14.3
1/8	1/16	S-TFJ2N1	29.7	9.7	11.1	11.1
1/8	1/8	S-TFJ2N2	30.5	9.7	11.1	11.1
1/8	1/4	S-TFJ2N4	35.6	14.2	11.1	14.3
3/16	1/8	S-TFJ3N2	31.2	9.7	12.7	11.1
3/16	1/4	S-TFJ3N4	36.3	14.2	12.7	14.3
1/4	1/8	S-TFJ4N2	32.8	9.7	14.3	12.7
1/4	1/4	S-TFJ4N4	37.8	14.2	14.3	14.3
1/4	3/8	S-TFJ4N6	38.4	14.2	14.3	17.5
1/4	1/2	S-TFJ4N8	44.7	19.1	14.3	22.2
5/16	1/4	S-TFJ5N4	38.6	14.2	15.9	14.3
3/8	1/4	S-TFJ6N4	39.9	14.2	17.5	15.9
3/8	3/8	S-TFJ6N6	39.9	14.2	17.5	17.5
3/8	1/2	S-TFJ6N8	46.2	19.1	17.5	22.2
3/8	3/4	S-TFJ6N12	47.8	19.1	17.5	27.0
1/2	1/2	S-TFJ8N8	49.0	19.1	22.2	22.2
1/2	3/4	S-TFJ8N12	50.5	19.1	22.2	27.0
5/8	3/4	S-TFJ10N12	50.5	19.1	25.4	27.0
3/4	3/4	S-TFJ12N12	50.5	19.1	28.6	27.0
1	1	S-TFJ16N16	62.2	23.9	38.1	34.9

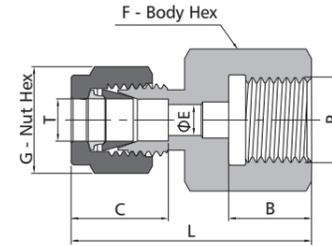
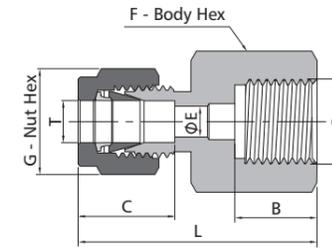
Female Connectors



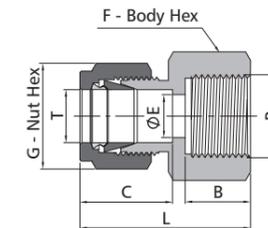
Fractional Tube			FNPT Thread						
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
1/16	1/16	S-FJ1FN1	23.6	9.9	8.6	1.3	7.9	11.1	
1/16	1/8	S-FJ1FN2	24.4	10.4	8.6	1.3	7.9	14.3	
1/8	1/8	S-FJ2FN2	28.7	10.4	12.7	2.3	11.1	14.3	
1/8	1/4	S-FJ2FN4	33.5	15.0	12.7	2.3	11.1	19.1	
3/16	1/8	S-FJ3FN2	29.7	10.4	13.7	3.0	12.7	14.3	
1/4	1/8	S-FJ4FN2	31.2	10.4	15.2	4.8	14.3	14.3	
1/4	1/4	S-FJ4FN4	35.8	15.0	15.2	4.8	14.3	19.1	
1/4	3/8	S-FJ4FN6	37.6	15.0	15.2	4.8	14.3	22.2	
1/4	1/2	S-FJ4FN8	42.4	19.8	15.2	4.8	14.3	27.0	
5/16	1/8	S-FJ5FN2	32.0	10.4	16.3	6.4	15.9	14.3	
5/16	1/4	S-FJ5FN4	36.8	15.0	16.3	6.4	15.9	19.1	
3/8	1/8	S-FJ6FN2	32.8	10.4	16.8	7.1	17.5	15.9	
3/8	1/4	S-FJ6FN4	37.6	15.0	16.8	7.1	17.5	19.1	
3/8	3/8	S-FJ6FN6	39.1	15.0	16.8	7.1	17.5	22.2	
3/8	1/2	S-FJ6FN8	43.9	19.8	16.8	7.1	17.5	27.0	
3/8	3/4	S-FJ6FN12	47.8	20.6	16.8	7.1	17.5	33.3	
1/2	1/4	S-FJ8FN4	40.4	15.0	22.9	10.4	22.2	20.6	
1/2	3/8	S-FJ8FN6	41.9	15.0	22.9	10.4	22.2	22.2	
1/2	1/2	S-FJ8FN8	46.7	19.8	22.9	10.4	22.2	27.0	
1/2	3/4	S-FJ8FN12	48.3	20.6	22.9	10.4	22.2	33.3	
5/8	3/8	S-FJ10FN6	41.9	15.0	24.4	12.7	25.4	23.8	
5/8	1/2	S-FJ10FN8	46.7	19.8	24.4	12.7	25.4	27.0	
3/4	1/2	S-FJ12FN8	46.7	19.8	24.4	15.7	28.6	27.0	
3/4	3/4	S-FJ12FN12	48.3	20.6	24.4	15.7	28.6	33.3	
7/8	3/4	S-FJ14FN12	49.8	20.6	25.9	18.3	31.8	33.3	
1	3/4	S-FJ16FN12	53.3	20.6	31.2	22.4	38.1	34.9	
1	1	S-FJ16FN16	62.2	25.4	31.2	22.4	38.1	41.3	
1 1/4	1 1/4	S-FJ20FN20	74.7	25.4	41.1	27.7	47.6	54.0	
1 1/2	1 1/2	S-FJ24FN24	83.3	27.7	50.0	36.3	57.2	60.3	

Fractional Tube			ISO Tapered Thread (FR)						
T-Tube O.D. (in.)	P-FR Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
1/4	1/8	S-FJ4FR2	31.2	10.4	15.2	4.8	14.3	14.3	
1/4	1/4	S-FJ4FR4	35.8	15.0	15.2	4.8	14.3	19.1	
1/4	3/8	S-FJ4FR6	37.6	15.0	15.2	4.8	14.3	22.2	
1/4	1/2	S-FJ4FR8	42.4	19.8	15.2	4.8	14.3	27.0	
3/8	1/4	S-FJ6FR4	37.6	15.0	16.8	7.1	17.5	19.1	
3/8	3/8	S-FJ6FR6	39.1	15.0	16.8	7.1	17.5	22.2	
3/8	1/2	S-FJ6FR8	43.9	19.8	16.8	7.1	17.5	27.0	
1/2	1/4	S-FJ8FR4	40.4	15.0	22.9	10.4	22.2	20.6	
1/2	3/8	S-FJ8FR6	41.9	15.0	22.9	10.4	22.2	22.2	
1/2	1/2	S-FJ8FR8	46.7	19.8	22.9	10.4	22.2	27.0	

Female Connectors



Adapt to Japanese gauge stud.



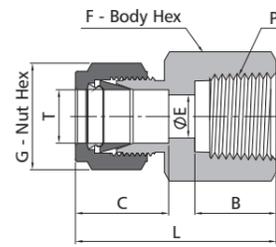
Fractional Tube			ISO Parallel Thread (FG)					
T-Tube O.D. (in.)	P-RG Size	Basic Ordering Number	Dimension, mm					
			L	B	C	E	G	F
1/8	1/4	S-FJ2FG4	35.3	12.9	12.7	2.3	11.1	19.1
1/8	3/8	S-FJ2FG6	38.7	14.2	12.7	2.3	11.1	23.8
1/4	1/4	S-FJ4FG4	37.6	12.9	15.2	4.8	14.3	19.1
1/4	3/8	S-FJ4FG6	37.6	14.2	15.2	4.8	14.3	23.8
1/4	1/2	S-FJ4FG8	43.4	18.8	15.2	4.8	14.3	27.0
5/16	1/4	S-FJ5FG4	38.4	12.9	16.3	5.6	15.9	19.1
5/16	3/8	S-FJ5FG6	39.2	14.2	16.3	6.4	15.9	23.8
5/16	1/2	S-FJ5FG8	40.9	18.8	16.3	7.1	15.9	27.0
3/8	1/4	S-FJ6FG4	39.1	12.9	16.8	5.6	17.5	19.1
3/8	3/8	S-FJ6FG6	38.6	14.2	16.8	6.4	17.5	23.8
3/8	1/2	S-FJ6FG8	41.9	18.8	16.8	7.1	17.5	27.0
1/2	1/4	S-FJ8FG4	41.9	12.9	22.9	5.6	22.2	22.2
1/2	3/8	S-FJ8FG6	44.5	14.2	22.9	6.4	22.2	23.8
1/2	1/2	S-FJ8FG8	48.3	18.8	22.9	7.1	22.2	27.0

Fractional Tube			ISO Parallel Thread (RJ)					
T-Tube O.D. (in.)	P-RJ Size	Basic Ordering Number	Dimension, mm					
			L	B	C	E	G	F
1/4	1/4	S-FJ4RJ4	37.6	12.9	15.2	4.6	14.3	19.1
1/4	3/8	S-FJ4RJ6	37.6	14.2	15.2	4.8	14.3	23.8
1/4	1/2	S-FJ4RJ8	43.4	18.8	15.2	4.8	14.3	27.0
5/16	1/4	S-FJ5RJ4	38.4	12.9	16.3	5.6	15.9	19.1
5/16	1/2	S-FJ5RJ8	40.9	18.8	16.3	7.1	15.9	27.0
3/8	1/4	S-FJ6RJ4	39.1	12.9	16.8	5.6	17.5	19.1
3/8	3/8	S-FJ6RJ6	38.6	14.2	16.8	6.4	17.5	23.8
3/8	1/2	S-FJ6RJ8	41.9	18.8	16.8	7.1	17.5	27.0
1/2	1/4	S-FJ8RJ4	41.9	12.9	22.9	5.6	22.2	20.6
1/2	3/8	S-FJ8RJ6	44.5	14.2	22.9	6.4	22.2	23.8
1/2	1/2	S-FJ8RJ8	48.3	18.8	22.9	7.1	22.2	27.0

Fractional Tube			Metric Thread					
T-Tube O.D. (in.)	P-Metric Thread Size	Basic Ordering Number	Dimension, mm					
			L	B	C	E	G	F
1/8	M14 x 1.5	S-FJ2MS14	32.3	13	12.7	2.3	11.1	19.1
1/8	M16 x 1.5	S-FJ2MS16	33.3	14	12.7	2.3	11.1	22.2
1/8	M18 x 1.5	S-FJ2MS18	34.3	15	12.7	2.3	11.1	25.4
1/8	M20 x 1.5	S-FJ2MS20	35.3	16	12.7	2.3	11.1	27.0
1/4	M16 x 1.5	S-FJ4MS16	35.8	14	15.2	4.8	14.3	22.2
1/4	M18 x 1.5	S-FJ4MS18	36.8	15	15.2	4.8	14.3	25.4
1/4	M20 x 1.5	S-FJ4MS20	37.8	16	15.2	4.8	14.3	27.0
3/8	M14 x 1.5	S-FJ6MS14	37.1	13	16.8	7.1	17.5	19.1
3/8	M16 x 1.5	S-FJ6MS16	37.5	14	16.8	7.1	17.5	22.2
3/8	M18 x 1.5	S-FJ6MS18	38.5	15	16.8	7.1	17.5	25.4
3/8	M20 x 1.5	S-FJ6MS20	39.5	16	16.8	7.1	17.5	27.0
1/2	M16 x 1.5	S-FJ8MS16	41.4	14	22.9	8.4	22.2	22.2
1/2	M18 x 1.5	S-FJ8MS18	42.4	15	22.9	9.6	22.2	25.4
1/2	M20 x 1.5	S-FJ8MS20	43.4	16	22.9	10.4	22.2	27.0
1/2	M22 x 1.5	S-FJ8MS22	44.4	17	22.9	10.4	22.2	27.0

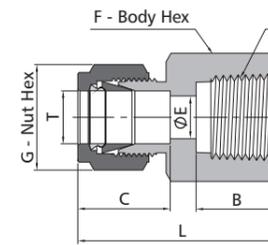
E-JOE

Female Connectors

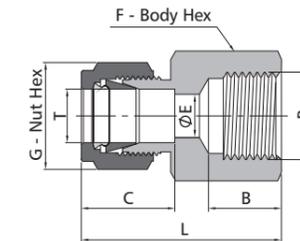


Metric Tube			NPT Thread						
T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
3	1/8	S-MJ3FN2	28.7	10.4	12.9	2.4	12	14	
3	1/4	S-MJ3FN4	33.5	15.0	12.9	2.4	12	19	
4	1/8	S-MJ4FN2	29.7	10.4	13.7	2.4	12	14	
6	1/8	S-MJ6FN2	31.3	10.4	15.3	4.8	14	14	
6	1/4	S-MJ6FN4	35.8	15.0	15.3	4.8	14	19	
6	3/8	S-MJ6FN6	37.7	15.0	15.3	4.8	14	22	
6	1/2	S-MJ6FN8	42.5	19.8	15.3	4.8	14	27	
8	1/8	S-MJ8FN2	32.1	10.4	16.2	4.8	16	15	
8	1/4	S-MJ8FN4	37.0	15.0	16.2	6.4	16	19	
8	3/8	S-MJ8FN6	38.5	15.0	16.2	6.4	16	22	
8	1/2	S-MJ8FN8	43.3	19.8	16.2	6.4	16	27	
10	1/8	S-MJ10FN2	33.0	10.4	17.2	4.8	19	15	
10	1/4	S-MJ10FN4	37.8	15.0	17.2	7.9	19	19	
10	3/8	S-MJ10FN6	39.4	15.0	17.2	7.9	19	22	
10	1/2	S-MJ10FN8	44.2	19.8	17.2	7.9	19	27	
12	1/4	S-MJ12FN4	40.3	15.0	22.8	7.9	22	22	
12	3/8	S-MJ12FN6	41.9	15.0	22.8	9.5	22	22	
12	1/2	S-MJ12FN8	46.7	19.8	22.8	9.5	22	27	
12	3/4	S-MJ12FN12	49.7	20.6	22.8	9.5	22	35	
14	3/4	S-MJ14FN12	49.7	20.6	24.4	11.1	25	35	
15	1/2	S-MJ15FN8	46.7	19.8	24.4	11.9	25	27	
16	3/8	S-MJ16FN6	41.9	15.0	24.4	9.5	25	27	
16	1/2	S-MJ16FN8	46.9	19.8	24.4	11.9	25	27	
20	1/2	S-MJ20FN8	47.9	19.8	26.0	11.9	32	30	
20	3/4	S-MJ20FN12	49.7	20.6	26.0	15.9	32	35	
22	3/4	S-MJ22FN12	49.7	20.6	26.0	15.9	32	35	
22	1	S-MJ22FN16	57.9	25.4	26.0	18.3	32	41	
25	3/4	S-MJ25FN12	53.4	20.6	31.3	15.9	38	35	
25	1	S-MJ25FN16	62.3	25.4	31.3	21.8	38	41	

Female Connectors



Metric Tube			ISO Tapered Thread (FR)						
T-Tube O.D. (mm)	P-RT Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
3	1/8	S-MJ3FR2	28.7	10.4	12.9	2.4	12	14	
6	1/8	S-MJ6FR2	31.3	10.4	15.3	4.8	14	14	
6	1/4	S-MJ6FR4	35.8	15.0	15.3	4.8	14	19	
6	3/8	S-MJ6FR6	36.9	15.0	15.3	4.8	14	22	
6	1/2	S-MJ6FR8	42.5	19.8	15.3	4.8	14	27	
8	1/8	S-MJ8FR2	32.1	10.4	16.2	6.4	16	15	
8	1/4	S-MJ8FR4	37.0	15.0	16.2	6.4	16	19	
8	3/8	S-MJ8FR6	38.5	15.0	16.2	6.4	16	22	
8	1/2	S-MJ8FR8	43.3	19.8	16.2	6.4	16	27	
10	1/8	S-MJ10FR2	33.0	10.4	17.2	7.9	19	18	
10	1/4	S-MJ10FR4	37.8	15.0	17.2	7.9	19	19	
10	3/8	S-MJ10FR6	39.4	15.0	17.2	7.9	19	22	
10	1/2	S-MJ10FR8	44.2	19.8	17.2	7.9	19	27	
12	1/8	S-MJ12FR2	35.5	10.4	22.8	8.3	22	22	
12	1/4	S-MJ12FR4	40.3	15.0	22.8	9.5	22	22	
12	3/8	S-MJ12FR6	41.9	15.0	22.8	9.5	22	22	
12	1/2	S-MJ12FR8	46.7	19.8	22.8	9.5	22	27	
12	3/4	S-MJ12FR12	49.0	20.6	22.8	9.5	22	35	
15	1/2	S-MJ15FR8	46.7	19.8	24.4	11.9	25	27	
16	1/2	S-MJ16FR8	48.4	19.8	24.4	11.9	25	27	
16	3/4	S-MJ16FR12	49.7	20.6	24.4	12.7	25	35	
20	1/2	S-MJ20FR8	47.9	19.8	26.0	11.9	32	30	
20	3/4	S-MJ20FR12	49.7	20.6	26.0	15.9	32	35	
22	3/4	S-MJ22FR12	49.7	20.6	26.0	15.9	32	35	
22	1	S-MJ22FR16	57.9	25.4	26.0	18.3	32	41	
25	3/4	S-MJ25FR12	53.4	20.6	31.3	15.9	38	35	
25	1	S-MJ25FR16	62.3	25.4	31.3	21.8	38	41	

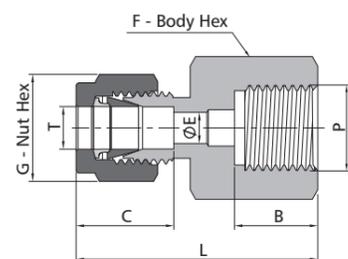


Metric Tube			ISO Parallel Thread (FP)						
T-Tube O.D. (mm)	P-RP Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
6	1/8	S-MJ6FP2	33.5	13.0	15.3	4.8	14	14	
6	1/4	S-MJ6FP4	39.4	18.5	15.3	4.8	14	19	
22	3/4	S-MJ22FP12	53.3	25.9	26.0	18.3	32	35	
25	1	S-MJ25FP16	63.9	28.2	31.3	21.8	38	40	

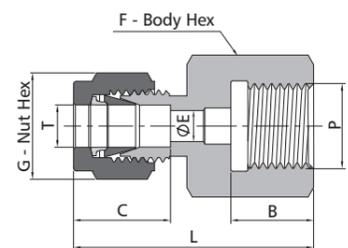
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## Female Connectors

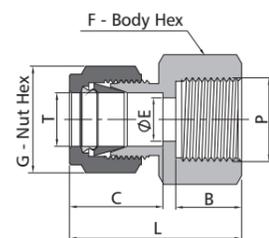


Metric Tube			ISO Parallel Thread (FG)						
T-Tube O.D. (mm)	P-RG Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
3	1/4	S-MJ3FG4	35.3	12.9	12.9	2.4	12	19	
6	1/4	S-MJ6FG4	37.6	12.9	15.3	4.8	14	19	
6	3/8	S-MJ6FG6	37.6	14.2	15.3	4.8	14	24	
6	1/2	S-MJ6FG8	43.5	18.8	15.3	4.8	14	27	
8	1/4	S-MJ8FG4	38.5	12.9	16.2	6.4	16	19	
8	3/8	S-MJ8FG6	36.2	14.2	16.2	6.4	16	24	
8	1/2	S-MJ8FG8	41.0	18.8	16.2	6.4	16	27	
10	1/4	S-MJ10FG4	39.4	12.9	17.2	5.9	19	19	
10	3/8	S-MJ10FG6	38.8	14.2	17.2	7.9	19	24	
10	1/2	S-MJ10FG8	42.1	18.8	17.2	7.9	19	27	
12	1/4	S-MJ12FG4	41.9	12.9	22.8	5.9	22	22	
12	3/8	S-MJ12FG6	44.4	14.2	22.8	7.9	22	24	
12	1/2	S-MJ12FG8	48.2	18.8	22.8	9.5	22	27	
20	1/2	S-MJ20FG8	54.3	18.8	26.0	11.9	32	30	
22	1/2	S-MJ22FG8	54.3	18.8	26.0	11.9	32	30	



Adapt to Japanese Gauge stud.

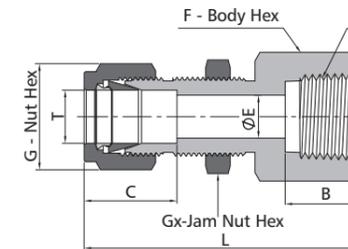
Metric Tube			ISO Parallel Thread (RJ)						
T-Tube O.D. (mm)	P-RJ Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
6	1/4	S-MJ6RJ4	37.6	12.9	15.3	4.8	14	19	
6	3/8	S-MJ6RJ6	37.6	14.2	15.3	4.8	14	24	
6	1/2	S-MJ6RJ8	43.5	18.8	15.3	4.8	14	27	
8	1/4	S-MJ8RJ4	38.5	12.9	16.2	5.5	16	19	
8	3/8	S-MJ8RJ6	36.2	14.2	16.2	6.5	16	24	
8	1/2	S-MJ8RJ8	41.0	18.8	16.2	7.0	16	27	
10	1/4	S-MJ10RJ4	39.4	12.9	17.2	5.5	19	19	
10	3/8	S-MJ10RJ6	38.8	14.2	17.2	6.5	19	24	
10	1/2	S-MJ10RJ8	42.1	18.8	17.2	7.0	19	27	
12	1/4	S-MJ12RJ4	41.9	12.9	22.8	5.5	22	22	
12	3/8	S-MJ12RJ6	44.4	14.2	22.8	6.5	22	24	
12	1/2	S-MJ12RJ8	48.2	18.8	22.8	7.0	22	27	



Metric Tube			Metric Thread						
T-Tube O.D. (mm)	P-Metric Thread Size	Basic Ordering Number	Dimension, mm						
			L	B	C	E	G	F	
6	M10 x 1	S-MJ6FM10	32.7	11	15.3	4.0	14	16	
6	M14 x 1.5	S-MJ6FM14	34.7	13	15.3	4.8	14	19	
6	M20 x 1.5	S-MJ6FM20	37.7	16	15.3	4.8	14	27	
8	M8 x 1	S-MJ8FM8	31.6	9	16.2	3.2	16	14	
8	M10 x 1	S-MJ8FM10	33.6	11	16.2	4.0	16	16	
8	M14 x 1.5	S-MJ8FM14	35.6	13	16.2	6.0	16	19	
8	M20 x 1.5	S-MJ8FM20	38.6	16	16.2	6.4	16	27	
10	M16 x 1.5	S-MJ10FM16	38.1	14	17.2	7.9	19	22	
12	M20 x 1.5	S-MJ12FM20	44.9	16	22.8	9.5	22	27	
14	M10 x 1	S-MJ14FM10	42.5	11	24.4	4.0	25	24	
14	M20 x 1.5	S-MJ14FM20	44.9	16	24.4	10.8	25	27	
14	M22 x 1.5	S-MJ14FM22	45.9	17	24.4	11.1	25	27	
16	M20 x 1.5	S-MJ16FM20	44.9	16	24.4	10.8	26	27	
20	M20 x 1.5	S-MJ20FM20	46.5	16	26.0	10.8	32	30	
25	M27 x 2	S-MJ25FM27	54.4	18	31.3	16.1	38	35	

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## Bulkhead Female Connectors

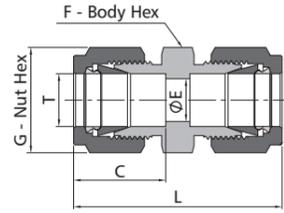


Fractional Tube			Dimension, mm							NPT Thread	
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	L	B	C	E	G	F	Gx	Panel Hole Size (mm)	Max. Panel Thickness (mm)
1/16	1/8	S-BFJ1FN2	26.9	10.4	8.6	1.3	7.9	14.3	7.9	5.2	3.2
1/8	1/8	S-BFJ2FN2	44.7	10.4	12.7	2.3	11.1	14.3	12.7	8.3	12.7
1/8	1/4	S-BFJ2FN4	49.6	15.0	12.7	2.3	11.1	19.1	12.7	8.3	12.7
3/16	1/8	S-BFJ3FN2	45.5	10.4	13.7	3.0	12.7	14.3	14.3	9.9	12.7
1/4	1/8	S-BFJ4FN2	47.0	10.4	15.2	4.8	14.3	15.9	15.9	11.5	10.2
1/4	1/4	S-BFJ4FN4	51.8	15.0	15.2	4.8	14.3	19.1	15.9	11.5	10.2
1/4	3/8	S-BFJ4FN6	53.3	15.0	15.2	4.8	14.3	22.2	15.9	11.5	10.2
1/4	1/2	S-BFJ4FN8	58.2	19.8	15.2	4.8	14.3	27.0	15.9	11.5	10.2
5/16	1/8	S-BFJ5FN2	49.8	10.4	16.3	6.4	15.9	14.3	17.5	13.1	11.2
5/16	1/4	S-BFJ5FN4	60.5	15.0	16.3	6.4	15.9	19.1	17.5	13.1	11.2
3/8	1/8	S-BFJ6FN2	50.3	10.4	16.8	7.1	17.5	15.9	19.1	14.5	11.2
3/8	1/4	S-BFJ6FN4	55.1	15.0	16.8	7.1	17.5	19.1	19.1	14.5	11.2
3/8	3/8	S-BFJ6FN6	56.6	15.0	16.8	7.1	17.5	22.2	19.1	14.5	11.2
3/8	1/2	S-BFJ6FN8	61.5	19.8	16.8	7.1	17.5	27.0	19.1	14.5	11.2
3/8	3/4	S-BFJ6FN12	65.3	20.6	16.8	7.1	17.5	33.3	19.1	14.5	11.2
1/2	1/4	S-BFJ8FN4	60.2	15.0	22.9	10.4	22.2	23.8	23.8	19.4	12.7
1/2	3/8	S-BFJ8FN6	61.7	15.0	22.9	10.4	22.2	23.8	23.8	19.4	12.7
1/2	1/2	S-BFJ8FN8	66.5	19.8	22.9	10.4	22.2	27.0	23.8	19.4	12.7
1/2	3/4	S-BFJ8FN12	68.1	20.6	22.9	10.4	22.2	33.3	23.8	19.4	12.7
5/8	3/8	S-BFJ10FN6	62.5	15.0	24.4	12.7	25.4	23.8	27.0	22.6	15.1
5/8	1/2	S-BFJ10FN8	67.3	19.8	24.4	12.7	25.4	27.0	27.0	22.6	15.1
3/4	1/2	S-BFJ12FN8	72.2	19.8	24.4	15.7	28.6	27.0	30.2	25.8	19.8
3/4	3/4	S-BFJ12FN12	73.7	20.6	24.4	15.7	28.6	33.3	30.2	25.8	19.8
7/8	3/4	S-BFJ14FN12	80.8	20.6	25.9	18.3	31.8	33.3	33.3	29.0	23.8
1	3/4	S-BFJ16FN12	84.7	20.6	31.2	22.4	38.1	41.3	41.3	33.7	23.8
1	1	S-BFJ16FN16	93.5	25.4	31.2	22.4	38.1	41.3	41.3	33.7	23.8

Metric Tube			Dimension, mm							NPT Thread	
T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	L	B	C	E	G	F	Gx	Panel Hole Size (mm)	Max. Panel Thickness (mm)
6	1/4	S-BMJ6FN4	51.8	15.0	15.3	4.8	14	19	16	11.5	10.2
8	1/8	S-BMJ8FN2	49.6	10.4	16.2	4.8	16	18	18	13.1	11.2
10	1/4	S-BMJ10FN4	55.2	15.0	17.2	7.9	19	22	22	16.3	11.2
12	3/8	S-BMJ12FN6	60.9	15.0	22.8	9.5	22	24	24	19.5	12.7
12	1/2	S-BMJ12FN8	66.5	19.8	22.8	9.5	22	27	24	19.5	12.7

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Unions



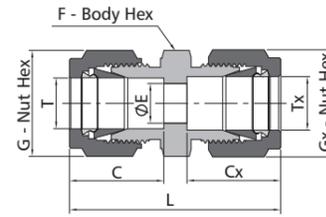
Fractional Tube

T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm				
		L	C	G	F	E
1/16	S-FJ1	25.1	8.6	7.9	11.1	1.3
1/8	S-FJ2	35.6	12.7	11.1	11.1	2.3
3/16	S-FJ3	37.3	13.7	12.7	12.7	3.0
1/4	S-FJ4	40.9	15.2	14.3	12.7	4.8
5/16	S-FJ5	42.9	16.2	15.9	14.3	6.4
3/8	S-FJ6	45.0	16.8	17.5	15.9	7.1
1/2	S-FJ8	51.3	22.9	22.2	20.6	10.4
5/8	S-FJ10	52.1	24.4	25.4	23.9	12.7
3/4	S-FJ12	53.6	24.4	28.6	27.0	15.7
7/8	S-FJ14	55.1	25.9	31.8	34.9	18.3
1	S-FJ16	64.8	31.2	38.1	34.9	22.4
1 1/8	S-FJ18	64.8	31.2	44.5	41.3	24.6
1 1/4	S-FJ20	92.2	41.1	47.6	44.5	27.7
1 1/2	S-FJ24	108	50.0	57.2	54.0	34.0

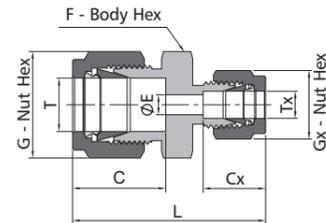
Metric Tube

T-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm				
		L	C	G	F	E
2	S-MJ2	35.6	12.9	12	12	1.7
3	S-MJ3	35.3	12.9	12	12	2.4
4	S-MJ4	37.3	13.7	12	12	2.4
6	S-MJ6	41.0	15.3	14	14	4.8
8	S-MJ8	43.2	16.2	16	15	6.4
10	S-MJ10	46.2	17.2	19	18	7.9
12	S-MJ12	51.2	22.8	22	22	9.5
14	S-MJ14	52.0	24.4	25	24	11.1
15	S-MJ15	52.0	24.4	25	24	11.9
16	S-MJ16	52.0	24.4	25	24	12.7
18	S-MJ18	53.5	24.4	30	27	15.1
20	S-MJ20	55.0	26.0	32	30	15.9
22	S-MJ22	55.0	26.0	32	30	18.3
25	S-MJ25	65.0	31.3	38	35	21.8
28	S-MJ28	85.0	36.6	46	41	21.8
30	S-MJ30	92.7	39.6	50	46	26.2
32	S-MJ32	97.3	42.0	50	46	28.6
38	S-MJ38	113.6	49.4	60	55	33.7

Conversion Unions



Reducing Unions



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Metric Tube

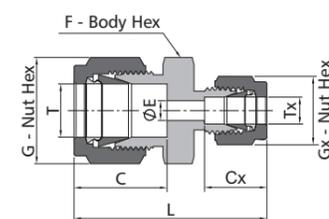
T-Tube O.D. (mm)	Tx-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	Cx	Gx	
3	1/8	S-MJ3FJ2	35.2	12.9	12	12	2.4	12.7	11.1	
4	1/8	S-MJ4FJ2	36.5	13.7	12	12	2.4	12.7	11.1	
4	1/4	S-MJ4FJ4	39.4	13.7	12	14	2.4	15.2	14.3	
6	1/8	S-MJ6FJ2	38.5	15.3	14	14	2.4	12.7	11.1	
6	1/4	S-MJ6FJ4	41.0	15.3	14	14	4.8	15.2	14.3	
6	5/16	S-MJ6FJ5	42.3	15.3	14	14	4.8	16.2	15.9	
8	1/4	S-MJ8FJ4	42.3	16.2	16	15	4.8	15.2	14.3	
8	3/8	S-MJ8FJ6	44.3	16.2	16	16	6.4	16.8	17.5	
10	1/8	S-MJ10FJ2	41.8	17.2	19	18	2.4	12.7	11.1	
10	1/4	S-MJ10FJ4	44.5	17.2	19	18	4.8	15.2	14.3	
10	5/16	S-MJ10FJ5	45.1	17.2	19	18	6.4	16.2	15.9	
10	3/8	S-MJ10FJ6	45.9	17.2	19	18	7.1	16.8	17.5	
12	5/16	S-MJ12FJ5	47.8	22.8	22	22	6.4	16.2	15.9	
12	3/8	S-MJ12FJ6	48.4	22.8	22	22	7.1	16.8	17.5	
12	1/2	S-MJ12FJ8	51.2	22.8	22	22	9.5	22.9	22.2	
15	1/2	S-MJ15FJ8	52.0	24.4	25	24	10.4	22.9	22.2	
16	5/8	S-MJ16FJ10	52.0	24.4	25	24	12.7	24.4	25.4	
18	3/4	S-MJ18FJ12	53.5	24.4	30	27	15.1	24.4	28.6	
20	1/2	S-MJ20FJ8	55.0	26.0	32	30	10.4	22.9	22.2	
20	1	S-MJ20FJ16	62.8	26.0	32	35	15.9	31.2	38.1	
25	1	S-MJ25FJ16	65.0	31.3	38	35	21.8	31.2	38.1	

Fractional Tube

T-Tube O.D. (in.)	Tx-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	Cx	Gx	
1/8	1/16	S-FJ2FJ1	31.0	12.7	11.1	11.1	1.3	8.6	7.9	
3/16	1/16	S-FJ3FJ1	32.3	13.7	12.7	11.1	1.3	8.6	7.9	
3/16	1/8	S-FJ3FJ2	36.6	13.7	12.7	11.1	2.3	12.7	11.1	
1/4	1/16	S-FJ4FJ1	34.3	15.2	14.3	12.7	1.3	8.6	7.9	
1/4	1/8	S-FJ4FJ2	38.6	15.2	14.3	12.7	2.3	12.7	11.1	
1/4	3/16	S-FJ4FJ3	39.4	15.2	14.3	12.7	3.0	13.7	12.7	
5/16	1/8	S-FJ5FJ2	39.6	16.2	15.9	14.3	2.3	12.7	11.1	
5/16	1/4	S-FJ5FJ4	42.2	16.2	15.9	14.3	4.8	15.2	14.3	
3/8	1/16	S-FJ6FJ1	36.6	16.8	17.5	15.9	1.3	8.6	7.9	
3/8	1/8	S-FJ6FJ2	40.9	16.8	17.5	15.9	2.3	12.7	11.1	
3/8	1/4	S-FJ6FJ4	43.2	16.8	17.5	15.9	4.8	15.2	14.3	
3/8	5/16	S-FJ6FJ5	44.2	16.8	17.5	15.9	6.4	16.2	15.9	
1/2	1/8	S-FJ8FJ2	45.2	22.8	22.2	20.6	2.3	12.7	11.1	
1/2	1/4	S-FJ8FJ4	47.0	22.8	22.2	20.6	4.8	15.2	14.3	
1/2	3/8	S-FJ8FJ6	48.5	22.8	22.2	20.6	7.1	16.8	17.5	
5/8	3/8	S-FJ10FJ6	49.3	24.4	25.4	23.9	7.1	16.8	17.5	
5/8	1/2	S-FJ10FJ8	52.1	24.4	25.4	23.9	10.4	22.8	22.2	
3/4	1/4	S-FJ12FJ4	49.3	24.4	28.6	27.0	4.8	15.2	14.3	
3/4	3/8	S-FJ12FJ6	50.8	24.4	28.6	27.0	7.1	16.8	17.5	
3/4	1/2	S-FJ12FJ8	53.6	24.4	28.6	27.0	10.4	22.8	22.2	
3/4	5/8	S-FJ12FJ10	53.6	24.4	28.6	27.0	12.7	24.4	25.4	
1	1/2	S-FJ16FJ8	60.5	31.2	38.1	34.9	10.4	22.8	22.2	
1	3/4	S-FJ16FJ12	60.5	31.2	38.1	34.9	15.7	24.4	28.6	

E-JOE

Reducing Unions

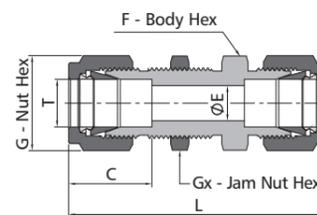


Metric Tube

T-Tube O.D. (mm)	Tx-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	Cx	Gx	
3	2	S-MJ3MJ2	35.3	12.9	12	12	1.7	12.9	12	
6	2	S-MJ6MJ2	38.6	15.3	14	14	1.7	12.9	12	
6	3	S-MJ6MJ3	38.6	15.3	14	14	2.4	12.9	12	
6	4	S-MJ6MJ4	39.4	15.3	14	14	2.4	13.7	12	
8	6	S-MJ8MJ6	42.3	16.3	16	15	4.8	15.3	14	
10	6	S-MJ10MJ6	44.5	17.2	19	18	4.8	15.3	14	
10	8	S-MJ10MJ8	45.1	17.2	19	18	6.4	16.3	16	
12	6	S-MJ12MJ6	47.0	22.8	22	22	4.8	15.3	14	
12	8	S-MJ12MJ8	47.8	22.8	22	22	6.4	16.3	16	
12	10	S-MJ12MJ10	48.7	22.8	22	22	7.9	17.2	19	
16	10	S-MJ16MJ10	49.5	24.4	25	24	7.9	17.2	19	
16	12	S-MJ16MJ12	52.0	24.4	25	24	9.5	22.8	22	
18	12	S-MJ18MJ12	53.5	24.4	30	27	9.5	22.8	22	
25	18	S-MJ25MJ18	61.0	31.3	38	35	15.1	24.4	30	
25	20	S-MJ25MJ20	62.3	31.3	38	35	15.9	26.0	32	
30	18	S-MJ30MJ18	75.4	39.6	50	46	15.1	24.4	30	
30	20	S-MJ30MJ20	75.4	39.6	50	46	15.9	26.0	32	
30	25	S-MJ30MJ25	80.1	39.6	50	46	21.8	31.3	38	
32	18	S-MJ32MJ18	77.8	42.0	50	46	15.1	24.4	30	
32	20	S-MJ32MJ20	77.8	42.0	50	46	15.9	26.0	32	
32	25	S-MJ32MJ25	82.3	42.0	50	46	21.8	31.3	38	
38	20	S-MJ38MJ20	87.5	49.4	60	55	15.9	26.0	32	
38	25	S-MJ38MJ25	92.0	49.4	60	55	21.8	31.3	38	
38	30	S-MJ38MJ30	104.6	49.4	60	55	26.2	39.6	50	

E-JOE

Bulkhead Unions



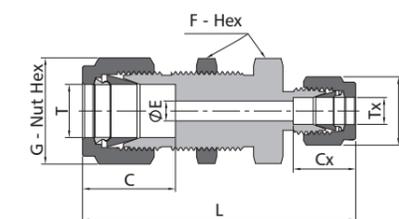
Fractional Tube

Tx-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm						Panel Hole Size (mm)	Max. Panel Thickness (mm)
		L	C	E	G	F	Gx		
1/16	S-BFJ1	31.5	8.6	1.3	7.9	7.9	7.9	5.2	3.0
1/8	S-BFJ2	51.3	12.7	2.3	11.1	12.7	12.7	8.3	12.7
3/16	S-BFJ3	53.6	13.7	3.0	12.7	14.3	14.3	9.9	12.7
1/4	S-BFJ4	57.7	15.2	4.8	14.3	15.9	15.9	11.5	10.2
5/16	S-BFJ5	60.7	16.3	6.4	15.9	17.5	17.5	13.1	11.2
3/8	S-BFJ6	62.2	16.8	7.1	17.5	19.1	19.1	14.7	11.2
1/2	S-BFJ8	71.1	22.9	10.4	22.2	23.8	23.8	19.4	12.7
5/8	S-BFJ10	72.6	24.4	12.7	25.4	27.0	27.0	22.6	12.7
3/4	S-BFJ12	79.0	24.4	15.7	28.6	30.2	30.2	25.8	16.8
7/8	S-BFJ14	84.6	25.9	18.3	31.8	34.9	34.9	29.0	19.1
1	S-BFJ16	95.8	31.2	22.4	38.1	41.3	41.3	33.7	19.1
1 1/4	S-BFJ20	123.2	41.1	27.8	47.6	47.6	47.6	41.7	19.1
1 1/2	S-BFJ24	139.2	50.0	34.0	57.2	57.2	57.2	49.6	19.1

Metric Tube

Tx-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm						Panel Hole Size (mm)	Max. Panel Thickness (mm)
		L	C	E	G	F	Gx		
3	S-BMJ3	51.3	12.9	2.4	12	14	14	8.3	12.7
4	S-BMJ4	53.6	13.7	2.4	12	14	14	9.9	12.7
6	S-BMJ6	57.7	15.3	4.8	14	16	16	11.5	10.2
8	S-BMJ8	61.0	16.2	6.4	16	18	18	13.1	11.2
10	S-BMJ10	63.7	17.2	7.9	19	22	22	16.3	11.2
12	S-BMJ12	71.0	22.8	9.5	22	24	24	19.5	12.7
14	S-BMJ14	72.5	24.4	11.1	25	27	27	22.5	12.7
15	S-BMJ15	72.5	24.4	11.9	25	27	27	22.8	12.7
16	S-BMJ16	72.5	24.4	12.7	25	27	27	22.8	12.7
18	S-BMJ18	78.9	24.4	15.1	30	30	30	26.0	16.8
20	S-BMJ20	84.5	26.0	15.9	32	35	35	29.0	19.0
25	S-BMJ25	96.0	31.3	21.8	38	41	41	34.0	19.0
30	S-BMJ30	124.0	39.6	26.2	50	50	50	40.5	19.0
32	S-BMJ32	128.0	42.0	28.6	50	50	50	42.5	19.0
38	S-BMJ38	145.0	49.4	33.7	60	60	60	50.5	19.0

Bulkhead Reducing Unions

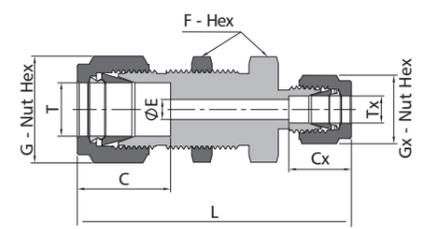


Fractional Tube

T-Tube O.D. (in.)	Tx-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm								Panel Hole Size (mm)	Max. Panel Thickness (mm)
			L	C	E	G	F	Cx	Gx			
1/4	1/8	S-BFJ4FJ2	55.1	15.2	2.3	14.3	15.9	12.7	11.1	11.5	10.2	
3/8	1/4	S-BFJ6FJ4	60.7	16.8	4.8	17.5	19.1	15.2	14.3	14.7	11.2	
1/2	1/4	S-BFJ8FJ4	66.8	22.9	4.8	22.2	23.8	15.2	14.3	19.4	12.7	

# E-JOE

## Bulkhead Reducing Unions



### Metric Tube

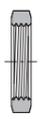
T-Tube O.D. (mm)	Tx-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm								Panel Hole Size (mm)	Max. Panel Thickness (mm)
			L	C	E	G	F	Cx	Gx			
6	3	S-BMJ6MJ3	55.1	15.3	2.4	14	16	12.9	12	11.5	10.2	
8	6	S-BMJ8MJ6	60.1	16.2	4.8	16	18	15.3	14	13.1	11.2	
12	8	S-BMJ12MJ8	67.6	22.8	6.4	22	24	16.2	16	19.5	12.7	

## Bulkhead Conversion Unions

Fractional Tube			Metric Tube								Panel Hole Size (mm)	Max. Panel Thickness (mm)
T-Tube O.D. (in.)	Tx-Tube O.D. (mm)	Basic Ordering Number	L	C	E	G	F	Cx	Gx			
1/4	6	S-BFJ4MJ6	57.7	16.8	4.8	14.3	15.9	15.3	14	11.5	10.2	

Metric Tube			Fractional Tube								Panel Hole Size (mm)	Max. Panel Thickness (mm)
T-Tube O.D. (mm)	Tx-Tube O.D. (in.)	Basic Ordering Number	L	C	E	G	F	Cx	Gx			
6	1/8	S-BMJ6FJ2	55.1	15.3	2.3	14	16	15.2	11.1	11.5	10.2	
6	1/4	S-BMJ6FJ4	57.7	15.3	4.8	14	16	16.8	14.3	11.5	10.2	

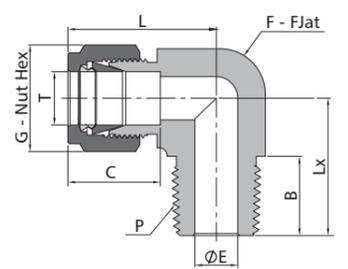
## Bulkhead Locknuts



Fractional Tube		Metric Tube	
T-Tube O.D. (in.)	Basic Ordering Number	T-Tube O.D. (mm)	Basic Ordering Number
1/16	BN-FJ1	3	BN-MJ3
1/8	BN-FJ2	4	BN-MJ4
3/16	BN-FJ3	6	BN-MJ6
1/4	BN-FJ4	8	BN-BMJ8
5/16	BN-FJ5	10	BN-MJ10
3/8	BN-FJ6	12	BN-MJ12
1/2	BN-FJ8	14	BN-MJ14
5/8	BN-FJ10	18	BN-MJ18
3/4	BN-FJ12	20	BN-MJ20
7/8	BN-FJ14	22	BN-MJ22
1	BN-FJ16	25	BN-MJ25
1 1/4	BN-FJ20	28	BN-MJ28
1 1/2	BN-FJ24	30	BN-MJ30
		32	BN-MJ32
		38	BN-MJ38

# E-JOE

## Male Elbows



### Fractional Tube

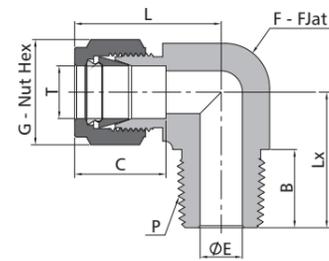
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	B	Lx	
1/16	1/16	L-FJ1N1	19.1	8.6	7.9	11.1	1.3	9.7	17.8	
1/16	1/8	L-FJ1N2	19.1	8.6	7.9	11.1	1.3	9.7	17.8	
1/8	1/16	L-FJ2N1	23.6	12.7	11.1	11.1	2.4	9.7	17.8	
1/8	1/8	L-FJ2N2	23.6	12.7	11.1	11.1	2.4	9.7	17.8	
1/8	1/4	L-FJ2N4	24.6	12.7	11.1	12.7	2.4	14.2	23.4	
3/16	1/8	L-FJ3N2	25.4	13.7	12.7	12.7	3.0	9.7	18.8	
3/16	1/4	L-FJ3N4	25.4	13.7	12.7	12.7	3.0	14.2	23.4	
1/4	1/16	L-FJ4N1	26.9	15.2	14.3	12.7	3.0	9.7	18.8	
1/4	1/8	L-FJ4N2	26.9	15.2	14.3	12.7	4.8	9.7	18.8	
1/4	1/4	L-FJ4N4	26.9	15.2	14.3	12.7	4.8	14.2	23.4	
1/4	3/8	L-FJ4N6	29.7	15.2	14.3	17.5	4.8	14.2	26.2	
1/4	1/2	L-FJ4N8	31.8	15.2	14.3	20.6	4.8	19.1	33.0	
5/16	1/8	L-FJ5N2	28.7	16.3	15.9	14.3	4.8	9.7	19.8	
5/16	1/4	L-FJ5N4	28.7	16.3	15.9	14.3	6.4	14.2	24.4	
5/16	3/8	L-FJ5N6	30.5	16.3	15.9	17.5	6.4	14.2	26.2	
3/8	1/8	L-FJ6N2	30.5	16.8	17.5	15.9	4.8	9.7	20.8	
3/8	1/4	L-FJ6N4	30.5	16.8	17.5	15.9	7.1	14.2	25.4	
3/8	3/8	L-FJ6N6	31.2	16.8	17.5	17.5	7.1	14.2	26.2	
3/8	1/2	L-FJ6N8	33.3	16.8	17.5	20.6	7.1	19.1	33.0	
3/8	3/4	L-FJ6N12	37.1	16.8	17.5	27.0	7.1	19.1	36.8	
1/2	1/4	L-FJ8N4	36.1	22.9	22.2	20.6	7.1	14.2	28.2	
1/2	3/8	L-FJ8N6	36.1	22.9	22.2	20.6	9.7	14.2	28.2	
1/2	1/2	L-FJ8N8	36.1	22.9	22.2	20.6	10.4	19.1	33.0	
1/2	3/4	L-FJ8N12	39.9	22.9	22.2	27.0	10.4	19.1	36.8	
5/8	3/8	L-FJ10N6	38.1	24.4	25.4	23.8	9.7	14.2	30.2	
5/8	1/2	L-FJ10N8	38.1	24.4	25.4	23.8	11.9	19.1	35.1	
5/8	3/4	L-FJ10N12	39.9	24.4	25.4	27.0	12.7	19.1	36.8	
3/4	1/2	L-FJ12N8	39.9	24.4	28.6	27.0	11.9	19.1	36.8	
3/4	3/4	L-FJ12N12	39.9	24.4	28.6	27.0	15.7	19.1	36.8	
7/8	3/4	L-FJ14N12	44.7	25.9	31.8	34.9	15.7	19.1	41.7	
1	3/4	L-FJ16N12	49.0	31.2	38.1	34.9	15.7	19.1	41.7	
1	1	L-FJ16N16	49.0	31.2	38.1	34.9	22.4	23.9	46.5	
1 1/4	1 1/4	L-FJ20N20	66.5	41.1	47.6	42.9	27.7	23.9	47.8	
1 1/2	1 1/2	L-FJ24N24	78.0	50.0	57.2	50.8	34.0	26.2	60.5	

### Fractional Tube

T-Tube O.D. (in.)	P-RT Size	Basic Ordering Number	ISO Tapered Thread (RT) Dimension, mm							
			L	C	G	F	E	B	Lx	
1/8	1/8	L-FJ2RT2	23.6	12.7	11.1	11.1	2.4	9.7	17.8	
1/8	1/4	L-FJ2RT4	24.6	12.7	11.1	12.7	2.4	14.2	23.4	
1/4	1/8	L-FJ4RT2	26.9	15.2	14.3	12.7	4.8	9.7	18.8	
1/4	1/4	L-FJ4RT4	26.9	15.2	14.3	12.7	4.8	14.2	23.4	
1/4	3/8	L-FJ4RT6	29.7	15.2	14.3	17.5	4.8	14.2	26.2	
1/4	1/2	L-FJ4RT8	31.8	15.2	14.3	20.6	4.8	19.1	33.0	
5/16	1/4	L-FJ5RT4	28.7	16.3	15.9	14.3	6.4	14.2	24.4	
3/8	1/8	L-FJ6RT2	30.5	16.8	17.5	15.9	4.8	9.7	20.8	
3/8	1/4	L-FJ6RT4	30.5	16.8	17.5	15.9	7.1	14.2	25.4	
3/8	3/8	L-FJ6RT6	31.2	16.8	17.5	17.5	7.1	14.2	26.2	
1/2	3/8	L-FJ8RT6	36.1	22.9	22.2	20.6	9.7	14.2	27.9	
1/2	1/2	L-FJ8RT8	36.1	22.9	22.2	20.6	10.4	19.1	33.0	
3/4	1/2	L-FJ12RT8	39.9	24.4	28.6	27.0	11.9	19.1	36.8	
1	1	L-FJ16RT16	49.0	31.2	38.1	34.9	22.4	23.9	46.5	

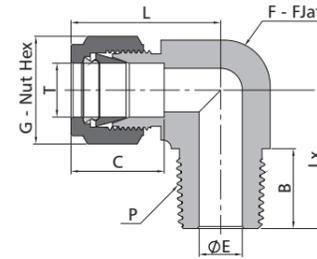
E-JOE

Male Elbows



Metric Tube			NPT Thread							
T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	B	Lx	
3	1/8	L-MJ3N2	23.6	12.9	12	11.1	2.4	9.7	17.8	
3	1/4	L-MJ3N4	24.6	12.9	12	12.7	2.4	14.2	23.4	
4	1/8	L-MJ4N2	25.4	13.7	12	12.7	2.4	9.7	18.8	
4	1/4	L-MJ4N4	25.4	13.7	12	12.7	2.4	14.2	23.4	
6	1/8	L-MJ6N2	27.0	15.3	14	12.7	4.8	9.7	18.8	
6	1/4	L-MJ6N4	27.0	15.3	14	12.7	4.8	14.2	23.4	
6	3/8	L-MJ6N6	29.8	15.3	14	17.5	4.8	14.2	26.2	
6	1/2	L-MJ6N8	31.8	15.3	14	20.6	4.8	19.0	33.0	
8	1/8	L-MJ8N2	28.8	16.2	16	14.3	4.8	9.7	19.8	
8	1/4	L-MJ8N4	28.8	16.2	16	14.3	6.4	14.2	24.4	
8	3/8	L-MJ8N6	30.6	16.2	16	17.5	6.4	14.2	26.2	
8	1/2	L-MJ8N8	32.6	16.2	16	20.6	6.4	19.1	33.0	
10	1/8	L-MJ10N2	31.5	17.2	19	17.5	4.8	9.7	21.6	
10	1/4	L-MJ10N4	31.5	17.2	19	17.5	7.1	14.2	26.2	
10	3/8	L-MJ10N6	31.5	17.2	19	17.5	7.9	14.2	26.2	
10	1/2	L-MJ10N8	33.5	17.2	19	20.6	7.9	19.1	33.0	
12	1/8	L-MJ12N2	36.0	22.8	22	20.6	4.8	9.7	23.6	
12	1/4	L-MJ12N4	36.0	22.8	22	20.6	7.1	14.2	28.2	
12	3/8	L-MJ12N6	36.0	22.8	22	20.6	9.5	14.2	28.2	
12	1/2	L-MJ12N8	36.0	22.8	22	20.6	9.5	19.1	33.0	
12	3/4	L-MJ12N12	39.8	22.8	22	27.0	9.5	19.1	36.8	
15	1/2	L-MJ15N8	38.0	24.4	25	23.8	11.9	19.1	35.1	
16	1/4	L-MJ16N4	38.0	24.4	25	23.8	7.1	14.2	30.2	
16	3/8	L-MJ16N6	38.0	24.4	25	23.8	9.5	14.2	30.2	
16	1/2	L-MJ16N8	38.0	24.4	25	23.8	11.9	19.1	35.1	
16	3/4	L-MJ16N12	39.8	24.4	25	27.0	12.7	19.1	36.8	
18	1/2	L-MJ18N8	39.8	24.4	30	27.0	11.9	19.1	36.8	
18	3/4	L-MJ18N12	39.8	24.4	30	27.0	15.1	19.1	36.8	
20	1/2	L-MJ20N8	44.6	26.0	32	34.9	11.9	19.1	41.7	
20	3/4	L-MJ20N12	44.6	26.0	32	34.9	15.9	19.1	41.7	
22	3/4	L-MJ22N12	44.6	26.0	32	34.9	15.9	19.1	41.7	
22	1	L-MJ22N16	44.6	26.0	32	34.9	18.3	23.9	46.5	
25	3/4	L-MJ25N12	49.1	31.3	38	34.9	15.9	19.0	41.7	
25	1	L-MJ25N16	49.1	31.3	38	34.9	21.8	23.9	46.5	
30	1 1/4	L-MJ30N20	69.9	39.6	50	42.9	26.2	23.9	53.1	
32	1 1/4	L-MJ32N20	72.3	42.0	50	42.9	27.8	23.9	53.1	
38	1 1/2	L-MJ38N24	84.0	49.4	60	50.8	33.7	26.2	60.4	

Male Elbows

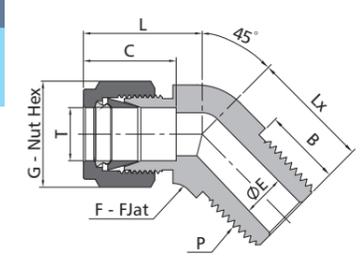


Metric Tube			ISO Tapered Thread (RT)							
T-Tube O.D. (mm)	P-RT Size	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	B	Lx	
3	1/8	L-MJ3RT2	23.6	12.9	12	11.1	2.4	9.7	17.8	
3	1/4	L-MJ3RT4	24.6	12.9	12	12.7	2.4	14.2	23.4	
4	1/8	L-MJ4RT2	25.4	13.7	12	12.7	2.4	9.7	18.8	
4	1/4	L-MJ4RT4	25.4	13.7	12	12.7	2.4	14.2	23.4	
6	1/8	L-MJ6RT2	27.0	15.3	14	12.7	4.8	9.7	18.8	
6	1/4	L-MJ6RT4	27.0	15.3	14	12.7	4.8	14.2	23.4	
6	3/8	L-MJ6RT6	29.8	15.3	14	17.5	4.8	14.2	26.2	
6	1/2	L-MJ6RT8	31.8	15.3	14	20.6	4.8	19.0	33.0	
8	1/8	L-MJ8RT2	28.8	16.2	16	14.3	4.8	9.7	19.8	
8	1/4	L-MJ8RT4	28.8	16.2	16	14.3	6.4	14.2	24.4	
8	3/8	L-MJ8RT6	30.6	16.2	16	17.5	6.4	14.2	26.2	
8	1/2	L-MJ8RT8	32.6	16.2	16	20.6	6.4	19.1	33.0	
10	1/8	L-MJ10RT2	31.5	17.2	19	17.5	4.8	9.7	21.6	
10	1/4	L-MJ10RT4	31.5	17.2	19	17.5	7.1	14.2	26.2	
10	3/8	L-MJ10RT6	31.5	17.2	19	17.5	7.9	14.2	26.2	
10	1/2	L-MJ10RT8	33.5	17.2	19	20.6	7.9	19.1	33.0	
12	1/8	L-MJ12RT2	36.0	22.8	22	20.6	4.8	9.7	23.6	
12	1/4	L-MJ12RT4	36.0	22.8	22	20.6	7.1	14.2	28.2	
12	3/8	L-MJ12RT6	36.0	22.8	22	20.6	9.5	14.2	28.2	
12	1/2	L-MJ12RT8	36.0	22.8	22	20.6	9.5	19.1	33.0	
12	3/4	L-MJ12RT12	39.8	22.8	22	27.0	9.5	19.1	36.8	
14	1/2	L-MJ14RT8	38.1	24.4	25	23.8	11.1	19.1	35.1	
15	1/2	L-MJ15RT8	38.1	24.4	25	23.8	11.9	19.1	35.1	
16	1/4	L-MJ16RT4	38.0	24.4	25	23.8	7.1	14.2	30.2	
16	3/8	L-MJ16RT6	38.0	24.4	25	23.8	9.5	14.2	30.2	
16	1/2	L-MJ16RT8	38.0	24.4	25	23.8	11.9	19.1	35.1	
16	3/4	L-MJ16RT12	39.8	24.4	25	27.0	12.7	19.1	36.8	
18	1/2	L-MJ18RT8	39.8	24.4	30	27.0	11.9	19.1	36.8	
18	3/4	L-MJ18RT12	39.8	24.4	30	27.0	15.1	19.1	36.8	
20	1/2	L-MJ20RT8	44.6	26.0	32	34.9	11.9	19.1	41.7	
20	3/4	L-MJ20RT12	44.6	26.0	32	34.9	15.9	19.1	41.7	
22	3/4	L-MJ22RT12	44.6	26.0	32	34.9	15.9	19.1	41.7	
22	1	L-MJ22RT16	44.6	26.0	32	34.9	18.3	23.9	46.5	
25	3/4	L-MJ25RT12	49.1	31.3	38	34.9	15.9	19.1	41.7	
25	1	L-MJ25RT16	49.1	31.3	38	34.9	21.8	23.9	46.5	
28	1	L-MJ28RT16	64.0	36.6	46	42.9	21.8	23.9	53.1	

E-JOE

E-JOE

45° Male Elbows



Fractional Tube NPT Thread

T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	B	Lx	
1/16	1/16	R-FJ1N1	15.7	8.6	7.9	9.5	1.3	9.7	14.5	
1/8	1/8	R-FJ2N2	20.8	12.7	11.1	11.1	2.3	9.7	16.8	
3/16	1/8	R-FJ3N2	21.6	13.7	12.7	11.1	3.0	9.7	14.7	
1/4	1/8	R-FJ4N2	24.6	15.2	14.3	12.7	4.8	9.7	16.5	
1/4	1/4	R-FJ4N4	24.6	15.2	14.3	12.7	4.8	14.3	21.1	
5/16	1/8	R-FJ5N2	24.1	16.3	15.9	14.3	4.8	9.7	16.8	
3/8	1/8	R-FJ6N2	27.9	16.8	17.5	15.9	4.8	9.7	18.3	
3/8	1/4	R-FJ6N4	27.9	16.8	17.5	15.9	7.1	14.3	22.9	
3/8	3/8	R-FJ6N6	29.2	16.8	17.5	20.6	7.1	19.1	24.1	
1/2	3/8	R-FJ8N6	32.0	22.9	22.2	20.6	9.7	19.1	24.1	
5/8	1/2	R-FJ10N8	30.7	24.4	25.4	23.8	11.9	19.1	29.7	
3/4	3/4	R-FJ12N12	34.0	24.4	28.6	27.0	15.7	19.1	31.0	
7/8	3/4	R-FJ14N12	40.4	25.9	31.8	31.8	15.7	19.1	32.3	
1	1	R-FJ16N16	40.4	31.2	38.1	34.9	22.4	23.9	37.8	

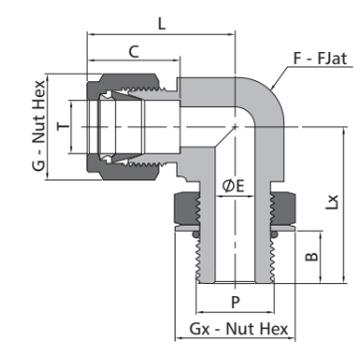
Metric Tube NPT Thread

T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	B	Lx	
6	1/8	R-MJ6N2	23.4	15.3	14	12.7	4.8	9.7	16.8	
6	1/4	R-MJ6N4	23.4	15.3	14	12.7	4.8	14.3	21.8	
8	1/8	R-MJ8N2	24.3	16.2	16	15.9	4.8	9.7	16.8	
10	1/4	R-MJ10N4	26.6	17.2	19	17.5	7.9	14.3	24.1	
12	3/8	R-MJ12N6	29.1	22.8	22	20.6	9.5	19.1	24.1	
12	1/2	R-MJ12N8	30.7	22.8	22	20.6	9.5	19.1	29.7	
16	1/2	R-MJ16N8	30.7	24.4	25	23.8	11.9	19.1	29.7	

E-JOE

Adjustable Male Elbows  
SAE/MS Straight Thread

Adapt to straight thread boss of SAE J1926-1, ISO 11926-1 and MS 16142.

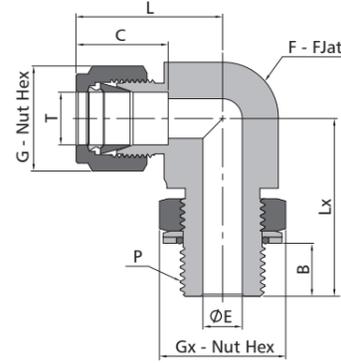


SAE/MS Straight Thread

T-Tube O.D. (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm							
			L	B	C	G	E	F	Lx	Gx
1/4	7/16-20	L-FJ4SOT7	28.4	9.9	15.2	14.3	4.8	12.7	28.4	14.3
1/4	9/16-18	L-FJ4SOT9	30.5	11.2	15.2	14.3	4.8	15.9	32.3	17.5
5/16	1/2-20	L-FJ5SOT8	30.2	9.9	16.3	15.9	5.8	14.3	29.5	15.9
3/8	7/16-20	L-FJ6SOT7	33.3	9.9	16.8	17.5	5.1	15.9	31.5	14.3
3/8	9/16-18	L-FJ6SOT9	32.0	11.2	16.8	17.5	7.1	15.9	32.3	17.5
3/8	3/4-16	L-FJ6SOT12	34.8	12.7	16.8	17.5	7.1	20.6	37.8	22.2
1/2	9/16-18	L-FJ8SOT9	37.6	11.2	22.9	22.2	7.1	20.6	37.5	17.5
1/2	3/4-16	L-FJ8SOT12	37.6	12.7	22.9	22.2	10.4	20.6	37.8	22.2
5/8	7/8-14	L-FJ10SOT14	39.6	14.2	24.4	25.4	12.7	23.8	43.4	25.4
3/4	1 1/16-12	L-FJ12SOT17	41.4	16.8	24.4	28.6	15.7	27.0	48.8	31.8
7/8	1 3/16-12	L-FJ14SOT19	43.2	16.8	25.9	31.8	18.3	30.2	50.5	34.9
1	1 5/16-12	L-FJ16SOT21	50.5	16.8	31.2	38.1	22.4	34.9	53.6	38.1
1 1/4	1 5/8-12	L-FJ20SOT26	67.8	16.8	41.1	47.6	27.7	42.9	58.2	47.6
1 1/2	1 7/8-12	L-FJ24SOT30	78.0	16.8	50.0	57.2	34.0	50.8	60.5	54.0

**E-JOE**

Adjustable Male Elbows  
ISO Parallel Thread



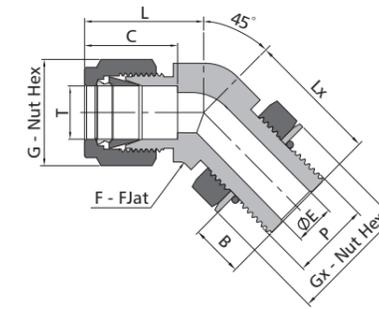
Fractional Tube			ISO Parallel Thread (PP)								
T-Tube O.D. (in.)	P-ISO Parallel Thread Size	Basic Ordering Number	Dimension, mm								
			L	B	C	G	E	F	Lx	Gx	
1/4	1/8	L-FJ4SBP2	26.9	8.1	15.2	14.3	4.1	12.7	26.4	14.3	
1/4	1/4	L-FJ4SBP4	29.0	9.1	15.2	14.3	4.8	15.9	32.3	19.1	
3/8	1/4	L-FJ6SBP4	30.5	9.1	16.8	17.5	5.8	15.9	32.3	19.1	
3/8	3/8	L-FJ6SBP6	33.3	9.4	16.8	17.5	7.1	20.6	37.1	22.2	
1/2	1/4	L-FJ8SBP4	36.1	9.1	22.9	22.2	5.8	20.6	35.1	19.1	
1/2	3/8	L-FJ8SBP6	36.1	9.4	22.9	22.2	7.9	20.6	37.1	22.2	
1/2	1/2	L-FJ8SBP8	38.1	13.0	22.9	22.2	10.4	23.8	43.4	27.0	
5/8	1/2	L-FJ10SBP8	38.1	13.0	24.4	25.4	11.9	23.8	43.4	27.0	
3/4	1/2	L-FJ12SBP8	39.9	13.0	24.4	28.6	11.9	27.0	45.2	27.0	
3/4	3/4	L-FJ12SBP12	39.9	13.0	24.4	28.6	15.7	27.0	48.8	34.9	
1	3/4	L-FJ16SBP12	49.0	13.0	31.2	38.1	15.7	34.9	53.3	34.9	
1	1	L-FJ16SBP16	49.0	14.0	31.2	38.1	19.8	34.9	53.6	41.3	

Metric Tube			ISO Parallel Thread (PP)								
T-Tube O.D. (mm)	P-ISO Parallel Thread Size	Basic Ordering Number	Dimension, mm								
			L	B	C	G	E	F	Lx	Gx	
6	1/8	L-MJ6SBP2	27.0	8.1	15.3	14	4.0	12.7	26.4	14.3	
6	1/4	L-MJ6SBP4	29.0	9.1	15.3	14	4.8	15.9	32.3	19.1	
8	1/8	L-MJ8SBP2	28.8	8.1	16.2	16	4.0	14.3	27.4	14.3	
8	1/4	L-MJ8SBP4	29.9	9.1	16.2	16	5.9	15.9	32.2	19.1	
10	1/4	L-MJ10SBP4	33.5	9.1	17.2	19	5.9	20.6	35.0	19.1	
10	3/8	L-MJ10SBP6	33.5	9.4	17.2	19	7.9	20.6	37.1	22.2	
12	1/4	L-MJ12SBP4	36.0	9.1	22.8	22	5.9	20.6	35.0	19.1	
12	3/8	L-MJ12SBP6	36.0	9.4	22.8	22	7.9	20.6	37.1	22.2	
12	1/2	L-MJ12SBP8	38.0	13.0	22.8	22	9.5	23.8	43.4	27.0	
12	3/4	L-MJ12SBP12	39.8	13.0	22.8	22	9.5	27.0	48.8	34.9	

**E-JOE**

45° Adjustable Male Elbows  
SAE/MS Straight Thread

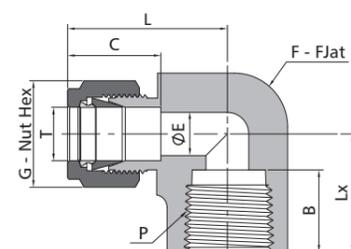
Adapt to straight thread boss of SAE J1926-1, ISO 11926-1 and MS 16142.



Fractional Tube			SAE/MS Straight Thread								
T-Tube O.D. (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm								
			L	B	C	G	E	F	Lx	Gx	
1/4	7/16-20	R-FJ4SOT7	25.7	9.9	15.2	14.3	4.8	12.7	25.7	14.3	
3/8	9/16-18	R-FJ6SOT9	27.9	11.2	16.8	17.5	7.1	15.9	28.2	17.5	
1/2	3/4-16	R-FJ8SOT12	32.0	12.7	22.9	22.2	10.4	20.6	32.3	22.2	
3/4	1 1/16-12	R-FJ12SOT17	39.9	16.8	24.4	28.6	15.7	27.0	47.2	31.8	
1	1 5/16-12	R-FJ16SOT21	47.5	16.8	31.2	38.1	22.4	33.3	50.5	38.1	

E-JOE

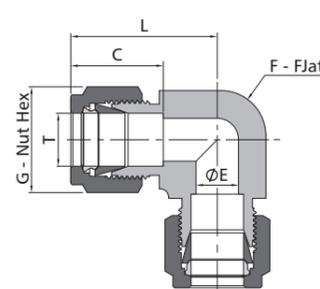
Female Elbows



Fractional Tube			NPT Thread							
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm							
			L	B	C	G	E	F	Lx	
1/16	1/16	L-FJ1FN1	18.0	9.9	8.6	7.9	1.3	11.1	14.2	
1/16	1/8	L-FJ1FN2	20.6	10.4	8.6	7.9	1.3	14.3	19.1	
1/8	1/8	L-FJ2FN2	24.6	10.4	12.7	11.1	2.3	14.3	19.1	
1/8	1/4	L-FJ2FN4	27.4	15.0	12.7	11.1	2.3	17.5	22.4	
3/16	1/8	L-FJ3FN2	25.4	10.4	13.7	12.7	3.0	12.7	19.1	
1/4	1/8	L-FJ4FN2	26.9	10.4	15.2	14.3	4.8	14.3	19.1	
1/4	1/4	L-FJ4FN4	29.7	15.0	15.2	14.3	4.8	17.5	22.4	
1/4	3/8	L-FJ4FN6	31.8	15.0	15.2	14.3	4.8	20.6	22.4	
1/4	1/2	L-FJ4FN8	34.5	19.8	15.2	14.3	4.8	25.4	28.4	
5/16	1/8	L-FJ5FN2	28.7	10.4	16.3	15.9	6.4	14.3	19.1	
5/16	1/4	L-FJ5FN4	30.5	15.0	16.3	15.9	6.4	17.5	22.4	
3/8	1/8	L-FJ6FN2	30.5	10.4	16.8	17.5	7.1	15.9	19.1	
3/8	1/4	L-FJ6FN4	31.2	15.0	16.8	17.5	7.1	17.5	22.4	
3/8	3/8	L-FJ6FN6	33.3	15.0	16.8	17.5	7.1	20.6	22.4	
3/8	1/2	L-FJ6FN8	36.1	19.8	16.8	17.5	7.1	25.4	28.4	
1/2	1/4	L-FJ8FN4	36.1	15.0	22.9	22.2	10.4	20.6	22.4	
1/2	3/8	L-FJ8FN6	36.1	15.0	22.9	22.2	10.4	20.6	22.4	
1/2	1/2	L-FJ8FN8	38.9	19.8	22.9	22.2	10.4	25.4	28.4	
5/8	3/8	L-FJ10FN6	38.1	15.0	24.4	25.4	12.7	23.8	22.4	
5/8	1/2	L-FJ10FN8	39.9	19.8	24.4	25.4	12.7	27.0	28.4	
3/4	1/2	L-FJ12FN8	39.9	19.8	24.4	28.6	15.7	27.0	28.4	
3/4	3/4	L-FJ12FN12	44.7	20.6	24.4	28.6	15.7	34.9	31.8	
7/8	3/4	L-FJ14FN12	44.7	20.6	25.9	31.8	18.3	34.9	31.8	
1	3/4	L-FJ16FN12	49.0	20.6	31.2	38.1	22.4	34.9	31.8	
1	1	L-FJ16FN16	53.6	25.4	31.2	38.1	22.4	42.9	38.1	

Metric Tube			NPT Thread							
T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm							
			L	B	C	G	E	F	Lx	
6	1/8	L-MJ6FN2	27.0	10.4	15.3	14	4.8	12.7	19.0	
6	1/4	L-MJ6FN4	29.8	15.0	15.3	14	4.8	17.5	22.4	
8	1/8	L-MJ8FN2	28.8	10.4	16.2	16	4.8	14.3	19.1	
8	1/4	L-MJ8FN4	30.6	15.0	16.2	16	6.4	17.5	22.4	
10	1/4	L-MJ10FN4	33.5	15.0	17.2	19	7.9	20.6	22.4	
10	3/8	L-MJ10FN6	33.5	15.0	17.2	19	7.9	20.6	22.4	
10	1/2	L-MJ10FN8	36.6	19.8	17.2	19	7.9	25.4	28.5	
12	1/4	L-MJ12FN4	36.0	15.0	22.8	22	7.9	20.6	22.4	
12	3/8	L-MJ12FN6	36.0	15.0	22.8	22	9.5	20.6	22.4	
12	1/2	L-MJ12FN8	38.8	19.8	22.8	22	9.5	25.4	28.4	
16	3/8	L-MJ16FN6	39.5	15.0	24.4	25	9.5	27.0	23.6	
16	1/2	L-MJ16FN8	39.5	19.8	24.4	25	12.7	27.0	28.5	

Union Elbows



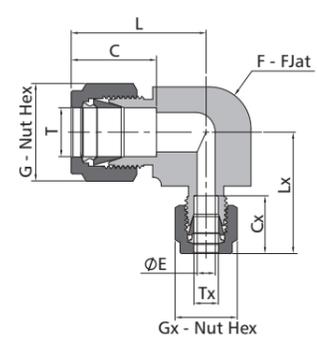
Fractional Tube		Dimension, mm				
T-Tube O.D. (in.)	Basic Ordering Number	L	C	G	F	E
		1/16	L-FJ1	17.8	8.6	7.9
1/8	L-FJ2	22.4	12.7	11.1	9.5	2.3
3/16	L-FJ3	25.4	13.7	12.7	12.7	3.0
1/4	L-FJ4	26.9	15.2	14.3	12.7	4.8
5/16	L-FJ5	28.7	16.3	15.9	14.3	6.4
3/8	L-FJ6	30.5	16.8	17.5	15.9	7.1
1/2	L-FJ8	36.1	22.9	22.2	20.6	10.4
5/8	L-FJ10	38.1	24.4	25.4	23.8	12.7
3/4	L-FJ12	39.9	24.4	28.6	27.0	15.7
7/8	L-FJ14	44.7	25.9	31.8	34.9	18.3
1	L-FJ16	49.0	31.2	38.1	34.9	22.4
1 1/8	L-FJ18	55.1	31.2	41.3	42.9	24.6
1 1/8	L-FJ20	66.5	41.1	47.6	42.9	27.7
1 1/2	L-FJ24	78.0	50.0	57.2	50.8	34.0

Metric Tube		Dimension, mm				
T-Tube O.D. (mm)	Basic Ordering Number	L	C	G	F	E
		3	L-MJ3	22.3	12.9	12
4	L-MJ4	25.4	13.7	12	12.7	2.4
6	L-MJ6	27.0	15.3	14	12.7	4.8
8	L-MJ8	28.8	16.2	16	14.3	6.4
10	L-MJ10	31.5	17.2	19	17.5	7.9
12	L-MJ12	36.0	22.8	22	20.6	9.5
14	L-MJ14	38.0	24.4	25	23.8	11.0
15	L-MJ15	38.8	24.4	25	23.8	11.9
16	L-MJ16	38.0	24.4	25	23.8	12.7
18	L-MJ18	39.8	24.4	30	27.0	15.1
20	L-MJ20	44.6	26.0	32	34.9	15.9
22	L-MJ22	44.6	26.0	32	34.9	18.3
25	L-MJ25	49.1	31.3	38	34.9	21.8
28	L-MJ28	64.0	36.6	46	42.9	21.8
30	L-MJ30	69.9	39.6	50	42.9	26.2
32	L-MJ32	72.3	42.0	50	42.9	28.6
38	L-MJ38	84.0	49.4	60	50.8	33.7

E-JOE

# E-JOE

## Union Reducing Elbows



### Fractional Tube

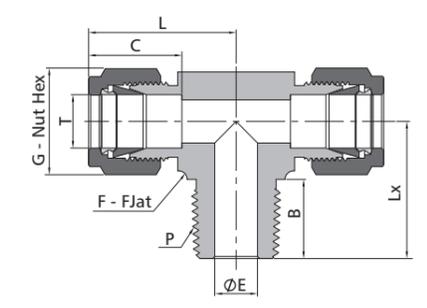
T-Tube O.D. (in.)	Tx-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm								
			L	C	G	F	E	Cx	Gx	Lx	
3/16	1/8	L-FJ3FJ2	25.4	13.7	12.7	12.7	2.3	12.7	11.1	24.7	
1/4	1/8	L-FJ4FJ2	26.9	15.2	14.3	12.7	2.3	12.7	11.1	25.4	
5/16	1/8	L-FJ5FJ2	29.7	16.3	15.9	14.3	2.3	12.7	11.1	26.4	
5/16	1/4	L-FJ5FJ4	29.7	16.3	15.9	14.3	4.8	15.2	14.3	29.0	
3/8	1/8	L-FJ6FJ2	30.5	16.8	17.5	15.9	2.3	12.7	11.1	26.4	
3/8	1/4	L-FJ6FJ4	30.5	16.8	17.5	15.9	4.8	15.2	14.3	29.0	
3/8	5/16	L-FJ6FJ5	30.5	16.8	17.5	15.9	6.4	16.3	15.9	29.7	
1/2	1/4	L-FJ8FJ4	36.1	22.9	22.2	20.6	4.8	15.2	14.3	32.2	
1/2	5/16	L-FJ8FJ5	36.1	22.9	22.2	20.6	6.4	16.3	15.9	32.5	
1/2	3/8	L-FJ8FJ6	36.1	22.9	22.2	20.6	7.1	16.8	17.5	33.6	
5/8	3/8	L-FJ10FJ6	38.1	24.4	25.4	23.8	7.1	16.8	17.5	35.6	
5/8	1/2	L-FJ10FJ8	38.1	24.4	25.4	23.8	10.4	22.9	22.2	38.1	
3/4	1/4	L-FJ12FJ4	39.9	24.4	28.6	27.0	4.8	15.2	14.3	35.9	
3/4	3/8	L-FJ12FJ6	39.9	24.4	28.6	27.0	7.1	16.8	17.5	37.4	
3/4	1/2	L-FJ12FJ8	39.9	24.4	28.6	27.0	10.4	22.9	22.2	39.9	
7/8	1/4	L-FJ14FJ4	44.7	25.9	31.8	34.9	4.8	15.2	14.3	40.7	
1	1/2	L-FJ16FJ8	49.0	31.2	38.1	34.9	10.4	22.9	22.2	44.4	
1	3/4	L-FJ16FJ12	49.0	31.2	38.1	34.9	15.7	24.4	28.6	44.4	

### Metric Tube

T-Tube O.D. (mm)	Tx-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm								
			L	C	G	F	E	Cx	Gx	Lx	
8	6	L-MJ8MJ6	28.8	16.2	16	14.3	4.8	15.3	14	27.9	
10	8	L-MJ10MJ8	31.5	17.2	19	17.5	6.4	16.2	16	30.5	
12	8	L-MJ12MJ8	36.0	22.8	22	20.6	6.4	16.2	16	32.6	
14	8	L-MJ14MJ8	38.8	24.4	25	23.8	6.4	16.2	16	35.4	
14	10	L-MJ14MJ10	38.8	24.4	25	23.8	7.9	17.2	19	36.4	

# E-JOE

## Male Branch Tees



### Fractional Tube

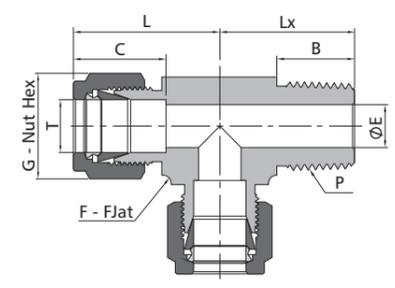
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm							NPT Thread	
			L	C	G	F	E	B	Lx		
1/8	1/8	T-FJ2FJ2N2	23.6	12.7	11.1	11.1	2.3	9.7	17.8		
1/8	1/4	T-FJ2FJ2N4	24.6	12.7	11.1	12.7	2.3	14.2	23.4		
3/16	1/8	T-FJ3FJ3N2	24.4	13.7	12.7	11.1	3.0	9.7	17.8		
1/4	1/8	T-FJ4FJ4N2	26.9	15.2	14.3	12.7	4.8	9.7	18.8		
1/4	1/4	T-FJ4FJ4N4	26.9	15.2	14.3	12.7	4.8	14.2	23.4		
5/16	1/8	T-FJ5FJ5N2	29.7	16.3	15.9	15.9	4.8	9.7	20.8		
5/16	1/4	T-FJ5FJ5N4	29.7	16.3	15.9	15.9	6.4	14.2	25.7		
3/8	1/4	T-FJ6FJ6N4	30.5	16.8	17.5	15.9	7.1	14.2	25.4		
3/8	3/8	T-FJ6FJ6N6	33.3	16.8	17.5	20.6	7.1	14.2	28.2		
1/2	3/8	T-FJ8FJ8N6	36.1	22.9	22.2	20.6	9.7	14.2	28.2		
1/2	1/2	T-FJ8FJ8N8	36.1	22.9	22.2	20.6	10.4	19.1	33.0		
5/8	1/2	T-FJ10FJ10N8	38.9	24.4	25.4	25.4	11.9	19.1	35.8		
3/4	3/4	T-FJ12FJ12N12	39.9	24.4	28.6	27.0	15.7	19.1	36.8		
7/8	3/4	T-FJ14FJ14N12	44.7	25.9	31.8	33.3	15.7	19.1	38.1		
1	3/4	T-FJ16FJ16N12	49.3	31.2	38.1	33.3	15.7	19.1	42.2		
1	1	T-FJ16FJ16N16	49.3	31.2	38.1	34.9	22.4	23.9	46.7		

### Metric Tube

T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm							NPT Thread	
			L	C	G	F	E	B	Lx		
6	1/8	T-MJ6MJ6N2	27.0	15.3	14	12.7	4.8	9.7	18.8		
6	1/4	T-MJ6MJ6N4	27.0	15.3	14	12.7	4.8	14.2	23.4		
8	1/8	T-MJ8MJ8N2	29.9	16.2	16	15.9	4.8	9.7	20.8		
8	1/4	T-MJ8MJ8N4	29.9	16.2	16	15.9	6.4	14.2	25.4		
10	1/4	T-MJ10MJ10N4	33.5	17.2	19	20.6	7.9	14.2	28.2		
10	3/8	T-MJ10MJ10N6	33.5	17.2	19	20.6	7.9	14.2	28.2		
12	1/4	T-MJ12MJ12N4	36.0	22.8	22	20.6	7.9	14.2	28.2		
12	3/8	T-MJ12MJ12N6	36.0	22.8	22	20.6	9.5	14.2	28.2		
12	1/2	T-MJ12MJ12N8	36.0	22.8	22	20.6	9.5	19.1	33.0		
16	1/2	T-MJ16MJ16N8	38.8	24.4	25	25.4	11.9	19.1	35.8		

# E-JOE

## Male Run Tees



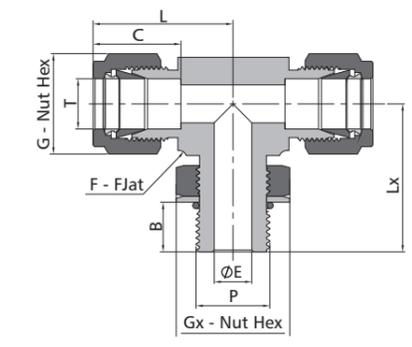
Fractional Tube			NPT Thread							
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	B	Lx	
1/8	1/8	T-FJ2N2FJ2	23.6	12.7	11.1	11.1	2.3	9.7	17.8	
1/8	1/4	T-FJ2N4FJ2	24.6	12.7	11.1	12.7	2.3	14.2	23.4	
3/16	1/8	T-FJ3N2FJ3	24.4	13.7	12.7	11.1	3.0	9.7	17.8	
1/4	1/8	T-FJ4N2FJ4	26.9	15.2	14.3	12.7	4.8	9.7	18.8	
1/4	1/4	T-FJ4N4FJ4	26.9	15.2	14.3	12.7	4.8	14.2	23.4	
5/16	1/8	T-FJ5N2FJ5	29.7	16.3	15.9	15.9	4.8	9.7	20.8	
5/16	1/4	T-FJ5N4FJ5	29.7	16.3	15.9	15.9	6.4	14.2	25.7	
3/8	1/4	T-FJ6N4FJ6	30.5	16.8	17.5	15.9	7.1	14.2	25.4	
3/8	3/8	T-FJ6N6FJ6	33.3	16.8	17.5	20.6	7.1	14.2	28.2	
1/2	3/8	T-FJ8N6FJ8	36.1	22.9	22.2	20.6	9.7	14.2	28.2	
1/2	1/2	T-FJ8N8FJ8	36.1	22.9	22.2	20.6	10.4	19.1	33.0	
5/8	1/2	T-FJ10N8FJ10	38.1	24.4	25.4	23.8	11.9	19.1	35.8	
3/4	3/4	T-FJ12N12FJ12	39.9	24.4	28.6	27.0	15.7	19.1	36.8	
7/8	3/4	T-FJ14N12FJ14	44.7	25.9	31.8	33.3	15.7	19.1	38.1	
1	3/4	T-FJ16N12FJ16	49.3	31.2	38.1	33.3	15.7	19.1	42.2	
1	1	T-FJ16N16FJ16	49.3	31.2	38.1	34.9	22.4	23.9	46.7	

Metric Tube			NPT Thread							
T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	B	Lx	
6	1/8	T-MJ6N2MJ6	27.0	15.3	14	12.7	4.8	9.7	18.0	
6	1/4	T-MJ6N4MJ6	27.0	15.3	14	12.7	4.8	14.2	23.4	
8	1/8	T-MJ8N2MJ8	29.9	16.2	16	15.9	4.8	9.7	20.8	
8	1/4	T-MJ8N4MJ8	29.9	16.2	16	15.9	6.4	14.2	25.4	
10	1/4	T-MJ10N4MJ10	33.5	17.2	19	20.6	7.9	14.2	28.2	
10	1/2	T-MJ10N8MJ10	33.5	17.2	19	20.6	7.9	14.2	28.2	
12	1/4	T-MJ12N4MJ12	36.0	22.8	22	20.6	7.9	14.2	28.2	
12	3/8	T-MJ12N6MJ12	36.0	22.8	22	20.6	9.5	14.2	28.2	
12	1/2	T-MJ12N8MJ12	36.0	22.8	22	20.6	9.5	19.1	33.0	
16	1/2	T-MJ16N8MJ16	38.0	24.4	25	23.8	11.9	19.1	35.0	

# E-JOE

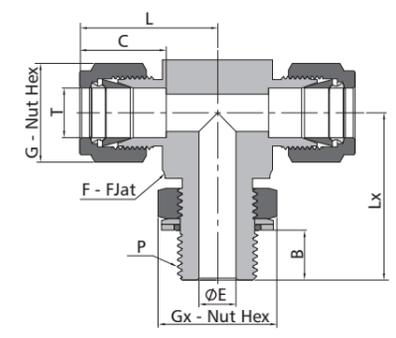
## Adjustable Male Branch Tees SAE/MS Straight Thread

Adapt to straight thread boss of SAE J1926-1, ISO 11926-1 and MS 16142.



Fractional Tube			SAE/MS Straight Thread							
T-Tube O.D. (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm							
			L	B	C	E	G	F	Lx	Gx
1/4	7/16-20	T-FJ4FJ4SOT7	28.5	9.9	15.2	4.8	14.3	12.7	28.5	14.3
3/8	9/16-18	T-FJ6FJ6SOT9	32.0	11.2	16.8	7.1	17.5	15.9	32.3	17.5
1/2	3/4-16	T-FJ8FJ8SOT12	37.6	12.7	22.9	10.4	22.2	20.6	37.8	22.2
3/4	1 1/16-12	T-FJ12FJ12SOT17	41.4	16.8	24.4	15.7	28.6	27.0	48.8	28.6
1	1 5/16-12	T-FJ16FJ16SOT21	50.5	16.8	31.2	22.4	38.1	34.9	53.6	38.1
1 1/4	1 5/8-12	T-FJ20FJ20SOT26	67.8	16.8	41.1	27.7	47.6	42.9	58.2	47.6
1 1/4	1 7/8-12	T-FJ24FJ24SOT30	78.0	16.8	50.0	34.0	57.2	50.8	60.5	54.0

## Adjustable Male Branch Tees ISO Parallel Thread



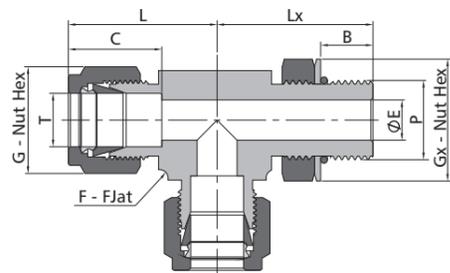
Fractional Tube			ISO Parallel Thread (PP)							
T-Tube O.D. (in.)	P-ISO Parallel Thread Size	Basic Ordering Number	Dimension, mm							
			L	B	C	E	G	F	Lx	Gx
1/4	1/8	T-FJ4FJ4SBP2	26.9	8.1	15.2	4.1	14.3	12.7	26.4	14.3
1/4	1/4	T-FJ4FJ4SBP4	29.0	9.1	15.2	4.8	14.3	15.9	32.3	19.1
3/8	1/4	T-FJ6FJ6SBP4	30.5	9.1	16.8	5.8	17.5	15.9	32.3	19.1
1/2	3/8	T-FJ8FJ8SBP6	36.1	9.4	22.9	7.9	22.2	20.6	37.1	22.2
1/2	1/2	T-FJ8FJ8SBP8	38.1	13.0	22.9	10.4	22.2	23.8	43.4	27.0
5/8	1/2	T-FJ10FJ10SBP8	38.1	13.0	24.4	11.9	25.4	23.8	43.4	27.0
3/4	1/2	T-FJ12FJ12SBP8	39.9	13.0	24.4	11.9	28.6	27.0	45.2	27.0
3/4	3/4	T-FJ12FJ12SBP12	39.9	13.0	24.4	15.7	28.6	27.0	48.8	34.9
1	1	T-FJ16FJ16SBP16	49.0	14.0	31.2	19.8	38.1	34.9	53.6	41.3

Metric Tube			ISO Parallel Thread (PP)							
T-Tube O.D. (mm)	P-ISO Parallel Thread Size	Basic Ordering Number	Dimension, mm							
			L	B	C	E	G	F	Lx	Gx
6	1/8	T-MJ6MJ6SBP2	27.0	8.1	15.3	4.0	14	12.7	26.4	14.3
6	1/4	T-MJ6MJ6SBP4	29.0	9.1	15.3	4.8	14	15.9	32.2	19.1
8	1/8	T-MJ8MJ8SBP2	28.8	8.1	16.2	4.0	16	14.3	27.5	14.3
8	1/4	T-MJ8MJ8SBP4	29.9	9.1	16.2	5.9	16	15.9	32.2	19.1
10	1/4	T-MJ10MJ10SBP4	33.5	9.1	17.2	5.9	19	20.6	35.1	19.1
12	3/8	T-MJ12MJ12SBP6	36.0	9.4	22.8	7.9	22	20.6	37.1	22.2
12	1/2	T-MJ12MJ12SBP8	38.0	13.0	22.8	9.5	22	23.8	43.5	27.0

E-JOE

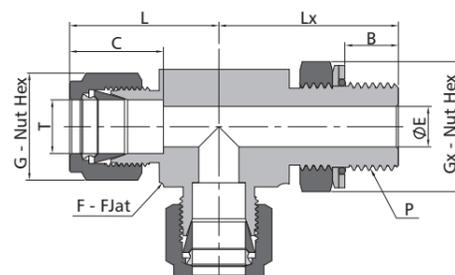
Adjustable Male Run Tees  
SAE/MS Straight Thread

Adapt to straight thread boss of  
SAE J1926-1, ISO 11926-1 and MS 16142.



Fractional Tube			SAE/MS Straight Thread							
T-Tube O.D. (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm							
			L	B	C	E	G	F	Lx	Gx
1/4	7/16-20	T-FJ4SOT7FJ4	28.5	9.9	15.2	4.8	14.3	12.7	28.5	14.3
3/8	9/16-18	T-FJ6SOT9FJ6	32.0	11.2	16.8	7.1	17.5	15.9	32.3	17.5
1/2	3/4-16	T-FJ8SOT12FJ8	37.6	12.7	22.9	10.4	22.2	20.6	37.8	22.2
3/4	1 1/16-12	T-FJ12SOT17FJ12	41.4	16.8	24.4	15.7	28.6	27.0	48.8	28.6
1	1 5/16-12	T-FJ16SOT21FJ16	50.5	16.8	31.2	22.4	38.1	34.9	53.6	38.1
1 1/4	1 5/8-12	T-FJ20SOT26FJ20	67.8	16.8	41.1	27.7	47.6	42.9	58.2	47.6
1 1/2	1 7/8-12	T-FJ24SOT30FJ24	78.0	16.8	50.0	34.0	57.2	50.8	60.5	54.0

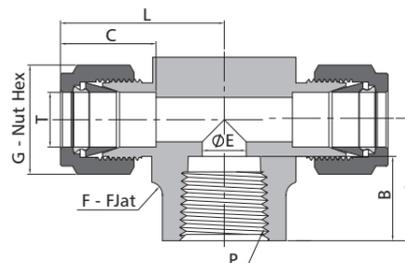
Adjustable Male Run Tees  
ISO Parallel Thread



Fractional Tube			ISO Parallel Thread (PP)							
T-Tube O.D. (in.)	P-ISO Parallel Thread Size	Basic Ordering Number	Dimension, mm							
			L	B	C	E	G	F	Lx	Gx
1/4	1/8	T-FJ4SBP2FJ4	26.9	8.1	15.2	4.1	14.3	12.7	26.4	14.3
1/4	1/4	T-FJ4SBP4FJ4	29.0	9.1	15.2	4.8	14.3	15.9	32.3	19.1
3/8	1/4	T-FJ6SBP4FJ6	30.5	9.1	16.8	5.8	17.5	15.9	32.3	19.1
1/2	3/8	T-FJ8SBP6FJ8	36.1	9.4	22.9	7.9	22.2	20.6	37.1	22.2
1/2	1/2	T-FJ8SBP8FJ8	38.1	13.0	22.9	10.4	22.2	23.8	43.4	27.0
5/8	1/2	T-FJ10SBP8FJ10	38.1	13.0	24.4	11.9	25.4	23.8	43.4	27.0
3/4	1/2	T-FJ12SBP8FJ12	39.9	13.0	24.4	11.9	28.6	27.0	45.2	27.0
3/4	3/4	T-FJ12SBP12FJ12	39.9	13.0	24.4	15.7	28.6	27.0	48.8	34.9
1	1	T-FJ16SBP16FJ16	49.0	14.0	31.2	19.8	38.1	34.9	53.6	41.3

Metric Tube			ISO Parallel Thread (PP)							
T-Tube O.D. (mm)	P-ISO Parallel Thread Size	Basic Ordering Number	Dimension, mm							
			L	B	C	E	G	F	Lx	Gx
6	1/8	T-MJ6SBP2MJ6	27.0	8.1	15.3	4.0	14	12.7	26.4	14.3
6	1/4	T-MJ6SBP4MJ6	29.0	9.1	15.3	4.8	14	15.9	32.2	19.1
8	1/8	T-MJ8SBP2MJ8	28.8	8.1	16.2	4.0	16	14.3	27.5	14.3
8	1/4	T-MJ8SBP4MJ8	29.9	9.1	16.2	5.9	16	15.9	32.2	19.1
10	1/4	T-MJ10SBP4MJ10	33.5	9.1	17.2	5.9	19	20.6	35.1	19.1
12	3/8	T-MJ12SBP6MJ12	36.0	9.4	22.8	7.9	22	20.6	37.1	22.2
12	1/2	T-MJ12SBP8MJ12	38.0	13.0	22.8	9.5	22	23.8	43.5	27.0

Female Branch Tees

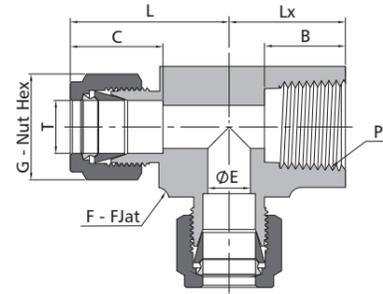


Fractional Tube			NPT Thread						
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm						
			L	C	G	F	E	B	Lx
1/8	1/8	T-FJ2FJ2FN2	24.6	12.7	11.1	12.7	2.3	10.4	19.1
3/16	1/8	T-FJ3FJ3FN2	25.7	13.7	12.7	12.7	3.0	10.4	19.1
1/4	1/8	T-FJ4FJ4FN2	26.9	15.2	14.3	12.7	4.8	10.4	19.1
1/4	1/4	T-FJ4FJ4FN4	29.7	15.2	14.3	17.5	4.8	15.0	22.4
5/16	1/8	T-FJ5FJ5FN2	29.7	16.2	15.9	15.9	6.4	10.4	19.1
3/8	1/4	T-FJ6FJ6FN4	31.2	16.8	17.5	17.5	7.1	15.0	22.4
3/8	3/8	T-FJ6FJ6FN6	33.3	16.8	17.5	20.6	7.1	15.0	22.4
3/8	1/2	T-FJ6FJ6FN8	36.1	16.8	17.5	25.4	7.1	19.8	28.4
1/2	1/4	T-FJ8FJ8FN4	36.1	22.9	22.2	20.6	10.4	15.0	22.4
1/2	3/8	T-FJ8FJ8FN6	36.1	22.9	22.2	20.6	10.4	15.0	22.4
1/2	1/2	T-FJ8FJ8FN8	38.9	22.9	22.2	25.4	10.4	19.8	28.4
5/8	1/2	T-FJ10FJ10FN8	38.9	24.4	25.4	25.4	12.7	19.8	28.4
3/4	3/4	T-FJ12FJ12FN12	44.7	24.4	28.6	34.9	15.7	20.6	31.8
7/8	3/4	T-FJ14FJ14FN12	44.7	25.9	31.8	34.9	18.3	20.6	31.8
1	3/4	T-FJ16FJ16FN12	49.0	31.2	38.1	34.9	22.4	20.6	31.8
1	1	T-FJ16FJ16FN16	53.6	31.2	38.1	42.9	22.4	25.4	38.1

Metric Tube			NPT Thread						
T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm						
			L	C	G	F	E	B	Lx
6	1/8	T-MJ6MJ6FN2	27.0	15.3	14	12.7	4.8	10.4	19.0
6	1/4	T-MJ6MJ6FN4	29.8	15.3	14	17.5	4.8	15.0	22.4
8	1/8	T-MJ8MJ8FN2	29.9	16.2	16	15.9	6.4	10.4	19.0
8	1/4	T-MJ8MJ8FN4	30.6	16.2	16	17.5	6.4	15.0	22.4
10	1/4	T-MJ10MJ10FN4	33.5	17.2	19	20.6	7.9	15.0	22.4
12	1/8	T-MJ12MJ12FN2	36.0	22.8	22	20.6	6.4	10.4	22.3
12	1/4	T-MJ12MJ12FN4	36.0	22.8	22	20.6	9.5	15.0	22.4
12	3/8	T-MJ12MJ12FN6	36.0	22.8	22	20.6	9.5	15.0	22.4
12	1/2	T-MJ12MJ12FN8	38.8	22.8	22	25.4	9.5	19.8	28.5
16	1/2	T-MJ16MJ16FN8	38.8	24.4	25	25.4	12.7	19.8	28.4

E-JOE

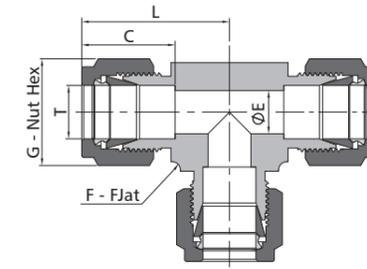
Female Run Tees



Fractional Tube			NPT Thread							
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	B	Lx	
1/8	1/8	T-FJ2FN2FJ2	24.6	12.7	11.1	12.7	2.3	10.4	19.1	
3/16	1/8	T-FJ3FN2FJ3	25.7	13.7	12.7	12.7	3.0	10.4	19.1	
1/4	1/8	T-FJ4FN2FJ4	26.9	15.2	14.3	12.7	4.8	10.4	19.1	
1/4	1/4	T-FJ4FN4FJ4	29.7	15.2	14.3	17.5	4.8	15.0	22.4	
5/16	1/8	T-FJ5FN2FJ5	29.7	16.2	15.9	15.9	6.4	10.4	19.1	
3/8	1/4	T-FJ6FN4FJ6	31.2	16.8	17.5	17.5	7.1	15.0	22.4	
1/2	1/4	T-FJ8FN4FJ8	36.1	22.9	22.2	20.6	10.4	15.0	22.4	
1/2	3/8	T-FJ8FN6FJ8	36.1	22.9	22.2	20.6	10.4	15.0	22.4	
1/2	1/2	T-FJ8FN8FJ8	39.9	22.9	22.2	27.0	10.4	19.8	28.4	
5/8	1/2	T-FJ10FN8FJ10	39.9	24.4	25.4	27.0	12.7	19.8	28.4	
3/4	3/4	T-FJ12FN12FJ12	44.7	24.4	28.6	34.9	15.7	20.6	31.8	
7/8	1/2	T-FJ14FN8FJ14	44.7	25.9	31.8	34.9	15.7	19.8	28.4	
7/8	3/4	T-FJ14FN12FJ14	44.7	25.9	31.8	34.9	18.3	20.6	31.8	
1	3/4	T-FJ16FN12FJ16	49.0	31.2	38.1	34.9	22.4	20.6	31.8	
1	1	T-FJ16FN16FJ16	53.6	31.2	38.1	42.9	22.4	25.4	38.1	

Metric Tube			NPT Thread							
T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm							
			L	C	G	F	E	B	Lx	
6	1/8	T-MJ6FN2MJ6	27.0	15.3	14	12.7	4.8	10.4	19.0	
6	1/4	T-MJ6FN4MJ6	29.8	15.3	14	17.5	4.8	15.0	22.4	
8	1/8	T-MJ8FN2MJ8	29.9	16.2	16	15.9	4.8	10.4	19.0	
8	1/4	T-MJ8FN4MJ8	30.6	16.2	16	17.5	6.4	15.0	22.4	
10	1/4	T-MJ10FN4MJ10	33.5	17.2	19	20.6	7.9	15.0	22.4	
12	1/4	T-MJ12FN4MJ12	36.0	22.8	22	20.6	9.5	15.0	22.4	
12	3/8	T-MJ12FN6MJ12	36.0	22.8	22	20.6	9.5	15.0	23.1	
12	1/2	T-MJ12FN8MJ12	38.8	22.8	22	25.4	9.5	19.8	28.5	
16	1/2	T-MJ16FN8MJ16	39.8	24.4	25	27.0	11.9	19.8	28.4	

Union Tees

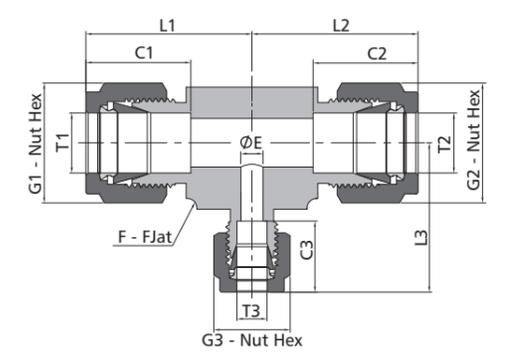


Fractional Tube		Dimension, mm				
T-Tube O.D. (in.)	Basic Ordering Number	L	C	G	F	E
1/8	T-FJ2	22.4	12.7	11.1	9.5	2.3
3/16	T-FJ3	24.4	13.7	12.7	11.1	3.0
1/4	T-FJ4	26.9	15.2	14.3	12.7	4.8
5/16	T-FJ5	29.7	16.2	15.9	15.9	6.4
3/8	T-FJ6	30.5	16.8	17.5	15.9	7.1
1/2	T-FJ8	36.1	22.9	22.2	20.6	10.4
5/8	T-FJ10	38.9	24.4	25.4	25.4	12.7
3/4	T-FJ12	39.9	24.4	28.6	27.0	15.7
7/8	T-FJ14	44.7	25.9	31.8	34.9	18.3
1	T-FJ16	49.0	31.2	38.1	34.9	22.4
1 1/8	T-FJ18	55.1	31.2	46.0	42.9	24.6
1 1/4	T-FJ20	66.5	41.1	47.6	42.9	27.7
1 1/2	T-FJ24	78.0	50.0	57.2	50.8	34.0

Metric Tube		Dimension, mm				
T-Tube O.D. (mm)	Basic Ordering Number	L	C	G	F	E
3	T-MJ3	22.3	12.9	12	9.5	2.4
4	T-MJ4	25.4	13.7	12	12.7	2.4
6	T-MJ6	27.0	15.3	14	12.7	4.8
8	T-MJ8	29.9	16.2	16	15.9	6.4
10	T-MJ10	31.5	17.2	19	17.5	7.9
12	T-MJ12	36.0	22.8	22	20.6	9.5
14	T-MJ14	38.8	24.4	25	25.4	11.1
15	T-MJ15	38.8	24.4	25	25.4	11.9
16	T-MJ16	38.8	24.4	25	25.4	12.7
18	T-MJ18	38.8	24.4	30	27.0	15.1
20	T-MJ20	44.6	26.0	32	34.9	15.9
22	T-MJ22	44.6	26.0	32	34.9	18.3
25	T-MJ25	49.1	31.3	38	34.9	21.8
28	T-MJ28	64.0	36.6	46	42.9	21.8
30	T-MJ30	69.9	39.6	50	42.9	26.2
32	T-MJ32	72.3	42.0	50	42.9	28.6
38	T-MJ38	84.0	49.4	60	50.8	33.7

# E-JOE

## Reducing Union Tees

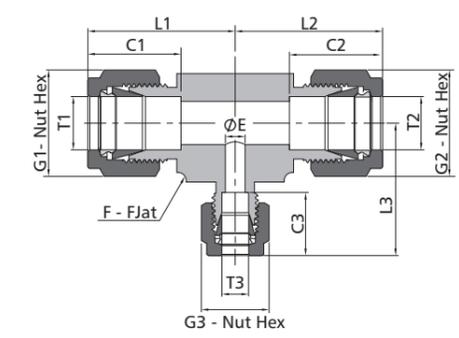


### Fractional Tube

T1-Tube O.D. (in.)	T2-Tube O.D. (in.)	T3-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm											
				L1	L2	L3	C1	C2	C3	G1	G2	G3	F	E	
1/4	1/4	1/8	T-FJ4FJ4FJ2	26.7	26.7	24.4	15.2	15.2	12.7	14.3	14.3	11.1	12.7	2.3	
3/8	1/4	1/4	T-FJ6FJ4FJ4	30.5	29.0	29.0	16.8	15.2	15.2	17.5	14.3	14.3	15.9	4.8	
3/8	1/4	3/8	T-FJ6FJ4FJ6	30.5	29.0	30.5	16.8	15.2	16.8	17.5	14.3	17.5	15.9	4.8	
3/8	3/8	1/4	T-FJ6FJ6FJ4	30.5	30.5	29.0	16.8	16.8	15.2	17.5	17.5	14.3	15.9	4.8	
1/2	1/4	1/4	T-FJ8FJ4FJ4	36.1	31.8	31.8	22.9	15.2	15.2	22.2	14.3	14.3	20.6	4.8	
1/2	1/4	1/2	T-FJ8FJ4FJ8	36.1	31.8	36.1	22.9	15.2	22.9	22.2	14.3	22.2	20.6	4.8	
1/2	3/8	3/8	T-FJ8FJ6FJ6	36.1	33.3	33.3	22.9	16.8	16.8	22.2	17.5	17.5	20.6	7.1	
1/2	3/8	1/2	T-FJ8FJ6FJ8	36.1	33.3	36.1	22.9	16.8	22.9	22.2	17.5	22.2	20.6	7.1	
1/2	1/2	1/4	T-FJ8FJ8FJ4	36.1	36.1	31.8	22.9	22.9	15.2	22.2	14.3	20.6	4.8		
1/2	1/2	3/8	T-FJ8FJ8FJ6	36.1	36.1	33.3	22.9	22.9	16.8	22.2	22.2	17.5	20.6	7.1	
5/8	3/8	3/8	T-FJ10FJ6FJ6	38.9	36.1	36.1	24.4	16.8	16.8	25.4	17.5	17.5	25.4	7.1	
5/8	3/8	1/2	T-FJ10FJ6FJ8	38.9	36.1	38.9	24.4	16.8	22.9	25.4	17.5	22.2	25.4	7.1	
5/8	1/2	3/8	T-FJ10FJ8FJ6	38.9	38.9	36.1	24.4	22.9	16.8	25.4	22.2	17.5	25.4	7.1	
5/8	1/2	1/2	T-FJ10FJ8FJ8	38.9	38.9	38.9	24.4	22.9	22.9	25.4	22.2	22.2	25.4	10.4	
5/8	5/8	3/8	T-FJ10FJ10FJ6	38.9	38.9	36.1	24.4	24.4	16.8	25.4	25.4	17.5	25.4	7.1	
5/8	5/8	1/2	T-FJ10FJ10FJ8	38.9	38.9	38.9	24.4	24.4	22.9	25.4	25.4	22.2	25.4	10.4	
3/4	3/8	3/8	T-FJ12FJ6FJ6	39.6	36.9	36.9	24.4	16.8	16.8	28.6	17.5	17.5	27.0	7.1	
3/4	1/2	3/8	T-FJ12FJ8FJ6	39.6	36.9	36.9	24.4	22.9	16.8	28.6	22.2	17.5	27.0	7.1	
3/4	1/2	1/2	T-FJ12FJ8FJ8	39.6	36.9	39.6	24.4	22.9	22.9	28.6	22.2	22.2	27.0	10.4	
3/4	5/8	3/8	T-FJ12FJ10FJ6	39.6	36.9	36.9	24.4	24.4	16.8	28.6	25.4	17.5	27.0	7.1	
3/4	5/8	1/2	T-FJ12FJ10FJ8	39.6	36.9	39.6	24.4	24.4	22.9	28.6	25.4	22.2	27.0	10.4	
3/4	5/8	5/8	T-FJ12FJ10FJ10	39.6	36.9	39.6	24.4	24.4	24.4	28.6	25.4	25.4	27.0	12.7	
3/4	3/4	1/4	T-FJ12FJ12FJ4	39.6	39.6	35.1	24.4	24.4	15.2	28.6	28.6	14.3	27.0	4.8	
3/4	3/4	3/8	T-FJ12FJ12FJ6	39.6	39.6	36.9	24.4	24.4	16.8	28.6	28.6	17.5	27.0	7.1	
3/4	3/4	1/2	T-FJ12FJ12FJ8	39.6	39.6	39.6	24.4	24.4	22.9	28.6	28.6	22.2	27.0	10.4	
3/4	3/4	5/8	T-FJ12FJ12FJ10	39.6	39.6	39.6	24.4	24.4	24.4	28.6	28.6	25.4	27.0	12.7	
7/8	1/2	3/4	T-FJ14FJ8FJ12	44.7	44.7	44.7	25.9	22.9	24.4	31.8	22.2	28.6	34.9	10.4	
7/8	5/8	3/8	T-FJ14FJ10FJ6	44.7	44.7	41.9	25.9	24.4	16.8	31.8	25.4	17.5	34.9	7.1	
7/8	3/4	3/8	T-FJ14FJ12FJ6	44.7	44.7	41.9	25.9	24.4	16.8	31.8	28.6	17.5	34.9	7.1	
7/8	3/4	1/2	T-FJ14FJ12FJ8	44.7	44.7	44.7	25.9	24.4	22.9	31.8	28.6	22.2	34.9	10.4	
7/8	3/4	3/4	T-FJ14FJ12FJ12	44.7	44.7	44.7	25.9	24.4	24.4	31.8	28.6	28.6	34.9	15.7	
7/8	7/8	1/4	T-FJ14FJ14FJ4	44.7	44.7	40.4	25.9	25.9	15.2	31.8	31.8	14.3	34.9	4.8	
7/8	7/8	3/8	T-FJ14FJ14FJ6	44.7	44.7	41.9	25.9	25.9	16.8	31.8	31.8	17.5	34.9	7.1	
1	3/8	3/8	T-FJ16FJ6FJ6	49.3	41.9	41.9	31.2	16.8	16.8	38.1	17.5	17.5	34.9	7.1	
1	1/2	1/4	T-FJ16FJ8FJ4	49.3	44.7	40.4	31.2	22.9	15.2	38.1	22.2	14.3	34.9	4.8	
1	1/2	3/8	T-FJ16FJ8FJ6	49.3	44.7	41.9	31.2	22.9	16.8	38.1	22.2	17.5	34.9	7.1	
1	1/2	1/2	T-FJ16FJ8FJ8	49.3	44.7	44.7	31.2	22.9	22.9	38.1	22.2	22.2	34.9	10.4	
1	1/2	1	T-FJ16FJ8FJ16	49.3	44.7	49.3	31.2	22.9	31.2	38.1	22.2	38.1	34.9	10.4	
1	5/8	3/8	T-FJ16FJ10FJ6	49.3	44.7	41.9	31.2	24.4	16.8	38.1	25.4	17.5	34.9	7.1	
1	3/4	3/8	T-FJ16FJ12FJ6	49.3	44.7	41.9	31.2	24.4	16.8	38.1	28.6	17.5	34.9	7.1	
1	3/4	1/2	T-FJ16FJ12FJ8	49.3	44.7	44.7	31.2	24.4	22.9	38.1	28.6	22.2	34.9	10.4	
1	3/4	5/8	T-FJ16FJ12FJ10	49.3	44.7	44.7	31.2	24.4	24.4	38.1	28.6	25.4	34.9	12.7	
1	3/4	1	T-FJ16FJ12FJ16	49.3	44.7	49.3	31.2	24.4	31.2	38.1	28.6	38.1	34.9	15.7	
1	7/8	1/4	T-FJ16FJ14FJ4	49.3	44.7	40.4	31.2	25.9	15.2	38.1	31.8	14.3	34.9	4.8	
1	7/8	3/8	T-FJ16FJ14FJ6	49.3	44.7	41.9	31.2	25.9	16.8	38.1	31.8	17.5	34.9	7.1	
1	7/8	1/2	T-FJ16FJ14FJ8	49.3	44.7	44.7	31.2	25.9	22.9	38.1	31.8	22.2	34.9	10.4	
1	7/8	3/4	T-FJ16FJ14FJ12	49.3	44.7	44.7	31.2	25.9	24.4	38.1	31.8	28.6	34.9	12.7	
1	7/8	7/8	T-FJ16FJ14FJ14	49.3	44.7	44.7	31.2	25.9	25.9	38.1	31.8	31.8	34.9	18.3	
1	1	1/4	T-FJ16FJ16FJ4	49.3	49.3	40.4	31.2	31.2	15.2	38.1	38.1	14.3	34.9	4.8	
1	1	3/8	T-FJ16FJ16FJ6	49.3	49.3	41.9	31.2	31.2	16.8	38.1	38.1	17.5	34.9	7.1	
1	1	1/2	T-FJ16FJ16FJ8	49.3	49.3	44.7	31.2	31.2	22.9	38.1	38.1	22.2	34.9	10.4	
1	1	5/8	T-FJ16FJ16FJ10	49.3	49.3	44.7	31.2	31.2	24.4	38.1	38.1	25.4	34.9	12.7	
1	1	3/4	T-FJ16FJ16FJ12	49.3	49.3	44.7	31.2	31.2	24.4	38.1	38.1	28.6	34.9	15.7	
1	1	7/8	T-FJ16FJ16FJ14	49.3	49.3	44.7	31.2	31.2	25.9	38.1	38.1	31.8	34.9	18.3	
1 1/4	1 1/4	1	T-FJ20FJ20FJ16	67.8	67.8	55.1	41.2	41.2	31.3	47.6	47.6	38.1	42.9	22.4	
1 1/2	1 1/2	1	T-FJ24FJ24FJ16	78.7	78.7	60.0	50.0	50.0	31.3	57.2	57.2	38.1	50.8	22.4	

# E-JOE

## Reducing Union Tees

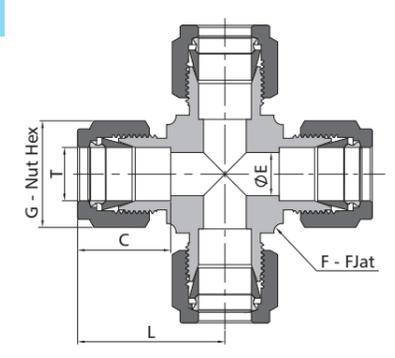


### Metric Tube

T1-Tube O.D. (mm)	T2-Tube O.D. (mm)	T3-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm											
				L1	L2	L3	C1	C2	C3	G1	G2	G3	F	E	
3	3	6	T-MJ3MJ3MJ6	24.7	24.7	27.0	12.9	12.9	15.3	12	12	14	12.7	2.4	
6	6	3	T-MJ6MJ6MJ3	27.0	27.0	25.4	15.3	15.3	12.9	14	14	12	12.7	2.4	
6	6	8	T-MJ6MJ6MJ8	28.0	28.0	28.8	15.3	15.3	16.2	14	14	16	14.3	4.8	
8	8	6	T-MJ8MJ8MJ6	30.0	30.0	29.0	16.2	16.2	15.3	16	16	14	15.9	4.8	
8	8	12	T-MJ8MJ8MJ12	35.2	35.2	36.0	16.2	16.2	22.8	16	16	22	20.6	6.4	
10	10	6	T-MJ10MJ10MJ6	31.5	31.5	29.9	17.2	17.2	15.3	19	19	14	17.5	4.8	
10	10	8	T-MJ10MJ10MJ8	31.5	31.5	30.7	17.2	17.2	16.2	19	19	16	17.5	6.4	
12	12	6	T-MJ12MJ12MJ6	36.0	36.0	31.8	22.8	22.8	15.3	22	22	14	20.6	4.8	
12	12	8	T-MJ12MJ12MJ8	36.0	36.0	35.2	22.8	22.8	16.2	22	22	16	20.6	6.4	
12	12	14	T-MJ12MJ12MJ14	38.0	38.0	38.0	22.8	22.8	24.4	22	22	25	25.4	9.5	
12	12	18	T-MJ12MJ12MJ18	39.8	39.8	39.8	22.8	22.8	24.4	22	22	30	27.0	9.5	
14	14	8	T-MJ14MJ14MJ8	38.0	38.0	37.2	24.4	24.4	16.2	25	25	16	25.4	6.4	
14	14	10	T-MJ14MJ14MJ10	38.0	38.0	38.0	24.4	24.4	17.2	25	25	19	25.4	7.9	
15	15	12	T-MJ15MJ15MJ12	38.8	38.8	38.8	24.4	24.4	22.8	25	25	22	25.4	9.5	
16	8	16	T-MJ16MJ8MJ16	38.8	37.2	38.8	24.4	16.2	24.4	25	16	25	25.4	6.4	
16	16	12	T-MJ16MJ16MJ12	38.8	38.8	38.9	24.4	24.4	22.8	25	25	22	25.4	9.5	
18	18	8	T-MJ18MJ18MJ8	39.8	39.8	39.0	24.4	24.4	16.2	30	30	16	27.0	6.4	
18	18	10	T-MJ18MJ18MJ10	39.8	39.8	39.8	24.4	24.4	17.2	30	30	19	27.0	7.9	
18	18	12	T-MJ18MJ18MJ12	39.8	39.8	39.8	24.4	24.4	22.8	30	30	22	27.0	9.5	
18	18	14	T-MJ18MJ18MJ14	39.8	39.8	39.8	24.4	24.4	24.4	30	30	25	27.0	11.1	
20	20	14	T-MJ20MJ20MJ14	44.6	44.6	44.6	26.0	26.0	24.4	32	32	25	34.9	11.1	
22	22	12	T-MJ22MJ22MJ12	44.6	44.6	44.6	26.0	26.0	22.8	32	32	22	34.9	9.5	
25	25	12	T-MJ25MJ25MJ12	49.1	49.1	44.7	31.3	31.3	22.8	38	38	22	34.9	9.5	

# E-JOE

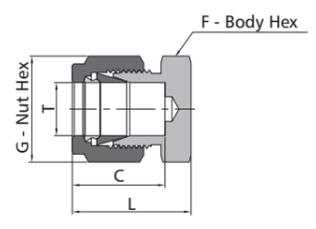
## Union Crosses



Fractional Tube						
T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm				
		L	C	G	F	E
1/8	C-FJ2	22.4	12.7	11.1	9.5	2.3
3/16	C-FJ3	24.4	13.7	12.7	11.1	3.0
1/4	C-FJ4	26.9	15.2	14.3	12.7	4.8
5/16	C-FJ5	29.7	16.2	15.9	15.9	6.4
3/8	C-FJ6	30.5	16.8	17.5	15.9	7.1
1/2	C-FJ8	36.1	22.9	22.2	20.6	10.4
5/8	C-FJ10	36.3	24.4	25.4	27.0	12.7
3/4	C-FJ12	39.9	24.4	28.6	27.0	15.7
7/8	C-FJ14	44.7	25.9	31.8	34.9	18.3
1	C-FJ16	49.0	31.2	38.1	34.9	22.4

Metric Tube						
T-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm				
		L	C	G	F	E
3	C-MJ3	22.3	12.9	12	9.5	2.4
4	C-MJ4	25.4	13.7	12	12.7	2.4
6	C-MJ6	27.0	15.3	14	12.7	4.8
8	C-MJ8	29.9	16.2	16	15.9	6.4
10	C-MJ10	33.5	17.2	19	20.6	7.9
12	C-MJ12	36.0	22.8	22	20.6	9.5
16	C-MJ16	37.0	24.4	25	23.8	12.7
18	C-MJ18	38.3	24.4	30	27.0	15.1
20	C-MJ20	44.6	26.0	32	34.9	15.9
22	C-MJ22	44.7	26.0	32	34.9	18.3
25	C-MJ25	49.2	31.3	38	34.9	21.8

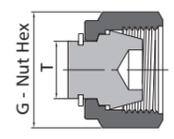
## Caps



Fractional Tube						
T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm				
		L	C	G	F	
1/16	TC-FJ1	15.0	8.6	7.9	7.9	
1/8	TC-FJ2	20.1	12.7	11.1	11.1	
3/16	TC-FJ3	21.3	13.7	12.7	11.1	
1/4	TC-FJ4	23.4	15.2	14.3	12.7	
5/16	TC-FJ5	24.4	16.3	15.9	14.3	
3/8	TC-FJ6	25.7	16.8	17.5	15.9	
1/2	TC-FJ8	29.2	22.9	22.2	20.6	
5/8	TC-FJ10	30.0	24.4	25.4	23.8	
3/4	TC-FJ12	31.5	24.4	28.6	27.0	
7/8	TC-FJ14	34.0	25.9	31.8	30.2	
1	TC-FJ16	38.4	31.2	38.1	34.9	
1 1/8	TC-FJ18	38.4	31.2	46.0	41.3	
1 1/4	TC-FJ20	53.3	41.1	47.6	44.5	
1 1/2	TC-FJ24	64.5	50.0	57.2	54.0	

Metric Tube						
T-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm				
		L	C	G	F	
2	TC-MJ2	20.1	12.9	12	12	
3	TC-MJ3	20.1	12.9	12	12	
4	TC-MJ4	21.3	13.7	12	12	
6	TC-MJ6	23.1	15.3	14	14	
8	TC-MJ8	24.5	16.2	16	15	
10	TC-MJ10	26.6	17.2	19	18	
12	TC-MJ12	29.1	22.8	22	22	
14	TC-MJ14	29.9	24.4	25	24	
15	TC-MJ15	29.9	24.4	25	24	
16	TC-MJ16	29.9	24.4	25	24	
18	TC-MJ18	31.4	24.4	30	27	
20	TC-MJ20	34.0	26.0	32	30	
22	TC-MJ22	34.0	26.0	32	30	
25	TC-MJ25	38.5	31.3	38	35	
28	TC-MJ28	48.5	36.6	46	41	
30	TC-MJ30	53.4	39.6	50	46	
32	TC-MJ32	55.8	42.0	50	46	
38	TC-MJ38	65.4	49.4	60	55	

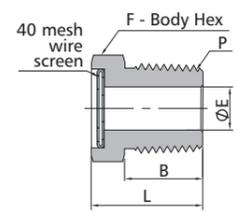
## Plugs



Fractional Tube		
T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm
		G
1/16	TP-FJ1	7.9
1/8	TP-FJ2	11.1
3/16	TP-FJ3	12.7
1/4	TP-FJ4	14.3
5/16	TP-FJ5	15.9
3/8	TP-FJ6	17.5
1/2	TP-FJ8	22.2
5/8	TP-FJ10	25.4
3/4	TP-FJ12	28.6
7/8	TP-FJ14	31.8
1	TP-FJ16	38.1
1 1/4	TP-FJ20	47.6
1 1/2	TP-FJ24	57.2

Metric Tube		
T-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm
		G
2	TP-MJ2	12
3	TP-MJ3	12
4	TP-MJ4	12
6	TP-MJ6	14
8	TP-MJ8	16
10	TP-MJ10	19
12	TP-MJ12	22
14	TP-MJ14	25
15	TP-MJ15	25
16	TP-MJ16	25
18	TP-MJ18	30
20	TP-MJ20	32
22	TP-MJ22	32
25	TP-MJ25	38
28	TP-MJ28	46
30	TP-MJ30	50
32	TP-MJ32	50
38	TP-MJ38	60

## Vent Protectors



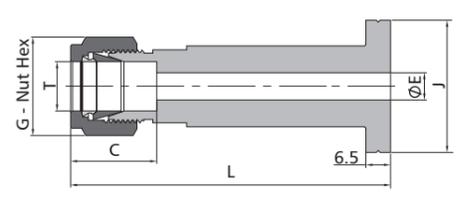
40 mesh 300 series stainless steel wire screen assembly

## NPT Thread

P-NPT Size	Ordering Number	Dimension, mm			
		L	F	B	E
1/8	VP-N2	14.2	12.7	9.7	4.8
1/4	VP-N4	19.8	14.3	14.2	7.1
3/8	VP-N6	20.6	17.5	14.2	10.4
1/2	VP-N8	26.2	22.2	19.1	12.7
3/4	VP-N12	26.9	27.0	19.2	18.3
1	VP-N16	34.8	34.9	23.9	22.4

To order brass, replace SS in the ordering number with B  
**Example: BVP-N2**

## Lapped Flange Connectors



- Standard material is 316 or Monel.
- The FJange ends are used with NPS 1/2 lap joint pipe FJanges.
- The FJange ends are dimensioned to meet "ANSI B16.5 Class 2500" FJange specifications.
- The FJange Seal A means surface finish Ra 3.2-6.3 µm, the FJange Seal B means Ra 6.3-12.5 µm.

## Fractional Tube

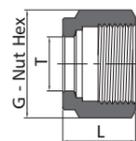
T-Tube O.D. (in.)	Flange Seal	Basic Ordering Number	Dimension, mm				
			L	G	C	E	J
1/4	A	LFC-FJ4A	80.8	14.3	15.2	4.8	34.5
1/4	B	LFC-FJ4B	80.8	14.3	15.2	4.8	34.5
3/8	A	LFC-FJ6A	82.9	17.5	16.8	7.1	34.5
3/8	B	LFC-FJ6B	82.9	17.5	16.8	7.1	34.5
1/2	A	LFC-FJ8A	85.1	22.2	22.9	7.9	34.5
1/2	B	LFC-FJ8B	85.1	22.2	22.9	7.9	34.5

## Metric Tube

T-Tube O.D. (mm)	Flange Seal	Basic Ordering Number	Dimension, mm				
			L	G	C	E	J
10	A	LFC-MJ10A	82.6	19	17.2	7.9	34.5
10	B	LFC-MJ10B	82.6	19	17.2	7.9	34.5

E-JOE

Nuts



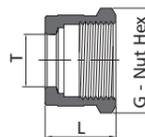
Fractional Tube

T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm	
		L	G
1/16	N-FJ1	7.9	7.9
1/8	N-FJ2	11.9	11.1
3/16	N-FJ3	11.9	12.7
1/4	N-FJ4	12.7	14.3
5/16	N-FJ5	13.5	15.9
3/8	N-FJ6	14.2	17.5
1/2	N-FJ8	17.5	22.2
5/8	N-FJ10	17.5	25.4
3/4	N-FJ12	17.5	28.6
7/8	N-FJ14	17.5	31.8
1	N-FJ16	20.6	38.1
1 1/8	N-FJ18	30.8	46.0
1 1/4	N-FJ20	31.8	47.6
1 1/2	N-FJ24	38.1	57.2

Metric Tube

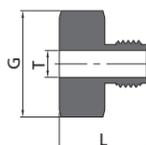
T-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm	
		L	G
2	N-MJ2	11.9	12
3	N-MJ3	11.9	12
4	N-MJ4	11.9	12
6	N-MJ6	12.7	14
8	N-MJ8	13.5	16
10	N-MJ10	15.1	19
12	N-MJ12	17.4	22
14	N-MJ14	17.4	25
15	N-MJ15	17.4	25
16	N-MJ16	17.4	25
18	N-MJ18	17.4	30
20	N-MJ20	17.4	32
22	N-MJ22	17.4	32
25	N-MJ25	20.6	38
28	N-MJ28	30.6	46
30	N-MJ30	32.7	50
32	N-MJ32	34.4	50
38	N-MJ38	40.6	60

Knurled Nuts



To order a knurled nut add K to the nut ordering number. Example: **BKN-FJ4**

Male Nuts



Fractional Tube

T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm	
		L	G
1/16	MN-FJ1	9.7	6.4
1/8	MN-FJ2	13.5	9.5
1/4	MN-FJ4	15.7	12.7
1/2	MN-FJ8	22.1	23.8

Metric Tube

T-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm	
		L	G
3	MN-MJ3	13.5	10
6	MN-MJ6	15.7	14
10	MN-MJ10	22.1	22
12	MN-MJ12	22.1	24

E-JOE

Front Ferrules



Fractional Tube

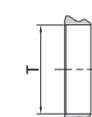
T-Tube O.D. (in.)	Basic Ordering Number
1/16	FF-FJ1
1/8	FF-FJ2
3/16	FF-FJ3
1/4	FF-FJ4
5/16	FF-FJ5
3/8	FF-FJ6
1/2	FF-FJ8
5/8	FF-FJ10
3/4	FF-FJ12
7/8	FF-FJ14
1	FF-FJ16
1 1/8	FF-FJ18*
1 1/4	FF-FJ20*
1 1/2	FF-FJ24*

Metric Tube

T-Tube O.D. (mm)	Basic Ordering Number
2	FF-MJ2
3	FF-MJ3
4	FF-MJ4
6	FF-MJ6
8	FF-MJ8
10	FF-MJ10
12	FF-MJ12
14	FF-MJ14
15	FF-MJ15
16	FF-MJ16
18	FF-MJ18
20	FF-MJ20
22	FF-MJ22
25	FF-MJ25
28	FF-MJ28*
30	FF-MJ30*
32	FF-MJ32*
38	FF-MJ38*

\* Stainless steel front ferrules over 1 in. or 25 mm are PFA coated.

Rear Ferrules



Fractional Tube

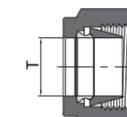
T-Tube O.D. (in.)	Basic Ordering Number
1/16	RF-FJ1
1/8	RF-FJ2
3/16	RF-FJ3
1/4	RF-FJ4
5/16	RF-FJ5
3/8	RF-FJ6
1/2	RF-FJ8
5/8	RF-FJ10
3/4	RF-FJ12
7/8	RF-FJ14
1	RF-FJ16
1 1/8	RF-FJ18*
1 1/4	RF-FJ20*
1 1/2	RF-FJ24*

Metric Tube

T-Tube O.D. (mm)	Basic Ordering Number
2	RF-MJ2
3	RF-MJ3
4	RF-MJ4
6	RF-MJ6
8	RF-MJ8
10	RF-MJ10
12	RF-MJ12
14	RF-MJ14
15	RF-MJ15
16	RF-MJ16
18	RF-MJ18
20	RF-MJ20
22	RF-MJ22
25	RF-MJ25
28	RF-MJ28*
30	RF-MJ30*
32	RF-MJ32*
38	RF-MJ38*

\* Stainless steel rear ferrules over 1 in. or 25 mm are PFA coated.

Nuts+Ferrules



Fractional Tube

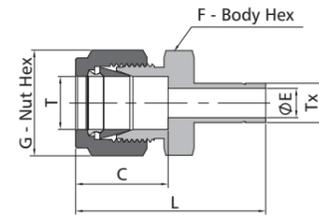
T-Tube O.D. (in.)	Basic Ordering Number
1/16	NFR-FJ1
1/8	NFR-FJ2
3/16	NFR-FJ3
1/4	NFR-FJ4
5/16	NFR-FJ5
3/8	NFR-FJ6
1/2	NFR-FJ8
5/8	NFR-FJ10
3/4	NFR-FJ12
7/8	NFR-FJ14
1	NFR-FJ16
1 1/8	NFR-FJ18
1 1/4	NFR-FJ20
1 1/2	NFR-FJ24

Metric Tube

T-Tube O.D. (mm)	Basic Ordering Number
2	NFR-MJ2
3	NFR-MJ3
4	NFR-MJ4
6	NFR-MJ6
8	NFR-MJ8
10	NFR-MJ10
12	NFR-MJ12
14	NFR-MJ14
15	NFR-MJ15
16	NFR-MJ16
18	NFR-MJ18
20	NFR-MJ20
22	NFR-MJ22
25	NFR-MJ25
28	NFR-MJ28
30	NFR-MJ30
32	NFR-MJ32
38	NFR-MJ38

E-JOE

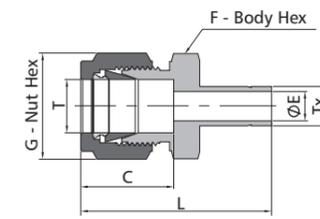
Reducers



Fractional Tube

T-Tube O.D. (in.)	Tx-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm				
			L	C	G	F	E
1/16	1/8	S-FJ1FT2	29.2	8.6	7.9	7.9	1.3
1/16	3/16	S-FJ1FT3	28.7	8.6	7.9	7.9	1.3
1/16	1/4	S-FJ1FT4	31.5	8.6	7.9	7.9	1.3
1/8	1/16	S-FJ2FT1	29.0	12.7	11.1	11.1	0.8
1/8	1/8	S-FJ2FT2	33.5	12.7	11.1	11.1	2.0
1/8	3/16	S-FJ2FT3	34.3	12.7	11.1	11.1	2.3
1/8	1/4	S-FJ2FT4	36.1	12.7	11.1	11.1	2.3
1/8	3/8	S-FJ2FT6	37.6	12.7	11.1	11.1	2.3
1/8	1/2	S-FJ2FT8	44.2	12.7	11.1	14.3	2.3
3/16	1/8	S-FJ3FT2	34.8	13.7	12.7	11.1	2.0
3/16	1/4	S-FJ3FT4	37.1	13.7	12.7	11.1	3.0
1/4	1/8	S-FJ4FT2	36.8	15.2	14.3	12.7	2.0
1/4	3/16	S-FJ4FT3	37.6	15.2	14.3	12.7	3.0
1/4	1/4	S-FJ4FT4	39.1	15.2	14.3	12.7	4.3
1/4	5/16	S-FJ4FT5	39.9	15.2	14.3	12.7	4.8
1/4	3/8	S-FJ4FT6	40.6	15.2	14.3	12.7	4.8
1/4	1/2	S-FJ4FT8	46.2	15.2	14.3	14.3	4.8
1/4	5/8	S-FJ4FT10	48.0	15.2	14.3	17.5	4.8
1/4	3/4	S-FJ4FT12	47.8	15.2	14.3	20.6	4.8
5/16	3/8	S-FJ5FT6	41.9	16.3	15.9	14.3	6.4
5/16	1/2	S-FJ5FT8	47.5	16.3	15.9	14.3	6.4
3/8	1/4	S-FJ6FT4	41.4	16.8	17.5	15.9	4.3
3/8	3/8	S-FJ6FT6	43.2	16.8	17.5	15.9	6.9
3/8	1/2	S-FJ6FT8	48.5	16.8	17.5	15.9	7.1
3/8	5/8	S-FJ6FT10	50.3	16.8	17.5	17.5	7.1
3/8	3/4	S-FJ6FT12	50.3	16.8	17.5	20.6	7.1
1/2	1/4	S-FJ8FT4	45.0	22.9	22.2	20.6	4.3
1/2	3/8	S-FJ8FT6	46.7	22.9	22.2	20.6	6.9
1/2	1/2	S-FJ8FT8	52.3	22.9	22.2	20.6	9.4
1/2	5/8	S-FJ8FT10	53.8	22.9	22.2	20.6	10.4
1/2	3/4	S-FJ8FT12	53.8	22.9	22.2	20.6	10.4
1/2	1	S-FJ8FT16	60.2	22.9	22.2	27.0	10.4
5/8	3/4	S-FJ10FT12	54.6	24.4	25.4	23.8	12.7
5/8	7/8	S-FJ10FT14	56.1	24.4	25.4	23.8	12.7
5/8	1	S-FJ10FT16	61.0	24.4	25.4	27.0	12.7
3/4	3/4	S-FJ12FT12	54.6	24.4	28.6	27.0	9.9
3/4	1	S-FJ12FT16	62.5	24.4	28.6	27.0	15.7
1	1 1/4	S-FJ16FT20	80.5	31.2	38.1	34.9	22.4
1	1 1/2	S-FJ16FT24	89.2	31.2	38.1	41.3	22.4
1	2	S-FJ16FT32	112.5	31.2	38.1	54.0	22.4
1 1/4	1 1/2	S-FJ20FT24	104.1	41.1	57.2	47.6	27.7

Reducers



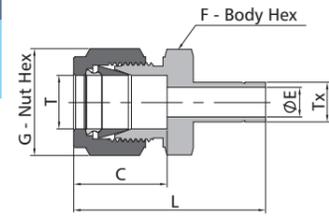
Metric Tube

T-Tube O.D. (mm)	Tx-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm				
			L	C	G	F	E
2	3	L-MJ2MT3	33.5	12.9	12	12	1.7
3	4	L-MJ3MT4	35.0	12.9	12	12	2.4
3	6	L-MJ3MT6	36.1	12.9	12	12	2.4
3	10	L-MJ3MT10	38.4	12.9	12	14	2.4
4	6	L-MJ4MT6	37.1	13.7	12	12	2.4
6	3	L-MJ6MT3	36.9	15.3	14	14	1.9
6	8	L-MJ6MT8	39.9	15.3	14	14	4.8
6	10	L-MJ6MT10	40.7	15.3	14	14	4.8
6	12	L-MJ6MT12	46.3	15.3	14	14	4.8
6	18	L-MJ6MT18	49.6	15.3	14	22	4.8
8	6	L-MJ8MT6	40.3	16.2	16	15	4.1
8	10	L-MJ8MT10	42.0	16.2	16	15	6.4
8	12	L-MJ8MT12	47.6	16.2	16	15	6.4
10	6	L-MJ10MT6	42.4	17.2	19	18	4.1
10	8	L-MJ10MT8	43.4	17.2	19	18	5.6
10	12	L-MJ10MT12	49.8	17.2	19	18	7.9
10	15	L-MJ10MT15	51.3	17.2	19	18	7.9
10	18	L-MJ10MT18	51.3	17.2	19	22	7.9
12	6	L-MJ12MT6	44.9	22.8	22	22	4.1
12	8	L-MJ12MT8	45.9	22.8	22	22	5.6
12	10	L-MJ12MT10	46.7	22.8	22	22	7.1
12	16	L-MJ12MT16	53.8	22.8	22	22	9.5
12	18	L-MJ12MT18	53.8	22.8	22	22	9.5
12	20	L-MJ12MT20	56.1	22.8	22	22	9.5
12	22	L-MJ12MT22	56.1	22.8	22	24	9.5
12	25	L-MJ12MT25	62.4	22.8	22	27	9.5
16	12	L-MJ16MT12	53.0	24.4	25	24	8.8
18	12	L-MJ18MT12	54.6	24.4	30	27	8.8
18	16	L-MJ18MT16	56.1	24.4	30	27	12.0
18	20	L-MJ18MT20	57.6	24.4	30	27	15.1
18	22	L-MJ18MT22	57.6	24.4	30	27	15.1
18	25	L-MJ18MT25	62.4	24.4	30	27	15.1
20	16	L-MJ20MT16	57.9	26.0	32	30	12.0
20	18	L-MJ20MT18	57.9	26.0	32	30	13.9
20	22	L-MJ20MT22	59.4	26.0	32	30	15.9
20	25	L-MJ20MT25	64.2	26.0	32	30	15.8
22	18	L-MJ22MT18	57.9	26.0	32	30	13.9
22	20	L-MJ22MT20	59.4	26.0	32	30	15.5
22	25	L-MJ22MT25	64.2	26.0	32	30	18.3
25	18	L-MJ25MT18	63.1	31.3	38	35	13.9
25	20	L-MJ25MT20	64.6	31.3	38	35	15.5

E-JOE

E-JOE

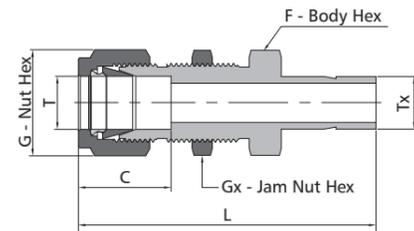
Reducers



Metric Tube			Fractional Tube				
T-Tube O.D. (mm)	Tx-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm				
			L	C	G	F	E
2	1/8	S-MJ2FT2	33.5	12.9	12	12	1.7
3	1/8	S-MJ3FT2	33.5	12.9	12	12	2.0
3	1/4	S-MJ3FT4	36.1	12.9	12	12	2.4
4	1/4	S-MJ4FT4	37.1	13.7	12	12	2.4
6	1/8	S-MJ6FT2	36.9	15.3	14	14	2.0
6	1/4	S-MJ6FT4	39.2	15.3	14	14	4.4
6	5/16	S-MJ6FT5	39.9	15.3	14	14	4.8
6	3/8	S-MJ6FT6	40.7	15.3	14	14	4.8
6	1/2	S-MJ6FT8	46.3	15.3	14	14	4.8
8	1/4	S-MJ8FT4	40.3	16.2	16	15	4.4
8	3/8	S-MJ8FT6	42.0	16.2	16	15	6.4
8	1/2	S-MJ8FT8	47.6	16.2	16	15	6.4
10	3/8	S-MJ10FT6	44.2	17.2	19	18	6.8
10	1/2	S-MJ10FT8	49.8	17.2	19	18	7.9
12	1/2	S-MJ12FT8	52.3	22.8	22	22	9.3
12	3/4	S-MJ12FT12	53.8	22.8	22	22	9.5
18	3/4	S-MJ18FT12	56.1	24.4	30	27	14.7
18	1	S-MJ18FT16	62.4	24.4	30	27	15.1
25	1	S-MJ25FT16	69.5	31.3	38	35	20.2

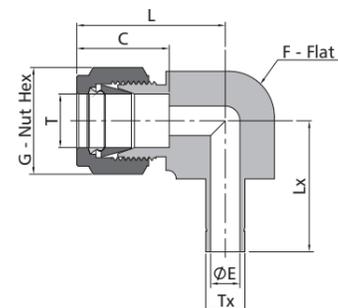
Fractional Tube			Metric Tube				
T-Tube O.D. (in.)	Tx-Tube O.D. (mm)	Basic Ordering Number	Dimension, mm				
			L	C	G	F	E
1/8	6	S-FJ2MT6	36.1	12.7	11.1	11.1	2.3

Bulkhead Reducers



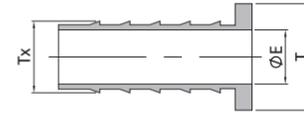
Fractional Tube			Metric Tube					
T-Tube O.D. (in.)	Tx-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm					
			L	C	G	F	Gx	E
1/8	1/8	S-BFJ2FT2	49.5	12.7	11.1	12.7	12.7	2.0
1/4	1/4	S-BFJ4FT4	55.9	15.2	14.3	15.9	15.9	4.3
3/8	3/8	S-BFJ6FT6	61.2	16.8	17.5	19.1	19.1	6.9
1/2	1/2	S-BFJ8FT8	72.9	22.9	22.2	23.8	23.8	9.4
5/8	5/8	S-BFJ10FT10	75.2	24.4	25.4	27.0	27.0	11.9
3/4	3/4	S-BFJ12FT12	81.5	24.4	28.6	30.2	30.2	14.7
1	1	S-BFJ16FT16	100.3	31.2	38.1	41.3	41.3	20.3

Reducer Elbows



Metric Tube			Dimension, mm					
T-Tube O.D. (mm)	Tx-Tube O.D. (mm)	Basic Ordering Number	L	C	G	F	E	Lx
6	6	L-MJ6MT6	27.0	15.3	14	12.7	4.6	18.8
12	12	L-MJ12MT12	38.1	22.8	22	23.8	8.8	23.4

Insert for Soft Plastic Tubings



E-JOE

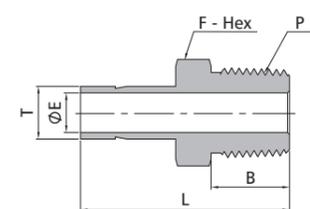
Fractional Tube

T-Tube O.D. (in.)	Tx-Tube I.D. (in.)	Basic Ordering Number	E (mm)
3/16	1/8	IN-F3AT2	2.3
1/4	1/8	IN-F4AT2	2.3
1/4	0.17	IN-F4AT017	2.8
1/4	3/16	IN-F4AT3	3.5
5/16	1/8	IN-F5AT2	2.3
5/16	3/16	IN-F5AT3	3.0
5/16	1/4	IN-F5AT4	4.8
3/8	3/16	IN-F6AT3	3.0
3/8	1/4	IN-F6AT4	4.8
1/2	1/4	IN-F8AT4	4.8
1/2	3/8	IN-F8AT6	7.9
5/8	3/8	IN-F10AT6	7.9
5/8	1/2	IN-F10AT8	11.1
3/4	1/2	IN-F12AT8	11.1
3/4	5/8	IN-F12AT10	14.2
1	3/4	IN-F16AT12	17.5

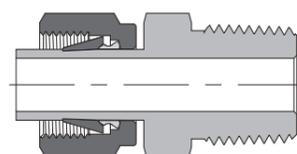
Metric Tube

T-Tube O.D. (mm)	Tx-Tube I.D. (mm)	Basic Ordering Number	E (mm)
6	4	IN-M6NT4	2.8
8	6	IN-M8NT6	4.4
10	8	IN-M10NT8	6.4
12	8	IN-M12NT8	6.4
12	10	IN-M12NT10	8.3

Male Adapters



1" and below

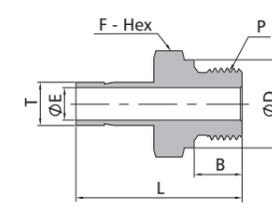


1 1/4" and above

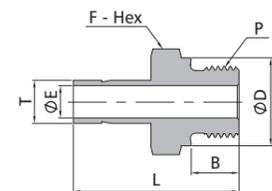
Fractional Tube			NPT Thread			
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
1/16	1/8	S-FT1N2	25.4	9.7	0.8	11.1
1/8	1/8	S-FT2N2	29.5	9.7	2.0	11.1
1/8	1/4	S-FT2N4	34.8	14.2	2.0	14.3
3/16	1/8	S-FT3N2	30.2	9.7	3.0	11.1
3/16	1/4	S-FT3N4	35.6	14.2	3.0	14.3
1/4	1/8	S-FT4N2	31.8	9.7	4.3	11.1
1/4	1/4	S-FT4N4	37.1	14.2	4.3	14.3
1/4	3/8	S-FT4N6	37.8	14.2	4.3	17.5
1/4	1/2	S-FT4N8	43.4	19.1	4.3	22.2
5/16	1/8	S-FT5N2	32.8	9.7	4.8	11.1
5/16	1/4	S-FT5N4	38.1	14.2	5.6	14.3
5/16	3/8	S-FT5N6	38.9	14.2	5.6	17.5
5/16	1/2	S-FT5N8	44.2	19.1	5.6	22.2
3/8	1/8	S-FT6N2	33.5	9.7	4.8	11.1
3/8	1/4	S-FT6N4	38.9	14.2	6.9	14.3
3/8	3/8	S-FT6N6	39.6	14.2	6.9	17.5
3/8	1/2	S-FT6N8	45.2	19.1	6.9	22.2
1/2	1/4	S-FT8N4	44.5	14.2	7.1	14.3
1/2	3/8	S-FT8N6	45.2	14.2	9.4	17.5
1/2	1/2	S-FT8N8	50.8	19.1	9.4	22.2
5/8	1/2	S-FT10N8	52.3	19.1	11.9	22.2
3/4	1/2	S-FT12N8	52.3	19.1	11.9	22.2
3/4	3/4	S-FT12N12	52.3	19.1	14.7	27.0
3/4	1	S-FT12N16	61.2	23.9	20.7	34.9
1	3/4	S-FT16N12	58.7	19.1	15.7	27.0
1	1	S-SFJ16N16	66.0	23.9	20.3	34.9
1 1/4	1 1/4	S-SFJ20N20	80.3	23.9	25.9	44.5
1 1/2	1 1/2	S-SFJ24N24	94.5	26.2	31.8	54.0

Fractional Tube			ISO Tapered Thread (RT)			
T-Tube O.D. (in.)	P-RT Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
1/8	1/8	S-FT2RT2	29.5	9.7	2.0	11.1
1/8	1/4	S-FT2RT4	34.8	14.2	2.0	14.3
1/4	1/8	S-FT4RT2	31.8	9.7	4.3	11.1
1/4	1/4	S-FT4RT4	37.1	14.2	4.3	14.3
1/4	3/8	S-FT4RT6	37.8	14.2	4.0	17.5
1/4	1/2	S-FT4RT8	43.4	19.1	4.0	22.2
5/16	1/8	S-FT5RT2	32.8	9.7	5.6	11.1
5/16	1/4	S-FT5RT4	38.1	14.2	5.6	14.3
3/8	1/4	S-FT6RT4	38.9	14.2	6.9	14.3
3/8	3/8	S-FT6RT6	39.6	14.2	6.9	17.5
3/8	1/2	S-FT6RT8	45.2	19.1	6.9	22.2
1/2	1/4	S-FT8RT4	44.5	14.2	7.1	14.3
1/2	3/8	S-FT8RT6	45.2	14.2	9.4	17.5
1/2	1/2	S-FT8RT8	50.8	19.1	9.4	22.2
5/8	3/8	S-FT10RT6	48.5	14.2	9.5	17.5
5/8	1/2	S-FT10RT8	52.3	19.1	11.9	22.2
3/4	3/4	S-FT12RT12	52.3	19.1	14.7	27.0
1	1	S-SFJ16RT16	66.0	23.9	20.3	34.9

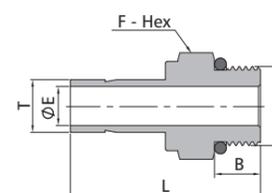
Male Adapters



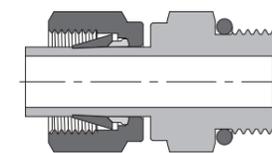
1" and below



1 1/4" and above



1" and below



1 1/4" and above

Adapt to straight thread boss of SAE J1926-1, ISO 11926-1 and MS 16142.

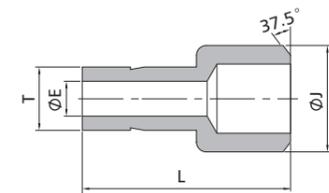
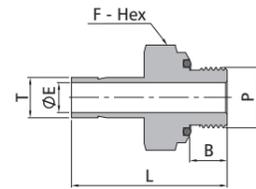
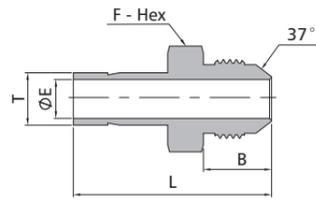
Fractional Tube			ISO Parallel Thread (RS)				
T-Tube O.D. (in.)	P-RS Size	Basic Ordering Number	Dimension, mm				
			L	B	E	F	D
1/8	1/8	S-FT2BS2	31.0	7.1	2.0	14.3	13.7
1/8	1/4	S-FT2BS4	35.8	11.2	2.0	19.1	17.8
1/4	1/8	S-FT4BS2	33.3	7.1	4.1	14.3	13.7
1/4	1/4	S-FT4BS4	38.1	11.2	4.3	19.1	17.8
3/8	1/8	S-FT6BS2	34.0	7.1	1.3	19.1	13.7
3/8	1/4	S-FT6BS4	39.9	11.2	5.8	19.1	17.8
3/8	3/8	S-FT6BS6	40.6	11.2	6.9	22.2	21.6
3/8	1/2	S-FT6BS8	42.9	14.2	7.1	27.0	25.9
1/2	1/4	S-FT8BS4	45.5	11.2	5.8	19.1	17.8
1/2	3/8	S-FT8BS6	46.2	11.2	7.9	22.2	21.6
1/2	1/2	S-FT8BS8	49.2	14.2	9.4	27.0	25.9
5/8	1/2	S-FT10BS8	50.0	14.2	11.9	27.0	25.9
3/4	3/4	S-FT12BS12	54.9	16.0	14.7	33.3	32.0
1	1	S-FT16BS16	64.5	18.3	20.3	41.3	38.9

Fractional Tube			ISO Parallel Thread (RP)				
T-Tube O.D. (in.)	P-RP Size	Basic Ordering Number	Dimension, mm				
			L	B	E	F	D
1/8	1/8	S-FT2BS2	27.7	7.1	1.3	14.3	13.7
1/8	1/4	S-FT2BS4	33.3	11.2	1.3	19.1	17.8
1/4	1/8	S-FT4BS2	30.2	7.1	4.1	14.3	13.7
1/4	1/4	S-FT4BS4	38.1	11.2	4.6	19.1	17.8
3/8	1/8	S-FT6BS2	34.0	7.1	1.3	19.1	13.7
3/8	1/4	S-FT6BS4	37.3	11.2	6.4	19.1	17.8
3/8	3/8	S-FT6BS6	38.1	11.2	7.1	22.2	21.6
3/8	1/2	S-FT6BS8	42.9	14.2	7.1	27.0	25.9
1/2	1/4	S-FT8BS4	42.9	11.2	6.4	19.1	17.8
1/2	3/8	S-FT8BS6	43.7	11.2	7.9	22.2	21.6
1/2	1/2	S-FT8BS8	49.3	14.2	9.9	27.0	25.9
5/8	1/2	S-FT10BS8	50.0	14.2	11.9	27.0	25.9
3/4	3/4	S-FT12BS12	53.1	16.0	14.7	33.5	32.0
1	1	S-FT16BS16	63.3	18.3	20.3	41.3	38.9

Fractional Tube			SAE/MS Straight Thread			
T-Tube O.D. (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
1/8	5/16-24	S-FT2SOT5	30.5	7.6	2.0	11.1
1/4	7/16-20	S-FT4SOT7	35.3	9.1	4.3	14.3
3/8	7/16-20	S-FT6SOT7	37.1	9.1	5.1	14.3
3/8	9/16-18	S-FT6SOT9	38.6	9.9	6.9	17.5
3/8	3/4-16	S-FT6SOT12	40.6	11.2	6.9	22.2
1/2	9/16-18	S-FT8SOT9	44.2	9.9	7.1	17.5
1/2	3/4-16	S-FT8SOT12	46.2	11.2	9.4	22.2
5/8	7/8-14	S-FT10SOT14	49.3	12.7	11.9	25.4
3/4	1 1/16-12	S-FT12SOT17	53.3	15.0	14.7	31.8
1	1 5/8-12	S-FT16SOT21	61.2	15.0	20.3	38.1
1 1/4	1 5/8-12	S-FT20SOT26	71.4	15.0	25.9	47.6
1 1/2	1 7/8-12	S-FT24SOT30	83.3	15.0	31.8	54.0

E-JOE

Male Adapters



Fractional Tube 37° Flare (AN)

T-Tube O.D. (in.)	AN Tube Flare Size (in.)	Basic Ordering Number	Dimension, mm			
			L	B	E	F
1/4	1/4	S-FT4AN4	37.1	14.0	4.3	12.7
3/8	1/4	S-FT6AN4	38.9	14.0	4.3	12.7
3/8	3/8	S-FT6AN6	39.6	14.2	6.9	15.9
1/2	1/2	S-FT8AN8	48.5	16.8	9.4	20.6
3/4	3/4	S-FT12AN12	56.1	21.8	14.7	28.6
1	1	S-FT16AN16	65.5	23.1	20.3	34.9

Fractional Tube O-Seal with SAE/MS Straight Thread

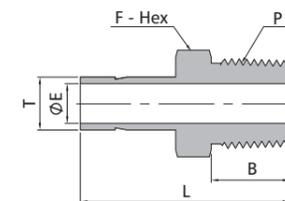
T-Tube O.D. (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
1/8	5/16-24	S-FT2STO5	32.5	8.6	2.0	14.3
3/16	3/8-24	S-FT3STO6	35.1	9.7	3.0	15.9
1/4	7/16-20	S-FT4STO7	39.1	10.4	4.3	19.1
5/16	1/2-20	S-FT5STO8	41.7	11.2	5.6	22.2
3/8	9/16-18	S-FT6STO9	43.2	11.9	6.9	23.8
1/2	3/4-16	S-FT8STO12	49.5	11.9	9.4	28.6

Fractional Tube Pipe Weld

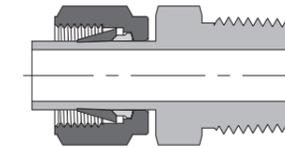
T-Tube O.D. (in.)	Pipe Weld Size	Basic Ordering Number	Dimension, mm		
			L	J	E
1/4	1/4	S-FT4PB4	29.0	13.7	4.3
3/8	1/2	S-FT6PB8	37.1	21.3	6.9
1/2	1/2	S-FT8PB8	42.2	21.3	9.4
1/2	3/4	S-FT8PB12	42.7	26.7	9.4
3/4	3/4	S-FT12PB12	47.5	26.7	14.7

E-JOE

Male Adapters



25 mm and below



28 mm and above

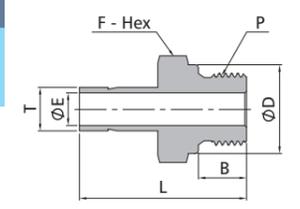
Metric Tube NPT Thread

T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
3	1/8	S-MT3N2	29.4	9.7	1.8	12
4	1/8	S-MT4N2	29.4	9.7	2.0	12
6	1/8	S-MT6N2	32.8	9.7	4.1	12
6	1/4	S-MT6N4	38.1	14.2	4.1	14
6	3/8	S-MT6N6	36.5	14.2	3.0	18
6	1/2	S-MT6N8	42.1	19.1	3.0	22
8	1/4	S-MT8N4	39.1	14.2	5.6	14
8	3/8	S-MT8N6	39.9	14.2	5.6	19
10	1/4	S-MT10N4	39.9	14.2	7.1	14
10	3/8	S-MT10N6	40.6	14.2	7.1	18
10	1/2	S-MT10N8	46.2	19.1	7.1	22
12	1/4	S-MT12N4	46.5	14.2	7.1	14
12	3/8	S-MT12N6	44.5	14.2	9.1	18
12	1/2	S-MT12N8	52.0	19.1	8.8	22
16	1/2	S-MT16N8	50.8	19.1	12.7	22
16	3/4	S-MT16N12	51.6	19.1	12.7	27
18	1/2	S-MT18N8	50.8	19.1	12.7	27
18	3/4	S-MT18N12	51.6	19.1	14.0	27
20	1/2	S-MT20N8	51.8	19.1	15.0	22
20	3/4	S-MT20N12	52.4	19.1	15.1	27
25	1	S-MT25N16	65.9	23.9	19.8	35
28	1	S-SMJ28N16	74.4	23.9	22.2	35
28	1 1/4	S-SMJ28N20	76.2	23.9	22.5	46
30	1	S-SMJ30N16	79.2	23.9	22.5	41
30	1 1/4	S-SMJ30N20	80.0	23.9	24.3	46
32	1 1/4	S-SMJ32N20	81.0	23.9	26.5	46
38	1 1/2	S-SMJ38N24	92.2	26.2	31.6	55

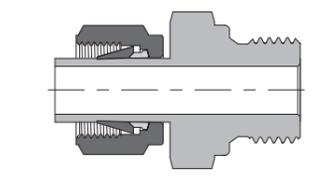
Metric Tube ISO Tapered Thread (RT)

T-Tube O.D. (mm)	P-RT Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
3	1/8	S-MT3RT2	29.4	9.7	1.8	12
4	1/8	S-MT4RT2	29.4	9.7	2.0	12
6	1/8	S-MT6RT2	32.8	9.7	4.1	12
6	1/4	S-MT6RT4	38.1	14.2	4.1	14
8	1/4	S-MT8RT4	39.1	14.2	5.6	14
8	3/8	S-MT8RT6	38.3	14.2	5.0	18
10	1/4	S-MT10RT4	39.9	14.2	7.1	14
10	3/8	S-MT10RT6	40.6	14.2	7.1	18
10	1/2	S-MT10RT8	44.5	19.1	7.5	22
12	1/4	S-MT12RT4	46.5	14.2	7.1	16
12	3/8	S-MT12RT6	46.2	14.2	8.8	18
12	1/2	S-MT12RT8	51.8	19.1	8.8	22
16	1/2	S-MT16RT8	50.8	19.1	12.7	22
18	3/4	S-MT18RT12	51.6	19.1	14.0	27
20	3/4	S-MT20RT12	52.4	19.1	15.1	27
25	1	S-MT25RT16	65.9	23.9	19.8	35
28	1	S-SMJ28RT16	74.7	23.9	22.2	35
28	1 1/4	S-SMJ28RT20	76.2	23.9	22.5	46
30	1 1/4	S-SMJ30RT20	80.0	23.9	24.3	46
32	1 1/4	S-SMJ32RT20	81.0	23.9	26.5	46
38	1 1/2	S-SMJ38RT24	92.2	26.2	31.6	55

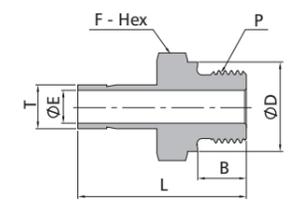
Male Adapters



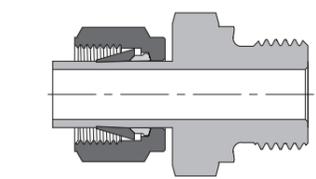
25 mm and below



28 mm and above



25 mm and below



28 mm and above

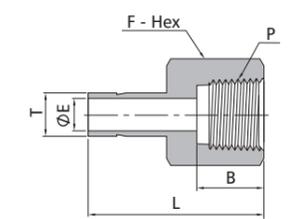
Metric Tube ISO Parallel Thread (RS)

T-Tube O.D. (mm)	P-RS Size	Basic Ordering Number	Dimension, mm				
			L	B	E	F	D
3	1/8	S-MT3BS2	31.0	7.1	1.8	14	13.7
4	1/8	S-MT4BS2	31.8	7.1	2.0	14	13.7
6	1/8	S-MT6BS2	34.3	7.1	4.0	14	13.7
6	1/4	S-MT6BS4	39.1	11.2	4.1	19	17.8
8	1/4	S-MT8BS4	40.1	11.2	5.6	19	17.8
10	1/4	S-MT10BS4	40.9	11.2	5.9	19	17.8
10	3/8	S-MT10BS6	41.7	11.2	7.1	22	21.6
10	1/2	S-MT10BS8	44.7	14.2	7.1	27	25.9
12	1/4	S-MT12BS4	46.7	11.2	5.9	19	17.8
12	3/8	S-MT12BS6	47.2	11.2	7.9	22	21.6
12	1/2	S-MT12BS8	50.5	14.2	8.8	27	25.9
16	1/2	S-MT16BS8	50.8	14.2	11.9	27	25.9
18	3/4	S-MT18BS12	56.1	16.0	13.9	35	32.0
20	3/4	S-MT20BS12	54.0	16.0	15.1	33	32.0
25	1	S-MT25BS16	65.1	18.3	19.8	41	38.9
28	1	S-SMJ28BS16	72.9	18.3	19.8	41	38.9
28	1 1/4	S-SMJ28BS20	77.0	19.8	22.5	50	49.0
30	1 1/4	S-SMJ30BS20	80.8	19.8	24.3	50	49.0
32	1 1/4	S-SMJ32BS20	81.8	19.8	26.5	50	49.0
38	1 1/2	S-SMJ38BS24	94.5	22.1	31.6	55	54.7

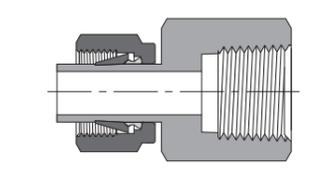
Metric Tube ISO Parallel Thread (RP)

T-Tube O.D. (mm)	P-RP Size	Basic Ordering Number	Dimension, mm				
			L	B	E	F	D
3	1/8	S-MT3BR2	31.0	7.1	1.8	14	13.7
4	1/8	S-MT4BR2	31.8	7.1	2.0	14	13.7
6	1/8	S-MT6BR2	33.3	7.1	4.0	14	13.7
6	1/4	S-MT6BR4	38.1	11.2	4.0	19	17.8
8	1/4	S-MT8BR4	38.9	11.2	6.4	19	17.8
10	1/4	S-MT10BR4	38.9	11.2	6.4	19	17.8
10	3/8	S-MT10BR6	39.7	11.2	7.5	22	21.6
10	1/2	S-MT10BR8	42.9	14.2	7.5	27	25.9
12	1/4	S-MT12BR4	43.7	11.2	6.4	19	17.8
12	3/8	S-MT12BR6	44.5	11.2	7.9	22	21.6
12	1/2	S-MT12BR8	49.2	14.2	9.1	27	25.9
16	1/2	S-MT16BR8	50.8	14.2	11.9	27	25.9
18	3/4	S-MT18BR12	53.2	16.0	14.0	33	32.0
20	3/4	S-MT20BR12	54.0	16.0	15.1	33	32.0
25	1	S-MT25BR16	65.1	18.3	19.8	41	38.9
28	1	S-SMJ28BR16	72.7	18.3	19.8	41	38.9
28	1 1/4	S-SMJ28BR20	77.3	19.8	22.5	50	49.0
30	1 1/4	S-SMJ30BR20	80.8	19.8	24.3	50	49.0
32	1 1/4	S-SMJ32BR20	82.1	19.8	26.5	50	49.0
38	1 1/2	S-SMJ38BR24	94.5	22.1	31.6	55	54.7

Female Adapters



1" and below



1 1/4" and above

Fractional Tube NPT Thread

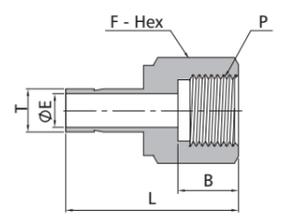
T-Tube O.D. (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
1/16	1/8	S-FT1FN2	27.2	10.4	0.8	14.3
1/8	1/8	S-FT2FN2	31.5	10.4	2.0	14.3
1/8	1/4	S-FT2FN4	35.3	15.0	2.0	19.1
3/16	1/8	S-FT3FN2	31.8	10.4	2.9	14.3
3/16	1/4	S-FT3FN4	35.8	15.0	3.0	19.1
1/4	1/8	S-FT4FN2	33.0	10.4	4.3	14.3
1/4	1/4	S-FT4FN4	37.1	15.0	4.3	19.1
1/4	3/8	S-FT4FN6	39.4	15.0	4.3	22.2
1/4	1/2	S-FT4FN8	45.5	19.8	4.3	27.0
5/16	1/8	S-FT5FN2	34.0	10.4	5.6	14.3
5/16	1/4	S-FT5FN4	37.6	15.0	5.6	19.1
5/16	3/8	S-FT5FN6	40.4	15.0	5.6	22.2
3/8	1/8	S-FT6FN2	34.3	10.4	6.9	14.3
3/8	1/4	S-FT6FN4	38.1	15.0	6.9	19.1
3/8	3/8	S-FT6FN6	40.4	15.0	6.9	22.2
3/8	1/2	S-FT6FN8	46.7	19.8	6.9	27.0
1/2	1/4	S-FT8FN4	43.4	15.0	9.4	19.1
1/2	3/8	S-FT8FN6	45.5	15.0	9.4	22.2
1/2	1/2	S-FT8FN8	51.8	19.8	9.4	27.0
5/8	3/8	S-FT10FN6	47.2	15.0	11.9	22.2
5/8	1/2	S-FT10FN8	53.1	19.8	11.9	27.0
3/4	1/2	S-FT12FN8	52.8	19.8	14.7	27.0
3/4	3/4	S-FT12FN12	54.9	20.6	14.7	33.3
3/4	1	S-FT12FN16	58.4	25.4	14.7	41.3
7/8	3/4	S-FT14FN12	56.4	20.6	14.7	33.3
1	3/4	S-FT16FN12	60.7	20.6	20.3	33.3
1	1	S-FT16FN16	64.3	25.4	20.3	41.3
1 1/4	1 1/4	S-SFJ20FN20	77.7	25.4	25.9	54.0
1 1/2	1 1/2	S-SFJ24FN24	88.9	27.7	31.8	60.3

Fractional Tube ISO Tapered Thread (RT)

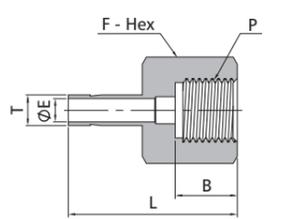
T-Tube O.D. (in.)	P-RT Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
1/4	1/8	S-FT4FR2	33.0	10.4	4.3	14.3
1/4	1/4	S-FT4FR4	36.8	15.0	4.3	19.1
3/8	1/4	S-FT6FR4	38.1	15.0	6.9	19.1
3/8	3/8	S-FT6FR6	40.4	15.0	6.9	22.2
1/2	1/4	S-FT8FR4	43.4	15.0	9.4	19.1
1/2	3/8	S-FT8FR6	45.7	15.0	9.4	22.2
1/2	1/2	S-FT8FR8	52.1	19.8	9.4	27.0

# E-JOE

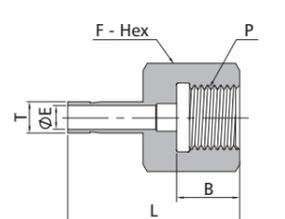
## Female Adapters



Fractional Tube			ISO Parallel Thread (RP)			
T-Tube O.D. (in.)	P-RP Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
1/8	1/8	S-FT2FP2	29.7	10.2	2.0	14.3
1/4	1/8	S-FT4FP2	31.8	10.2	4.3	14.3
1/4	1/4	S-FT4FP4	38.1	15.2	4.3	19.1
3/8	1/4	S-FT6FP4	39.4	15.2	6.9	19.1
3/8	3/8	S-FT6FP6	39.9	15.2	6.9	23.8
1/2	3/8	S-FT8FP6	45.2	15.2	9.7	23.8
1/2	1/2	S-FT8FP8	49.5	18.2	9.7	27.0

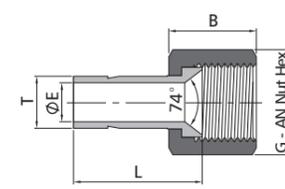


Fractional Tube			ISO Parallel Thread (RG)			
T-Tube O.D. (in.)	P-RG Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
1/4	1/4	S-FT4FG4	35.3	12.9	4.3	19.1
3/8	3/8	S-FT6FG6	39.4	14.2	6.6	23.8
1/2	1/2	S-FT8FG8	45.7	18.8	7.1	27.0



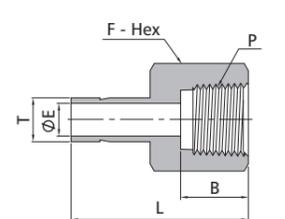
Fractional Tube			ISO Parallel Thread (RJ)			
T-Tube O.D. (in.)	P-RJ Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
1/4	1/4	S-FT4RJ4	35.3	12.9	4.3	19.1
3/8	3/8	S-FT6RJ6	39.4	14.2	6.6	23.8
1/2	1/2	S-FT8RJ8	49.3	18.8	7.1	27.0

Adapt to Japanese gauge stud.



Fractional Tube			AN Thread			
T-Tube O.D. (in.)	AN Tube Flare Size (in.)	Basic Ordering Number	Dimension, mm			
			L	B	E	F
1/8	1/8	S-FT2SAN2	22.4	14.0	2.4	9.5
1/8	1/4	S-FT2SAN4	22.4	15.8	2.4	14.3
1/4	1/4	S-FT4SAN4	24.4	15.8	4.6	14.3
3/8	3/8	S-FT6SAN6	28.1	18.5	7.1	17.5
1/2	1/2	S-FT8SAN8	36.1	21.6	9.9	22.2
3/4	3/4	S-FT12SAN12	37.8	26.2	14.7	31.8

## Female Adapters



# E-JOE

## Metric Tube NPT Thread

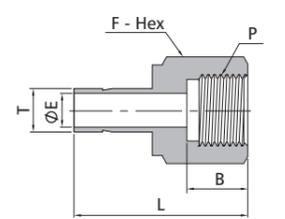
T-Tube O.D. (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
3	1/8	S-MT3FN2	28.8	10.4	1.3	14
4	1/8	S-MT4FN2	33.3	10.4	2.0	14
6	1/8	S-MT6FN2	32.5	10.4	4.1	14
6	1/4	S-MT6FN4	37.1	15.0	4.1	19
8	1/8	S-MT8FN2	35.1	10.4	6.4	14
8	1/4	S-MT8FN4	37.6	15.0	5.6	19
8	3/8	S-MT8FN6	36.5	15.0	6.4	22
10	1/4	S-MT10FN4	38.1	15.0	7.1	19
10	3/8	S-MT10FN6	40.1	15.0	7.1	22
10	1/2	S-MT10FN8	46.5	19.8	7.1	27
12	1/4	S-MT12FN4	43.7	15.0	8.8	19
12	3/8	S-MT12FN6	42.9	15.0	9.1	22
12	1/2	S-MT12FN8	52.3	19.8	8.8	27
16	1/2	S-MT16FN8	49.2	19.8	12.7	27
18	3/4	S-MT18FN12	52.4	20.6	14.0	32
20	1/2	S-MT20FN8	50.0	19.8	15.0	27
20	3/4	S-MT20FN12	53.2	20.6	15.1	32
25	1	S-MT25FN16	66.7	25.4	19.8	41

## Metric Tube ISO Tapered Thread (RT)

T-Tube O.D. (mm)	PRT Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
3	1/8	S-MT3FR2	27.8	10.4	1.8	14
4	1/8	S-MT4FR2	28.6	10.4	2.0	14
6	1/8	S-MT6FR2	33.0	10.4	4.1	14
8	1/4	S-MT8FR4	37.6	15.0	5.6	19
10	1/4	S-MT10FR4	38.1	15.0	7.1	19
10	3/8	S-MT10FR6	36.5	15.0	7.5	22
10	1/2	S-MT10FR8	41.3	19.8	7.5	27
12	1/4	S-MT12FR4	40.5	15.0	9.1	19
12	3/8	S-MT12FR6	43.7	15.0	9.1	22
12	1/2	S-MT12FR8	46.8	19.8	9.1	27
16	1/2	S-MT16FR8	48.4	19.8	12.7	27
18	3/4	S-MT18FR12	61.6	20.6	14.0	32
20	3/4	S-MT20FR12	52.4	20.6	15.1	32
25	1	S-MT25FR16	66.7	25.4	19.8	41

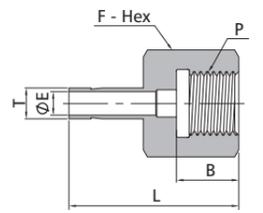
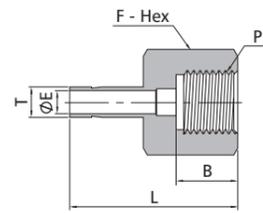
## Metric Tube ISO Parallel Thread (RP)

T-Tube O.D. (mm)	P-RP Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
6	1/8	S-MT6FP2	32.0	10.2	4.1	14
6	1/4	S-MT6FP4	37.8	15.2	4.1	19
12	1/2	S-MT12FP8	49.8	18.8	8.8	27



E-JOE

Female Adapters



Adapt to Japanese gauge stud.

Metric Tube ISO Parallel Thread (RG)

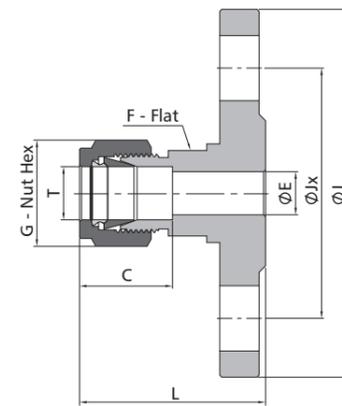
T-Tube O.D. (mm)	P-RG Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
3	1/8	S-MT3FG2	28.6	6.5	1.6	14
3	1/4	S-MT3FG4	33.5	10.2	1.9	19
4	1/8	S-MT4FG2	29.4	6.5	2.0	14
6	1/8	S-MT6FG2	31.0	6.5	4.1	14
6	1/4	S-MT6FG4	35.3	10.2	4.1	19
6	3/8	S-MT6FG6	38.4	14.2	4.1	24
6	1/2	S-MT6FG8	42.9	18.0	4.1	27
8	1/4	S-MT8FG4	33.0	10.2	5.5	19
8	3/8	S-MT8FG6	38.9	14.2	5.6	24
8	1/2	S-MT8FG8	43.7	18.0	5.6	27
10	1/4	S-MT10FG4	34.5	10.2	5.5	19
10	3/8	S-MT10FG6	36.1	14.2	6.5	24
10	1/2	S-MT10FG8	41.1	18.0	7.1	27
12	1/4	S-MT12FG4	40.1	10.2	5.5	19
12	3/8	S-MT12FG6	44.7	14.2	6.5	24
12	1/2	S-MT12FG8	48.8	18.0	7.0	27
16	1/2	S-MT16FG8	49.0	18.0	7.0	27
18	1/2	S-MT18FG8	49.3	18.0	7.0	27

Metric Tube ISO Parallel Thread (RJ)

T-Tube O.D. (mm)	P-RJ Size	Basic Ordering Number	Dimension, mm			
			L	B	E	F
6	1/4	S-MT6RJ4	35.3	10.2	4.1	19
6	3/8	S-MT6RJ6	38.6	14.2	4.1	24
6	1/2	S-MT6RJ8	42.9	18.0	4.1	27
8	1/4	S-MT8RJ4	33.0	10.2	5.5	19
8	3/8	S-MT8RJ6	39.4	14.2	5.6	24
8	1/2	S-MT8RJ8	43.7	18.0	5.6	27
10	1/4	S-MT10RJ4	34.5	10.2	5.5	19
10	3/8	S-MT10RJ6	36.1	14.2	6.5	24
10	1/2	S-MT10RJ8	41.1	18.0	7.1	27
12	1/4	S-MT12RJ4	40.1	10.2	5.5	19
12	3/8	S-MT12RJ6	44.7	14.2	6.5	24
12	1/2	S-MT12RJ8	48.8	18.0	7.0	27

E-JOE

Flange Adapters



- Integrally forged body.
- ANSI flanges comply with ANSI B16.5.
- DIN flanges comply with DIN 2501/2526.
- GB flanges comply with GB/T 9123.1.
- EN flanges comply with EN 1092-1.
- JIS flanges comply with JIS B 2220.

ANSI Flanges

T-Tube O.D. (in.)	ANSI Flange NPS	Class	Basic Ordering Number Raised Face Flange	Dimension, mm						
				L	J	Jx	E	C	G	F
1/4	1/2	150	FL-FJ4F8150	40.9	88.9	60.5	4.8	15.2	14.3	20.6
3/8	1/2	300	FL-FJ6F8300	45.5	95.3	66.5	7.1	16.8	17.5	20.6
1/2	1/2	150	FL-FJ8F8150	45.2	88.9	60.5	10.4	22.9	22.2	20.6
1/2	1	150	FL-FJ8F16150	48.3	108.0	79.2	10.4	22.9	22.2	20.6
1/2	2	150	FL-FJ8F32150	53.1	152.4	121	10.4	22.9	22.2	20.6
3/4	1	150	FL-FJ12F16150	50.3	108.0	79.2	15.7	24.4	28.6	31.8
1	1	150	FL-FJ16F16150	60.5	108.0	79.2	22.4	31.2	38.1	34.9

DIN/GB Flanges, Pressure Class PN 40

T-Tube O.D. (mm)	DIN Flange Size DN	Basic Ordering Number Raised Face Flange	Dimension, mm						
			L	J	Jx	E	C	G	F
6	25	FL-MJ6F25-40C	47.5	115.0	85.0	4.8	15.3	14	20
12	15	FL-MJ12F15-40C	48.5	95.0	65.0	9.5	22.8	22	20
12	25	FL-MJ12F25-40C	50.5	115.0	85.0	9.5	22.8	22	20
12	50	FL-MJ12F50-40C	55.3	165.0	125.0	9.5	22.8	22	20
18	15	FL-MJ18F15-40C	51.8	95.0	65.0	15.1	24.4	30	32
18	25	FL-MJ18F25-40C	53.8	115.0	85.0	15.1	24.4	30	32
25	25	FL-MJ25F25-40C	64.0	115.0	85.0	21.8	31.3	38	35

EN Flanges, Pressure Class PN 40

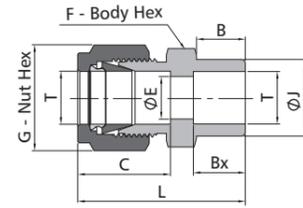
T-Tube O.D. (mm)	EN Flange Size DN	Basic Ordering Number Raised Face Flange	Dimension, mm						
			L	J	Jx	E	C	G	F
6	25	FL-MJ6F25E-40B1	47.5	115.0	85.0	4.8	15.3	14	20
12	15	FL-MJ12F15E-40B1	48.5	95.0	65.0	9.5	22.8	22	20
12	25	FL-MJ12F25E-40B1	50.5	115.0	85.0	9.5	22.8	22	20
12	50	FL-MJ12F50E-40B1	55.3	165.0	125.0	9.5	22.8	22	20
18	15	FL-MJ18F15E-40B1	51.8	95.0	65.0	15.1	24.4	30	32
18	25	FL-MJ18F25E-40B1	53.8	115.0	85.0	15.1	24.4	30	32
25	25	FL-MJ25F25E-40B1	64.0	115.0	85.0	21.8	31.3	38	35

JIS Flanges, Pressure Class 10K

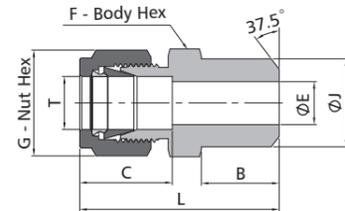
T-Tube O.D.	JIS Flange Size DN	Basic Ordering Number Raised Face Flange	Dimension, mm						
			L	J	Jx	E	C	G	F
1/4"	15	FL-FJ4F15-10KRF	42.2	95.0	70.1	4.8	15.2	14.3	20.6
3/8"	15	FL-FJ6F15-10KRF	43.7	95.0	70.1	7.1	16.8	17.5	20.6
1/2"	15	FL-FJ8F15-10KRF	46.5	95.0	70.1	10.4	22.9	22.2	20.6
3/4"	15	FL-FJ12F15-10KRF	48.5	95.0	70.1	15.7	24.4	28.6	31.8
1"	25	FL-FJ16F25-10KRF	61.0	125.0	89.9	22.4	31.2	38.1	34.9
12mm	15	FL-MJ12F15-10KRF	46.5	95.0	70.0	9.5	22.8	22	20
18mm	15	FL-MJ18F15-10KRF	48.5	95.0	70.0	15.1	24.4	30	32
25mm	25	FL-MJ25F25-10KRF	61.0	125.0	90.0	21.8	31.3	38	35

E-JOE

Weld Connectors



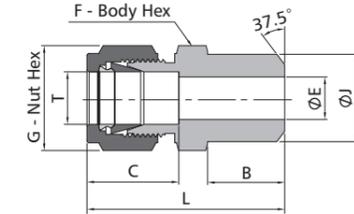
T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm							
		L	C	G	F	B	E	Bx	J
1/8	S-FJ2TS2	29.0	12.7	11.1	11.1	8.6	2.3	2.5	7.9
3/16	S-FJ3TS3	29.7	13.7	12.7	11.1	9.5	3.3	4.8	10.7
1/4	S-FJ4TS4	33.5	15.2	14.3	12.7	10.4	4.8	7.1	11.2
3/8	S-FJ6TS6	37.6	16.8	17.5	15.9	11.9	7.1	7.9	15.7
1/2	S-FJ8TS8	41.1	22.9	22.2	20.6	11.9	10.4	9.7	19.1
5/8	S-FJ10TS10	41.9	24.4	25.4	23.8	11.9	12.7	10.4	23.4
3/4	S-FJ12TS12	43.4	24.4	28.6	27.0	11.9	15.7	11.1	26.7
1	S-FJ16TS16	52.6	31.2	38.1	34.9	14.2	22.4	15.7	33.3



T-Tube O.D. (in.)	Pipe Weld Size	Basic Ordering Number	Dimension, mm						
			L	C	G	F	E	B	J
1/8	1/8	S-FJ2PB2	30.5	12.7	11.1	11.1	2.3	9.7	10.3
3/16	1/8	S-FJ3PB2	31.2	13.7	12.7	11.1	3.0	9.7	10.3
1/4	1/8	S-FJ4PB2	32.8	15.2	14.3	12.7	4.8	9.7	10.3
1/4	1/4	S-FJ4PB4	37.8	15.2	14.3	14.3	4.8	14.2	13.7
5/16	1/8	S-FJ5PB2	34.0	16.3	15.9	14.3	5.3	9.7	10.3
5/16	1/4	S-FJ5PB4	38.6	16.3	15.9	14.3	6.4	14.2	13.7
3/8	1/4	S-FJ6PB4	39.9	16.8	17.5	15.9	7.1	14.2	13.7
3/8	3/8	S-FJ6PB6	39.9	16.8	17.5	17.5	7.1	14.2	17.1
3/8	1/2	S-FJ6PB8	46.2	16.8	17.5	22.2	7.1	19.1	21.3
3/8	3/4	S-FJ6PB12	47.8	16.8	17.5	27.0	7.1	19.1	26.7
1/2	3/8	S-FJ8PB6	43.4	22.9	22.2	20.6	10.4	14.2	17.1
1/2	1/2	S-FJ8PB8	49.0	22.9	22.2	22.2	10.4	19.1	21.3
1/2	3/4	S-FJ8PB12	50.5	22.9	22.2	27.0	10.4	19.1	26.7
5/8	1/2	S-FJ10PB8	49.0	24.4	25.4	23.8	12.7	19.1	21.3
3/4	1/2	S-FJ12PB8	50.5	24.4	28.6	27.0	14.0	19.1	21.3
3/4	3/4	S-FJ12PB12	50.5	24.4	28.6	27.0	15.7	19.1	26.7
1	1	S-FJ16PB16	62.2	31.2	38.1	34.9	22.4	23.9	33.4
1 1/4	1 1/4	S-FJ20PB20	77.2	41.1	47.6	44.5	27.7	23.9	42.2
1 1/2	1 1/2	S-FJ24PB24	88.9	50.0	57.2	54.0	34.0	26.2	48.3

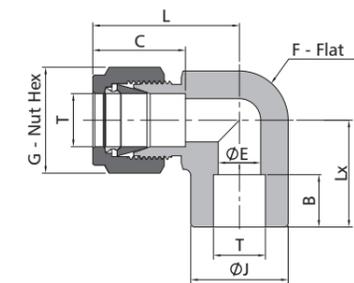
E-JOE

Weld Connectors



T-Tube O.D. (mm)	Pipe Weld Size	Basic Ordering Number	Dimension, mm						
			L	C	G	F	E	B	J
3	1/8	S-MJ3PB2	30.5	12.9	12	12	2.4	9.7	10.3
4	1/8	S-MJ4PB2	31.5	13.7	12	12	2.4	9.7	10.3
6	1/8	S-MJ6PB2	32.8	15.3	14	14	4.8	9.7	10.3
6	1/4	S-MJ6PB4	37.9	15.3	14	14	4.8	14.2	13.7
8	1/8	S-MJ8PB2	34.2	16.2	16	15	5.4	9.7	10.3
8	1/4	S-MJ8PB4	38.7	16.2	16	15	6.4	14.2	13.7
8	1/2	S-MJ8PB8	45.6	16.2	16	22	6.4	19.1	21.3
10	1/4	S-MJ10PB4	40.9	17.2	19	18	7.5	14.2	13.7
10	3/8	S-MJ10PB6	40.9	17.2	19	18	7.9	14.2	17.2
10	1/2	S-MJ10PB8	46.5	17.2	19	22	7.9	19.1	21.3
12	1/4	S-MJ12PB4	43.4	22.8	22	22	7.5	14.2	13.7
12	3/8	S-MJ12PB6	43.4	22.8	22	22	9.5	14.2	17.1
12	1/2	S-MJ12PB8	49.0	22.8	22	22	9.5	19.1	21.3
14	3/8	S-MJ14PB6	44.1	24.4	25	24	10.7	14.2	17.1
15	1/2	S-MJ15PB8	49.0	24.4	25	24	11.9	19.1	21.3
16	1/2	S-MJ16PB8	49.0	24.4	25	24	12.7	19.1	21.3
18	1/2	S-MJ18PB8	50.5	24.4	30	27	13.9	19.1	21.3
30	1 1/4	S-MJ30PB20	77.2	39.6	50	46	26.2	23.9	42.2
32	1 1/4	S-MJ32PB20	79.6	42.0	50	46	28.6	23.9	42.2
38	1 1/2	S-MJ38PB24	91.6	49.4	60	55	33.7	26.2	48.3

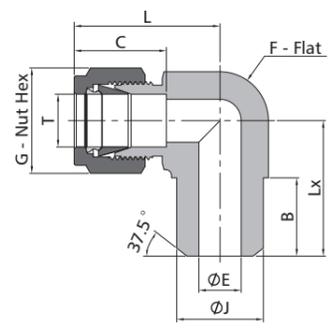
Weld Elbows



T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm							
		L	C	G	F	B	E	Lx	J
1/8	L-FL2TS2	16.8	12.7	11.1	9.5	2.5	2.3	16.0	9.7
3/16	L-FL3TS3	18.3	13.7	12.7	11.1	4.8	3.3	17.5	11.2
1/4	L-FL4TS4	26.9	15.2	14.3	12.7	7.1	4.8	19.6	12.7
3/8	L-FL6TS6	30.5	16.8	17.5	15.9	7.9	7.1	23.1	15.7
1/2	L-FL8TS8	36.1	22.9	22.2	20.6	9.7	10.4	25.9	20.6
5/8	L-FL10TS10	29.5	24.4	25.4	27.0	10.4	12.7	29.5	23.9
3/4	L-FL12TS12	39.9	24.4	28.6	27.0	11.2	15.7	29.7	26.9
1	L-FL16TS16	49.0	31.2	38.1	34.9	15.7	22.4	36.8	35.1

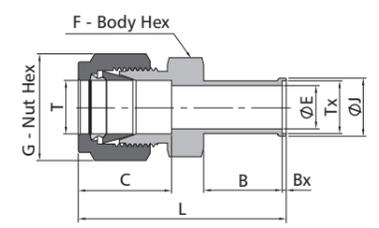
# E-JOE

## Weld Elbows



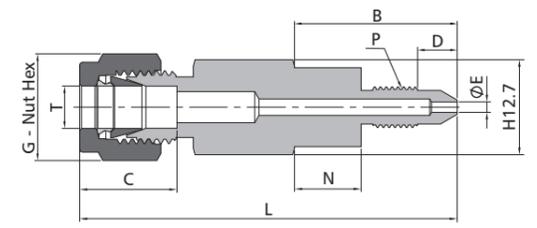
Fractional Tube			Pipe Butt Weld							
T-Tube O.D. (in.)	Pipe Weld Size	Basic Ordering Number	Dimension, mm							
			L	C	G	F	B	E	Lx	J
1/8	1/8	L-FJ2PB2	23.4	12.7	11.1	11.1	9.7	2.3	18.3	10.3
3/16	1/8	L-FJ3PB2	25.7	13.7	12.7	12.7	9.7	3.3	18.8	10.3
1/4	1/8	L-FJ4PB2	26.9	15.2	14.3	12.7	9.7	4.8	18.8	10.3
1/4	1/4	L-FJ4PB4	26.9	15.2	14.3	12.7	14.2	4.8	23.4	13.7
3/8	1/4	L-FJ6PB4	30.5	16.8	17.5	15.9	14.2	7.1	25.4	13.7
1/2	3/8	L-FJ8PB6	34.8	22.9	22.2	19.1	14.2	10.4	28.8	17.2
1/2	1/2	L-FJ8PB8	36.1	22.9	22.2	20.6	19.1	10.4	33.0	21.3
5/8	1/2	L-FJ10PB8	36.3	24.4	25.4	2.2	19.1	12.7	35.1	21.3
3/4	3/4	L-FJ12PB12	39.9	24.4	28.6	27.0	19.1	15.7	36.8	26.7
1	3/4	L-FJ16PB12	49.3	31.2	38.1	34.9	19.1	22.4	41.9	26.7
1	1	L-FJ16PB16	49.3	31.2	38.1	34.9	20.6	22.4	46.7	33.4

## Automatic Tube Weld Connectors



Fractional Tube			Automatic Tube Weld							
T-Tube O.D. (in.)	Tx-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm							
			L	C	G	F	B	E	Bx	J
1/4	1/4	S-FJ4TB4A	44.2	15.2	14.3	12.7	19.1	4.5	0.5	7.4
3/8	3/8	S-FJ6TB6A	46.7	16.8	17.5	15.9	19.1	7.8	0.8	10.4
1/2	1/2	S-FJ8TB8A	50.5	22.9	2.2	20.6	19.1	10.4	1.0	14.0

## Calibration Fittings

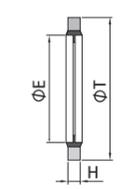


- The calibration fittings can be connected directly with the bleed port of the transmitter so that the calibration process can be simplified.
- Two types are available to fit the bleed ports of the transmitters.

T-Tube O.D. (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm							Transmitter Type
			L	B	C	D	E	G	N	
1/4	1/4-28	S-FJ4-1428	42.9	19.8	15.2	10.9	1.5	14.3	-	Honeywell
1/4	5/16-24	S-FJ4-51624	58.9	35.8	15.2	10.2	1.5	14.3	10.4	Rosemount/Foxboro

# E-JOE

## RS Gaskets



The RS gasket provides a seal with male ISO parallel threads. The gasket consists of a fluorocarbon FKM or Buna inner ring bonded to a carbon steel or stainless steel outer ring.

ISO Parallel Thread Size	Basic Ordering Number	Dimension, mm		
		T	E	H
1/8	-RS-2	16.0	10.4	2.0
1/4	-RS-4	20.6	13.7	
3/8	-RS-6	23.9	17.3	
1/2	-RS-8	28.7	21.6	2.5
3/4	-RS-12	35.1	26.9	
1	-RS-16	42.9	33.8	

Metric Thread Size	Basic Ordering Number	Dimension, mm		
		T	E	H
M8 x 1	-RS-M8	13	8.7	1.0
M10 x 1	-RS-M10	16	10.7	1.5
M12 x 1.5	-RS-M12	18	12.7	
M14 x 1.5	-RS-M14	22	14.7	
M16 x 1.5	-RS-M16	24	16.7	
M18 x 1.5	-RS-M18	26	18.7	
M20 x 1.5	-RS-M20	28	20.7	2.0
M22 x 1.5	-RS-M22	30	22.7	
M24 x 1.5	-RS-M24	32	24.7	
M27 x 2	-RS-M27	36	27.2	
M30 x 2	-RS-M30	39	30.7	
M33 x 2	-RS-M33	42	33.7	2.5
M36 x 2	-RS-M36	48	37.0	
M39 x 2	-RS-M39	51	40.0	
M42 x 2	-RS-M42	53	42.7	3.0
M45 x 2	-RS-M45	57	46.0	
M48 x 2	-RS-M48	59	48.7	

## Ordering Information

Add the material designator as a prefix to the basic ordering number to complete the ordering number.

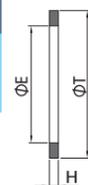
Ring		Designator
Outer	Inner	
Stainless Steel	FKM	SSF
Carbon Steel	FKM	CSF
	Buna-N	CSB

### Example:

A RS gasket with a Buna inner ring bonded to carbon steel outer ring provides a seal with 1/8 male ISO parallel thread, the complete ordering number is **CSB-RS-2**.

RS gasket can be used with RS fitting only.

RP Gaskets



The RP gasket provides a seal with male ISO parallel threads.

The RP gasket may be used with a RS fitting.

ISO Parallel Thread Size	Basic Ordering Number	Dimension, mm		
		T	E	H
1/8	-RP-2	15.0	9.9	1.0
1/4	-RP-4	19.1	13.2	1.5
3/8	-RP-6	23.1	16.8	
1/2	-RP-8	26.9	21.1	2.0
3/4	-RP-12	33.0	26.7	
1	-RP-16	40.1	33.2	

Metric Thread Size	Basic Ordering Number	Dimension, mm		
		T	E	H
M8 x 1	-RP-M8	13.2	8.2	1.5
M10 x 1	-RP-M10	15.2	10.2	
M12 x 1.5	-RP-M12	18.2	12.2	2.0
M14 x 1.5	-RP-M14	20.2	14.2	
M16 x 1.5	-RP-M16	22.2	16.2	
M18 x 1.5	-RP-M18	24.2	18.2	
M20 x 1.5	-RP-M20	26.2	20.2	
M22 x 1.5	-RP-M22	28.2	22.2	2.5
M24 x 1.5	-RP-M24	30.2	24.2	
M27 x 2	-RP-M27	33.3	27.2	
M30 x 2	-RP-M30	37.3	30.2	
M33 x 2	-RP-M33	40.3	33.2	
M36 x 2	-RP-M36	43.3	36.2	
M39 x 2	-RP-M39	47.3	39.2	
M42 x 2	-RP-M42	50.3	42.2	
M45 x 2	-RP-M45	53.3	45.2	
M48 x 2	-RP-M48	56.3	48.2	

RG Gaskets

The RG gasket provides a seal on pressure gauges equipped with male ISO parallel threads.

ISO Parallel Thread Size	Basic Ordering Number	Dimension, mm		
		T	E	H
1/4	-RG-4	10.7	7.6	1.8
3/8	-RG-6	14.2	8.6	2.3
1/2	-RG-8	17.8	9.1	2.5

RG Gaskets

Metric Thread Size	Basic Ordering Number	Dimension, mm		
		T	E	H
M10 x 1	-RG-M10	8.3	3.3	1.5
M12 x 1.5	-RG-M12	9.7	5.4	2.0
M14 x 1.5	-RG-M14	11.7	6.4	
M16 x 1.5	-RG-M16	13.7	8.4	
M18 x 1.5	-RG-M18	15.7	10.0	
M20 x 1.5	-RG-M20	17.6	11.4	
M22 x 1.5	-RG-M22	19.6	13.4	
M24 x 1.5	-RG-M24	21.6	14.8	
M27 x 2	-RG-M27	24.0	13.9	
M30 x 2	-RG-M30	27.0	19.5	2.5
M33 x 2	-RG-M33	30.0	21.5	
M36 x 2	-RG-M36	33.0	23.5	
M39 x 2	-RG-M39	36.0	24.5	
M42 x 2	-RG-M42	38.9	29.5	
M45 x 2	-RG-M45	41.9	30.0	
M48 x 2	-RG-M48	44.9	32.5	

RJ Gaskets

The RJ gasket provides a seal on Japanese pressure gauges equipped with male ISO parallel threads.

ISO Parallel Thread Size	Basic Ordering Number	Dimension, mm		
		T	E	H
1/4	-RJ-4	10.9	5.6	1.0
3/8	-RJ-6	13.9	5.6	1.0
1/2	-RJ-8	17.8	5.6	1.0

Ordering Information

Add the material designator as a prefix to the basic ordering number to complete the ordering number.

Material	Designator
Copper	CU
316L SS	6L
Vulcanized Fibre	QB
PTFE	T

Example:

CU-RP-2, 6L-RG-6, QB-RG-M20, T-RJ-8.

O-Rings



O-Rings for Fittings with O-Seal Straight Threads

SAE/MS Thread Size	Ordering Number	Material
5/16-24	BN7-011	70 Durometer NBR
3/8-24	BN7-012	
7/16-20	BN7-013	
1/2-20	BN7-112	
9/16-18	BN7-113	
3/4-16	BN7-116	
1 1/16-12	BN7-121	
1 5/16-12	BN7-125	

O-Rings for Fittings with SAE/MS Straight Threads

SAE/MS Thread Size	Ordering Number	Material
5/16-24	VI9-902	90 Durometer Fluorocarbon FKM
3/8-24	VI9-903	
7/16-20	VI9-904	
1/2-20	VI9-905	
9/16-18	VI9-906	
3/4-16	VI9-908	
7/8-14	VI9-910	
1 1/16-12	VI9-912	
1 3/16-12	VI9-914	
1 5/16-12	VI9-916	
1 5/8-12	VI9-920	
1 7/8-12	VI9-924	

O-Rings for Fittings with Metric Threads

Metric Thread Size	Ordering Number	Material
M14 x 1.5	BN9-M14	90 Durometer NBR
M20 x 1.5	BN9-M20	

O-Rings for Fittings with O-Seal Pipe Threads

NPT/ISO Thread Size	Ordering Number	Material
1/8	BN7-013	70 Durometer NBR
1/4	BN7-113	
3/8	BN7-116	
1/2	BN7-118	

O-Rings for Adjustable Fittings with ISO Parallel Threads

ISO Parallel Thread Size	Ordering Number	Material
1/8	VI9-502	90 Durometer Fluorocarbon FKM
1/4	VI9-111	
3/8	VI9-113	
1/2	VI9-508	
3/4	VI9-119	
1	VI9-217	

## Pipe fittings contents

## Pipe Plugs



03

## Hollow Hex Plugs



04

## Close Nipples



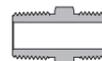
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## Special Pipe Nipples



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## Hex Nipples



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## Hex Long Nipples



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## Reducing Bushings



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## Pipe Caps



12

## Hex Couplings



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## Union Ball Joints



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## Adapters



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## Male Elbows



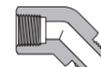
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## Street Elbows



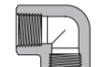
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## 45° Street Elbows



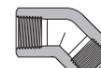
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## Female Elbows



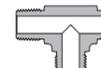
21

## 45° Female Elbows



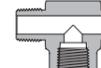
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## Male Tees



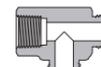
23

## Female Branch Tees



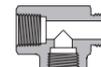
24

## Female Run Tees



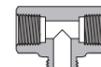
24

## Male Street Tees



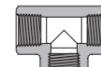
25

## Male Branch Tees



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## Female Tees



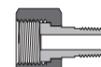
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## Female Crosses



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## Pipe to Pipe Unions



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## Features

- ⦿ The hardened threads with smooth surface finishing avoid galling and help to extend the fitting service life.
- ⦿ Radius junction design with elbows provides smooth flow path.
- ⦿ Every fitting is stamped with size, material, and heat code.

## Technical Data

- ⦿ Sizes range from 1/16 to 2
- ⦿ Thread Specifications:

Thread Type	Specification
NPT	ASME B1.20.1, SAE AS71051
ISO Tapered	ISO 7-1, BS 21, JIS B0203
ISO parallel	ISO 228, JIS B0202
SAE/MS	ASME B1.1, SAE J475
Metric	ISO 261

- ⦿ Working temperatures:

For the working temperatures of E-JOE pipe fittings, refer to the E-JOE tube fitting catalog.

- ⦿ Working Pressure:

- Catalog working pressures shown are based on ANSI/ASME B31.3 at ambient temperature, to determine working pressures in accordance with ANSI/ASME B31.1 multiply catalog working pressures shown by the factor from the below table.

Material	Factor
Stainless steel	0.94
Carbon steel	0.85
Brass	1.0

- Use the allowable working pressure at ambient temperature to multiply the elevated temperature factors to get the working pressure at elevated temperature. To know the elevated temperature factor, please refer to the related information of E-JOE Tube Fittings.
- To get the installation torque for NPT thread and ISO tapered thread, Refer to E-JOE Tube Fittings.

## Material

Material	Bar Stock	Forging	Designator
316 stainless steel	ASTM A276, ASME SA479, EN 1.4401	ASTM A182, ASME SA182, EN 1.4401	SS
304 stainless steel	ASTM A276, ASME SA479, EN 1.4301	ASTM A182, ASME SA182, EN 1.4301	S4
Alloy 400/R-405	ASTM B164, ASME SB164	ASTM B564 ASME SB564	M
Alloy 600	ASTM B166, ASME SB166	ASTM B564, ASME SB564	INC
Alloy C-276	ASTM B574	ASTM B564,	HC
Brass	ASME B16/ASTM B453	ASTM B283	B
Carbon steel	ASTM A108	A105	CS

### Ordering Information

☉ Add the material designator as a prefix to the basic ordering number to get the complete ordering number.

**Example:**

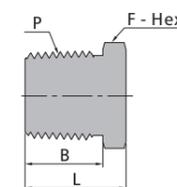
- Hex nipple with 1/4 male NPT thread for both ends and 316 stainless steel material, the complete ordering number is **SSS-N4**.
- Adapter with 1/2 female NPT to 1/4 male RS thread for both ends and brass material, the complete ordering number is **BS-FN8BS4**.

☉ To order fittings with special cleaning and packaging (E-02), following ASTM G93 C standard, add -E2 as a suffix to the ordering number. Example: **SSS-N4-E2**.

### Cautions:

- ☉ Do not loose or tight fittings when system is pressurized.
- ☉ Always use proper thread sealants on tapered pipe threads.
- ☉ Confirm the sealing type when choosing the straight threads, make sure the construction of the matching threads comply with the sealing type.

### Pipe Plugs

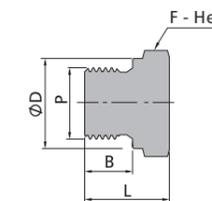


#### Male NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm		
		L	F	B
1/16	HP-N1	14.2	7.9	9.7
1/8	HP-N2	14.2	11.1	9.7
1/4	HP-N4	19.1	14.3	14.2
3/8	HP-N6	19.8	17.5	14.2
1/2	HP-N8	24.6	22.2	19.1
3/4	HP-N12	30.7	27.0	19.1
1	HP-N16	38.1	34.9	23.9
1 1/4	HP-N20	38.4	44.5	23.9
1 1/2	HP-N24	43.7	50.8	26.2
2	HP-N32	50.8	69.9	26.2

#### Male ISO Tapered Threads

P-RT Size	Basic Ordering Number	Dimension, mm		
		L	F	B
1/16	HP-RT1	14.2	7.9	9.7
1/8	HP-RT2	14.2	11.1	9.7
1/4	HP-RT4	19.1	14.3	14.2
3/8	HP-RT6	19.8	17.5	14.2
1/2	HP-RT8	24.6	22.2	19.1
3/4	HP-RT12	30.7	27.0	19.1
1	HP-RT16	38.1	34.9	23.9
1 1/4	HP-RT20	38.4	44.5	23.9
1 1/2	HP-RT24	43.7	50.8	26.2
2	HP-RT32	50.8	69.9	26.2

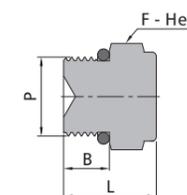


#### Male ISO parallel Threads

P-RS Size	Basic Ordering Number	Dimension, mm			
		L	F	B	D
1/8	HP-BS2	14.0	14.3	7.1	13.7
1/4	HP-BS4	19.8	19.1	11.2	18.0
3/8	HP-BS6	19.8	22.2	11.2	21.8
1/2	HP-BS8	25.1	27.0	14.0	25.9
3/4	HP-BS12	28.7	33.3	15.7	32.0
1	HP-BS16	30.7	41.3	18.0	39.1

#### Male Metric Threads

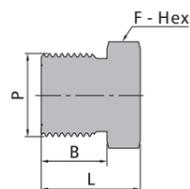
P-Metric Size	Basic Ordering Number	Dimension, mm			
		L	F	B	D
M14 x 1.5	HP-MR14	21	20.6	12	18.8
M16 x 1.5	HP-MR16	23	22.2	12	20.8
M18 x 1.5	HP-MR18	25	23.8	12	22.8
M20 x 1.5	HP-MR20	26.5	25.4	14	24.8
M22 x 1.5	HP-MR22	28.5	28.6	14	26.8
M24 x 1.5	HP-MR24	29	35.0	14	28.8
M27 x 2	HP-MR27	30	36.5	16	31.8



#### Male SAE/MS Straight Threads

P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm		
		L	F	B
7/16-20	HP-ST7	19.3	14.3	9.1
9/16-18	HP-ST9	20.8	17.5	9.9
3/4-16	HP-ST12	22.6	22.2	11.2
1 1/16-12	HP-ST17	28.4	31.8	15.0
1 5/16-12	HP-ST21	30.0	38.1	15.0

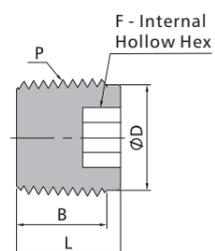
Pipe Plugs



Male Metric Threads

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

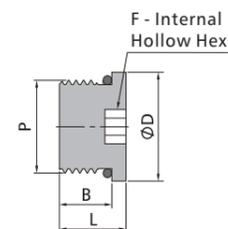
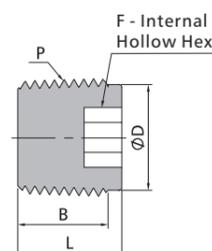
Hollow Hex Plugs



Male ISO Tapered Threads

PRT Size	Basic Ordering Number	Dimension, mm			
		L	F	B	D
1/16	DP-RT1	7.6	4.0	7.4	7.4
1/8	DP-RT2	10.4	4.8	7.4	9.4
1/4	DP-RT4	15.5	6.4	12.4	12.1
3/8	DP-RT6	15.5	7.9	12.4	15.7
1/2	DP-RT8	19.3	9.5	16.2	19.3
3/4	DP-RT12	19.8	14.3	16.7	25.7
1	DP-RT16	20.8	15.9	17.7	31.8

Hollow Hex Plugs



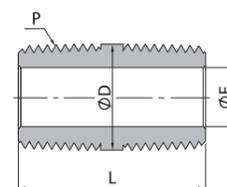
Male SAE/MS Straight Threads

P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm			
		L	F	B	D
7/16-20	DP-ST7	11.4	4.8	9.1	14.2
9/16-18	DP-ST9	12.2	6.4	9.9	17.5
3/4-16	DP-ST12	14.2	7.9	11.2	22.4
1 1/16-12	DP-ST17	19.1	14.3	15.0	31.8
1 5/16-12	DP-ST21	19.1	15.9	15.0	38.1

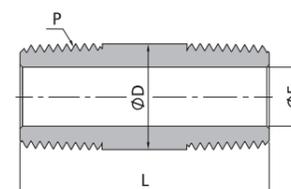
Male NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm			
		L	F	B	D
1/16	DP-N1	7.6	4.0	7.4	7.4
1/8	DP-N2	10.4	4.8	7.4	9.4
1/4	DP-N4	15.5	6.4	12.4	12.1
3/8	DP-N6	15.0	7.9	11.9	15.7
1/2	DP-N8	19.3	9.5	16.2	19.3
3/4	DP-N12	19.8	14.3	16.7	25.7
1	DP-N16	20.8	15.9	17.7	31.8

Close Nipples



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
1/16	DS-N1	19.1	7.9	3.0	11000 (757)	5500 (378)
1/8	DS-N2	19.1	10.3	4.8	10000 (689)	5000 (344)
1/4	DS-N4	28.4	13.7	7.1	8000 (551)	4000 (275)
3/8	DS-N6	28.4	17.1	9.6	7800 (537)	3900 (268)
1/2	DS-N8	38.1	21.3	11.9	7700 (530)	3800 (261)
3/4	DS-N12	38.1	26.7	15.7	7300 (502)	3600 (248)
1	DS-N16	47.8	33.4	22.4	5300 (365)	2600 (179)

Male ISO Tapered Threads

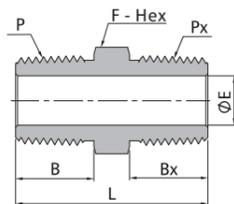
PRT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	D	E	316 SS, Steel	Brass
1/16	DS-RT1	19.1	7.9	3.0	11000 (757)	5500 (378)
1/8	DS-RT2	19.1	10.3	4.8	10000 (689)	5000 (344)
1/4	DS-RT4	28.4	13.7	7.1	8000 (551)	4000 (275)
3/8	DS-RT6	28.4	17.1	9.7	7800 (537)	3900 (268)
1/2	DS-RT8	38.1	21.3	11.9	7700 (530)	3800 (261)
3/4	DS-RT12	38.1	26.7	15.7	7300 (502)	3600 (248)
1	DS-RT16	47.8	33.4	22.4	5300 (365)	2600 (179)

Male NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	D	E	316 SS, Steel	Brass
1/8	DS-N2-38.1	38.1	10.3	4.8	10000 (689)	5000 (344)
1/8	DS-N2-50.8	50.8	10.3	4.8	10000 (689)	5000 (344)
1/8	DS-N2-63.5	63.5	10.3	4.8	10000 (689)	5000 (344)
1/8	DS-N2-76.2	76.2	10.3	4.8	10000 (689)	5000 (344)
1/4	DS-N4-38.1	38.1	13.7	7.1	8000 (551)	4000 (275)
1/4	DS-N4-50.8	50.8	13.7	7.1	8000 (551)	4000 (275)
1/4	DS-N4-63.5	63.5	13.7	7.1	8000 (551)	4000 (275)
1/4	DS-N4-76.2	76.2	13.7	7.1	8000 (551)	4000 (275)
1/4	DS-N4-101.6	101.6	13.7	7.1	8000 (551)	4000 (275)
3/8	DS-N6-38.1	38.1	17.1	9.7	7800 (537)	3900 (268)
3/8	DS-N6-50.8	50.8	17.1	9.7	7800 (537)	3900 (268)
3/8	DS-N6-63.5	63.5	17.1	9.7	7800 (537)	3900 (268)
3/8	DS-N6-76.2	76.2	17.1	9.7	7800 (537)	3900 (268)
3/8	DS-N6-101.6	101.6	17.1	9.7	7800 (537)	3900 (268)
1/2	DS-N8-50.8	50.8	21.3	11.9	7700 (530)	3800 (261)
1/2	DS-N8-76.2	76.2	21.3	11.9	7700 (530)	3800 (261)
1/2	DS-N8-101.6	101.6	21.3	11.9	7700 (530)	3800 (261)
1/2	DS-N8-152.4	152.4	21.3	11.9	7700 (530)	3800 (261)
3/4	DS-N12-50.8	50.8	26.7	15.7	7300 (502)	3600 (248)
3/4	DS-N12-76.2	76.2	26.7	15.7	7300 (502)	3600 (248)
3/4	DS-N12-101.6	101.6	26.7	15.7	7300 (502)	3600 (248)
1	DS-N16-76.2	76.2	33.4	22.4	5300 (365)	2600 (179)
1	DS-N16-101.6	101.6	33.4	22.4	5300 (365)	2600 (179)

# E-JOE

## 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	S-N1	25.6	7.9	9.7	9.7	3.0	11000 (757)	5500 (378)
1/8	1/16	S-N2N1	25.6	11.1	9.7	9.7	3.0	11000 (757)	5500 (378)
1/8	1/8	S-N2	25.6	11.1	9.7	9.7	4.8	10000 (689)	5000 (344)
1/4	1/16	S-N4N1	31.0	14.3	14.2	9.7	3.0	11000 (757)	5500 (378)
1/4	1/8	S-N4N2	31.0	14.3	14.2	9.7	4.8	10000 (689)	5000 (344)
1/4	1/4	S-N4	35.6	14.3	14.2	14.2	7.1	8000 (551)	4000 (275)
3/8	1/16	S-N6N1	31.8	17.5	14.2	9.7	3.0	11000 (757)	5500 (378)
3/8	1/8	S-N6N2	31.8	17.5	14.2	9.7	4.8	10000 (689)	5000 (344)
3/8	1/4	S-N6N4	36.3	17.5	14.2	14.2	7.1	8000 (551)	4000 (275)
3/8	3/8	S-N6	36.3	17.5	14.2	14.2	9.7	7800 (537)	3900 (268)
1/2	1/8	S-N8N2	37.3	22.2	19.1	9.7	4.8	7700 (530)	3800 (261)
1/2	1/4	S-N8N4	41.9	22.2	19.1	14.2	7.1	8000 (551)	4000 (275)
1/2	3/8	S-N8N6	41.9	22.2	19.1	14.2	9.7	7800 (537)	3900 (268)
1/2	1/2	S-N8	46.7	22.2	19.1	19.1	11.9	7700 (530)	3800 (261)
3/4	1/8	S-N12N2	40.4	27.0	19.1	9.7	4.8	10000 (689)	5000 (344)
3/4	1/4	S-N12N4	41.9	27.0	19.1	14.2	7.1	8000 (551)	4000 (275)
3/4	3/8	S-N12N6	45.2	27.0	19.1	14.2	9.7	7800 (537)	3900 (268)
3/4	1/2	S-N12N8	46.7	27.0	19.1	19.1	11.9	7700 (530)	3800 (261)
3/4	3/4	S-N12	46.7	27.0	19.1	19.1	15.7	7300 (502)	3600 (248)
1	1/8	S-N16N2	45.2	34.9	23.9	9.7	4.8	10000 (689)	5000 (344)
1	1/4	S-N16N4	49.3	34.9	23.9	14.2	7.1	5300 (365)	2600 (179)
1	3/8	S-N16N6	50.0	34.9	23.9	14.2	9.7	7800 (537)	3900 (268)
1	1/2	S-N16N8	54.1	34.9	23.9	19.1	11.9	7700 (530)	3800 (261)
1	3/4	S-N16N12	54.1	34.9	23.9	19.1	15.7	7300 (502)	3600 (248)
1	1	S-N16	58.9	34.9	23.9	23.9	22.4	5300 (365)	2600 (179)
1 1/4	1	S-N20N16	62.2	44.5	23.9	23.9	22.4	5300 (365)	2600 (179)
1 1/4	1 1/4	S-N20	62.9	44.5	23.9	23.9	28.6	6000 (410)	3000 (200)
1 1/2	1 1/2	S-N24	66.3	50.8	26.2	26.2	34.0	5000 (344)	2500 (172)
2	2	S-N32	77.7	69.9	26.2	26.2	45.0	3900 (268)	1900 (130)

### Heavy-Wall Male NPT Threads

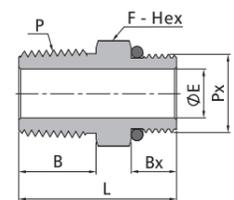
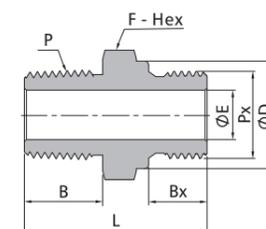
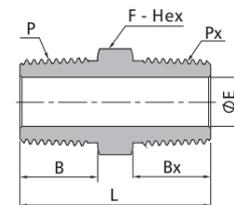
1/4	1/4	S-N4-10K	35.6	14.3	14.2	14.2	5.8	10000 (689)	/
1/2	1/4	S-N8N4-10K	41.9	22.2	19.1	14.2	5.8	10000 (689)	/
1/2	1/2	S-N8-10K	46.7	22.2	19.1	19.1	9.9	10000 (689)	/

### Male ISO Tapered Threads

P-RT Size	Px-RT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/8	S-RT2	25.6	11.1	9.7	9.7	4.8	10000 (689)	5000 (344)
1/4	1/4	S-RT4	35.6	14.3	14.2	14.2	7.1	8000 (551)	4000 (275)
3/8	3/8	S-RT6	36.3	17.5	14.2	14.2	9.7	7800 (537)	3900 (268)
1/2	1/2	S-RT8	46.7	22.2	19.1	19.1	11.9	7700 (530)	3800 (261)
3/4	3/4	S-RT12	46.7	27.0	19.1	19.1	15.7	7300 (502)	3600 (248)
1	1	S-RT16	58.9	34.9	23.9	23.9	22.4	5300 (365)	2600 (179)

# E-JOE

## Hex Nipples



### Male NPT Threads

P-NPT Size	Px-RT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/8	S-N2RT2	25.6	11.1	9.7	9.7	4.8	10000 (689)	5000 (344)
1/4	1/4	S-N4RT4	35.6	14.3	14.2	14.2	7.1	8000 (551)	4000 (275)
3/8	3/8	S-N6RT6	36.3	17.5	14.2	14.2	9.7	7800 (537)	3900 (268)
1/2	1/2	S-N8RT8	46.7	22.2	19.1	19.1	11.9	7700 (530)	3800 (261)
3/4	3/4	S-N12RT12	46.7	27.0	19.1	19.1	15.7	7300 (502)	3600 (248)
1	1	S-N16RT16	58.9	34.9	23.9	23.9	22.4	5300 (365)	2600 (179)

### Male ISO Tapered Threads

### Male NPT Threads

P-NPT Size	Px-RS Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	Bx	E	D	316 SS, Steel	Brass
1/8	1/8	S-N2BS2	27.7	14.3	9.7	7.1	4.1	13.7	11400 (785)	5700 (392)
1/4	1/4	S-N4BS4	36.8	19.1	14.2	11.2	5.8	18.0	10300 (709)	5100 (351)
3/8	3/8	S-N6BS6	37.6	22.2	14.2	11.2	7.9	21.6	10300 (709)	5100 (351)
1/2	1/2	S-N8BS8	44.4	27.0	19.1	14.2	11.9	25.9	7600 (523)	3800 (261)
3/4	3/4	S-N12BS12	49.0	33.3	19.1	15.7	15.7	32.0	7300 (502)	3600 (248)
1	1	S-N16BS16	56.6	41.3	23.9	18.3	19.8	38.9	7400 (509)	3700 (254)

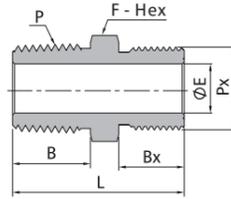
### Male ISO parallel Threads

### Male NPT Threads

P-NPT Size	Px-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/4	7/16-20	S-N4ST7	30.5	14.3	14.2	9.1	5.1	4500 (310)	
3/8	9/16-18	S-N6ST9	32.0	17.5	14.2	9.1	7.1	4500 (310)	
1/2	3/4-16	S-N8ST12	38.9	22.2	19.1	11.2	10.7	4500 (310)	
3/4	1 1/16-12	S-N12ST17	44.4	31.8	19.1	15.0	15.7	3600 (248)	
1	1 5/16-12	S-N16ST21	50.8	38.1	23.9	15.0	22.4	2900 (199)	

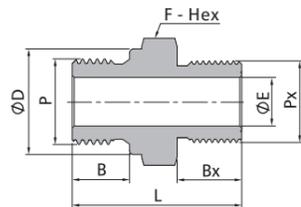
### Male SAE/MS Straight Threads

Hex Nipples

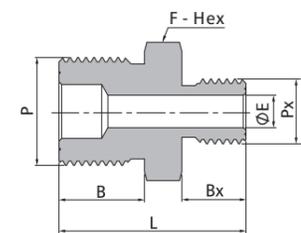


P-NPT Size	Px-Metric Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	F	B	Bx	E	316 SS, Steel
1/8	M20 x 1.5	S-N2MS20	32.7	22.2	9.7	16	5.0	7700 (530)
1/4	M8 x 1	S-N4MS8	29.0	14.3	14.2	9	3.2	8000 (551)
1/4	M14 x 1.5	S-N4MS14	34.2	15.9	14.2	13	7.0	8000 (551)
1/4	M16 x 1.5	S-N4MS16	35.2	17.5	14.2	14	7.1	7800 (537)
1/4	M20 x 1.5	S-N4MS20	37.2	22.2	14.2	16	7.0	7700 (530)
3/8	M14 x 1.5	S-N6MS14	34.2	17.5	14.2	13	7.0	7800 (537)
3/8	M20 x 1.5	S-N6MS20	37.2	22.2	14.2	16	9.5	7700 (530)
3/8	M24 x 1.5	S-N6MS24	38.2	27	14.2	17	9.5	7400 (509)
1/2	M14 x 1.5	S-N8MS14	39.1	22.2	19.1	13	7.0	7700 (530)
1/2	M20 x 1.5	S-N8MS20	42.0	22.2	19.1	16	10.0	7700 (530)
1/2	M24 x 1.5	S-N8MS24	43.5	27	19.1	17	11.9	7400 (509)
3/4	M20 x 1.5	S-N12MS20	42.1	27	19.1	16	10.0	7300 (502)
3/4	M27 x 2	S-N12MS27	46.7	31.8	19.1	18	15.8	6100 (420)
1	M30 x 2	S-N16MS30	55.0	34.9	23.9	20	11.9	6100 (420)

PRT Size	Px-Metric Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	F	B	Bx	E	316 SS, Steel
1/8	M20 x 1.5	S-RT2MS20	32.7	22.2	9.7	16	5.0	7700 (530)
1/4	M12 x 1.5	S-RT4MS12	33.4	14.3	14.2	15	5.0	8000 (551)
1/4	M20 x 1.5	S-RT4MS20	37.2	22.2	14.2	16	7.0	7700 (530)
3/8	M20 x 1.5	S-RT6MS20	37.2	22.2	14.2	16	9.5	7700 (530)
1/2	M20 x 1.5	S-RT8MS20	42.0	22.2	19.1	16	10.0	7700 (530)

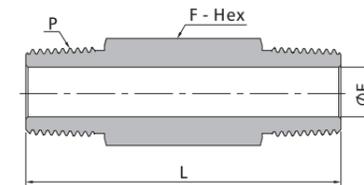
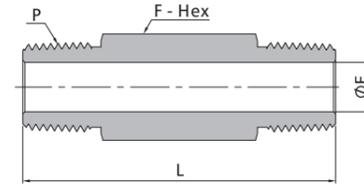


P-RS Size	Px-Metric Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)
			L	F	B	Bx	E	D	316 SS, Steel
1/8	M20 x 1.5	S-BS2MS20	30.1	22.2	7.1	16	4.0	13.7	7700 (530)
1/4	M18 x 1.5	S-BS4MS18	34.2	20.6	11.2	15	5.9	18.0	7800 (537)
1/4	M20 x 1.5	S-BS4MS20	36.2	22.2	11.2	16	5.9	18.0	7700 (530)
3/8	M20 x 1.5	S-BS6MS20	36.2	22.2	11.2	16	7.9	21.6	7700 (530)
1/2	M20 x 1.5	S-BS8MS20	40.2	22.2	14.0	16	11.9	25.9	7700 (530)



P-Metric Size	Px-Metric Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	F	B	Bx	E	316 SS, Steel
M20 x 1.5	M10 x 1	S-MS20MS10	34	22.2	16	11	4.0	
M20 x 1.5	M12 x 1.5	S-MS20MS12	35	22.2	16	12	6.0	
M20 x 1.5	M14 x 1.5	S-MS20MS14	36	22.2	16	13	8.0	
M20 x 1.5	M16 x 1.5	S-MS20MS16	37	22.2	16	14	9.0	
M20 x 1.5	M20 x 1.5	S-MS20	39	22.2	16	16	10.0	
M27 x 2	M27 x 2	S-MS27	44.5	30.1	18	18	14.0	

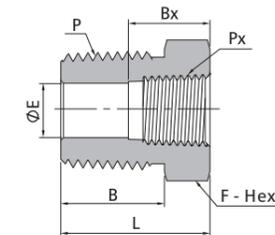
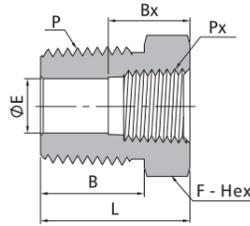
Hex Long Nipples



P-NPT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	F	E	316 SS, Steel	Brass
1/8	S-N2-38.1	38.1	11.1	4.8	10000 (689)	5000 (344)
1/8	S-N2-50.8	50.8	11.1	4.8	10000 (689)	5000 (344)
1/8	S-N2-63.5	63.5	11.1	4.8	10000 (689)	5000 (344)
1/8	S-N2-76.2	76.2	11.1	4.8	10000 (689)	5000 (344)
1/4	S-N4-38.1	38.1	14.3	7.1	8000 (551)	4000 (275)
1/4	S-N4-50.8	50.8	14.3	7.1	8000 (551)	4000 (275)
1/4	S-N4-63.5	63.5	14.3	7.1	8000 (551)	4000 (275)
1/4	S-N4-76.2	76.2	14.3	7.1	8000 (551)	4000 (275)
1/4	S-N4-101.6	101.6	14.3	7.1	8000 (551)	4000 (275)
3/8	S-N6-38.1	38.1	17.5	9.7	7800 (537)	3900 (268)
3/8	S-N6-50.8	50.8	17.5	9.7	7800 (537)	3900 (268)
3/8	S-N6-63.5	63.5	17.5	9.7	7800 (537)	3900 (268)
3/8	S-N6-76.2	76.2	17.5	9.7	7800 (537)	3900 (268)
3/8	S-N6-101.6	101.6	17.5	9.7	7800 (537)	3900 (268)
1/2	S-N8-50.8	50.8	22.2	11.9	7700 (530)	3800 (261)
1/2	S-N8-76.2	76.2	22.2	11.9	7700 (530)	3800 (261)
1/2	S-N8-101.6	101.6	22.2	11.9	7700 (530)	3800 (261)
1/2	S-N8-152.4	152.4	22.2	11.9	7700 (530)	3800 (261)
3/4	S-N12-50.8	50.8	27.0	15.7	7300 (502)	3600 (248)
3/4	S-N12-76.2	76.2	27.0	15.7	7300 (502)	3600 (248)
3/4	S-N12-101.6	101.6	27.0	15.7	7300 (502)	3600 (248)
1	S-N16-76.2	76.2	34.9	22.4	5300 (365)	2600 (179)
1	S-N16-101.6	101.6	34.9	22.4	5300 (365)	2600 (179)

P-RT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	F	E	316 SS, Steel	Brass
1/8	S-RT2-38.1	38.1	11.1	4.8	10000 (689)	5000 (344)
1/8	S-RT2-50.8	50.8	11.1	4.8	10000 (689)	5000 (344)
1/8	S-RT2-63.5	63.5	11.1	4.8	10000 (689)	5000 (344)
1/8	S-RT2-76.2	76.2	11.1	4.8	10000 (689)	5000 (344)
1/4	S-RT4-38.1	38.1	14.3	7.1	8000 (551)	4000 (275)
1/4	S-RT4-50.8	50.8	14.3	7.1	8000 (551)	4000 (275)
1/4	S-RT4-63.5	63.5	14.3	7.1	8000 (551)	4000 (275)
1/4	S-RT4-76.2	76.2	14.3	7.1	8000 (551)	4000 (275)
1/4	S-RT4-101.6	101.6	14.3	7.1	8000 (551)	4000 (275)
3/8	S-RT6-38.1	38.1	17.5	9.7	7800 (537)	3900 (268)
3/8	S-RT6-50.8	50.8	17.5	9.7	7800 (537)	3900 (268)
3/8	S-RT6-63.5	63.5	17.5	9.7	7800 (537)	3900 (268)
3/8	S-RT6-76.2	76.2	17.5	9.7	7800 (537)	3900 (268)
3/8	S-RT6-101.6	101.6	17.5	9.7	7800 (537)	3900 (268)
1/2	S-RT8-50.8	50.8	22.2	11.9	7700 (530)	3800 (261)
1/2	S-RT8-76.2	76.2	22.2	11.9	7700 (530)	3800 (261)
1/2	S-RT8-101.6	101.6	22.2	11.9	7700 (530)	3800 (261)
1/2	S-RT8-152.4	152.4	22.2	11.9	7700 (530)	3800 (261)
3/4	S-RT12-50.8	50.8	27.0	15.7	7300 (502)	3600 (248)
3/4	S-RT12-76.2	76.2	27.0	15.7	7300 (502)	3600 (248)
3/4	S-RT12-101.6	101.6	27.0	15.7	7300 (502)	3600 (248)
1	S-RT16-76.2	76.2	34.9	22.4	5300 (365)	2600 (179)
1	S-RT16-101.6	101.6	34.9	22.4	5300 (365)	2600 (179)

Reducing Bushings



Male NPT Threads

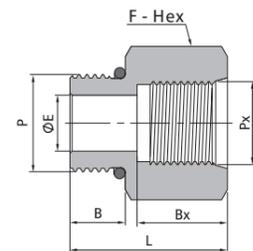
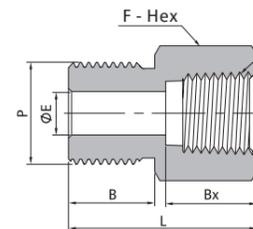
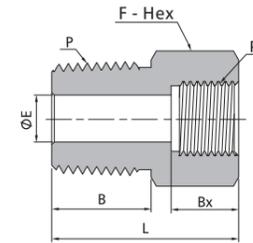
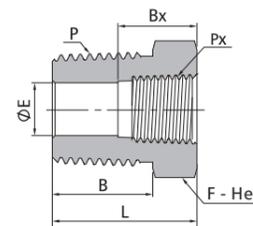
P-NPT Size	Px-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/16	S-N2FN1	26.2	11.1	9.7	9.9	4.8	6500 (447)	3200 (220)
1/4	1/16	S-N4FN1	21.8	14.3	14.2	9.9	4.8	8000 (551)	4000 (275)
1/4	1/8	S-N4FN2	26.9	14.3	14.2	10.4	7.1	6500 (447)	3300 (227)
3/8	1/16	S-N6FN1	21.8	17.5	14.2	9.9	4.8	13300 (971)	6600 (454)
3/8	1/8	S-N6FN2	21.8	17.5	14.2	10.4	8.6	9200 (633)	4700 (323)
3/8	1/4	S-N6FN4	30.2	19.1	14.2	15.0	9.6	6600 (454)	3300 (227)
1/2	1/8	S-N8FN2	27.4	22.2	19.1	10.4	8.6	12200 (840)	6200 (427)
1/2	1/4	S-N8FN4	27.4	22.2	19.1	15.0	11.4	8300 (571)	4400 (303)
1/2	3/8	S-N8FN6	35.8	22.2	19.1	15.0	11.9	5300 (365)	2600 (179)
3/4	1/8	S-N12FN2	27.4	27.0	19.1	10.4	7.1	20000(1378)	10000(689)
3/4	1/4	S-N12FN4	27.4	27.0	19.1	15.0	11.4	12000 (826)	6000 (410)
3/4	3/8	S-N12FN6	27.4	27.0	19.1	15.0	15.0	8200 (564)	4300 (296)
3/4	1/2	S-N12FN8	41.4	27.0	19.1	19.8	15.7	4900 (337)	2400 (165)
1	1/8	S-N16FN2	34.5	34.9	23.9	10.4	7.1	20000(1378)	10000(689)
1	1/4	S-N16FN4	34.8	34.9	23.9	15.0	11.4	14500 (999)	7400 (509)
1	3/8	S-N16FN6	34.8	34.9	23.9	15.0	15.0	11600 (799)	5900 (406)
1	1/2	S-N16FN8	34.8	34.9	23.9	19.8	18.5	8600 (592)	4300 (296)
1	3/4	S-N16FN12	47.0	34.9	23.9	20.6	22.4	5300 (365)	2600 (179)
1 1/4	3/4	S-N20FN12	37.3	44.5	23.9	20.6	22.4	7800 (537)	3900 (268)
1 1/4	1	S-N20FN16	37.3	44.5	23.9	25.4	22.4	3500 (241)	1750 (120)
1 1/2	1	S-N24FN16	40.1	50.8	26.2	25.4	22.4	6600 (454)	3300 (227)
1 1/2	1 1/4	S-N24FN20	56.0	54.0	26.2	25.4	34.0	5000 (344)	2500 (172)

Male NPT Threads

P-NPT Size	Px-RT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/16	S-N2FR1	26.2	11.1	9.7	9.9	4.8	6500 (447)	3200 (220)
1/4	1/16	S-N4FR1	21.8	14.3	14.2	9.9	4.8	8000 (551)	4000 (275)
1/4	1/8	S-N4FR2	26.9	14.3	14.2	10.4	7.1	6500 (447)	3300 (227)
3/8	1/16	S-N6FR1	21.8	17.5	14.2	9.9	4.8	13300 (971)	6600 (454)
3/8	1/8	S-N6FR2	21.8	17.5	14.2	10.4	7.1	9200 (633)	4700 (323)
3/8	1/4	S-N6FR4	30.2	19.1	14.2	15.0	9.7	6600 (454)	3300 (227)
1/2	1/8	S-N8FR2	27.4	22.2	19.1	10.4	7.1	12200 (840)	6200 (427)
1/2	1/4	S-N8FR4	27.4	22.2	19.1	15.0	10.4	8300 (571)	4400 (303)
1/2	3/8	S-N8FR6	35.8	22.2	19.1	15.0	11.9	5300 (365)	2600 (179)
3/4	1/8	S-N12FR2	27.4	27.0	19.1	10.4	7.1	20000 (1378)	10000 (689)
3/4	1/4	S-N12FR4	27.4	27.0	19.1	15.0	10.4	12000 (826)	6000 (410)
3/4	3/8	S-N12FR6	27.4	27.0	19.1	15.0	12.7	8200 (564)	4300 (296)
3/4	1/2	S-N12FR8	41.4	27.0	19.1	19.8	15.7	4900 (337)	2400 (165)
1	1/8	S-N16FR2	34.5	34.9	23.9	10.4	7.1	20000 (1378)	10000 (689)
1	1/4	S-N16FR4	34.8	34.9	23.9	15.0	10.4	14500 (999)	7400 (509)
1	3/8	S-N16FR6	34.8	34.9	23.9	15.0	12.7	11600 (799)	5900 (406)
1	1/2	S-N16FR8	34.8	34.9	23.9	19.8	15.7	8600 (592)	4300 (296)
1	3/4	S-N16FR12	47.0	34.9	23.9	20.6	22.4	5300 (365)	2600 (179)
1 1/4	3/4	S-N20FR12	37.3	44.5	23.9	20.6	22.4	7800 (537)	3900 (268)
1 1/4	1	S-N20FR16	37.3	44.5	23.9	25.4	22.4	3500 (241)	1750 (120)
1 1/2	1	S-N24FR16	40.1	50.8	26.2	25.4	22.4	6600 (454)	3300 (227)
1 1/2	1 1/4	S-N24FR20	56.0	54.0	26.2	25.4	34.0	5000 (344)	2500 (172)

Female ISO Tapered Pipe Threads

Reducing Bushings



Male ISO Tapered Threads

P-RT Size	Px-RT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/4	1/8	S-RT4FR2	26.9	14.3	14.2	10.4	7.1	6500 (447)	3200 (220)
3/8	1/4	S-RT6FR4	30.2	19.1	14.2	15.0	9.6	6600 (454)	3300 (227)
1/2	1/4	S-RT8FR4	27.4	22.2	19.1	15.0	11.2	8300 (571)	4400 (303)
1/2	3/8	S-RT8FR6	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-RG Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
			L	F	B	Bx	E	
3/8	1/4	S-N6FG4	30.2	19.1	14.2	12.9	5.6	5700 (392)
1/2	3/8	S-N8FG6	35.8	22.2	19.1	14.2	6.6	5700 (392)
3/4	1/2	S-N12FG8	41.4	27.0	19.1	18.8	7.1	3900 (268)

Female ISO Parallel Threads

Male ISO Parallel Threads

P-BP 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	S-BP4FN2	26.9	14.3	12.9	10.4	4.5	6500 (447)	3200 (220)
3/8	1/4	S-BP6FN4	31.0	19.1	14.2	15	7.1	6600 (454)	3300 (227)
1/2	3/8	S-BP8FN6	35.8	22.2	18.8	15	6.6	5300 (365)	2600 (179)

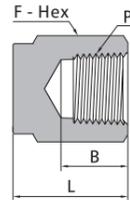
Female NPT Threads

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	S-ST9FST7	28.4	20.6	9.9	14.0	7.1	4500 (310)
3/4-16	7/16-20	S-ST12FST7	24.9	22.2	11.2	14.0	9.9	4500 (310)
3/4-16	9/16-18	S-ST12FST9	30.2	25.4	11.2	16.0	10.7	4500 (310)
7/8-14	9/16-18	S-ST14FST9	27.9	25.4	12.7	16.0	12.7	3600 (248)
7/8-14	3/4-16	S-ST14FST12	36.1	30.2	12.7	18.0	12.7	3600 (248)
1 1/16-12	3/4-16	S-ST17FST12	32.3	31.8	15.0	18.0	16.5	3600 (248)
1 5/16-12	1 1/16-12	S-ST21FST17	40.9	41.3	15.0	24.0	22.1	2900 (199)
1 5/8-12	1 5/16-12	S-ST26FST21	50.3	54.0	15.0	24.0	27.7	2300 (158)
1 7/8-12	1 5/16-12	S-ST30FST21	50.3	54.0	15.0	24.0	31.2	2300 (158)

Female MS Straight Threads

## 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	CP-FN1	12.7	11.1	9.9	6700 (460)	3300 (227)
1/8	CP-FN2	19.1	14.3	10.4	6500 (447)	3200 (220)
1/4	CP-FN4	23.1	19.1	15.0	6600 (454)	3300 (277)
3/8	CP-FN6	26.2	22.2	15.0	5300 (365)	2600 (179)
1/2	CP-FN8	34.0	27.0	19.8	4900 (337)	2400 (165)
3/4	CP-FN12	36.6	33.3	20.6	4600 (316)	2300 (158)
1	CP-FN16	41.1	41.3	25.4	4400 (303)	2200 (151)

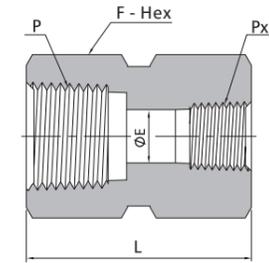
## Heavy-Wall Female NPT Threads

1/4	CP-FN4-10K	28.2	25.4	15.0	10000 (689)	/
1/2	CP-FN8-10K	40.1	38.1	19.8	10000 (689)	/

## Female ISO Tapered Threads

P-FR Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
		L	F	B	316 SS, Steel	Brass
1/16	CP-FR1	12.7	11.1	9.9	6700 (460)	3300 (227)
1/8	CP-FR2	19.1	14.3	10.4	6500 (447)	3200 (220)
1/4	CP-FR4	23.1	19.1	15.0	6600 (454)	3300 (277)
3/8	CP-FR6	26.2	22.2	15.0	5300 (365)	2600 (179)
1/2	CP-FR8	34.0	27.0	19.8	4900 (337)	2400 (165)
3/4	CP-FR12	36.6	33.3	20.6	4600 (316)	2300 (158)
1	CP-FR16	41.1	41.3	25.4	4400 (303)	2200 (151)

## 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	S-FN1	19.8	11.1	4.8	6700 (460)	3300 (227)
1/8	1/8	S-FN2	20.6	14.3	8.6	6500 (447)	3200 (220)
1/4	1/8	S-FN4FN2	31.0	19.1	8.6	6600 (454)	3300 (227)
1/4	1/4	S-FN4	30.2	19.1	11.4	6600 (454)	3300 (227)
3/8	1/4	S-FN6FN4	35.1	22.2	11.4	5300 (365)	2600 (179)
3/8	3/8	S-FN6	33.3	22.2	15.0	5300 (365)	2600 (179)
1/2	1/8	S-FN8FN2	39.6	27.0	8.6	4900 (337)	2400 (165)
1/2	1/4	S-FN8FN4	44.4	27.0	11.4	4900 (337)	2400 (165)
1/2	3/8	S-FN8FN6	45.2	27.0	15.0	4900 (337)	2400 (165)
1/2	1/2	S-FN8	39.6	27.0	18.5	4900 (337)	2400 (165)
3/4	1/4	S-FN12FN4	46.0	33.3	11.4	4600 (316)	2300 (158)
3/4	1/2	S-FN12FN8	52.3	33.3	18.5	4600 (316)	2300 (158)
3/4	3/4	S-FN12	41.1	33.3	23.9	4600 (316)	2300 (158)
1	1/2	S-FN16FN8	55.6	41.3	18.5	4400 (303)	2200 (151)
1	3/4	S-FN16FN12	57.2	41.3	23.9	4400 (303)	2200 (151)
1	1	S-FN16	50.8	41.3	29.7	4400 (303)	2200 (151)

## Heavy-Wall Female NPT Threads

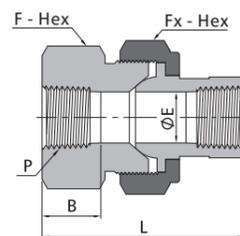
1/4	1/4	S-FN4-10K	30.2	25.4	11.4	10000 (689)	/
1/2	1/2	S-FN8-10K	39.6	38.1	18.5	10000 (689)	/
1/2	1/4	S-FN8FN4-10K	44.4	38.1	11.4	10000 (689)	/

## Female ISO Tapered Threads

P-RT Size	Px-RT Size	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)	
			L	F	E	316 SS, Steel	Brass
1/8	1/8	S-FR2	20.6	14.3	8.4	6500 (447)	3200 (220)
1/4	1/4	S-FR4	30.2	19.1	11.2	6600 (454)	3300 (227)
3/8	1/4	S-FR6FR4	35.1	22.2	11.2	5300 (365)	2600 (179)
3/8	3/8	S-FR6	33.3	22.2	14.7	5300 (365)	2600 (179)
1/2	1/4	S-FR8FR4	44.4	27.0	11.2	4900 (337)	2400 (165)
1/2	3/8	S-FR8FR6	45.2	27.0	14.7	4900 (337)	2400 (165)
1/2	1/2	S-FR8	39.6	27.0	18.3	4900 (337)	2400 (165)

E-JOE

Union Ball Joints



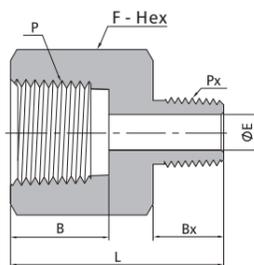
Female NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
		L	F	Fx	B	E	
1/8	UBJ-FN2	46.0	23.8	28.6	10.4	6.8	8400 (578)
1/4	UBJ-FN4	59.4	30.2	34.9	15.0	9.1	6600 (454)
3/8	UBJ-FN6	63.5	33.3	38.1	15.0	13.2	5300 (365)
1/2	UBJ-FN8	68.3	41.3	44.5	19.8	15.7	6000 (410)
3/4	UBJ-FN12	79.2	47.6	54.0	20.6	22.4	4600 (316)
1	UBJ-FN16	90.4	60.3	63.5	25.4	26.2	6800 (468)

Female ISO Tapered Threads

P-RT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
		L	F	Fx	B	E	
1/8	UBJ-FR2	46.0	23.8	28.6	10.4	6.8	8400 (578)
1/4	UBJ-FR4	59.4	30.2	34.9	15.0	9.1	6600 (454)
3/8	UBJ-FR6	63.5	33.3	38.1	15.0	13.2	5300 (365)
1/2	UBJ-FR8	68.3	41.3	44.5	19.8	15.7	6000 (410)
3/4	UBJ-FR12	79.2	47.6	54.0	20.6	22.4	4600 (316)
1	UBJ-FR16	90.4	60.3	63.5	25.4	26.2	6800 (468)

Adapters



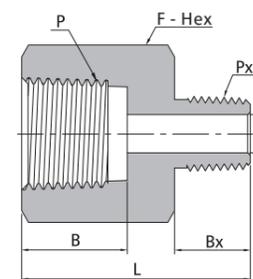
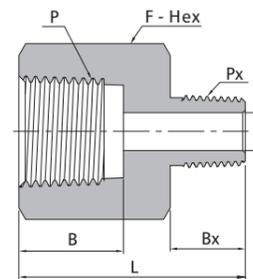
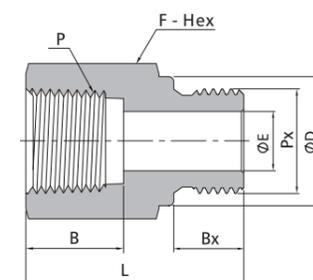
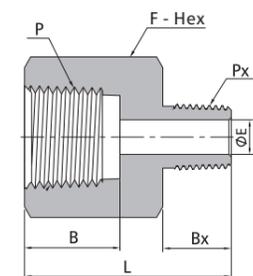
Female NPT Threads

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	S-FN2N1	27.7	14.3	10.4	9.7	3.0	6500 (447)	3200 (220)
1/8	1/8	S-FN2N2	27.9	14.3	10.4	9.7	4.8	6500 (447)	3200 (220)
1/4	1/16	S-FN4N1	30.5	19.1	15.0	9.7	3.0	6600 (454)	3300 (227)
1/4	1/8	S-FN4N2	32.0	19.1	15.0	9.7	4.8	6600 (454)	3300 (227)
1/4	1/4	S-FN4N4	35.6	19.1	15.0	14.2	7.1	6600 (454)	3300 (227)
3/8	1/16	S-FN6N1	31.8	22.2	15.0	9.7	3.0	5300 (365)	2600 (179)
3/8	1/8	S-FN6N2	33.8	22.2	15.0	9.7	4.8	5300 (365)	2600 (179)
3/8	1/4	S-FN6N4	38.1	22.2	15.0	14.2	7.1	5300 (365)	2600 (179)
3/8	3/8	S-FN6N6	38.4	22.2	15.0	14.2	9.7	5300 (365)	2600 (179)
1/2	1/8	S-FN8N2	40.1	27.0	19.8	9.7	4.8	4900 (337)	2400 (165)
1/2	1/4	S-FN8N4	44.7	27.0	19.8	14.2	7.1	4900 (337)	2400 (165)
1/2	3/8	S-FN8N6	44.4	27.0	19.8	14.2	9.6	4900 (337)	2400 (165)
1/2	1/2	S-FN8N8	49.3	27.0	19.8	19.1	11.9	4900 (337)	2400 (165)
3/4	1/8	S-FN12N2	39.6	33.3	20.6	9.7	4.8	4600 (316)	2300 (158)
3/4	1/4	S-FN12N4	47.0	33.3	20.6	14.2	7.1	4600 (316)	2300 (158)
3/4	3/8	S-FN12N6	46.2	33.3	20.6	14.2	9.7	4600 (316)	2300 (158)
3/4	1/2	S-FN12N8	51.3	33.3	20.6	19.1	11.9	4600 (316)	2300 (158)
3/4	3/4	S-FN12N12	51.3	33.3	20.6	19.1	15.7	4600 (316)	2300 (158)
1	1/8	S-FN16N2	46.0	41.3	25.4	9.7	4.8	4400 (303)	2200 (151)
1	1/4	S-FN16N4	49.8	41.3	25.4	14.2	7.1	4400 (303)	2200 (151)
1	3/8	S-FN16N6	50.8	41.3	25.4	14.2	9.7	4400 (303)	2200 (151)
1	1/2	S-FN16N8	54.9	41.3	25.4	19.1	11.9	4400 (303)	2200 (151)
1	3/4	S-FN16N12	55.1	41.3	25.4	19.1	15.7	4400 (303)	2200 (151)
1	1	S-FN16N16	57.9	41.3	25.4	23.9	22.4	4400 (303)	2200 (151)
1 1/4	1	S-FN20N16	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	S-FN4-10K	36.3	25.4	15.0	14.2	5.8	10000 (689)	/
1/2	1/2	S-FN8-10K	51.3	38.1	19.8	19.1	9.9	10000 (689)	/
1/2	1/4	S-FN8-FN4-10K	46.0	38.1	19.8	14.2	5.8	10000 (689)	/

Adapters



E-JOE

Female NPT Threads

P-NPT Size	Px-RT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/8	S-FN2RT2	27.7	14.3	10.4	9.7	4.8	6500 (447)	3200 (220)
1/4	1/4	S-FN4RT4	36.1	19.1	15.0	14.2	7.1	6600 (454)	3300 (227)
3/8	3/8	S-FN6RT6	38.1	22.2	15.0	14.2	9.7	5300 (365)	2600 (179)
1/2	1/2	S-FN8RT8	49.3	27.0	19.8	19.1	11.9	4900 (337)	2400 (165)
3/4	3/4	S-FN12RT12	51.3	33.3	20.6	19.1	15.7	4600 (316)	2300 (158)
1	1	S-FN16RT16	58.4	41.3	25.4	23.9	22.4	4400 (303)	2200 (151)

Male ISO Tapered Threads

Female NPT Threads

P-NPT Size	Px-RS Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)		
			L	F	B	Bx	D	E	316 SS, Steel	Brass
1/8	1/8	S-FN2BS2	25.1	14.3	9.9	7.1	13.7	4.1	6500 (447)	3200 (220)
1/4	1/4	S-FN4BS4	33.5	19.1	10.4	11.2	18.0	5.8	6600 (454)	3300 (227)
3/8	3/8	S-FN6BS6	35.8	22.2	15.0	11.2	21.6	7.9	5300 (365)	2600 (179)
1/2	1/2	S-FN8BS8	44.2	27.0	15.0	14.2	25.9	11.9	4900 (337)	2400 (165)
3/4	3/4	S-FN12BS12	48.0	33.3	20.6	15.7	32.0	15.7	4600 (316)	2300 (158)
1	1	S-FN16BS16	53.3	41.3	25.4	18.3	38.9	19.8	4400 (303)	2200 (151)

Male ISO Parallel Threads

Female ISO Tapered Threads

P-RT Size	Px-RT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)	
			L	F	B	Bx	E	316 SS, Steel	Brass
1/8	1/8	S-FR2RT2	27.7	14.3	10.4	9.7	4.8	6500 (447)	3200 (220)
1/4	1/8	S-FR4RT2	32.0	19.1	15.0	9.7	4.8	6600 (454)	3300 (227)
1/4	1/4	S-FR4RT4	36.1	19.1	15.0	14.2	7.1	6600 (454)	3300 (227)
3/8	1/4	S-FR6RT4	38.1	22.2	15.0	14.2	7.1	5300 (365)	2600 (179)
3/8	3/8	S-FR6RT6	38.1	22.2	15.0	14.2	9.7	5300 (365)	2600 (179)
1/2	1/4	S-FR8RT4	44.7	27.0	19.8	14.2	7.1	4900 (337)	2400 (165)
1/2	3/8	S-FR8RT6	44.4	27.0	19.8	14.2	9.7	4900 (337)	2400 (165)
1/2	1/2	S-FR8RT8	49.5	27.0	19.8	19.1	11.9	4900 (337)	2400 (165)
3/4	3/4	S-FR12RT12	51.3	33.3	20.6	19.1	15.7	4600 (316)	2300 (158)
1	1	S-FR16RT16	58.4	41.3	25.4	23.9	22.4	4400 (303)	2200 (151)

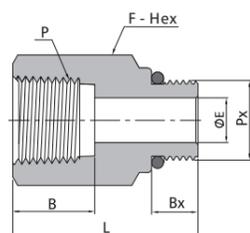
Male ISO Tapered Threads

Female ISO Tapered Threads

P-RT 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	S-FR2N2	27.7	14.3	10.4	9.7	4.8	6500 (447)	3200 (220)
1/4	1/4	S-FR4N4	36.3	19.1	15.0	14.2	7.1	6600 (454)	3300 (227)
3/8	3/8	S-FR6N6	38.4	22.2	15.0	14.2	9.6	5300 (365)	2600 (179)
1/2	1/2	S-FR8N8	49.8	27.0	19.8	19.1	11.9	4900 (337)	2400 (165)
3/4	3/4	S-FR12N12	51.3	33.3	20.6	19.1	15.7	4600 (316)	2300 (158)
1	1	S-FR16N16	58.4	41.3	25.4	23.9	22.4	4400 (303)	2200 (151)

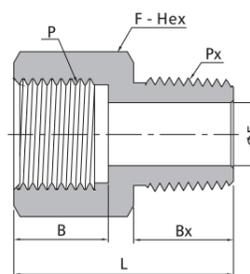
Male NPT Threads

Adapters



Female NPT Threads Male SAE/MS Straight Threads

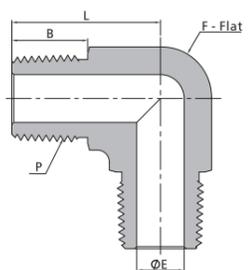
P-NPT Size	Px-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar) 316 SS, Steel
			L	F	B	Bx	E	
1/4	7/16-20	S-FN4ST7	33.5	19.1	15.0	9.1	5.1	4500 (310)
3/8	9/16-18	S-FN6ST9	35.3	23.8	15.0	9.9	7.1	4500 (310)
1/2	3/4-16	S-FN8ST12	44.7	27.0	19.8	11.2	10.7	4500 (310)
3/4	1 1/16-12	S-FN12ST17	50.5	34.9	20.6	15.0	16.7	3600 (248)
1	1 5/16-12	S-FN16ST21	53.8	41.3	25.4	15.0	22.4	2900 (199)



Female ISO Parallel Threads Male NPT Threads

P-RG 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	S-FG2N2	21.8	14.3	6.5	9.7	4.8	6100 (420)
1/4	1/4	S-FG4N4	30.2	19.1	12.9	14.2	5.6	5700 (392)
3/8	3/8	S-FG6N6	32.2	23.8	14.2	14.2	6.6	5700 (392)
1/2	1/2	S-FG8N8	42.7	27.0	18.8	19.1	7.1	3900 (268)

Male Elbows



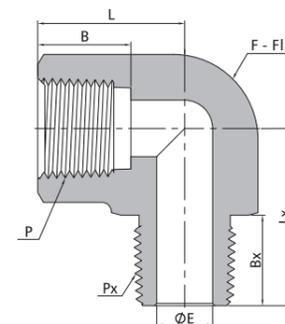
Male NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	B	E	316 SS, Steel	Brass
1/16	L-N1	18.3	9.5	9.7	3.0	11000 (757)	5500 (378)
1/8	L-N2	22.4	11.1	9.7	4.8	10000 (689)	5000 (344)
1/4	L-N4	26.7	12.7	14.2	7.1	8000 (551)	4000 (275)
3/8	L-N6	29.7	17.5	14.2	9.6	7800 (537)	3900 (268)
1/2	L-N8	36.8	20.6	19.1	11.9	7700 (530)	3800 (261)
3/4	L-N12	40.4	27.0	19.1	15.7	7300 (502)	3600 (248)
1	L-N16	50.0	34.9	23.9	22.4	5300 (365)	2600 (179)

Male ISO Tapered Pipe Threads

P-RT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	B	E	316 SS, Steel	Brass
1/16	L-RT1	18.3	9.5	9.7	3.0	11000 (757)	5500 (378)
1/8	L-RT2	22.4	11.1	9.7	4.8	10000 (689)	5000 (344)
1/4	L-RT4	26.7	12.7	14.2	7.1	8000 (551)	4000 (275)
3/8	L-RT6	29.7	17.5	14.2	9.7	7800 (537)	3900 (268)
1/2	L-RT8	36.8	20.6	19.1	11.9	7700 (530)	3800 (261)
3/4	L-RT12	40.4	27.0	19.1	15.7	7300 (502)	3600 (248)
1	L-RT16	50.0	34.9	23.9	22.4	5300 (365)	2600 (179)

Street Elbows

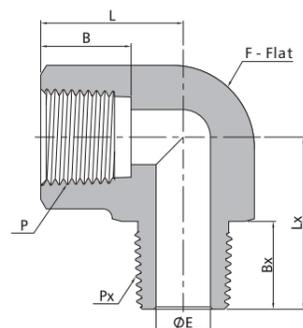


Female NPT Threads Male NPT Threads

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	L-FN1N1	21.8	11.1	9.9	3.0	22.4	9.7	9200 (633)	4600 (316)
1/16	1/8	L-FN1N2	21.8	11.1	9.9	4.8	22.4	9.7	9200 (633)	4600 (316)
1/16	1/4	L-FN1N4	22.4	14.3	9.9	4.8	27.7	14.2	8000 (551)	4000 (275)
1/16	3/8	L-FN1N6	22.4	17.5	9.9	4.8	29.7	14.2	7800 (537)	3900 (268)
1/8	1/16	L-FN2N1	26.4	12.7	10.4	3.0	22.1	9.7	6200 (426)	3100 (213)
1/8	1/8	L-FN2N2	26.4	12.7	10.4	4.8	22.1	9.7	6200 (426)	3100 (213)
1/8	1/4	L-FN2N4	22.4	14.3	10.4	7.1	27.7	14.2	6500 (447)	3200 (220)
1/8	3/8	L-FN2N6	22.4	17.5	10.4	7.1	29.7	14.2	7800 (537)	3900 (268)
1/8	1/2	L-FN2N8	24.1	20.6	10.4	7.1	36.8	19.1	7700 (530)	3800 (261)
1/8	3/4	L-FN2N12	25.4	27.0	10.4	7.1	40.4	19.1	7300 (502)	3600 (248)
1/8	1	L-FN2N16	26.4	34.9	10.4	7.1	50.0	23.9	5300 (365)	2600 (179)
1/4	1/8	L-FN4N2	29.7	17.5	15.0	4.8	25.4	9.7	7200 (496)	3600 (248)
1/4	1/4	L-FN4N4	29.7	17.5	15.0	7.1	29.7	14.2	7200 (496)	3600 (248)
1/4	3/8	L-FN4N6	29.7	17.5	15.0	8.6	29.7	14.2	7200 (496)	3600 (248)
1/4	1/2	L-FN4N8	25.4	20.6	15.0	8.6	36.8	19.1	7200 (496)	3600 (248)
1/4	3/4	L-FN4N12	25.4	27.0	15.0	8.6	40.4	19.1	7300 (502)	3600 (248)
1/4	1	L-FN4N16	41.4	34.9	15.0	8.6	50.0	23.9	5300 (365)	2600 (179)
3/8	1/4	L-FN6N4	36.1	20.6	15.0	7.1	32.0	14.2	5600 (385)	2800 (192)
3/8	3/8	L-FN6N6	36.1	20.6	15.0	9.6	32.0	14.2	5600 (385)	2800 (192)
3/8	1/2	L-FN6N8	36.1	20.6	15.0	11.9	36.8	19.1	5600 (385)	2800 (192)
3/8	3/4	L-FN6N12	31.2	27.0	15.0	11.9	40.4	19.1	7300 (502)	3600 (248)
3/8	1	L-FN6N16	41.4	34.9	15.0	11.9	50.0	23.9	5300 (365)	2600 (179)
1/2	1/4	L-FN8N4	39.6	25.4	19.8	7.1	35.1	14.2	5600 (385)	2800 (192)
1/2	3/8	L-FN8N6	39.6	25.4	19.8	9.6	35.1	14.2	5600 (385)	2800 (192)
1/2	1/2	L-FN8N8	39.6	25.4	19.8	11.9	39.6	19.1	5600 (385)	2800 (192)
1/2	3/4	L-FN8N12	31.2	27.0	19.8	15.7	40.4	19.1	5600 (385)	2800 (192)
1/2	1	L-FN8N16	41.4	34.9	19.8	15.7	50.0	23.9	5300 (365)	2600 (179)
3/4	3/4	L-FN12N12	48.8	31.8	20.6	15.7	42.4	19.1	5100 (351)	2500 (172)
3/4	1	L-FN12N16	41.4	34.9	20.6	22.4	50.0	23.9	5100 (351)	2500 (172)
1	1	L-FN16N16	48.5	42.9	25.4	22.4	49.3	23.9	5300 (365)	2600 (179)
1 1/4	1 1/4	L-FN20N20	60.5	50.8	25.4	31.8	60.5	23.9	3100 (213)	1600 (110)

E-JOE

Street Elbows



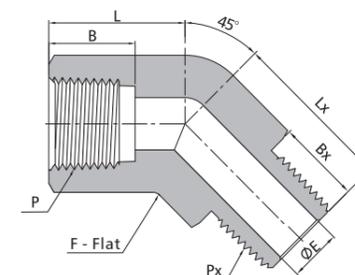
Female ISO Tapered Pipe Threads

P-RT Size	Px-RT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	L-FR1RT1	21.8	11.1	9.9	3.0	22.4	9.7	9200 (633)	4600 (316)
1/16	1/8	L-FR1RT2	21.8	11.1	9.9	4.8	22.4	9.7	9200 (633)	4600 (316)
1/16	1/4	L-FR1RT4	22.4	14.3	9.9	4.8	27.7	14.2	8000 (551)	4000 (275)
1/16	3/8	L-FR1RT6	22.4	17.5	9.9	4.8	29.7	14.2	7800 (537)	3900 (268)
1/8	1/16	L-FR2RT1	26.4	12.7	10.4	3.0	22.1	9.7	6200 (426)	3100 (213)
1/8	1/8	L-FR2RT2	26.4	12.7	10.4	4.8	22.1	9.7	6200 (426)	3100 (213)
1/8	1/4	L-FR2RT4	22.4	14.3	10.4	7.1	27.7	14.2	6500 (447)	3200 (220)
1/8	3/8	L-FR2RT6	22.4	17.5	10.4	7.1	29.7	14.2	7800 (537)	3900 (268)
1/8	1/2	L-FR2RT8	24.1	20.6	10.4	7.1	36.8	19.1	7700 (530)	3800 (261)
1/8	3/4	L-FR2RT12	25.4	27.0	10.4	7.1	40.4	19.1	7300 (502)	3600 (248)
1/8	1	L-FR2RT16	26.4	34.9	10.4	7.1	50.0	23.9	5300 (365)	2600 (179)
1/4	1/8	L-FR4RT2	29.7	17.5	15.0	4.8	25.4	9.7	7200 (496)	3600 (248)
1/4	1/4	L-FR4RT4	29.7	17.5	15.0	7.1	29.7	14.2	7200 (496)	3600 (248)
1/4	3/8	L-FR4RT6	29.7	17.5	15.0	8.6	29.7	14.2	7200 (496)	3600 (248)
1/4	1/2	L-FR4RT8	25.4	20.6	15.0	8.6	36.8	19.1	7200 (496)	3600 (248)
1/4	3/4	L-FR4RT12	25.4	27.0	15.0	8.6	40.4	19.1	7300 (502)	3600 (248)
1/4	1	L-FR4RT16	41.4	34.9	15.0	8.6	50.0	23.9	5300 (365)	2600 (179)
3/8	1/4	L-FR6RT4	36.1	20.6	15.0	7.1	32.0	14.2	5600 (385)	2800 (192)
3/8	3/8	L-FR6RT6	36.1	20.6	15.0	9.7	32.0	14.2	5600 (385)	2800 (192)
3/8	1/2	L-FR6RT8	36.1	20.6	15.0	11.9	36.8	19.1	5600 (385)	2800 (192)
3/8	3/4	L-FR6RT12	31.2	27.0	15.0	11.9	40.4	19.1	7300 (502)	3600 (248)
3/8	1	L-FR6RT16	41.4	34.9	15.0	11.9	50.0	23.9	5300 (365)	2600 (179)
1/2	1/4	L-FR8RT4	39.6	25.4	19.8	7.1	35.1	14.2	5600 (385)	2800 (192)
1/2	3/8	L-FR8RT6	39.6	25.4	19.8	9.7	35.1	14.2	5600 (385)	2800 (192)
1/2	1/2	L-FR8RT8	39.6	25.4	19.8	11.9	39.6	19.1	5600 (385)	2800 (192)
1/2	3/4	L-FR8RT12	31.2	27.0	19.8	15.7	40.4	19.1	5600 (385)	2800 (192)
1/2	1	L-FR8RT16	41.4	34.9	19.8	15.7	50.0	23.9	5300 (365)	2600 (179)
3/4	3/4	L-FR12RT12	48.8	31.8	20.6	15.7	42.4	19.1	5100 (351)	2500 (172)
3/4	1	L-FR12RT16	41.4	34.9	20.6	22.4	50.0	23.9	5100 (351)	2500 (172)
1	1	L-FR16RT16	48.5	42.9	25.4	22.4	49.3	23.9	5300 (365)	2600 (179)
1 1/4	1 1/4	L-FR20RT20	60.5	50.8	25.4	31.8	60.5	23.9	3100 (213)	1600 (110)

Male ISO Tapered Threads

E-JOE

45° Street Elbows



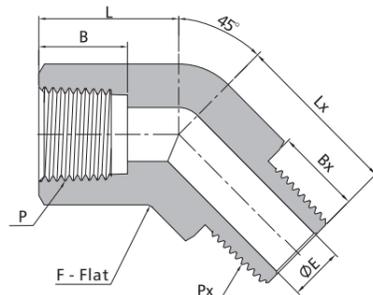
Female NPT Threads

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	R-FN1N1	16.8	11.1	9.9	3.0	16.8	9.7	9200 (633)	4600 (316)
1/16	1/8	R-FN1N2	16.8	11.1	9.9	4.8	16.8	9.7	9200 (633)	4600 (316)
1/16	1/4	R-FN1N4	16.8	14.3	9.9	4.8	21.8	14.2	8000 (551)	4000 (275)
1/16	3/8	R-FN1N6	22.4	17.5	9.9	4.8	23.8	14.2	7800 (537)	3900 (268)
1/8	1/16	R-FN2N1	20.2	12.7	10.4	3.0	17.2	9.7	6200 (426)	3100 (213)
1/8	1/8	R-FN2N2	20.2	12.7	10.4	4.8	17.2	9.7	6200 (426)	3100 (213)
1/8	1/4	R-FN2N4	16.8	14.3	10.4	7.1	21.8	14.2	6500 (447)	3200 (220)
1/8	3/8	R-FN2N6	22.4	17.5	10.4	7.1	23.8	14.2	7800 (537)	3900 (268)
1/8	1/2	R-FN2N8	22.2	20.6	10.4	7.1	29.0	19.1	7700 (530)	3800 (261)
1/8	3/4	R-FN2N12	25.4	27.0	10.4	7.1	30.5	19.1	7300 (502)	3600 (248)
1/8	1	R-FN2N16	26.4	34.9	10.4	7.1	49.3	23.9	5300 (365)	2600 (179)
1/4	1/8	R-FN4N2	25.4	17.5	15.0	4.8	19.3	9.7	7200 (496)	3600 (248)
1/4	1/4	R-FN4N4	25.4	17.5	15.0	7.1	19.3	14.2	7200 (496)	3600 (248)
1/4	3/8	R-FN4N6	25.4	17.5	15.0	8.6	23.8	14.2	7200 (496)	3600 (248)
1/4	1/2	R-FN4N8	22.2	20.6	15.0	8.6	29.0	19.1	7200 (496)	3600 (248)
1/4	3/4	R-FN4N12	25.4	27.0	15.0	8.6	30.5	19.1	7300 (502)	3600 (248)
1/4	1	R-FN4N16	32.0	34.9	15.0	8.6	37.6	23.9	5300 (365)	2600 (179)
3/8	1/4	R-FN6N4	27.0	20.6	15.0	7.1	24.2	14.2	5600 (385)	2800 (192)
3/8	3/8	R-FN6N6	27.0	20.6	15.0	9.7	24.2	14.2	5600 (385)	2800 (192)
3/8	1/2	R-FN6N8	27.0	20.6	15.0	11.9	29.0	19.1	5600 (385)	2800 (192)
3/8	3/4	R-FN6N12	27.0	27.0	15.0	11.9	30.5	19.1	7300 (502)	3600 (248)
3/8	1	R-FN6N16	32.0	34.9	15.0	11.9	37.6	23.9	5300 (365)	2600 (179)
1/2	1/4	R-FN8N4	32.0	25.4	19.8	7.1	25.2	14.2	5600 (385)	2800 (192)
1/2	3/8	R-FN8N6	32.0	25.4	19.8	9.7	25.2	14.2	5600 (385)	2800 (192)
1/2	1/2	R-FN8N8	32.0	25.4	19.8	11.9	32.0	19.1	5600 (385)	2800 (192)
1/2	3/4	R-FN8N12	32.5	27.0	19.8	15.7	30.5	19.1	5600 (385)	2800 (192)
1/2	1	R-FN8N16	37.6	34.9	19.8	15.7	37.6	23.9	5300 (365)	2600 (179)
3/4	3/4	R-FN12N12	34.5	31.8	20.6	15.7	34.5	19.1	5100 (351)	2500 (172)
3/4	1	R-FN12N16	37.6	34.9	20.6	22.4	37.6	23.9	5100 (351)	2500 (172)
1	1	R-FN16N16	46.0	42.9	25.4	22.4	46.0	23.9	5300 (365)	2600 (179)
1 1/4	1 1/4	R-FN20N20	50.8	50.8	25.4	31.8	50.8	23.9	3100 (213)	1600 (110)

Male NPT Threads

# E-JOE

## 45° Street Elbows



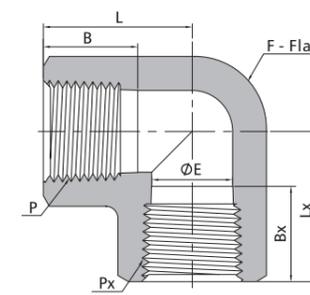
### Female ISO Tapered Threads

P-RT Size	Px-RT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	R-FR1RT1	16.8	11.1	9.9	3.0	16.8	9.7	9200 (633)	4600 (316)
1/16	1/8	R-FR1RT2	16.8	11.1	9.9	4.8	16.8	9.7	9200 (633)	4600 (316)
1/16	1/4	R-FR1RT4	16.8	14.3	9.9	4.8	21.8	14.2	8000 (551)	4000 (275)
1/16	3/8	R-FR1RT6	22.4	17.5	9.9	4.8	23.8	14.2	7800 (537)	3900 (268)
1/8	1/16	R-FR2RT1	20.2	12.7	10.4	3.0	17.2	9.7	6200 (426)	3100 (213)
1/8	1/8	R-FR2RT2	20.2	12.7	10.4	4.8	17.2	9.7	6200 (426)	3100 (213)
1/8	1/4	R-FR2RT4	16.8	14.3	10.4	7.1	21.8	14.2	6500 (447)	3200 (220)
1/8	3/8	R-FR2RT6	22.4	17.5	10.4	7.1	23.8	14.2	7800 (537)	3900 (268)
1/8	1/2	R-FR2RT8	22.2	20.6	10.4	7.1	29.0	19.1	7700 (530)	3800 (261)
1/8	3/4	R-FR2RT12	25.4	27.0	10.4	7.1	30.5	19.1	7300 (502)	3600 (248)
1/8	1	R-FR2RT16	26.4	34.9	10.4	7.1	49.3	23.9	5300 (365)	2600 (179)
1/4	1/8	R-FR4RT2	25.4	17.5	15.0	4.8	19.3	9.7	7200 (496)	3600 (248)
1/4	1/4	R-FR4RT4	25.4	17.5	15.0	7.1	19.3	14.2	7200 (496)	3600 (248)
1/4	3/8	R-FR4RT6	25.4	17.5	15.0	8.6	23.8	14.2	7200 (496)	3600 (248)
1/4	1/2	R-FR4RT8	22.2	20.6	15.0	8.6	29.0	19.1	7200 (496)	3600 (248)
1/4	3/4	R-FR4RT12	25.4	27.0	15.0	8.6	30.5	19.1	7300 (502)	3600 (248)
1/4	1	R-FR4RT16	32.0	34.9	15.0	8.6	37.6	23.9	5300 (365)	2600 (179)
3/8	1/4	R-FR6RT4	27.0	20.6	15.0	7.1	24.2	14.2	5600 (385)	2800 (192)
3/8	3/8	R-FR6RT6	27.0	20.6	15.0	9.7	24.2	14.2	5600 (385)	2800 (192)
3/8	1/2	R-FR6RT8	27.0	20.6	15.0	11.9	29.0	19.1	5600 (385)	2800 (192)
3/8	3/4	R-FR6RT12	27.0	27.0	15.0	11.9	30.5	19.1	7300 (502)	3600 (248)
3/8	1	R-FR6RT16	32.0	34.9	15.0	11.9	37.6	23.9	5300 (365)	2600 (179)
1/2	1/4	R-FR8RT4	32.0	25.4	19.8	7.1	25.2	14.2	5600 (385)	2800 (192)
1/2	3/8	R-FR8RT6	32.0	25.4	19.8	9.7	25.2	14.2	5600 (385)	2800 (192)
1/2	1/2	R-FR8RT8	32.0	25.4	19.8	11.9	32.0	19.1	5600 (385)	2800 (192)
1/2	3/4	R-FR8RT12	32.5	27.0	19.8	15.7	30.5	19.1	5600 (385)	2800 (192)
1/2	1	R-FR8RT16	37.6	34.9	19.8	15.7	37.6	23.9	5300 (365)	2600 (179)
3/4	3/4	R-FR12RT12	34.5	31.8	20.6	15.7	34.5	19.1	5100 (351)	2500 (172)
3/4	1	R-FR12RT16	37.6	34.9	20.6	22.4	37.6	23.9	5100 (351)	2500 (172)
1	1	R-FR16RT16	46.0	42.9	25.4	22.4	46.0	23.9	5300 (365)	2600 (179)
1 1/4	1 1/4	R-FR20RT20	50.8	50.8	25.4	31.8	50.8	23.9	3100 (213)	1600 (110)

### Male ISO Tapered Threads

# E-JOE

## Female Elbows



### Female NPT Threads

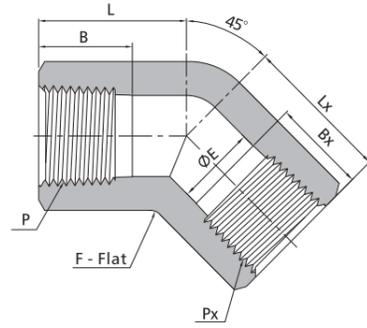
P-NPT Size	Px-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	L-FN1	21.8	11.1	9.9	4.8	21.8	9.9	6700 (460)	3300 (227)
1/8	1/16	L-FN2FN1	26.4	12.7	10.4	4.8	26.4	9.9	6200 (427)	3100 (213)
1/8	1/8	L-FN2	26.4	12.7	10.4	8.6	26.4	10.4	6200 (427)	3100 (213)
1/4	1/8	L-FN4FN2	29.7	17.5	15.0	7.1	29.7	10.4	7200 (496)	3600 (248)
1/4	1/4	L-FN4	29.7	17.5	15.0	11.4	29.7	15.0	7200 (496)	3600 (248)
3/8	3/8	L-FN6	36.1	20.6	15.0	15.0	36.1	15.0	5600 (385)	2800 (192)
1/2	1/2	L-FN8	39.6	25.4	19.8	18.5	39.6	19.8	5600 (385)	2800 (192)
3/4	3/4	L-FN12	48.8	31.8	20.6	23.9	48.8	20.6	5100 (351)	2500 (172)
1	1	L-FN16	48.5	42.9	25.4	29.7	48.5	25.4	6400 (440)	3200 (220)
1 1/4	1 1/4	L-FN20	59.8	50.8	25.4	27.7	50.8	25.4	3100 (213)	1600 (110)
1 1/2	1 1/2	L-FN24	65.0	63.5	27.7	34.0	52.8	27.7	5100 (351)	2500 (172)
<b>Heavy-Wall Female NPT Threads</b>										
1/4	1/4	L-FN4-10K	39.6	25.4	15.0	11.4	29.7	15.0	10000 (689)	/
1/2	1/2	L-FN8-10K	50.0	42.9	19.8	18.5	39.6	19.8	10000 (689)	/

### Female ISO Tapered Threads

P-RT Size	Px-RT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	L-FR1	21.8	11.1	9.9	4.8	21.6	9.9	6700 (460)	3300 (227)
1/8	1/16	L-FR2FR1	16.8	12.7	10.4	4.8	16.8	9.9	6200 (427)	3100 (213)
1/8	1/8	L-FR2	26.4	12.7	10.4	7.1	26.4	10.4	6200 (427)	3100 (213)
1/4	1/8	L-FR4FR2	29.7	17.5	15.0	7.1	29.7	10.4	7200 (496)	3600 (248)
1/4	1/4	L-FR4	29.7	17.5	15.0	10.4	29.7	15.0	7200 (496)	3600 (248)
3/8	3/8	L-FR6	36.1	20.6	15.0	12.7	36.1	15.0	5600 (385)	2800 (192)
1/2	1/2	L-FR8	39.6	25.4	19.8	15.7	39.6	19.8	5600 (385)	2800 (192)
3/4	3/4	L-FR12	48.8	31.8	20.6	22.4	48.8	20.6	5100 (351)	2500 (172)
1	1	L-FR16	48.5	42.9	25.4	22.4	48.5	25.4	6400 (440)	3200 (220)
1 1/4	1 1/4	L-FR20	59.8	50.8	25.4	27.7	50.8	25.4	3100 (213)	1600 (110)
1 1/2	1 1/2	L-FR24	65.0	63.5	27.7	34.0	52.8	27.7	5100 (351)	2500 (172)

E-JOE

45° Female Elbows



Female NPT Threads

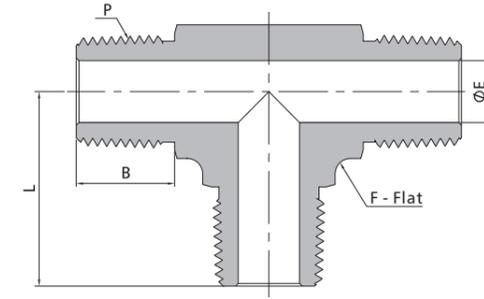
P-NPT Size	Px-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	R-FN1	16.8	11.1	9.9	4.8	16.8	9.9	6700 (460)	3300 (227)
1/8	1/16	R-FN2FN1	20.2	12.7	10.4	4.8	20.2	9.9	6200 (427)	3100 (213)
1/8	1/8	R-FN2	20.2	12.7	10.4	7.1	20.2	10.4	6200 (427)	3100 (213)
1/4	1/8	R-FN4FN2	25.4	17.5	15.0	7.1	25.4	10.4	7200 (496)	3600 (248)
1/4	1/4	R-FN4	25.4	17.5	15.0	10.4	25.4	15.0	7200 (496)	3600 (248)
3/8	3/8	R-FN6	27.0	20.6	15.0	12.7	27.0	15.0	5600 (385)	2800 (192)
1/2	1/2	R-FN8	32.0	25.4	19.8	15.7	32.0	19.8	5600 (385)	2800 (192)
3/4	3/4	R-FN12	34.5	31.8	20.6	22.4	34.5	20.6	5100 (351)	2500 (172)
1	1	R-FN16	46.0	42.9	25.4	22.4	46.0	25.4	6400 (440)	3200 (220)
1 1/4	1 1/4	R-FN20	43.2	50.8	25.4	27.7	43.2	25.4	3100 (213)	1600 (110)
1 1/2	1 1/2	R-FN24	46.0	63.5	27.7	34.0	46.0	27.7	5100 (351)	2500 (172)

Female ISO Tapered Pipe Threads

P-RT Size	Px-RT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
			L	F	B	E	Lx	Bx	316 SS, Steel	Brass
1/16	1/16	R-FR1	16.8	11.1	9.9	4.8	16.8	9.9	6700 (460)	3300 (227)
1/8	1/16	R-FR2FR1	20.2	12.7	10.4	4.8	20.2	9.9	6200 (427)	3100 (213)
1/8	1/8	R-FR2	20.2	12.7	10.4	7.1	20.2	10.4	6200 (427)	3100 (213)
1/4	1/8	R-FR4FR2	25.4	17.5	15.0	7.1	25.4	10.4	7200 (496)	3600 (248)
1/4	1/4	R-FR4	25.4	17.5	15.0	10.4	25.4	15.0	7200 (496)	3600 (248)
3/8	3/8	R-FR6	27.0	20.6	15.0	12.7	27.0	15.0	5600 (385)	2800 (192)
1/2	1/2	R-FR8	32.0	25.4	19.8	15.7	32.0	19.8	5600 (385)	2800 (192)
3/4	3/4	R-FR12	34.5	31.8	20.6	22.4	34.5	20.6	5100 (351)	2500 (172)
1	1	R-FR16	46.0	42.9	25.4	22.4	46.0	25.4	6400 (440)	3200 (220)
1 1/4	1 1/4	R-FR20	43.2	50.8	25.4	27.7	43.2	25.4	3100 (213)	1600 (110)
1 1/2	1 1/2	R-FR24	46.0	63.5	27.7	34.0	46.0	27.7	5100 (351)	2500 (172)

E-JOE

Male Tees



Male NPT Threads

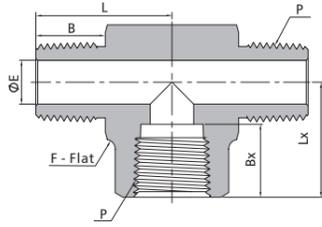
P-NPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	B	E	316 SS, Steel	Brass
1/16	T-N1	18.3	9.5	9.7	3.0	11000 (757)	5500 (378)
1/8	T-N2	22.4	11.1	9.7	4.8	10000 (689)	5000 (344)
1/4	T-N4	26.7	12.7	14.2	7.1	8000 (551)	4000 (275)
3/8	T-N6	29.7	17.5	14.2	9.6	7800 (537)	3900 (268)
1/2	T-N8	36.8	20.6	19.1	11.9	7700 (530)	3800 (261)
3/4	T-N12	42.4	27.0	19.1	15.7	7300 (502)	3600 (248)
1	T-N16	49.3	34.9	23.9	22.4	5300 (365)	2600 (179)
1 1/4	T-N20	56.4	42.9	23.9	27.7	6000 (410)	3000 (200)
1 1/2	T-N24	67.1	47.6	26.2	34.0	5000 (344)	2500 (172)

Male ISO Tapered Threads

P-RT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	B	E	316 SS, Steel	Brass
1/16	T-RT1	18.3	9.5	9.7	3.0	11000 (757)	5500 (378)
1/8	T-RT2	22.4	11.1	9.7	4.8	10000 (689)	5000 (344)
1/4	T-RT4	26.7	12.7	14.2	7.1	8000 (551)	4000 (275)
3/8	T-RT6	29.7	17.5	14.2	9.7	7800 (537)	3900 (268)
1/2	T-RT8	36.8	20.6	19.1	11.9	7700 (530)	3800 (261)
3/4	T-RT12	42.4	27.0	19.1	15.7	7300 (502)	3600 (248)
1	T-RT16	49.3	34.9	23.9	22.4	5300 (365)	2600 (179)
1 1/4	T-RT20	56.4	42.9	23.9	27.7	6000 (410)	3000 (200)
1 1/2	T-RT24	67.1	47.6	26.2	34.0	5000 (344)	2500 (172)

**E-JOE**

Female Branch Tees



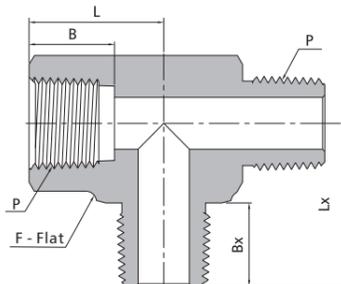
NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	T-N1N1FN1	18.3	11.1	3.0	9.7	21.8	9.9	9200 (633)	4600 (316)
1/8	T-N2N2FN2	22.1	12.7	4.8	9.7	26.4	10.4	6200 (427)	3100 (213)
1/4	T-N4N4FN4	29.7	17.5	7.1	14.2	29.7	15.0	7200 (496)	3600 (248)
3/8	T-N6N6FN6	32.0	20.6	9.7	14.2	36.1	15.0	5600 (385)	2800 (192)
1/2	T-N8N8FN8	39.6	25.4	11.9	19.1	39.6	19.8	5600 (385)	2800 (192)
3/4	T-N12N12FN12	42.4	31.8	15.7	19.1	48.8	20.6	5100 (351)	2500 (172)
1	T-N16N16FN16	49.3	42.9	22.4	23.9	48.5	25.4	5300 (365)	2600 (179)

ISO Tapered Pipe Threads

P-RT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	T-RT1RT1FR1	18.3	11.1	3.0	9.7	21.8	9.9	9200 (633)	4600 (316)
1/8	T-RT2RT2FR2	22.1	12.7	4.8	9.7	26.4	10.4	6200 (427)	3100 (213)
1/4	T-RT4RT4FR4	29.7	17.5	7.1	14.2	29.7	15.0	7200 (496)	3600 (248)
3/8	T-RT6RT6FR6	32.0	20.6	9.7	14.2	36.1	15.0	5600 (385)	2800 (192)
1/2	T-RT8RT8FR8	39.6	25.4	11.9	19.1	39.6	19.8	5600 (385)	2800 (192)
3/4	T-RT12RT12FR12	42.4	31.8	15.7	19.1	48.8	20.6	5100 (351)	2500 (172)
1	T-RT16RT16FR16	49.3	42.9	22.4	23.9	48.5	25.4	5300 (365)	2600 (179)

Female Run Tees



NPT Threads

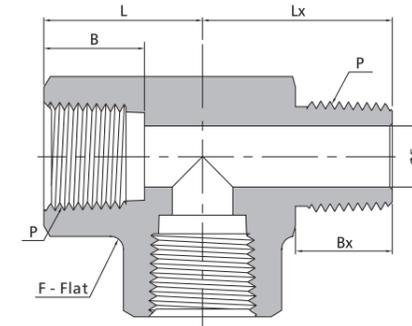
P-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	T-FN1N1N1	21.8	11.1	3.0	9.9	18.3	9.7	9200 (633)	4600 (316)
1/8	T-FN2N2N2	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	T-FN4N4N4	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	T-FN6N6N6	36.1	20.6	9.7	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	T-FN8N8N8	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	T-FN12N12N12	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	T-FN16N16N16	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

ISO Tapered Threads

P-RT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	T-FR1RT1RT1	21.8	11.1	3.0	9.9	18.3	9.7	9200 (633)	4600 (316)
1/8	T-FR2RT2RT2	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	T-FR4RT4RT4	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	T-FR6RT6RT6	36.1	20.6	9.7	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	T-FR8RT8RT8	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	T-FR12RT12RT12	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	T-FR16RT16RT16	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

**E-JOE**

Male Street Tees



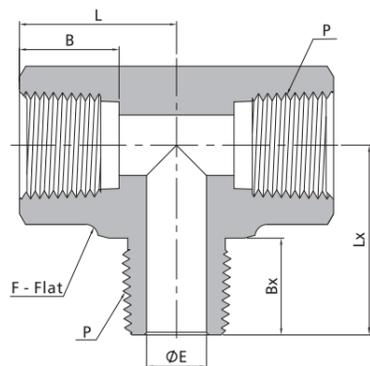
NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	T-FN1N1FN1	21.8	11.1	3.0	9.9	18.3	9.7	9200 (633)	4600 (316)
1/8	T-FN2N2FN2	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	T-FN4N4FN4	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	T-FN6N6FN6	36.1	20.6	9.6	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	T-FN8N8FN8	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	T-FN12N12FN12	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	T-FN16N16FN16	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

ISO Tapered Pipe Threads

P-RT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	T-FR1RT1FR1	21.8	11.1	3.0	9.9	18.3	9.7	9200 (633)	4600 (316)
1/8	T-FR2RT2FR2	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	T-FR4RT4FR4	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	T-FR6RT6FR6	36.1	20.6	9.7	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	T-FR8RT8FR8	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	T-FR12RT12FR12	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	T-FR16RT16FR16	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

Male Branch Tees



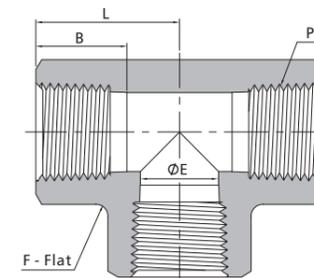
NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	T-FN1FN1N1	21.8	11.1	3.0	9.9	18.3	9.7	9200 (633)	4600 (316)
1/8	T-FN2FN2N2	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	T-FN4FN4N4	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	T-FN6FN6N6	36.1	20.6	9.6	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	T-FN8FN8N8	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	T-FN12FN12N12	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	T-FN16FN16N16	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

ISO Tapered Pipe Threads

P-RT Size	Basic Ordering Number	Dimension, mm						Working Pressure psig (bar)	
		L	F	E	B	Lx	Bx	316 SS, Steel	Brass
1/16	T-FR1FR1RT1	21.8	11.1	3.0	9.9	18.3	9.7	9200 (633)	4600 (316)
1/8	T-FR2FR2RT2	26.4	12.7	4.8	10.4	22.1	9.7	6200 (427)	3100 (213)
1/4	T-FR4FR4RT4	29.7	17.5	7.1	15.0	29.7	14.2	7200 (496)	3600 (248)
3/8	T-FR6FR6RT6	36.1	20.6	9.7	15.0	32.0	14.2	5600 (385)	2800 (192)
1/2	T-FR8FR8RT8	39.6	25.4	11.9	19.8	39.6	19.1	5600 (385)	2800 (192)
3/4	T-FR12FR12RT12	48.8	31.8	15.7	20.6	42.4	19.1	5100 (351)	2500 (172)
1	T-FR16FR16RT16	48.5	42.9	22.4	25.4	49.3	23.9	5300 (365)	2600 (179)

Female Tees



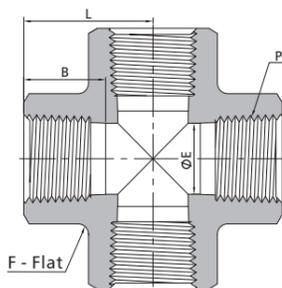
Female NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	E	B	316 SS, Steel	Brass
1/16	T-FN1	21.8	11.1	4.8	9.9	6700 (460)	3300 (227)
1/8	T-FN2	26.4	12.7	8.6	10.4	6200 (427)	3100 (213)
1/4	T-FN4	29.7	17.5	11.4	15.0	7200 (496)	3600 (248)
3/8	T-FN6	36.1	20.6	15.0	15.0	5600 (385)	2800 (192)
1/2	T-FN8	39.6	25.4	18.5	19.8	5600 (385)	2800 (192)
3/4	T-FN12	48.8	31.8	23.9	20.6	5100 (351)	2500 (172)
1	T-FN16	48.5	42.9	29.7	25.4	6400 (440)	3200 (220)
1 1/4	T-FN20	59.8	50.8	37.2	25.4	3100 (213)	1600 (110)
1 1/2	T-FN24	65.0	63.5	43.3	27.7	5100 (351)	2500 (172)
<b>Heavy-Wall Female NPT Threads</b>							
1/4	T-FN4-10K	39.6	25.4	11.4	15.0	10000 (689)	/
1/2	T-FN8-10K	50.0	27.0	18.5	19.8	10000 (689)	/

Female ISO Tapered Pipe Threads

P-RT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	E	B	316 SS, Steel	Brass
1/16	T-FR1	21.8	11.1	4.8	9.9	6700 (460)	3300 (227)
1/8	T-FR2	26.4	12.7	8.6	10.4	6200 (427)	3100 (213)
1/4	T-FR4	29.7	17.5	11.2	15.0	7200 (496)	3600 (248)
3/8	T-FR6	36.1	20.6	14.7	15.0	5600 (385)	2800 (192)
1/2	T-FR8	39.6	25.4	18.3	19.8	5600 (385)	2800 (192)
3/4	T-FR12	48.8	31.8	23.9	20.6	5100 (351)	2500 (172)
1	T-FR16	48.5	42.9	29.7	25.4	6400 (440)	3200 (220)
1 1/4	T-FR20	59.8	50.8	37.2	25.4	3100 (213)	1600 (110)
1 1/2	T-FR24	65.0	63.5	43.3	27.7	5100 (351)	2500 (172)

Female Crosses



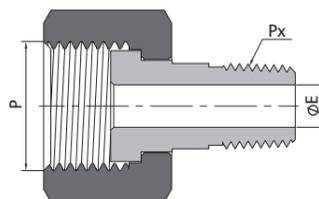
Female NPT Threads

P-NPT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	E	B	316 SS, Steel	Brass
1/16	C-FN1	21.8	11.1	4.8	9.9	6700 (460)	3300 (227)
1/8	C-FN2	26.4	12.7	8.6	10.4	6200 (427)	3100 (213)
1/4	C-FN4	29.7	17.5	11.4	15.0	7200 (496)	3600 (248)
3/8	C-FN6	36.1	20.6	15.0	15.0	5600 (385)	2800 (192)
1/2	C-FN8	39.6	25.4	18.5	19.8	5600 (385)	2800 (192)
3/4	C-FN12	48.8	31.8	23.9	20.6	5100 (351)	2500 (172)
1	C-FN16	48.5	42.9	29.7	25.4	6400 (440)	3200 (220)

Female ISO Tapered Threads

P-RT Size	Basic Ordering Number	Dimension, mm				Working Pressure psig (bar)	
		L	F	E	B	316 SS, Steel	Brass
1/16	C-FR1	21.8	11.1	4.8	9.9	6700 (460)	3300 (227)
1/8	C-FR2	26.4	12.7	8.6	10.4	6200 (427)	3100 (213)
1/4	C-FR4	29.7	17.5	11.4	15.0	7200 (496)	3600 (248)
3/8	C-FR6	36.1	20.6	15.0	15.0	5600 (385)	2800 (192)
1/2	C-FR8	39.6	25.4	18.5	19.8	5600 (385)	2800 (192)
3/4	C-FR12	48.8	31.8	23.9	20.6	5100 (351)	2500 (172)
1	C-FR16	48.5	42.9	29.7	25.4	6400 (440)	3200 (220)

Pipe to Pipe Unions



Metric Thread

P-Metric Thread Size	Px-NPT Size	Basic Ordering Number	Dimension, mm	Working Pressure psig (bar)
			E	
M20 x 1.5	1/8	PUP-FM20N2	4.8	4500 (310)
M20 x 1.5	1/4	PUP-FM20N4	7.1	4500 (310)

Metric Thread

P-Metric Thread Size	Px-RT Size	Basic Ordering Number	Dimension, mm	Working Pressure psig (bar)
			E	316 SS, Steel
M20 x 1.5	1/8	PUP-FM20RT2	4.8	4500 (310)
M20 x 1.5	1/4	PUP-FM20RT4	7.1	4500 (310)

ISO Parallel Thread

P-ISO Pipe Size	Px-NPT Size	Basic Ordering Number	Dimension, mm	Working Pressure psig (bar)
			E	316 SS, Steel
1/2		PUP-BP8N2	4.8	4900 (337)
1/2		PUP-BP8N4	7.1	4900 (337)

NPT Threads

Weld fittings contents

Tube Butt Weld Fittings

Male Connectors



02

Female Connectors



03

Reducing Unions



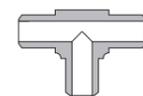
03

Union Elbows



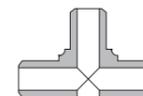
04

Union Tees



04

Union Crosses



05

Tube Socket Weld Fittings

Male Connectors



06

Female Connectors



06

Male Elbows



06

Female Elbows



07

Unions



08

Reducing Unions



08

Union Elbows



08

Union 45° Elbows



09

Union Tees



09

Union Crosses



10

Pipe Butt Weld Fittings

Male Connectors



11

Female Connectors



11

Pipe Socket Weld Fittings

Male Connectors



12

Female Connectors



12

## Weld fittings contents

### Unions



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### Weld Adapters

#### Tube Butt Weld to Tube Socket Weld



12

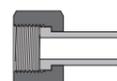
#### Pipe Butt Weld to Tube Socket Weld



13

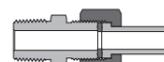
### Pipe to Weld Fittings

#### Pipe to Tube Butt Weld



13

#### Male Pipe to Tube Butt Weld



14

### Factory-made Wrought Butt weld Fittings F Series

#### Reducers



15

#### 90° Long Radius Elbows



15

#### 90° Short Radius Elbows



15

### 45° Elbows



15

### Straight Tees



16

### Reducing Tees



16

## Features

- 316 stainless steel is standard material. Other materials are available upon request.
- Straight fittings are manufactured from quality bar stock. Shaped fittings are made from forgings.
- Quality machining of all ports ensures consistent welding.
- Radius junction design with elbows provides smooth flow path.
- All fittings are cleaned to remove oil, grease and loose particles.
- Every fitting is stamped with size, material and heat code.

## Technical Data

- Sizes range from 1/8" to 1" and 6 mm to 38 mm.
- Working Temperatures:

Material	Minimum Temperature	Maximum Temperature
316 SS	-325°F (-198°C)	1000°F (538°C)
316L SS	-325°F (-198°C)	850°F (454°C)

- Working Pressure:

- Catalog working pressures shown are based on ANSI/ASME B31.3 at ambient temperature, to determine working pressures in accordance with ANSI/ASME B31.1 multiply catalog working pressures shown by 0.94.
- Use the allowable working pressure at ambient temperature to multiply the elevated temperature factors to get the working pressure at elevated temperature. To know the elevated temperature factor, please refer to the related information of E-JOE 6 Series Tube Fittings.

## Materials

Material	Bar Stock	Forging	Designator
316 SS	ASTM A276, ASME SA479	ASTM A182, ASME SA182	SS
316L SS			6L

## Ordering Information

- Add the material designator as a prefix to the basic ordering number to get the complete ordering number.

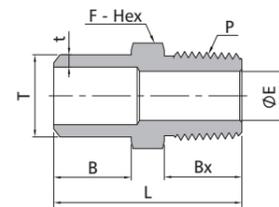
### Example:

- Male connector with 1/4" fractional tube butt weld, 1/4 NPT thread and 316 stainless steel material, the complete ordering number is **SSS-TB4N4**.
  - Male elbow with 1/4" fractional tube socket weld, 1/4 NPT thread and 316L stainless steel material, the complete ordering number is **6LL-TS4N4**.
- To order fittings with special cleaning and packaging, following ASTM G93 C standard, add -E2 as a suffix to the ordering number. Example: **SSS-TB4N4-E2**.

- Using the same materials to weld will ensure the same coefficients of expansion and good welding.
- Tungsten Inert Gas Welding (TIG) is recommended.

Tube Butt Weld Fittings

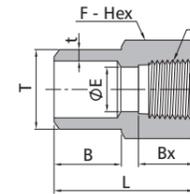
Male Connectors



Fractional Tube					NPT Thread				
T-Tube O.D. (in.)	t-Wall Thickness (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)
				L	B	Bx	F	E	
1/4	0.065	1/4	S-TB4N4	29.7	9.7	14.2	14.3	7.1	8000 (551)
1/4	0.065	1/2	S-TB4N8	36.8	9.7	19.1	22.2	11.9	7700 (530)
3/8	0.095	1/4	S-TB6N4	29.7	9.7	14.2	14.3	7.1	8000 (551)
3/8	0.095	1/2	S-TB6N8	36.8	9.7	19.1	22.2	11.9	7700 (530)
1/2	0.095	1/4	S-TB8N4	34.3	14.2	14.2	14.3	7.1	6780 (468)
1/2	0.095	1/2	S-TB8N8	41.4	14.2	19.1	22.2	11.9	6780 (468)
5/8	0.109	1/4	S-TB10N4	34.8	14.2	14.2	17.5	7.1	5760 (397)
5/8	0.109	1/2	S-TB10N8	41.4	14.2	19.1	22.2	11.9	5760 (397)
3/4	0.120	1/4	S-TB12N4	40.1	19.1	14.2	20.6	7.1	5530 (381)
3/4	0.120	1/2	S-TB12N8	46.2	19.1	19.1	22.2	11.9	5530 (381)
1	0.134	1/4	S-TB16N4	42.9	19.1	14.2	27.0	7.1	4480 (309)
1	0.134	1/2	S-TB16N8	47.8	19.1	19.1	27.0	11.9	4480 (309)

Metric Tube					NPT Thread				
T-Tube O.D. (mm)	t-Wall Thickness (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)
				L	B	Bx	F	E	
12	2.2	1/4	S-MTB12N4	34.3	14.2	14.2	14	7.1	6470 (446)
12	2.2	1/2	S-MTB12N8	41.1	14.2	19.1	22	11.9	6470 (446)
14	2.5	1/4	S-MTB14N4	34.3	14.2	14.2	15	7.1	6280 (433)
14	2.5	1/2	S-MTB14N8	41.4	14.2	19.1	22	11.9	6280 (433)
15	2.5	1/4	S-MTB15N4	34.8	14.2	14.2	16	7.1	5770 (398)
16	2.8	1/4	S-MTB16N4	35.6	14.2	14.2	18	7.1	6140 (423)
16	2.8	1/2	S-MTB16N8	41.1	14.2	19.1	22	11.9	6140 (423)
20	3.0	1/2	S-MTB20N8	46.2	19.1	19.1	22	11.9	5110 (352)
22	3.0	1/4	S-MTB22N4	41.2	19.1	14.2	24	7.1	4620 (319)
22	3.0	1/2	S-MTB22N8	46.1	19.1	19.1	24	11.9	4620 (319)
25	3.5	3/4	S-MTB25N12	47.8	19.1	19.1	27	15.7	4730 (326)
25	3.5	1	S-MTB25N16	54.9	19.1	23.9	35	22.4	4730 (326)
28	4.0	1/2	S-MTB28N8	54.2	21.4	19.1	30	11.9	4850 (335)

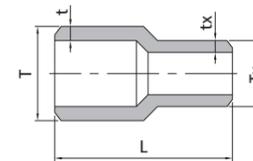
Female Connectors



Fractional Tube					NPT Thread				
T-Tube O.D. (in.)	t-Wall Thickness (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)
				L	B	Bx	F	E	
1/4	0.065	1/4	S-TB4FN4	27.9	9.7	15.0	19.1	3.0	6600 (454)
1/4	0.065	3/8	S-TB4FN6	29.5	9.7	15.0	22.2	3.0	5300 (365)
3/8	0.095	1/4	S-TB6FN4	27.9	9.7	15.0	19.1	4.7	6600 (454)
3/8	0.095	3/8	S-TB6FN6	29.5	9.7	15.0	22.2	4.7	5300 (365)
1/2	0.095	1/4	S-TB8FN4	26.7	14.2	15.0	19.1	7.9	6600 (454)
1/2	0.095	3/8	S-TB8FN6	34.0	14.2	15.0	22.2	7.9	5300 (365)
1/2	0.095	1/2	S-TB8FN8	38.9	14.2	19.8	27.0	7.9	4900 (337)

Metric Tube					NPT Thread				
T-Tube O.D. (mm)	t-Wall Thickness (mm)	P-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)
				L	B	Bx	F	E	
14	2.5	1/4	S-MTB14FN4	33.0	14.2	15.0	19	9.0	6280 (433)
14	2.5	1/2	S-MTB14FN8	38.9	14.2	19.8	27	9.0	4900 (337)
20	3.0	1/2	S-MTB20FN8	43.7	19.1	19.8	27	14.0	4900 (337)
28	4.0	1/2	S-MTB28FN8	49.8	23.9	19.8	30	15.7	4850 (335)

Reducing Unions

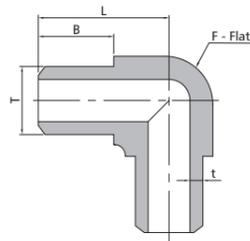


Fractional Tube					Fractional Tube	
T-Tube O.D. (in.)	t-Wall Thickness (in.)	Tx-Tube O.D. (in.)	tx-Wall Thickness (in.)	Basic Ordering Number	L (mm)	Working Pressure psig (bar)
3/8	0.095	1/4	0.065	S-TB6TB4	38.1	9930 (685)
1/2	0.095	1/4	0.065	S-TB8TB4	38.1	6780 (468)
1/2	0.095	3/8	0.095	S-TB8TB6	38.1	6780 (468)
3/4	0.120	1/2	0.095	S-TB12TB8	38.1	5530 (381)
1	0.134	3/4	0.120	S-TB16TB12	38.1	4480 (309)

Metric Tube					Metric Tube	
T-Tube O.D. (mm)	t-Wall Thickness (mm)	Tx-Tube O.D. (mm)	tx-Wall Thickness (mm)	Basic Ordering Number	L (mm)	Working Pressure psig (bar)
20	3.0	14	2.5	S-MTB20MTB14	38.1	6470 (445)
22	3.0	14	2.5	S-MTB22MTB14	38.1	5780 (395)
22	3.0	18	2.8	S-MTB22MTB18	38.1	5780 (395)
25	3.5	22	3.0	S-MTB25MTB22	38.1	5780 (395)
38	5.0	25	3.5	S-MTB38MTB25	38.1	5540 (380)

E-JOE

Union Elbows



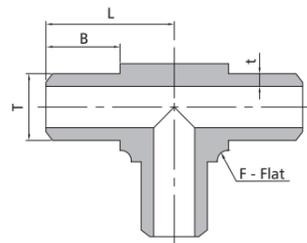
Fractional Tube

T-Tube O.D. (in.)	t-Wall Thickness (in.)	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)
			L	B	F	
1/4	0.065	L-TB4	16.3	9.7	9.5	10320 (712)
3/8	0.095	L-TB6	18.0	9.7	11.1	9930 (685)
1/2	0.095	L-TB8	24.4	14.2	14.3	6780 (468)
3/4	0.120	L-TB12	33.3	19.1	20.6	5530 (381)
1	0.134	L-TB16	37.1	19.1	27.0	4480 (309)

Metric Tube

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)
			L	B	F	
10	2.2	L-MTB10	18.0	9.7	11.1	8160 (563)
14	2.5	L-MTB14	25.4	14.2	15.9	6280 (433)
16	2.8	L-MTB16	26.2	14.2	17.5	6140 (423)
20	3.0	L-MTB20	33.3	19.1	20.6	5110 (352)
22	3.0	L-MTB22	35.3	19.1	23.8	4620 (319)
25	3.5	L-MTB25	37.1	19.1	27.0	4730 (326)

Union Tees



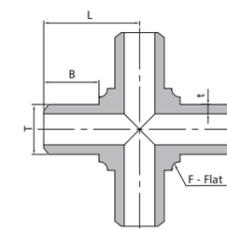
Fractional Tube

T-Tube O.D. (in.)	t-Wall Thickness (in.)	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)
			L	B	F	
1/4	0.065	T-TB4	16.3	9.7	9.5	10320 (712)
3/8	0.095	T-TB6	18.0	9.7	11.1	9930 (685)
1/2	0.095	T-TB8	24.4	14.2	14.3	6780 (468)
3/4	0.120	T-TB12	33.3	19.1	20.6	5530 (381)
1	0.134	T-TB16	37.1	19.1	27.0	4480 (309)

Metric Tube

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)
			L	B	F	
6	1.8	T-MTB6	16.3	9.7	9.5	12660 (873)
8	1.8	T-MTB8	16.3	9.7	9.5	8320 (574)
10	2.2	T-MTB10	18.0	9.7	11.1	8160 (563)
12	2.2	T-MTB12	24.4	14.2	14.3	6470 (446)
14	2.5	T-MTB14	25.4	14.2	15.9	6280 (433)
16	2.8	T-MTB16	26.2	14.2	17.5	6140 (423)
20	3.0	T-MTB20	33.3	19.1	20.6	5110 (352)
22	3.0	T-MTB22	35.3	19.1	23.8	4620 (319)
25	3.5	T-MTB25	37.1	19.1	27.0	4730 (326)
32	4.5	T-MTB32	49.3	23.9	34.9	4730 (326)

Union Crosses



Fractional Tube

T-Tube O.D. (in.)	t-Wall Thickness (in.)	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)
			L	B	F	
1/4	0.065	C-TB4	16.3	9.7	9.5	10320 (712)
3/8	0.095	C-TB6	18.0	9.7	11.1	9930 (685)
1/2	0.095	C-TB8	24.4	14.2	14.3	6780 (468)
3/4	0.120	C-TB12	33.3	19.1	20.6	5530 (381)
1	0.134	C-TB16	37.1	19.1	27.0	4480 (309)

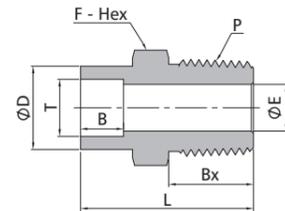
Metric Tube

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Basic Ordering Number	Dimension, mm			Working Pressure psig (bar)
			L	B	F	
6	1.8	C-MTB6	16.3	9.7	9.5	12660 (873)
8	1.8	C-MTB8	16.3	9.7	9.5	8320 (574)
10	2.2	C-MTB10	18.0	9.7	11.1	8160 (563)

E-JOE

Tube Socket Weld Fittings

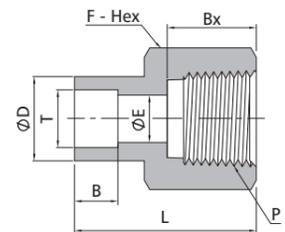
Male Connectors



Fractional Tube			Dimension, mm							NPT Thread	Working Pressure psig (bar)
T-Tube Size (in.)	P-NPT Size	Basic Ordering Number	L	D	B	Bx	F	E			
1/4	1/4	S-TS4N4	29.2	12.2	7.1	14.2	14.3	4.8		8000 (551)	
3/8	1/4	S-TS6N4	31.8	15.2	7.9	14.2	15.9	7.1		8000 (551)	
3/8	3/8	S-TS6N6	31.8	15.2	7.9	14.2	17.5	7.1		7800 (537)	
3/8	1/2	S-TS6N8	37.3	15.2	7.9	19.1	22.2	7.1		7700 (530)	
1/2	1/4	S-TS8N4	33.3	18.5	9.7	14.2	19.1	7.1		6600 (454)	
1/2	3/8	S-TS8N6	33.3	18.5	9.7	14.2	19.1	9.6		6600 (454)	
1/2	1/2	S-TS8N8	38.9	18.5	9.7	19.1	22.2	10.4		6600 (454)	
3/4	3/4	S-TS12N12	45.1	26.4	11.2	19.1	27.0	15.7		5900 (406)	
1	1	S-TS16N16	53.6	34.5	15.7	23.9	34.9	22.4		5300 (365)	

Metric Tube			Dimension, mm							NPT Thread	Working Pressure psig (bar)
T-Tube Size (mm)	P-NPT Size	Basic Ordering Number	L	D	B	Bx	F	E			
6	1/4	S-MTS6N4	29.2	12.0	7.1	14.2	14	4.8		8000 (551)	
12	1/2	S-MTS12N8	38.9	17.6	9.7	19.1	22	9.5		6820 (470)	
14	1/4	S-MTS14N4	33.3	21.3	10.4	14.2	15	7.1		6930 (478)	
14	3/8	S-MTS14N6	35.0	21.6	10.4	14.2	18	9.6		6930 (478)	
14	1/2	S-MTS14N8	40.0	21.3	10.4	19.1	22	10.4		6930 (478)	
16	1/4	S-MTS16N4	35.0	23.3	10.4	14.2	18	7.1		6190 (426)	
16	1/2	S-MTS16N8	40.0	23.3	10.4	19.1	22	11.9		6190 (426)	
18	1/4	S-MTS18N4	40.4	26.0	11.2	14.2	19	7.1		6050 (417)	
28	3/4	S-MTS28N12	55.5	40.5	18.4	19.1	30	15.7		5040 (348)	
38	1 1/4	S-MTS38N20	68.3	52.5	26.9	23.9	46	28.6		5000 (344)	

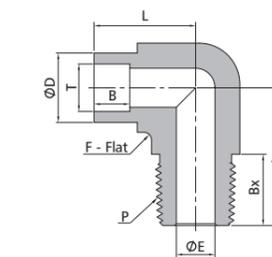
Female Connectors



Fractional Tube			Dimension, mm							NPT Thread	Working Pressure psig (bar)
T-Tube Size (in.)	P-NPT Size	Basic Ordering Number	L	D	B	Bx	F	E			
1/8	1/8	S-TS2FN2	21.1	7.4	2.5	10.4	14.3	2.3		6500 (447)	
1/4	1/8	S-TS4FN2	26.7	12.2	7.1	10.4	14.3	4.8		6500 (447)	
1/4	1/4	S-TS4FN4	30.0	12.2	7.1	15.0	19.1	4.8		6600 (454)	
3/8	1/4	S-TS6FN4	31.5	15.2	7.9	15.0	19.1	7.1		6600 (454)	
1/2	3/8	S-TS8FN6	34.5	18.5	9.7	15.0	22.2	10.4		5300 (365)	
1/2	1/2	S-TS8FN8	40.4	18.5	9.7	19.8	27.0	10.4		4900 (337)	
3/4	3/4	S-TS12FN12	43.9	26.4	11.2	20.6	33.3	16.0		4600 (316)	
1	1	S-TS16FN16	54.1	34.5	15.7	25.4	41.3	22.4		4400 (303)	

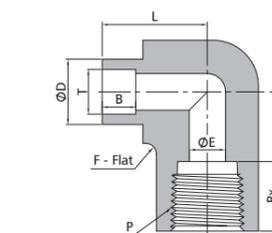
Metric Tube			Dimension, mm							NPT Thread	Working Pressure psig (bar)
T-Tube Size (mm)	P-NPT Size	Basic Ordering Number	L	D	B	Bx	F	E			
8	1/4	S-MTS8FN4	27.0	13.7	7.5	15.0	19	4.8		6600 (454)	
10	1/4	S-MTS10FN4	29.0	19.5	9.5	15.0	19	7.1		6600 (454)	
14	1/4	S-MTS14FN4	32.0	22.1	10.4	15.0	22	9.5		6930 (478)	
28	3/4	S-MTS28FN12	54.1	40.5	18.4	20.6	35	19.8		4600 (316)	

Male Elbows



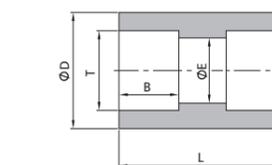
Fractional Tube			Dimension, mm							NPT Thread	Working Pressure psig (bar)
T-Tube Size (in.)	P-NPT Size	Basic Ordering Number	L	Lx	D	B	Bx	F	E		
1/4	1/4	L-TS4N4	20.1	26.7	14.7	7.1	14.2	12.7	4.8	8000 (551)	
3/8	1/4	L-TS6N4	26.4	26.7	14.7	7.9	14.2	12.7	7.1	8000 (551)	
3/8	3/8	L-TS6N6	24.6	29.7	20.2	7.9	14.2	17.5	7.1	7800 (537)	
3/8	1/2	L-TS6N8	25.9	36.8	23.8	7.9	19.1	20.6	7.1	7700 (530)	
1/2	1/2	L-TS8N8	27.4	36.8	23.8	9.7	19.1	20.6	10.4	6600 (454)	
3/4	3/4	L-TS12N12	38.9	39.6	26.4	11.2	19.1	27.0	15.7	5900 (406)	

Female Elbows



Fractional Tube			Dimension, mm							NPT Thread	Working Pressure psig (bar)
T-Tube Size (in.)	P-NPT Size	Basic Ordering Number	L	Lx	D	B	Bx	F	E		
1/4	1/4	L-TS4FN4	22.9	29.7	20.2	7.1	15.0	17.5	4.8	7400 (509)	
3/8	1/4	L-TS6FN4	25.1	29.7	20.2	7.9	15.0	17.5	7.1	7400 (509)	
3/8	1/2	L-TS6FN8	28.7	39.6	29.3	7.9	19.8	25.4	7.1	5700 (392)	
1/2	1/2	L-TS8FN8	30.2	39.6	29.3	9.7	19.8	25.4	10.4	5700 (392)	

Unions

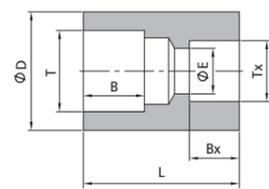


Fractional Tube		Dimension, mm				Working Pressure psig (bar)
T-Tube Size (in.)	Basic Ordering Number	L	D	B	E	
1/4	S-TS4	19.1	12.2	7.1	4.8	10700 (737)
3/8	S-TS6	22.4	15.2	7.9	7.1	8100 (558)
1/2	S-TS8	26.9	18.5	9.7	10.4	6600 (454)
5/8	S-TS10	30.2	23.4	10.4	12.7	6200 (427)
3/4	S-TS12	33.3	26.4	11.2	16.0	5900 (406)
7/8	S-TS14	35.5	31.5	12.7	18.8	5730 (395)
1	S-TS16	36.6	34.5	15.7	22.4	5600 (385)

Metric Tube		Dimension, mm				Working Pressure psig (bar)
T-Tube Size (mm)	Basic Ordering Number	L	D	B	E	
8	S-MTS8	22.4	14.3	7.9	6.4	9790 (675)
10	S-MTS10	23.6	16.5	7.9	7.4	8100 (558)
12	S-MTS12	26.9	20.2	9.7	9.5	6820 (470)
14	S-MTS14	28.0	23.8	10.0	10.4	6930 (478)
16	S-MTS16	30.2	23.8	10.4	12.7	6190 (426)
20	S-MTS20	28.0	27.0	11.2	17.0	5510 (380)

# E-JOE

## Reducing Unions

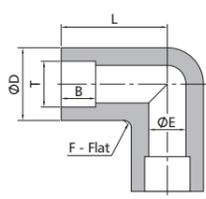


Fractional Tube			Dimension, mm					Working Pressure
T-Tube Size (in.)	Tx-Tube Size (in.)	Basic Ordering Number	L	D	B	E	Bx	psig (bar)
3/8	1/4	S-TS6TS4	22.4	15.2	7.9	4.8	7.1	8100 (558)
1/2	1/4	S-TS8TS4	24.3	18.5	9.7	4.8	7.1	6600 (454)
1/2	3/8	S-TS8TS6	26.1	18.5	9.7	7.1	7.9	6600 (454)
3/4	3/8	S-TS12TS6	29.8	26.4	11.2	7.1	7.9	5900 (406)
3/4	1/2	S-TS12TS8	31.6	26.4	11.2	10.4	9.7	5900 (406)
1	3/4	S-TS16TS12	32.1	34.5	15.7	16.0	11.2	5600 (385)

Metric Tube			Dimension, mm					Working Pressure
T-Tube Size (mm)	Tx-Tube Size (mm)	Basic Ordering Number	L	D	B	E	Bx	psig (bar)
14	10	S-MTS14MTS10	26.0	20.0	10.4	7.4	7.9	6930 (478)
25	14	S-MTS25MTS14	30.0	35.0	15.7	10.4	10.0	5450 (376)
25	22	S-MTS25MTS22	35.8	34.5	15.7	19.0	13.5	5450 (376)

Metric Tube			Dimension, mm					Working Pressure
T-Tube Size (mm)	Tx-Tube Size (in.)	Basic Ordering Number	L	D	B	E	Bx	psig (bar)
20	3/4	S-MTS20TS12	28.0	27.0	11.2	15.7	11.2	5510 (380)
28	3/4	S-MTS28TS12	36.8	40.0	20.0	15.7	11.2	5040 (348)

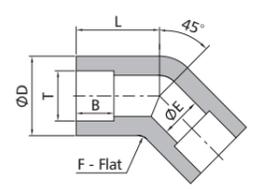
## Union Elbows



Fractional Tube			Dimension, mm					Working Pressure
T-Tube Size (in.)	Basic Ordering Number	L	D	B	F	E	psig (bar)	
1/8	L-TS2	15.0	11.0	2.5	9.5	2.3	12600 (863)	
1/4	L-TS4	21.8	12.8	7.1	11.1	4.8	10700 (737)	
3/8	L-TS6	26.4	14.7	7.9	12.7	7.1	8100 (558)	
1/2	L-TS8	29.7	20.2	9.7	17.5	10.4	6600 (454)	
5/8	L-TS10	36.1	23.8	10.4	20.6	12.7	6200 (427)	
3/4	L-TS12	39.6	29.3	11.2	25.4	16.0	5900 (406)	
1	L-TS16	48.8	36.7	15.7	31.8	22.4	5600 (385)	

Metric Tube			Dimension, mm					Working Pressure
T-Tube Size (mm)	Basic Ordering Number	L	D	B	F	E	psig (bar)	
10	L-MTS10	24.6	16.5	7.9	14.3	7.4	8100 (558)	
12	L-MTS12	29.7	20.2	9.7	17.5	9.5	6820 (470)	
14	L-MTS14	36.0	23.8	10.0	20.6	10.4	6930 (478)	
16	L-MTS16	36.0	23.8	10.4	20.6	12.7	6190 (426)	

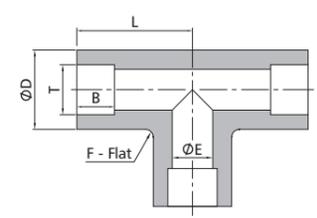
## Union 45° Elbows



Fractional Tube			Dimension, mm					Working Pressure
T-Tube Size (in.)	Basic Ordering Number	L	D	B	F	E	psig (bar)	
1/4	R-TS4	15.0	14.7	7.1	12.7	4.8	10700 (737)	
3/8	R-TS6	19.1	16.5	7.9	14.3	7.1	8100 (558)	
1/2	R-TS8	21.3	20.2	9.7	17.5	10.4	6600 (454)	
3/4	R-TS12	28.7	29.3	11.2	25.4	16.0	5900 (406)	
1	R-TS16	31.8	36.7	15.7	31.8	22.4	5600 (385)	

Metric Tube			Dimensions, mm					Working Pressure
T-Tube Size (mm)	Basic Ordering Number	L	D	B	F	E	psig (bar)	
8	R-MTS8	17.3	14.7	7.9	12.7	6.4	9790 (675)	
10	R-MTS10	19.1	16.5	7.9	14.3	7.4	8100 (558)	
12	R-MTS12	21.3	20.2	9.7	17.5	9.5	6820 (470)	
14	R-MTS14	26.4	23.8	10.0	20.6	10.4	6930 (478)	
16	R-MTS16	26.4	23.8	10.4	20.6	12.7	6190 (426)	
20	R-MTS20	28.7	29.3	11.2	27.0	16.0	5510 (380)	
22	R-MTS22	29.7	31.2	13.5	31.8	19.0	6850 (472)	
25	R-MTS25	31.8	36.7	15.7	31.8	22.0	5450 (376)	

## Union Tees

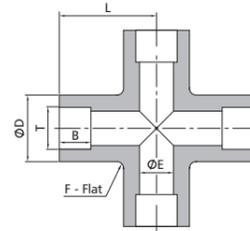


Fractional Tube			Dimension, mm					Working Pressure
T-Tube Size (in.)	Basic Ordering Number	L	D	B	F	E	psig (bar)	
1/8	T-TS2	15.0	12.8	2.5	9.5	2.3	12600 (868)	
1/4	T-TS4	21.8	12.8	7.1	11.1	4.8	10700 (737)	
3/8	T-TS6	26.4	14.7	7.9	12.7	7.1	8100 (558)	
1/2	T-TS8	29.7	20.2	9.7	17.5	10.4	6600 (454)	
5/8	T-TS10	36.1	23.8	10.4	20.6	12.7	6200 (428)	
3/4	T-TS12	39.6	29.3	11.2	25.4	16.0	5900 (406)	
1	T-TS16	48.8	36.7	15.7	31.8	22.4	5600 (385)	

Metric Tube			Dimension, mm					Working Pressure
T-Tube Size (mm)	Basic Ordering Number	L	D	B	F	E	psig (bar)	
8	T-MTS8	18.5	14.7	7.9	12.7	6.4	9790 (675)	
10	T-MTS10	24.6	16.5	7.9	14.3	7.4	8100 (558)	
12	T-MTS12	29.7	20.2	9.7	17.5	9.5	6820 (470)	
14	T-MTS14	36.0	23.8	10.0	20.6	10.4	6930 (478)	
16	T-MTS16	36.0	23.8	10.4	20.6	12.7	6190 (426)	
20	T-MTS20	39.6	29.3	11.2	25.4	17.0	5510 (380)	
22	T-MTS22	41.3	31.2	13.5	27.0	19.0	6850 (472)	
25	T-MTS25	48.8	36.7	15.7	31.8	22.0	5450 (376)	

# E-JOE

## Union Crosses



## Fractional Tube

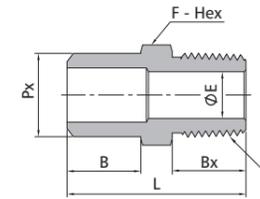
T-Tube Size (in.)	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)
		L	D	B	F	E	
1/8	C-TS2	15.0	11.0	2.5	9.5	2.3	12600 (863)
1/4	C-TS4	21.8	12.8	7.1	11.1	4.8	10700 (737)
3/8	C-TS6	26.4	14.7	7.9	12.7	7.1	8100 (558)
1/2	C-TS8	29.7	20.2	9.7	17.5	10.4	6600 (454)
5/8	C-TS10	36.1	23.8	10.4	20.6	12.7	6200 (428)
3/4	C-TS12	39.6	29.3	11.2	25.4	16.0	5900 (406)
1	C-TS16	48.8	36.7	15.7	31.8	22.4	5600 (385)

## Metric Tube

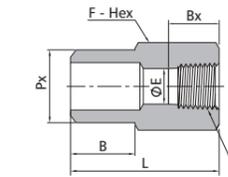
T-Tube Size (mm)	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)
		L	D	B	F	E	
8	C-MTS8	18.5	14.7	7.9	12.7	5.9	9790 (675)
10	C-MTS10	24.6	16.5	7.9	14.3	7.1	8100 (558)
12	C-MTS12	29.7	20.2	9.7	17.5	9.5	6820 (470)
14	C-MTS14	36.0	23.8	9.7	20.6	10.4	6930 (478)
16	C-MTS16	36.0	23.8	10.0	20.6	12.7	6190 (426)
20	C-MTS20	39.6	29.3	11.2	25.4	17.0	5510 (380)
22	C-MTS22	41.3	31.2	13.5	27.0	19.0	6850 (472)
25	C-MTS25	48.8	36.7	15.7	31.8	22.0	5450 (376)

## Pipe Butt Weld Fittings

## Male Connectors



## Female Connectors



## Pipe

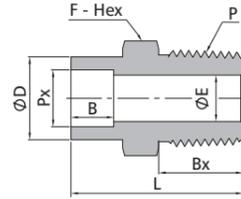
Px-Sch80 Pipe Size	P-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	B	Bx	F	E	
1/4	1/4	S-PB4N4	34.3	14.2	14.2	14.3	7.1	8000 (551)
1/4	1/2	S-PB4N8	41.3	14.2	19.1	22.2	7.7	7700 (537)
3/8	1/4	S-PB6N4	34.8	14.2	14.2	17.5	7.1	6650 (459)
3/8	1/2	S-PB6N8	41.3	14.2	19.1	22.2	10.7	6650 (459)
1/2	1/4	S-PB8N4	41.3	19.1	14.2	22.2	7.1	6190 (427)
1/2	1/2	S-PB8N8	46.2	19.1	19.1	22.2	11.9	6190 (427)
3/4	1/4	S-PB12N4	42.9	19.1	14.2	27.0	7.1	5040 (348)
3/4	1/2	S-PB12N8	47.8	19.1	19.1	27.0	11.9	5040 (348)
1	1/4	S-PB16N4	50.0	23.9	14.2	34.9	7.1	4640 (320)
1	1/2	S-PB16N8	54.9	23.9	19.1	34.9	11.9	4640 (320)

## Pipe

Px-Sch80 Pipe Size	P-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	B	Bx	F	E	
1/4	1/2	S-PB4FN8	38.9	14.2	19.8	27.0	7.6	4900 (337)
3/8	1/2	S-PB6FN8	38.9	14.2	19.8	27.0	10.7	4900 (337)
1/2	1/4	S-PB8FN4	37.3	19.1	15.0	22.2	10.4	7500 (516)
1/2	1/2	S-PB8FN8	43.7	19.1	19.8	27.0	13.9	4900 (337)

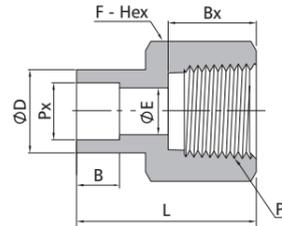
## Pipe Socket Weld Fittings

## Male Connectors



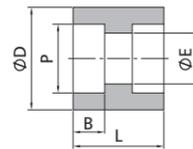
Pipe			Dimension, mm						NPT Thread	Working Pressure psig (bar)
Px-Pipe Size	P-NPT Size	Basic Ordering Number	L	D	B	Bx	F	E		
1/4	1/4	S-PS4N4	35.2	22.4	9.9	14.2	23.8	7.1	8000 (551)	
1/4	1/2	S-PS4N8	40.0	22.4	9.9	19.1	23.8	9.1	7700 (530)	
3/8	3/8	S-PS6N6	38.0	26.2	9.9	14.2	27.0	9.7	7100 (489)	
3/8	1/2	S-PS6N8	42.9	26.2	9.9	19.1	27.0	11.9	7100 (489)	
1/2	3/8	S-PS8N6	40.3	31.8	9.9	14.2	33.3	9.7	6800 (468)	
1/2	1/2	S-PS8N8	45.2	31.8	9.9	19.1	33.3	11.9	6800 (468)	
3/4	1/2	S-PS12N8	54.3	37.3	13.0	19.1	38.1	11.9	5800 (399)	
3/4	3/4	S-PS12N12	54.3	37.3	13.0	19.1	38.1	15.7	5800 (399)	
1	3/4	S-PS16N12	55.8	47.2	13.0	19.1	47.6	15.7	6100 (420)	
1	1	S-PS16N16	60.6	47.2	13.0	23.9	47.6	22.4	5300 (365)	

## Female Connectors



Pipe			Dimension, mm						NPT Thread	Working Pressure psig (bar)
Px-Pipe Size	P-NPT Size	Basic Ordering Number	L	D	B	Bx	F	E		
1/4	1/4	S-PS4FN4	33.5	22.4	9.9	15.0	23.8	9.1	8000 (551)	
1/4	3/8	S-PS4FN6	33.5	22.4	9.9	15.0	23.8	9.1	6790 (463)	
3/8	3/8	S-PS6FN6	34.1	26.2	9.9	15.0	27.0	12.4	7100 (489)	
3/8	1/2	S-PS6FN8	39.1	26.2	9.9	19.8	27.0	12.4	4900 (337)	
1/2	1/2	S-PS8FN8	40.0	31.8	9.9	19.8	33.3	15.7	6800 (468)	
1/2	3/4	S-PS8FN12	40.6	31.8	9.9	20.6	33.3	15.7	4600 (316)	
3/4	3/4	S-PS12FN12	53.2	37.3	13.0	20.6	38.1	20.8	5800 (399)	
3/4	1	S-PS12FN16	58.1	37.3	13.0	25.4	41.3	20.8	4400 (303)	

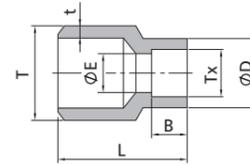
## Unions



Pipe		Dimension, mm				Working Pressure psig (bar)
P-Pipe Size	Basic Ordering Number	L	D	B	E	
1/8	S-PS2	25.7	17.1	9.9	7.0	8230(568)
1/4	S-PS4	26.9	22.4	9.9	9.1	8000(551)
3/8	S-PS6	28.4	26.2	9.9	12.4	7100(489)
1/2	S-PS8	28.4	31.8	9.9	15.7	6800(468)
3/4	S-PS12	44.5	37.3	13.0	20.8	5800(399)
1	S-PS16	44.5	47.2	13.0	26.7	6100(420)

## Weld Adapters

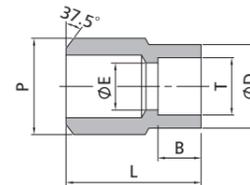
## Tube Butt Weld to Tube Socket Weld



## Fractional Tube

Fractional Tube				Dimension, mm				Working Pressure psig (bar)
T-Tube O.D. (in.)	t-Wall Thickness (in.)	Tx-Tube Size (in.)	Basic Ordering Number	L	B	D	E	
1/4	0.083	1/8	S-TB4TS2	14.2	2.5	8.0	2.3	12600 (868)
3/8	0.095	1/4	S-TB6TS4	19.1	7.1	12.2	4.8	8200 (564)
1/2	0.095	1/4	S-TB8TS4	22.4	7.1	12.7	4.8	7500 (516)
1/2	0.095	3/8	S-TB8TS6	22.4	7.9	15.2	8.3	7500 (516)
3/4	0.120	1/2	S-TB12TS8	28.4	9.7	18.5	10.4	6300 (434)
1	0.134	1/2	S-TB16TS8	35.1	9.7	18.5	10.4	5300 (365)
1	0.134	3/4	S-TB16TS12	38.1	11.2	26.4	16.0	5300 (365)

## Pipe Butt Weld to Tube Socket Weld

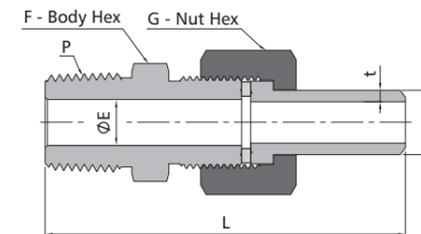


## Pipe

Pipe			Dimension, mm				Fractional Tube	Working Pressure psig (bar)
P-Sch80 Pipe Size	T-Tube Size (in.)	Basic Ordering Number	L	B	D	E		
1/4	1/4	S-PB4TS4	22.4	7.1	12.2	4.8	10810 (744)	
3/8	1/4	S-PB6TS4	26.2	7.9	12.2	4.8	8500 (586)	
3/8	3/8	S-PB6TS6	26.2	7.9	15.2	7.1	8500 (586)	
3/8	1/2	S-PB6TS8	25.4	9.7	18.5	10.4	6930 (476)	
1/2	1/4	S-PB8TS4	28.4	7.1	12.2	4.8	8190 (563)	
1/2	3/8	S-PB8TS6	28.4	7.9	15.2	7.1	8190 (563)	
1/2	1/2	S-PB8TS8	30.2	9.7	18.5	10.4	6930 (476)	
3/4	1/4	S-PB12TS4	38.1	7.1	12.2	4.8	6930 (476)	
3/4	3/8	S-PB12TS6	38.1	7.9	15.2	7.1	6930 (476)	
3/4	1/2	S-PB12TS8	38.1	9.7	18.5	10.4	6930 (476)	
3/4	3/4	S-PB12TS12	38.1	11.2	26.4	16.0	6190 (483)	
1	3/8	S-PB16TS6	35.1	7.9	15.2	7.1	6300 (434)	
1	1/2	S-PB16TS8	39.6	11.2	18.5	10.4	6300 (434)	

## Pipe to Weld Fittings

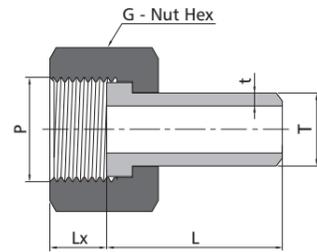
## Male Pipe to Tube Butt Weld



## NPT Thread

NPT Thread				Metric Tube				Working Pressure psig (bar)
P-NPT Size	T-Tube O.D. (mm)	t-Wall Thickness (mm)	Basic Ordering Number	Dimension, mm				
				L	F	G	E	
1/8	14	2.5	MUW-N2MTB14	69	19	22	4.8	6280 (433)
1/4	6	1.8	MUW-N4MTB6	60	14	14	3	8240 (566)
1/4	8	1.8	MUW-N4MTB8	73.2	14	16	4	8240 (566)
1/4	10	2.2	MUW-N4MTB10	73.2	15	18	6	8160 (563)
1/4	12	2.2	MUW-N4MTB12	73.2	18	22	7	6470 (446)
1/4	14	2.5	MUW-N4MTB14	73.2	19	22	7.1	6280 (433)
1/4	16	2.8	MUW-N4MTB16	73.2	22	25	7.1	6140 (423)
1/4	18	2.8	MUW-N4MTB18	74.2	24	27	7.1	5670 (392)
3/8	14	2.5	MUW-N6MTB14	72.5	19	22	9.7	6280 (433)
1/2	12	2.2	MUW-N8MTB12	78	18	22	7	6470 (446)
1/2	14	2.5	MUW-N8MTB14	78	19	22	9	6280 (433)
1/2	16	2.8	MUW-N8MTB16	78	22	25	10	6140 (423)
1/2	22	3.0	MUW-N8MTB22	82	30	32	11.9	4620 (319)
1/2	25	2.8	MUW-N8MTB25	86	32	35	11.9	4730 (326)
1	25	3.5	MUW-N16MTB25	103	35	35	17	4730 (326)

## Pipe to Tube Butt Weld



## ISO Parallel Thread

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	PUW-FG8MTB12	30	27.0	9.2	6470 (446)
1/2	14	2.5	PUW-FG8MTB14	30	27.0	9.2	6280 (433)
1/2	16	2.8	PUW-FG8MTB16	34	27.0	9.2	6140 (423)

## Metric Tube

## Metric Thread

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	PUW-FM12MTB6	25	16	8	12660 (873)
M12 x 1.5	8	1.8	PUW-FM12MTB8	30	16	9	8320 (574)
M14 x 1.5	8	1.8	PUW-FM14MTB8	30	18	9	8320 (574)
M14 x 1.5	10	2.2	PUW-FM14MTB10	30	18	9	8160 (563)
M16 x 1.5	8	1.8	PUW-FM16MTB8	30	22	9	8320 (574)
M16 x 1.5	10	2.2	PUW-FM16MTB10	30	22	9	8160 (563)
M16 x 1.5	12	2.2	PUW-FM16MTB12	34	22	14	6470 (446)
M18 x 1.5	10	2.2	PUW-FM18MTB10	34	22	10	8160 (563)
M18 x 1.5	12	2.2	PUW-FM18MTB12	34	22	10	6470 (446)
M18 x 1.5	14	2.5	PUW-FM18MTB14	34	22	10	6280 (433)
M20 x 1.5	10	2.2	PUW-FM20MTB10	34	25	11	8160 (563)
M20 x 1.5	12	2.2	PUW-FM20MTB12	34	25	11	6470 (446)
M20 x 1.5	14	2.5	PUW-FM20MTB14	34	25	11	6280 (433)
M20 x 1.5	15	2.5	PUW-FM20MTB15	34	25	11	6160 (425)
M20 x 1.5	16	2.8	PUW-FM20MTB16	34	25	11	6140 (423)
M22 x 1.5	14	2.5	PUW-FM22MTB14	34	27	11	6280 (433)
M22 x 1.5	16	2.8	PUW-FM22MTB16	34	27	11	6140 (423)
M24 x 1.5	16	2.8	PUW-FM24MTB16	34	30	11	6140 (423)
M24 x 1.5	18	2.8	PUW-FM24MTB18	34	30	11	5670 (392)
M24 x 1.5	20	3.0	PUW-FM24MTB20	34	30	11	5110 (352)
M27 x 2	14	2.5	PUW-FM27MTB14	34	32	14	6280 (433)
M27 x 2	16	2.8	PUW-FM27MTB16	34	32	14	6140 (423)
M27 x 2	18	2.8	PUW-FM27MTB18	34	32	14	5670 (392)
M27 x 2	20	3.0	PUW-FM27MTB20	40	32	14	5110 (352)
M27 x 2	22	3.0	PUW-FM27MTB22	40	32	14	4620 (319)
M30 x 2	22	3.0	PUW-FM30MTB22	40	35	18	4620 (319)
M30 x 2	25	3.5	PUW-FM30MTB25	45	35	18	4730 (326)
M33 x 2	28	4.0	PUW-FM33MTB28	45	41	18	5160 (356)
M36 x 2	30	4.0	PUW-FM36MTB30	45	41	18	4760 (328)

## Metric Tube

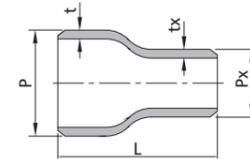
## Factory-made Wrought Buttwelding Fittings

## F Series

1. Comply with ASME B16.9.
2. Sizes range from NPS 1/2 to NPS 2.
3. 316L stainless steel material is standard, other materials are available upon request.
4. Wall thickness listed is Sch10S, other wall thickness are available upon request.

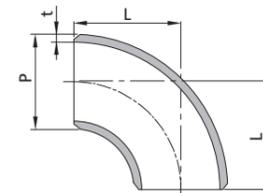


## Reducers



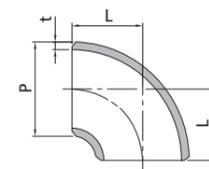
P-NPS	t-Wall Thickness (in.)	Px-NPS	tx-Wall Thickness (in.)	Basic Ordering Number	Dimension, mm		Working Pressure psig (bar)
					L		
3/4	0.083	3/8	0.065	S4-PB12PB6	38.0		2540 (175)
3/4	0.083	1/2	0.083	S4-PB12PB8	38.0		2540 (175)
1	0.109	1/2	0.083	S4-PB16PB8	38.0		2710 (187)
1	0.109	3/4	0.083	S4-PB16PB12	38.0		2540 (175)
1 1/2	0.109	1/2	0.083	S4-PB24PB8	64.0		1830 (126)
1 1/2	0.109	3/4	0.083	S4-PB24PB12	64.0		1830 (126)
1 1/2	0.109	1	0.109	S4-PB24PB16	64.0		1830 (126)
2	0.109	1/2	0.083	S4-PB32PB8	76.0		1450 (100)
2	0.109	3/4	0.083	S4-PB32PB12	76.0		1450 (100)
2	0.109	1	0.109	S4-PB32PB16	76.0		1450 (100)
2	0.109	1 1/2	0.109	S4-PB32PB24	76.0		1450 (100)

## 90° Long Radius Elbows



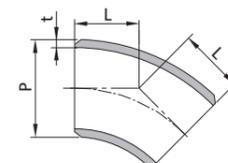
P-NPS	t-Wall Thickness (in.)	Basic Ordering Number	Dimension, mm		Working Pressure psig (bar)
			L		
1/2	0.083	L4-PB8	38.0		3260 (225)
3/4	0.083	L4-PB12	38.0		2540 (175)
1	0.109	L4-PB16	38.0		2710 (187)
1 1/2	0.109	L4-PB24	57.0		1830 (126)
2	0.109	L4-PB32	76.0		1450 (100)

## 90° Short Radius Elbows



P-NPS	t-Wall Thickness (in.)	Basic Ordering Number	Dimension, mm		Working Pressure psig (bar)
			L		
1	0.109	LL4-PB16-SR	25.0		2710 (187)
1 1/2	0.109	LL4-PB24-SR	38.0		1830 (126)
1	0.109	LL4-PB32-SR	51.0		1450 (100)

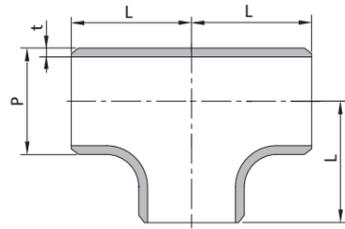
## 45° Elbows



P-NPS	t-Wall Thickness (in.)	Basic Ordering Number	Dimension, mm		Working Pressure psig (bar)
			L		
1/2	0.083	R4-PB8	16.0		3260 (225)
3/4	0.083	R4-PB12	19.0		2540 (175)
1	0.109	R4-PB16	22.0		2710 (187)
1 1/2	0.109	R4-PB24	29.0		1830 (126)
2	0.109	R4-PB32	35.0		1450 (100)

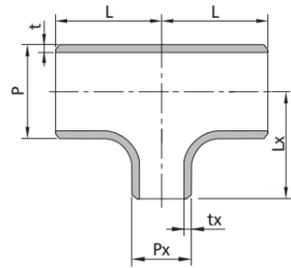
## E-JOE

## Straight Tees



P-NPS	t-Wall Thickness (in.)	Basic Ordering Number	Dimension, mm		Working Pressure psig(bar)
			L		
1/2	0.083	T4-PB8	25.0		3260 (225)
3/4	0.083	T4-PB12	29.0		2540 (175)
1	0.109	T4-PB16	38.0		2710 (187)
1 1/2	0.109	T4-PB24	57.0		1830 (126)
2	0.109	T4-PB32	64.0		1450 (100)

## Reducing Tees



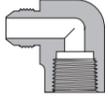
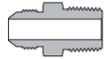
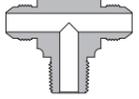
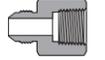
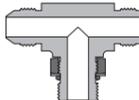
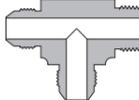
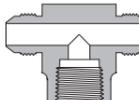
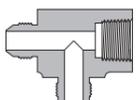
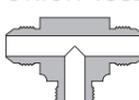
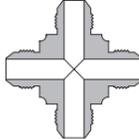
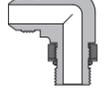
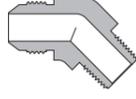
P-NPS	t-Wall Thickness (in.)	Px-NPS	tx-Wall Thickness (in.)	Basic Ordering Number	Dimension, mm		Working Pressure psig(bar)
					L	Lx	
1/2	0.083	1/4	0.065	T4-PB8PB8PB4	25.0	25.0	3260 (225)
1/2	0.083	3/8	0.065	T4-PB8PB8PB6	25.0	25.0	3190 (220)
3/4	0.083	3/8	0.065	T4-PB12PB12PB6	29.0	29.0	2540 (175)
3/4	0.083	1/2	0.083	T4-PB12PB12PB8	29.0	29.0	2540 (175)
1	0.109	1/2	0.083	T4-PB16PB16PB8	38.0	38.0	2710 (187)
1	0.109	3/4	0.083	T4-PB16PB16PB12	38.0	38.0	2580 (178)
1 1/2	0.109	1/2	0.083	T4-PB24PB24PB8	57.0	57.0	1830 (126)
1 1/2	0.109	3/4	0.083	T4-PB24PB24PB12	57.0	57.0	1830 (126)
1 1/2	0.109	1	0.109	T4-PB24PB24PB16	57.0	57.0	1830 (126)
2	0.109	3/4	0.083	T4-PB32PB32PB12	64.0	44.0	1450 (100)
2	0.109	1	0.109	T4-PB32PB32PB16	64.0	51.0	1450 (100)
2	0.109	1 1/2	0.109	T4-PB32PB32PB24	64.0	60.0	1450 (100)

## Ordering Information - F Series

- ⦿ Add the material designator (6L, SS or S4 etc.) as a prefix, wall thickness designator (-5S, -40S, or -80S etc.) as a suffix to the basic ordering number to get the complete ordering number. Example: SSS4-PB12-40S.
- ⦿ When the wall thickness is Sch 10S, no suffix is required.
- ⦿ To order fittings with special cleaning and packaging (E-02), following ASTM G93 C standard, add -E2 as a suffix to the ordering number. Example: SST4-PB32-40S-E2.

## E-JOE

## 37° Flare Fitting Contents

Sleeves		Female Elbows	
	04		10
Nuts		Union Elbows	
	04		11
Male Connectors		Male Branch Tees	
	04		12
Female Connectors		Adjustable Male Branch Tees	
	06		12
Unions		Male Run Tees	
	07		13
Large Hex Unions		Female Branch Tees	
	07		13
Reducing Adapters		Female Run Tees	
	07		14
Bulkhead Unions		Union Tees	
	08		14
Bulkhead Lock Nuts		Union Crosses	
	08		15
Tube Plugs			
	08		
Tube Caps			
	08		
Male Elbows			
	09		
Adjustable Male Elbows			
	09		
45° Male Elbows			
	10		

## Features

- ◎ Fittings are designed and manufactured in compliance with SAE J514.
- ◎ The hardened threads with smooth surface finish avoid galling and help to extend the fitting service life.
- ◎ Radius junction design with elbows provides smooth flow path.
- ◎ Stainless steel nut threads are silver-plated to minimize the friction with the body threads.
- ◎ Every fitting is stamped with size, material and heat code.
- ◎ Fittings are easy to disconnect and retighten.
- ◎ All male threads are protected with plastic caps.

## Technical Data

- ◎ Size range from 1/8" to 2" and 3 to 50 mm.
- ◎ Thread Specifications:

Thread Type	Reference Specification
NPT	ASME B1.20.1, SAE AS71051
Unified (SAE)	ASME B1.1, SAE J475

- ◎ The working temperature of E-JOE 37° flare tube fitting are the same as the E-JOE tube fittings<sup>1</sup>.
- ◎ Working pressures:

Nom. SAE Dash Size	Nom. Tube O.D. Size (in.)	37° Flare St. Thread	Nom. Pipe Size	SAE St. Thread Union and Bulkhead (psig/bar)	Fittings with Pipe Threads (psig/bar)
2	1/8	5/16-24	1/8	5000 (345)	5000 (345)
3	3/16	3/8-24	1/8	5000 (345)	5000 (345)
4	1/4	7/16-20	1/8	5000 (345)	5000 (345)
5	5/16	1/2-20	1/8	5000 (345)	5000 (345)
6	3/8	9/16-18	1/4	5000 (345)	4000 (276)
8	1/2	3/4-16	3/8	4500 (310)	3000 (207)
10	5/8	7/8-14	1/2	3500 (241)	3000 (207)
12	3/4	1 1/16-12	3/4	3500 (241)	2500 (172)
14	7/8	1 3/16-12	3/4	3000 (207)	2500 (172)
16	1	1 5/16-12	1	3000 (207)	2000 (138)
20	1 1/4	1 5/8-12	1 1/4	2500 (172)	1150 (79)
24	1 1/2	1 7/8-12	1 1/2	2000 (138)	1000 (69)
32	2	2 1/2-12	2	1500 (103)	1000 (69)

1. Working pressure given are for carbon steel only. Contact the authorized representative or E-JOE for other materials' working pressure.
2. Four times safety factor applied for above working pressure.

## Materials

Material	Bar Stock	Forging	Designator
316 Stainless Steel	ASTM A276, ASME SA479, EN 1.4401	ASTM A182, ASME SA182, EN 1.4401	SS
Aluminum	ASTM B211	ASTM B247	AL
Brass	ASTM B16/B453	ASTM B283	B
Carbon Steel	ASTM A108	/	CS

## Ordering Information

Add the material designator as a prefix to the basic ordering number to get the complete ordering number.

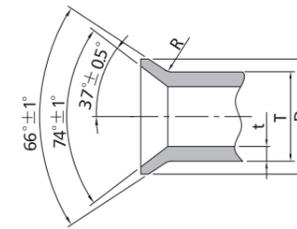
**For example:**

1. Male connector with 1/4" tube, 1/4 NPT thread and 316 stainless steel material, the complete ordering number is **SSS-AN4N4**.
2. Sleeve with 6 mm tube and 316 stainless steel material, the complete ordering number is **SS-SL-6M**.

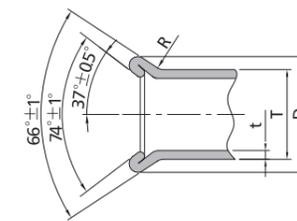
## Flaring Operation

Tube flaring is carried out in two different ways, single wall flare on thick wall tubes and double wall flare on thin wall tubes to reinforce same. Refer to below table:

### Thick Wall Tubes



### Thin Wall Tubes



T-Tube O.D. (in.)	Dimension		
	D (mm)	t (in.)	R (mm)
1/4	8.6-9.1	0.020-0.065	0.8
5/16	10.2-10.9	0.020-0.065	0.8
3/8	11.6-12.4	0.020-0.065	1.0
1/2	16.0-16.7	0.028-0.083	1.5
5/8	19.3-20.0	0.035-0.095	1.5
3/4	23.3-24.1	0.035-0.109	2.0
7/8	26.4-27.1	0.035-0.109	2.0
1	29.7-30.4	0.035-0.120	2.3
1 1/4	37.5-38.3	0.049-0.120	2.3
1 1/2	43.2-43.9	0.049-0.120	2.8
2	59.2-59.9	0.065-0.134	2.8

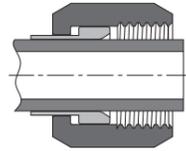
T-Tube O.D. (mm)	Dimension		
	D (mm)	t (mm)	R (mm)
6	8.4-9.2	0.5-1.5	0.8
8	10.1-10.8	0.5-1.5	0.8
10	12.0-12.5	0.5-1.5	1.0
12	16.0-16.7	1.0-2.0	1.5
14	18.8-19.5	1.0-2.5	1.5
15	19.4-20.0	1.0-2.5	1.5
16	19.4-20.0	1.0-2.5	1.5
18	23.5-24.0	1.0-3.0	2.0
20	24.0-24.5	1.0-3.0	2.0
22	26.2-27.2	1.0-3.0	2.0
25	29.5-30.2	1.0-3.0	2.3
30	37.4-38.0	1.5-3.0	2.3
32	37.6-38.3	1.5-3.0	2.3
38	43.5-44.5	1.5-3.0	2.8
50	58.9-59.6	1.5-3.5	2.8

## Installation Instructions

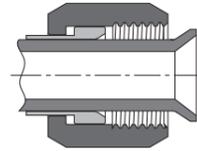
1. Cut the tube to the proper length.
2. Insert the tube into the nut and sleeve.
3. Form the flare to 37° dimension according to SAE J533. See flaring operation.
4. Finger-tighten the nut.
5. Tighten the nut 1/4 turns with wrench while holding steady the body of the fitting.



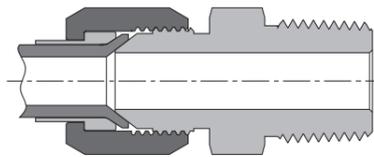
Step 1



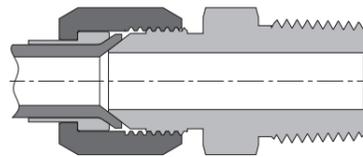
Step 2



Step 3



Step 4

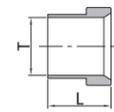


Step 5

## Cautions:

- Do not loosen or tighten fittings when system is pressurized.
- Please always use proper thread sealants on tapered pipe threads.

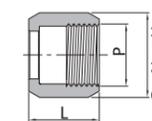
## Sleeves



## SAE 070115

T-Tube O.D.		Basic Ordering Number		L (mm)
in.	mm	in.	mm	
1/8	3	SL-AN2	SL-AN3M	8.6
3/16	4	SL-AN3	SL-AN4M	8.6
1/4	6	SL-AN4	SL-AN6M	10.4
5/16	8	SL-AN5	SL-AN8M	11.2
3/8	10	SL-AN6	SL-AN10M	12.7
1/2	12	SL-AN8	SL-AN12M	14.2
5/8	16	SL-AN10	SL-AN16M	16.8
3/4	18	SL-AN12	SL-AN18M	17.3
7/8	22	SL-AN14	SL-AN22M	19.3
1	25	SL-AN16	SL-AN25M	19.8
1 1/4	32	SL-AN20	SL-AN32M	23.1
1 1/2	38	SL-AN24	SL-AN38M	28.4
2	50	SL-AN32	SL-AN50M	30.2

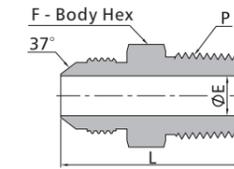
## Nuts



## SAE 070110

Tube O.D.		P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm	
in.	mm			L	G
1/8	3	5/16-24	N-AN2	14.0	9.5
3/16	4	3/8-24	N-AN3	15.5	11.1
1/4	6	7/16-20	N-AN4	15.8	14.3
5/16	8	1/2-20	N-AN5	17.3	15.9
3/8	10	9/16-18	N-AN6	18.5	17.5
1/2	12	3/4-16	N-AN8	21.6	22.2
5/8	16	7/8-14	N-AN10	24.9	25.4
3/4	18	1 1/16-12	N-AN12	26.2	31.8
7/8	22	1 3/16-12	N-AN14	27.7	34.9
1	25	1 5/16-12	N-AN16	28.7	38.1
1 1/4	32	1 5/8-12	N-AN20	31.2	50.8
1 1/2	38	1 7/8-12	N-AN24	36.1	57.2
2	50	2 1/2-12	N-AN32	44.5	73.0

## Male Connector



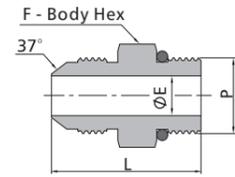
## SAE 070102

Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, mm		
in.	mm			L	E	F
1/8	3	1/8	S-AN2N2	28.2	1.6	11.1
3/16	4	1/8	S-AN3N2	29.0	3.2	11.1
1/4	6	1/8	S-AN4N2	31.0	4.4	12.7
1/4	6	1/4	S-AN4N4	36.0	4.4	14.3
1/4	6	1/2	S-AN4N8	42.7	4.4	22.2
5/16	8	1/8	S-AN5N2	31.0	4.8	14.3
5/16	8	1/4	S-AN5N4	36.1	6.0	14.3
3/8	10	1/8	S-AN6N2	31.8	4.8	15.9
3/8	10	1/4	S-AN6N4	36.3	7.1	15.9
3/8	10	3/8	S-AN6N6	36.3	7.5	19.1
3/8	10	1/2	S-AN6N8	42.5	7.5	22.2
1/2	12	1/4	S-AN8N4	38.9	7.1	20.6
1/2	12	3/8	S-AN8N6	38.9	9.9	20.6
1/2	12	1/2	S-AN8N8	45.5	9.9	22.2
1/2	12	3/4	S-AN8N12	47.0	9.9	28.6
5/8	16	3/8	S-AN10N6	43.1	9.9	23.8
5/8	16	1/2	S-AN10N8	48.0	12.3	23.8
5/8	16	3/4	S-AN10N12	49.5	12.3	28.6
3/4	18	3/4	S-AN12N12	52.3	15.5	28.6
3/4	18	1	S-AN12N6	57.1	15.5	34.9
7/8	22	3/4	S-AN14N12	53.1	18.3	31.8
1	25	3/4	S-AN16N12	53.5	18.3	34.9
1	25	1	S-AN16N16	58.4	21.5	34.9
1 1/4	32	1	S-AN20N16	61.5	23.8	42.9
1 1/4	32	1 1/4	S-AN20N20	62.2	27.5	42.9
1 1/2	38	1 1/4	S-AN24N20	68.1	31.7	50.8
1 1/2	38	1 1/2	S-AN24N24	68.1	33.0	50.8
2	50	2	S-AN32N32	79.0	45.0	66.7

Dimensions are for reference only, subject to change.

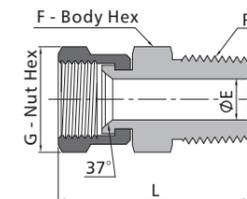
## E-JOE

## Male Connectors



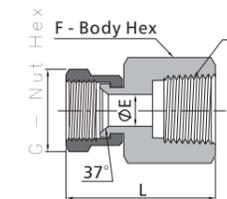
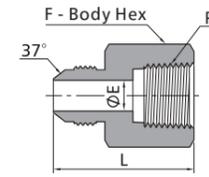
## SAE 070120

Tube O.D.		P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm		
in.	mm			L	E	F
1/8	3	5/16-24	S-AN2ST5	26.9	1.6	11.1
3/16	4	3/8-24	S-AN3ST6	27.9	3.2	12.7
1/4	6	7/16-20	S-AN4ST7	31.2	4.4	14.3
1/4	6	1/2-20	S-AN4ST8	31.2	4.4	15.9
1/4	6	9/16-18	S-AN4ST9	33.0	4.4	17.5
1/4	6	3/4-16	S-AN4ST12	34.8	4.4	22.2
5/16	8	1/2-20	S-AN5ST8	31.2	6.0	15.9
3/8	10	9/16-18	S-AN6ST9	33.0	7.5	17.5
3/8	10	3/4-16	S-AN6ST12	35.1	7.5	22.2
3/8	10	7/8-14	S-AN6ST14	38.1	7.5	25.4
1/2	12	9/16-18	S-AN8ST9	36.6	7.5	20.6
1/2	12	3/4-16	S-AN8ST12	37.6	9.9	22.2
1/2	12	7/8-14	S-AN8ST14	40.6	9.9	25.4
1/2	12	1 1/16-12	S-AN8ST17	44.7	9.9	31.8
5/8	16	3/4-16	S-AN10ST12	40.6	10.7	23.8
5/8	16	7/8-14	S-AN10ST14	43.2	12.3	25.4
5/8	16	1 1/16-12	S-AN10ST17	47.2	12.3	31.8
3/4	18	3/4-16	S-AN12ST12	45.2	10.7	28.6
3/4	18	7/8-14	S-AN12ST14	46.4	12.7	28.6
3/4	18	1 1/16-12	S-AN12ST17	50.0	15.5	31.8
3/4	18	1 5/16-12	S-AN12ST21	50.8	15.5	38.1
7/8	22	1 3/16-12	S-AN14ST19	50.5	18.3	34.9
7/8	22	1 5/16-12	S-AN14ST21	51.3	18.3	38.1
1	25	1 1/16-12	S-AN16ST17	51.1	16.7	34.9
1	25	1 3/16-12	S-AN16ST19	51.8	18.3	34.9
1	25	1 5/16-12	S-AN16ST21	51.8	21.5	38.1



Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, mm			
in.	mm			L	E	G	F
1/8	3	1/8	S-AS2N2	30.0	1.6	11.1	11.1
3/16	4	1/8	S-AS3N2	32.0	3.2	12.7	11.1
1/4	6	1/8	S-AS4N2	34.2	4.4	14.3	12.7
5/16	8	1/8	S-AS5N2	35.0	6.0	15.9	14.3
3/8	10	1/4	S-AS6N4	40.2	7.5	17.5	15.9
1/2	12	3/8	S-AS8N6	42.7	9.9	22.2	20.6
5/8	16	1/2	S-AS10N8	51.3	12.3	25.4	23.8
3/4	18	3/4	S-AS12N12	54.5	15.5	31.8	28.6
7/8	22	3/4	S-AS14N12	56.0	18.0	34.9	31.8
1	25	1	S-AS16N16	63.7	21.5	38.1	34.9
1 1/4	32	1 1/4	S-AS20N20	68.9	27.5	50.8	42.9
1 1/2	38	1 1/2	S-AS24N24	77.6	33.0	57.2	50.8
2	50	2	S-AS32N32	92.9	45.0	73.0	66.7

## Female Connectors



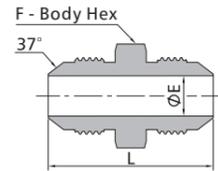
## E-JOE

## SAE 070103

Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, mm		
in.	mm			L	E	F
1/8	3	1/8	S-AN2FN2	28.4	1.6	14.3
3/16	4	1/8	S-AN3FN2	28.7	3.2	14.3
1/4	6	1/8	S-AN4FN2	30.2	4.4	14.3
1/4	6	1/4	S-AN4FN4	35.3	4.4	19.1
5/16	8	1/8	S-AN5FN2	29.7	6.0	14.3
5/16	8	1/4	S-AN5FN4	35.3	6.0	19.1
3/8	10	1/4	S-AN6FN4	35.6	7.5	19.1
3/8	10	3/8	S-AN6FN6	37.1	7.5	22.2
1/2	12	3/8	S-AN8FN6	39.6	9.9	22.2
1/2	12	1/2	S-AN8FN8	45.6	9.9	28.6
5/8	16	1/2	S-AN10FN8	48.0	12.3	28.6
3/4	18	1/2	S-AN12FN8	52.1	15.5	28.6
3/4	18	3/4	S-AN12FN12	52.3	15.5	34.9
7/8	22	3/4	S-AN14FN12	52.3	18.3	34.9
1	25	1	S-AN16FN16	59.7	21.5	41.3
1 1/4	32	1 1/4	S-AN20FN20	63.2	27.5	50.8
1 1/2	38	1 1/2	S-AN24FN24	66.5	33.0	60.3
2	50	2	S-AN32FN32	75.4	45.0	73.0

Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, mm			
in.	mm			L	E	G	F
1/8	3	1/8	S-AS2FN2	36.1	1.6	11.1	14.3
3/16	4	1/8	S-AS3FN2	37.3	3.2	12.7	14.3
1/4	6	1/8	S-AS4FN2	39.7	4.4	14.3	14.3
5/16	8	1/8	S-AS5FN2	40.5	6.0	15.9	14.3
3/8	10	1/4	S-AS6FN4	45.8	7.5	17.5	19.1
1/2	12	3/8	S-AS8FN6	47.0	9.9	22.2	22.2
5/8	16	1/2	S-AS10FN8	51.6	12.3	25.4	28.6
3/4	18	3/4	S-AS12FN12	66.6	15.5	31.8	34.9
7/8	22	3/4	S-AS14FN12	67.8	18.0	34.9	34.9
1	25	1	S-AS16FN16	73.5	21.5	38.1	41.3
1 1/4	32	1 1/4	S-AS20FN20	78.1	27.5	50.8	50.8
1 1/2	38	1 1/2	S-AS24FN24	86.7	33.0	60.3	60.3
2	50	2	S-AS32FN32	89.3	45.0	73.0	66.7

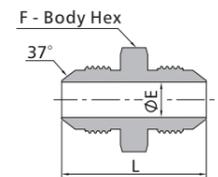
## Unions



## SAE 070101

Tube O.D.		Basic Ordering Number	Dimension, mm		
in.	mm		L	E	F
1/8	3	S-AN2	29.7	1.6	11.1
3/16	4	S-AN3	31.2	3.2	11.1
1/4	6	S-AN4	34.8	4.4	12.7
5/16	8	S-AN5	34.8	6.0	14.3
3/8	10	S-AN6	35.8	7.5	15.9
1/2	12	S-AN8	41.1	9.9	20.6
5/8	16	S-AN10	47.8	12.3	23.8
3/4	18	S-AN12	54.9	15.5	28.6
7/8	22	S-AN14	56.1	18.3	31.8
1	25	S-AN16	57.2	21.5	34.9
1 1/4	32	S-AN20	61.7	27.5	42.9
1 1/2	38	S-AN24	69.8	33.0	50.8
2	50	S-AN32	86.4	45.0	66.7

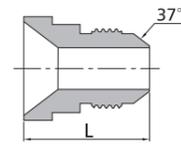
## Large Hex Unions



## SAE 070119

Tube O.D.		Basic Ordering Number	Dimension, mm		
in.	mm		L	E	F
1/8	3	HS-AN2	29.7	1.6	14.3
3/16	4	HS-AN3	31.2	3.2	15.9
1/4	6	HS-AN4	34.8	4.4	17.5
5/16	8	HS-AN5	34.8	6.0	19.1
3/8	10	HS-AN6	35.8	7.5	20.6
1/2	12	HS-AN8	41.1	9.9	25.4
5/8	16	HS-AN10	47.8	12.3	28.6
3/4	18	HS-AN12	54.9	15.5	34.9
7/8	22	HS-AN14	56.1	18.3	38.1
1	25	HS-AN16	57.2	21.5	41.3
1 1/4	32	HS-AN20	61.7	27.5	47.6
1 1/2	38	HS-AN24	69.8	33.0	54.0
2	50	HS-AN32	86.4	45.0	69.9

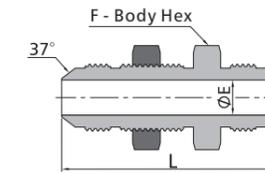
## Reducing Adapters



## SAE 070123

Tube O.D.		Basic Ordering Number	L (mm)
in. - mm	in. - mm		
3/8 - 10	1/4 - 6	RA-AN6AN4	24.6
1/2 - 12	1/4 - 6	RA-AN8AN4	25.4
1/2 - 12	3/8 - 10	RA-AN8AN6	25.4
5/8 - 16	1/4 - 6	RA-AN10AN4	26.2
5/8 - 16	3/8 - 10	RA-AN10AN6	26.2
3/4 - 18	1/4 - 6	RA-AN12AN4	27.7
3/4 - 18	3/8 - 10	RA-AN12AN6	27.7
3/4 - 18	1/2 - 12	RA-AN12AN8	30.2
7/8 - 22	3/8 - 10	RA-AN14AN6	28.7
7/8 - 22	5/8 - 16	RA-AN14AN10	33.7
1 - 25	1/4 - 6	RA-AN16AN4	31.0
1 - 25	3/8 - 10	RA-AN16AN6	31.0
1 - 25	1/2 - 12	RA-AN16AN8	32.3
1 - 25	5/8 - 16	RA-AN16AN10	35.1
1 - 25	3/4 - 18	RA-AN16AN12	37.3
1 1/4 - 32	3/4 - 18	RA-AN20AN12	38.8
1 1/4 - 32	1 - 25	RA-AN20AN16	40.3
1 1/2 - 38	1/2 - 12	RA-AN24AN8	39.6
1 1/2 - 38	3/4 - 18	RA-AN24AN12	41.4
1 1/2 - 38	1 - 25	RA-AN24AN16	41.4
2 - 50	1 1/2 - 38	RA-AN32AN24	48.5

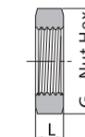
## Bulkhead Unions



## SAE 070601

Tube O.D.		Basic Ordering Number	Dimension, mm		
in.	mm		L	E	F
3/16	4	HS-BAN3	48.3	3.2	15.9
1/4	6	HS-BAN4	52.6	4.4	17.5
5/16	8	HS-BAN5	52.6	6.0	19.1
3/8	10	HS-BAN6	55.4	7.5	20.6
1/2	12	HS-BAN8	62.0	9.9	25.4
5/8	16	HS-BAN10	69.6	12.3	28.6
3/4	18	HS-BAN12	78.5	15.5	34.9
7/8	22	HS-BAN14	79.2	18.3	38.1
1	25	HS-BAN16	79.8	21.5	41.3
1 1/4	32	HS-BAN20	84.1	27.5	47.6
1 1/2	38	HS-BAN24	89.4	33.0	54.0
2	50	HS-BAN32	106.7	45.0	69.9

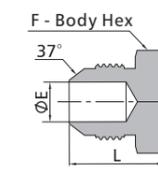
## Bulkhead Lock Nuts



## SAE 070118

Tube O.D.		Basic Ordering Number	Dimension, mm	
in.	mm		L	G
3/16	4	BN-AN3	5.6	15.9
1/4	6	BN-AN4	7.1	17.5
5/16	8	BN-AN5	7.1	19.1
3/8	10	BN-AN6	6.9	20.6
1/2	12	BN-AN8	7.9	25.4
5/8	16	BN-AN10	9.1	28.6
3/4	18	BN-AN12	10.4	34.9
7/8	22	BN-AN14	10.4	38.1
1	25	BN-AN16	10.4	41.3
1 1/4	32	BN-AN20	10.4	47.6
1 1/2	38	BN-AN24	10.4	54.0
2	50	BN-AN32	10.4	69.9

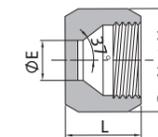
## Tube Plugs



## SAE 070109

Tube O.D.		Basic Ordering Number	Dimension, mm		
in.	mm		L	E	F
1/8	3	HP-AN2	17.8	1.6	11.1
3/16	4	HP-AN3	18.5	3.2	11.1
1/4	6	HP-AN4	20.3	4.4	12.7
5/16	8	HP-AN5	20.3	6.0	14.3
3/8	10	HP-AN6	21.3	7.5	15.9
1/2	12	HP-AN8	23.9	9.9	20.6
5/8	16	HP-AN10	27.9	12.3	23.8
3/4	18	HP-AN12	32.5	15.5	28.6
7/8	22	HP-AN14	33.3	18.3	31.8
1	25	HP-AN16	33.8	21.5	34.9
1 1/4	32	HP-AN20	36.8	27.5	42.9
1 1/2	38	HP-AN24	41.9	33.0	50.8
2	50	HP-AN32	52.1	45.0	66.7

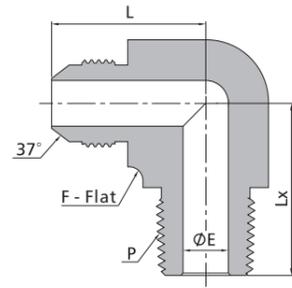
## Tube Caps



## SAE 070112

Tube O.D.		Basic Ordering Number	Dimension, mm		
in.	mm		L	E	G
1/8	3	TN-AN2	12.7	1.6	9.5
3/16	4	TN-AN3	14.3	3.2	11.1
1/4	6	TN-AN4	15.1	4.4	14.3
5/16	8	TN-AN5	15.5	6.0	15.9
3/8	10	TN-AN6	15.9	7.5	20.6
1/2	12	TN-AN8	19.1	9.9	22.2
5/8	16	TN-AN10	21.4	12.3	25.4
3/4	18	TN-AN12	23.0	15.5	31.8
7/8	22	TN-AN14	24.6	18.3	34.9
1	25	TN-AN16	25.8	21.5	38.1
1 1/4	32	TN-AN20	27.0	27.5	50.8
1 1/2	38	TN-AN24	30.2	33.0	57.2
2	50	TN-AN32	36.5	45.0	73.0

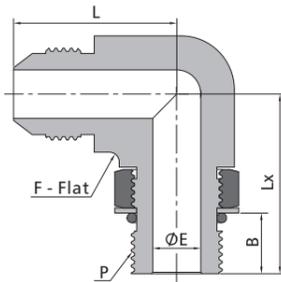
## Male Elbows



## SAE 070202

Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, mm			
in.	mm			L	E	F	Lx
1/8	3	1/8	L-AN2N2	19.6	1.6	11.1	18.3
3/16	4	1/8	L-AN3N2	21.1	3.2	11.1	18.3
1/4	6	1/8	L-AN4N2	22.6	4.4	12.7	19.8
1/4	6	1/4	L-AN4N4	26.9	4.4	14.3	27.7
5/16	8	1/8	L-AN5N2	24.1	4.8	14.3	19.8
5/16	8	1/4	L-AN5N4	26.9	6.0	14.3	27.7
3/8	10	1/8	L-AN6N2	26.9	4.8	14.3	22.8
3/8	10	1/4	L-AN6N4	26.9	7.1	14.3	27.7
3/8	10	3/8	L-AN6N6	29.0	7.5	17.5	31.0
3/8	10	1/2	L-AN6N8	31.2	7.5	20.6	37.3
1/2	12	1/4	L-AN8N4	31.8	7.1	20.6	31.0
1/2	12	3/8	L-AN8N6	31.8	9.9	20.6	31.0
1/2	12	1/2	L-AN8N8	33.7	9.9	20.6	37.3
1/2	12	3/4	L-AN8N12	36.0	9.9	25.4	40.4
5/8	16	3/8	L-AN10N6	36.8	9.9	20.6	33.0
5/8	16	1/2	L-AN10N8	36.8	12.3	20.6	37.3
5/8	16	3/4	L-AN10N12	38.9	12.3	25.4	40.4
3/4	18	3/4	L-AN12N12	42.2	15.5	27.0	40.4
3/4	18	1	L-AN12N16	42.2	15.5	31.8	50.4
7/8	22	3/4	L-AN14N12	45.7	18.3	31.8	42.9
1	25	3/4	L-AN16N12	46.0	18.3	34.9	45.2
1	25	1	L-AN16N16	46.0	21.5	34.9	50.0
1 1/4	32	1	L-AN20N16	52.3	23.8	42.9	59.6
1 1/4	32	1 1/4	L-AN20N20	52.3	27.5	42.9	60.5
1 1/2	38	1 1/2	L-AN24N24	59.2	33.0	50.8	67.1
2	50	2	L-AN32N32	77.7	45.0	63.5	76.2

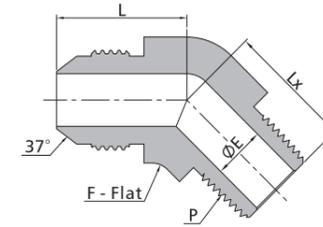
## Adjustable Male Elbows



## SAE 070220

Tube O.D.		P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm				
in.	mm			L	E	F	Lx	B
1/8	3	5/16-24	L-AN2OST5	19.6	1.6	11.1	23.9	8.4
3/16	4	3/8-34	L-AN3OST6	21.1	3.2	11.1	23.9	8.4
1/4	6	7/16-20	L-AN4OST7	22.6	4.4	12.7	26.2	9.8
5/16	8	1/2-20	L-AN5OST8	24.1	6.0	14.3	28.7	9.8
3/8	10	9/16-18	L-AN6OST9	26.9	7.5	15.9	31.8	11.0
1/2	12	3/4-16	L-AN10OST14	31.8	9.9	20.6	36.8	12.5
5/8	16	7/8-14	L-AN12OST17	36.8	12.3	23.8	43.2	14.2
3/4	18	1 1/16-12	L-AN12OST17	42.2	15.5	31.8	49.3	16.5
7/8	22	1 3/16-12	L-AN14OST19	45.7	18.3	31.8	50.8	16.5
1	25	1 5/16-12	L-N16OST21	46.0	21.5	34.9	52.1	16.5
1 1/4	32	1 5/8-12	L-AN16OST21	52.3	27.5	42.9	57.2	16.5
1 1/2	38	1 7/8-12	L-AN20OST26	59.2	33.0	50.8	60.7	16.5
2	50	2 1/2-12	L-AN24OST30	77.7	45.0	63.5	73.4	16.5
			L-AN32OST40					

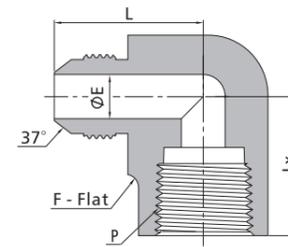
## 45° Male Elbows



## SAE 070302

Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, mm			
in.	mm			L	E	F	Lx
1/8	3	1/8	R-AN2N2	17.5	1.6	11.1	13.2
3/16	4	1/8	R-AN3N2	17.5	3.2	11.1	13.2
1/4	6	1/8	R-AN4N2	18.3	4.4	12.7	16.3
5/16	8	1/8	R-AN5N2	19.6	4.8	14.3	16.3
3/8	10	1/4	R-AN6N4	21.1	7.1	14.3	21.8
1/2	12	3/8	R-AN8N6	24.9	9.9	17.5	24.1
5/8	16	1/2	R-AN10N8	28.2	12.3	20.6	29.7
3/4	18	3/4	R-AN12N12	32.5	15.5	27.0	30.5
7/8	22	3/4	R-AN14N12	36.8	18.3	31.8	33.0
1	25	1	R-AN16N16	37.3	21.5	34.9	37.6
1 1/4	32	1 1/4	R-AN20N20	40.4	27.5	42.9	42.4
1 1/2	38	1 1/2	R-AN24N24	45.2	33.0	50.8	45.0
2	50	2	R-AN32N32	56.4	45.0	63.5	53.6

## Female Elbows

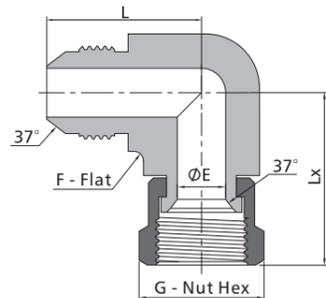
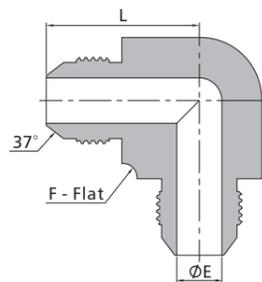


## SAE 070203

Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, mm			
in.	mm			L	E	F	Lx
1/8	3	1/8	L-AN2FN2	25.4	1.6	14.3	16.8
3/16	4	1/8	L-AN3FN2	26.2	3.2	14.3	16.8
1/4	6	1/8	L-AN4FN2	27.4	4.4	14.3	16.8
1/4	6	1/4	L-AN4FN4	30.9	4.4	20.6	22.4
5/16	8	1/8	L-AN5FN2	27.4	6.0	14.3	16.8
5/16	8	1/4	L-AN5FN4	30.9	6.0	20.6	22.4
3/8	10	1/8	L-AN6FN2	26.9	7.5	15.9	16.8
3/8	10	1/4	L-AN6FN4	31.2	7.5	20.6	22.4
3/8	10	3/8	L-AN6FN6	33.2	7.5	23.8	25.9
1/2	12	1/4	L-AN8F4	31.6	9.9	20.6	22.4
1/2	12	3/8	L-AN8FN6	36.1	9.9	23.8	25.9
1/2	12	1/2	L-AN8FN8	36.1	9.9	27.0	31.2
5/8	16	1/2	L-AN10FN8	41.7	12.3	27.0	31.2
3/4	18	1/2	L-AN12FN8	42.1	15.5	31.8	31.2
3/4	18	3/4	L-AN12FN12	48.0	15.5	34.9	34.5
7/8	22	3/4	L-AN14FN12	47.2	18.3	34.9	36.1
1	25	1	L-AN16FN16	55.1	21.5	42.9	41.1
1 1/4	32	1 1/4	L-AN20FN20	59.2	27.5	50.8	43.2
1 1/2	38	1 1/2	L-AN24FN24	73.4	33.0	63.5	52.8
2	50	2	L-AN32AN32	83.8	45.0	63.5	60.7

## E-JOE

## Union Elbows



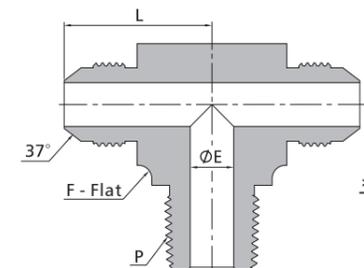
## SAE 070201

Tube O.D.		Basic Ordering Number	Dimension, mm		
in.	mm		L	E	F
1/8	3	L-AN2	19.6	1.6	11.1
3/16	4	L-AN3	21.1	3.2	11.1
1/4	6	L-AN4	22.6	4.4	12.7
5/16	8	L-AN5	24.1	6.0	14.3
3/8	10	L-AN6	26.9	7.5	14.3
1/2	12	L-AN8	31.8	9.9	20.6
5/8	16	L-AN10	36.8	12.3	20.6
3/4	18	L-AN12	42.2	15.5	27.0
7/8	22	L-AN14	45.7	18.3	31.8
1	25	L-AN16	46.0	21.5	34.9
1 1/4	32	L-AN20	52.3	27.5	42.9
1 1/2	38	L-AN24	59.2	33.0	50.8
2	50	L-AN32	77.7	45.0	63.5

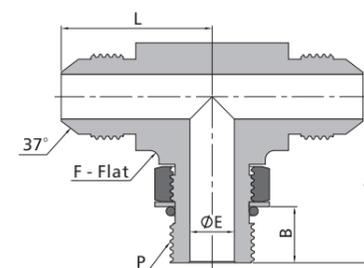
## SAE 070221

Tube O.D.		Basic Ordering Number	Dimension, mm				
in.	mm		L	E	F	Lx	G
1/8	3	L-AN2AS2	19.6	1.6	11.1	24.6	11.1
3/16	4	L-AN3AS3	21.1	3.2	11.1	25.4	12.7
1/4	6	L-AN4AS4	22.6	4.4	12.7	25.4	14.3
5/16	8	L-AN5AS5	24.1	6.0	14.3	26.9	15.9
3/8	10	L-AN6AS6	26.9	7.5	14.3	31.8	17.5
1/2	12	L-AN8AS8	31.8	9.9	20.6	35.1	22.2
5/8	16	L-AN10AS10	36.8	12.3	20.6	41.1	25.4
3/4	18	L-AN12AS12	42.2	15.5	27.0	44.4	31.8
7/8	22	L-AN14AS14	45.7	18.3	31.8	45.2	34.9
1	25	L-AN16AS16	46.0	21.5	34.9	50.8	38.1
1 1/4	32	L-AN20AS20	52.3	27.5	42.9	58.7	50.8
1 1/2	38	L-AN24AS24	59.2	33.0	50.8	65.8	60.3
2	50	L-AN32AS32	77.7	45.0	63.5	85.9	73.0

## Male Branch Tees



## Adjustable Male Branch Tees



## E-JOE

## SAE 070425

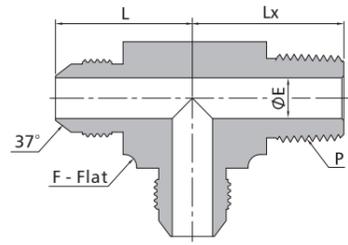
Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, mm			
in.	mm			L	E	F	Lx
1/8	3	1/8	T-AN2AN2N2	19.6	1.6	11.1	18.3
3/16	4	1/8	T-AN3AN3N2	21.1	3.2	11.1	18.3
1/4	6	1/8	T-AN4AN4N2	22.6	4.4	12.7	19.8
1/4	6	1/4	T-AN4AN4N4	26.9	4.4	14.3	27.7
5/16	8	1/8	T-AN5AN5N2	24.1	4.8	14.3	19.8
5/16	8	1/4	T-AN5AN5N4	26.9	6.0	14.3	27.7
3/8	10	1/8	T-AN6AN6N2	26.9	4.8	14.3	22.8
3/8	10	1/4	T-AN6AN6N4	26.9	7.1	14.3	27.7
3/8	10	3/8	T-AN6AN6N6	29.0	7.5	17.5	31.0
3/8	10	1/2	T-AN6AN6N8	31.2	7.5	20.6	37.3
1/2	12	1/4	T-AN8AN8N4	31.8	7.1	20.6	31.0
1/2	12	3/8	T-AN8AN8N6	31.8	9.9	20.6	31.0
1/2	12	1/2	T-AN8AN8N8	33.7	9.9	20.6	37.3
1/2	12	3/4	T-AN8AN8N12	36.0	9.9	25.4	40.4
5/8	16	3/8	T-AN10AN10N6	36.8	9.9	20.6	33.0
5/8	16	1/2	T-AN10AN10N8	36.8	12.3	20.6	37.3
5/8	16	3/4	T-AN10AN10N12	38.9	12.3	25.4	40.4
3/4	18	3/4	T-AN12AN12N12	42.2	15.5	27.0	40.4
3/4	18	1	T-AN12AN12N16	42.2	15.5	31.8	50.4
7/8	22	3/4	T-AN14AN14N12	45.7	18.3	31.8	42.9
1	25	3/4	T-AN16AN16N12	46.0	18.3	34.9	45.2
1	25	1	T-AN16AN16N16	46.0	21.5	34.9	50.0
1 1/4	32	1	T-AN20AN20N16	52.3	23.8	42.9	59.6
1 1/4	32	1 1/4	T-AN20AN20N2	52.3	27.5	42.9	60.5
1 1/2	38	1 1/2	T-AN24AN24N24	59.2	33.0	50.8	67.1
2	50	2	T-AN32AN32N32	77.7	45.0	63.5	76.2

## SAE 070429

Tube O.D.		P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm				
in.	mm			L	E	F	Lx	B
1/8	3	5/16-24	T-AN2AN2OST5	19.6	1.6	11.1	23.9	8.4
3/16	4	3/8-34	T-AN3AN3OST6	21.1	3.2	11.1	23.9	8.4
1/4	6	7/16-20	T-AN4AN4OST7	22.6	4.4	12.7	26.2	9.8
5/16	8	1/2-20	T-AN5AN5OST8	24.1	6.0	14.3	28.7	9.8
3/8	10	9/16-18	T-AN6AN6OST9	26.9	7.5	15.9	31.8	11.0
1/2	12	3/4-16	T-AN8AN8OST12	31.8	9.9	20.6	36.8	12.5
5/8	16	7/8-14	T-AN10AN10OST14	36.8	12.3	23.8	43.2	14.2
3/4	18	1 1/16-12	T-AN12AN12OST17	42.2	15.5	31.8	49.3	16.5
7/8	22	1 3/16-12	T-AN14AN14OST19	45.7	18.3	31.8	50.8	16.5
1	25	1 5/16-12	T-AN16AN16OST21	46.0	21.5	34.9	52.1	16.5
1 1/4	32	1 5/8-12	T-AN20AN20OST26	52.3	27.5	42.9	57.2	16.5
1 1/2	38	1 7/8-12	T-AN24AN24OST30	59.2	33.0	50.8	60.7	16.5
2	50	2 1/2-12	T-AN32AN32OST40	77.7	45.0	63.5	73.4	16.5

E-JOE

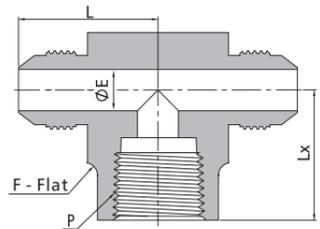
Male Run Tees



SAE 070424

Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension,mm			
in.	mm			L	E	F	Lx
1/8	3	1/8	T-AN2N2AN2	19.6	1.6	11.1	18.3
3/16	4	1/8	T-AN3N2AN3	21.1	3.2	11.1	18.3
1/4	6	1/8	T-AN4N2AN4	22.6	4.4	12.7	19.8
1/4	6	1/4	T-AN4N4AN4	26.9	4.4	14.3	27.7
5/16	8	1/8	T-AN5N2AN5	24.1	4.8	14.3	19.8
5/16	8	1/4	T-AN5N4AN5	26.9	6.0	14.3	27.7
3/8	10	1/8	T-AN6N2AN6	26.9	4.8	14.3	22.8
3/8	10	1/4	T-AN6N4AN6	26.9	7.1	14.3	27.7
3/8	10	3/8	T-AN6N6AN6	29.0	7.5	17.5	31.0
3/8	10	1/2	T-AN6N8AN6	31.2	7.5	20.6	37.3
1/2	12	1/4	T-AN8N4AN8	31.8	7.1	20.6	31.0
1/2	12	3/8	T-AN8N6AN8	31.8	9.9	20.6	31.0
1/2	12	1/2	T-AN8N8AN8	33.7	9.9	20.6	37.3
1/2	12	3/4	T-AN8N12AN8	36.0	9.9	25.4	40.4
5/8	16	3/8	T-AN10N6AN10	36.8	9.9	20.6	33.0
5/8	16	1/2	T-AN10N8N10	36.8	12.3	20.6	37.3
5/8	16	3/4	T-AN10N12AN10	38.9	12.3	25.4	40.4
3/4	18	3/4	T-AN12N12AN12	42.2	15.5	27.0	40.4
3/4	18	1	T-AN12N16AN12	42.2	15.5	31.8	50.4
7/8	22	3/4	T-AN14N12AN14	45.7	18.3	31.8	42.9
1	25	3/4	T-AN16N12AN16	46.0	18.3	34.9	45.2
1	25	1	T-AN16N16AN16	46.0	21.5	34.9	50.0
1 1/4	32	1	T-AN20N16AN20	52.3	23.8	42.9	59.6
1 1/4	32	1 1/4	T-AN20N20AN20	52.3	27.5	42.9	60.5
1 1/2	38	1 1/2	T-AN24N24AN24	59.2	33.0	50.8	67.1
2	50	2	T-AN32N32AN32	77.7	45.0	63.5	76.2

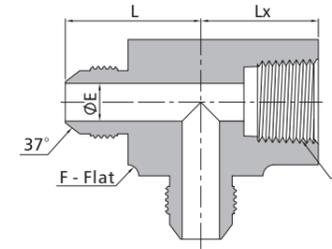
Female Branch Tees



SAE 070427

Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension,mm			
in.	mm			L	E	F	Lx
1/8	3	1/8	T-AN2AN2FN2	25.4	1.6	14.3	16.8
3/16	4	1/8	T-AN3AN3FN2	26.2	3.2	14.3	16.8
1/4	6	1/8	T-AN4AN4FN2	27.4	4.4	14.3	16.8
1/4	6	1/4	T-AN4AN4FN4	30.9	4.4	20.6	22.4
5/16	8	1/8	T-AN5AN5FN2	27.4	6.0	14.3	16.8
5/16	8	1/4	T-AN5AN5FN4	30.9	6.0	20.6	22.4
3/8	10	1/8	T-AN6AN6FN2	26.9	7.5	15.9	16.8
3/8	10	1/4	T-AN6AN6FN4	31.2	7.5	20.6	22.4
3/8	10	3/8	T-AN6AN6FN6	33.2	7.5	23.8	25.9
1/2	12	1/4	T-AN8AN8FN4	31.6	9.9	20.6	22.4
1/2	12	3/8	T-AN8AN8FN6	36.1	9.9	23.8	25.9
1/2	12	1/2	T-AN8AN8FN8	36.1	9.9	27.0	31.2
5/8	16	1/2	T-AN10AN10FN8	41.7	12.3	27.0	31.2
3/4	18	1/2	T-AN12AN12FN8	42.1	15.5	31.8	31.2
3/4	18	3/4	T-AN12AN12FN12	48.0	15.5	34.9	34.5
7/8	22	3/4	T-AN14AN14FN12	47.2	18.3	34.9	36.1
1	25	1	T-AN16AN16FN16	55.1	21.5	42.9	41.1
1 1/4	32	1 1/4	T-AN20AN20FN20	59.2	27.5	50.8	43.2
1 1/2	38	1 1/2	T-AN24AN24FN24	73.4	33.0	63.5	52.8
2	50	2	T-AN32AN32FN32	83.8	45.0	63.5	60.7

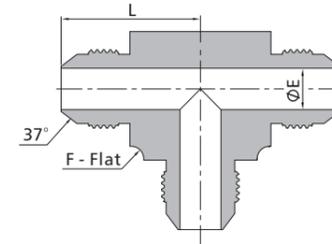
Female Run Tees



SAE 070426

Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension,mm			
in.	mm			L	E	F	Lx
1/8	3	1/8	T-AN2FN2AN2	25.4	1.6	14.3	16.8
3/16	4	1/8	T-AN3FN2AN3	26.2	3.2	14.3	16.8
1/4	6	1/8	T-AN4FN2AN4	27.4	4.4	14.3	16.8
1/4	6	1/4	T-AN4FN4AN4	30.9	4.4	20.6	22.4
5/16	8	1/8	T-AN5FN2AN5	27.4	6.0	14.3	16.8
5/16	8	1/4	T-AN5FN4AN5	30.9	6.0	20.6	22.4
3/8	10	1/8	T-AN6FN2AN6	26.9	7.5	15.9	16.8
3/8	10	1/4	T-AN6FN4AN6	31.2	7.5	20.6	22.4
3/8	10	3/8	T-AN6FN6AN6	33.2	7.5	23.8	25.9
1/2	12	1/4	T-AN8FN4AN8	31.6	9.9	20.6	22.4
1/2	12	3/8	T-AN8FN6AN8	36.1	9.9	23.8	25.9
1/2	12	1/2	T-AN8FN8AN8	36.1	9.9	27.0	31.2
5/8	16	1/2	T-AN10FN8AN10	41.7	12.3	27.0	31.2
3/4	18	1/2	T-AN12FN8AN12	42.1	15.5	31.8	31.2
3/4	18	3/4	T-AN12FN12AN12	48.0	15.5	34.9	34.5
7/8	22	3/4	T-AN14FN12AN14	47.2	18.3	34.9	36.1
1	25	1	T-AN16FN16AN16	55.1	21.5	42.9	41.1
1 1/4	32	1 1/4	T-AN20FN20AN20	59.2	27.5	50.8	43.2
1 1/2	38	1 1/2	T-AN24FN24AN24	73.4	33.0	63.5	52.8
2	50	2	T-AN32FN32AN32	83.8	45.0	63.5	60.7

Union Tees



SAE 070401

Tube O.D.		Basic Ordering Number	Dimension,mm		
in.	mm		L	E	F
1/8	3	T-AN2	19.6	1.6	11.1
3/16	4	T-AN3	21.1	3.2	11.1
1/4	6	T-AN4	22.6	4.4	12.7
5/16	8	T-AN5	24.1	6.0	14.3
3/8	10	T-AN6	26.9	7.5	14.3
1/2	12	T-AN8	31.8	9.9	20.6
5/8	16	T-AN10	36.8	12.3	20.6
3/4	18	T-AN12	42.2	15.5	27.0
7/8	22	T-AN14	45.7	18.3	31.8
1	25	T-AN16	46.0	21.5	34.9
1 1/4	32	T-AN20	52.3	27.5	42.9
1 1/2	38	T-AN24	59.2	33.0	50.8
2	50	T-AN32	77.7	45.0	63.5

E-JOE

