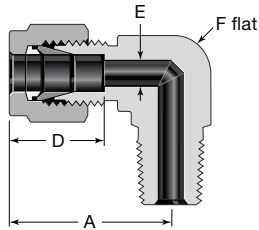


90° Elbows

Male



See page 8 for thread specifications.

NPT

Tube OD	NPT Size	Basic Ordering Number	Dimensions			
			A	D	E ^①	F
Dimensions, in.						
1/16	1/16 1/8	-100-2-1 -100-2-2	0.75	0.34	0.05	7/16
1/8	1/16	-200-2-1	0.93	0.50	0.09	7/16
	1/8	-200-2-2	0.93			7/16
	1/4	-200-2-4	0.97			1/2
3/16	1/8	-300-2-2	1.00	0.54	0.12	1/2
	1/4	-300-2-4				
1/4	1/16	-400-2-1	1.06	0.60	0.12	1/2
	1/8	-400-2-2			0.19	1/2
	1/4	-400-2-4			0.19	1/2
	3/8	-400-2-6			0.19	11/16
	1/2	-400-2-8			0.19	13/16
5/16	1/8	-500-2-2	1.13	0.64	0.19	9/16
	1/4	-500-2-4			0.25	9/16
	3/8	-500-2-6			0.25	11/16
3/8	1/8	-600-2-2	1.20	0.66	0.19	5/8
	1/4	-600-2-4			0.28	5/8
	3/8	-600-2-6			0.28	11/16
	1/2	-600-2-8			0.28	13/16
	3/4	-600-2-12			0.28	1 1/16
1/2	1/4	-810-2-4	1.42	0.90	0.28	13/16
	3/8	-810-2-6			0.38	13/16
	1/2	-810-2-8			0.41	13/16
	3/4	-810-2-12			0.41	1 1/16
5/8	3/8	-1010-2-6	1.50	0.96	0.38	15/16
	1/2	-1010-2-8			0.47	15/16
	3/4	-1010-2-12			0.50	1 1/16
3/4	1/2	-1210-2-8	1.57	0.96	0.47	1 1/16
	3/4	-1210-2-12			0.62	
7/8	3/4	-1410-2-12	1.76	1.02	0.62	1 3/8
1	3/4	-1610-2-12	1.93	1.23	0.62	1 3/8
	1	-1610-2-16			0.88	
1 1/4	1 1/4	-2000-2-20	2.67	1.62	1.09	1 11/16
1 1/2	1 1/2	-2400-2-24	3.10	1.97	1.34	2
2	2	-3200-2-32	4.22	2.66	1.81	2 3/4

① The E dimension is the minimum nominal opening. These fittings may have a larger opening at the pipe/straight thread end.

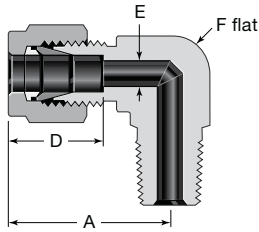
Tube OD	NPT Size in.	Basic Ordering Number	Dimensions			
			A	D	E ^①	F, in.
Dimensions, mm						
3	1/8	-3M0-2-2	23.6	12.9	2.4	7/16
	1/4	-3M0-2-4	24.6			1/2
4	1/8	-4M0-2-2	25.4	13.7	2.4	1/2
	1/4	-4M0-2-4				
6	1/8	-6M0-2-2	27.0	15.3	4.8	1/2
	1/4	-6M0-2-4				27.0
	3/8	-6M0-2-6				29.8
	1/2	-6M0-2-8				31.8
8	1/8	-8M0-2-2	28.8	16.2	4.8	9/16
	1/4	-8M0-2-4				28.8
	3/8	-8M0-2-6				30.6
	1/2	-8M0-2-8				32.6
10	1/8	-10M0-2-2	31.5	17.2	4.8	11/16
	1/4	-10M0-2-4				31.5
	3/8	-10M0-2-6				31.5
	1/2	-10M0-2-8				33.5
12	1/4	-12M0-2-4	36.0	22.8	7.1	13/16
	3/8	-12M0-2-6				36.0
	1/2	-12M0-2-8				36.0
	3/4	-12M0-2-12				39.8
14	1/2	-14M0-2-8	38.0	24.4	11.1	15/16
15	1/2	-15M0-2-8	38.0	24.4	11.9	15/16
16	3/8	-16M0-2-6	38.0	24.4	9.5	15/16
	1/2	-16M0-2-8				38.0
	3/4	-16M0-2-12				39.8
18	1/2	-18M0-2-8	39.8	24.4	11.9	1 1/16
	3/4	-18M0-2-12				
20	1/2	-20M0-2-8	44.6	26.0	11.9	1 3/8
	3/4	-20M0-2-12				
22	3/4	-22M0-2-12	44.6	26.0	15.9	1 3/8
	1	-22M0-2-16				
25	3/4	-25M0-2-12	49.1	31.3	15.9	1 3/8
	1	-25M0-2-16				
30	1 1/4	-30M0-2-20	69.9	39.6	26.2	46 mm
32	1 1/4	-32M0-2-20	72.3	42.0	27.8	46 mm
38	1 1/2	-38M0-2-24	84.0	49.4	33.7	55 mm

① The E dimension is the minimum nominal opening. These fittings may have a larger opening at the pipe/straight thread end.

Refer to Installation Instructions, beginning on page 62.

90° Elbows

Male



See page 8 for thread specifications.

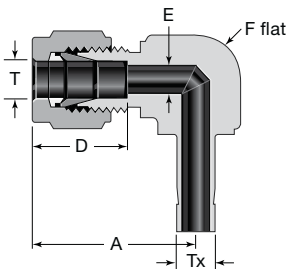
ISO/BSP Tapered Thread (RT)

Tube OD	ISO Thread Size	Basic Ordering Number	Dimensions			
			A	D	E ^①	F
Dimensions, in.						
1/8	1/8	-200-2-2RT	0.83	0.50	0.09	7/16
	1/4	-200-2-4RT	0.97			1/2
1/4	1/8	-400-2-2RT	1.06	0.60	0.19	1/2
	1/4	-400-2-4RT	1.06			1/2
	3/8	-400-2-6RT	1.17			11/16
	1/2	-400-2-8RT	1.25			13/16
5/16	1/4	-500-2-4RT	1.13	0.64	0.25	9/16
3/8	1/8	-600-2-2RT	1.20	0.66	0.28	5/8
	1/4	-600-2-4RT	1.20			5/8
	3/8	-600-2-6RT	1.23			11/16
1/2	1/4	-810-2-4RT	1.42	0.90	0.28	13/16
	3/8	-810-2-6RT			0.38	
	1/2	-810-2-8RT			0.41	
3/4	1/2	-1210-2-8RT	1.57	0.96	0.47	1 3/8
1	1	-1610-2-16RT	1.93	1.23	0.88	1 3/8

① The E dimension is the minimum nominal opening. These fittings may have a larger opening at the pipe/straight thread end.

Tube OD	ISO Thread Size in.	Basic Ordering Number	Dimensions			
			A	D	E ^①	F
Dimensions, mm						
3	1/8	-3M0-2-2RT	23.6	12.9	2.4	7/16
	1/4	-3M0-2-4RT	24.6			1/2
4	1/8	-4M0-2-2RT	25.4	13.7	2.4	1/2
	1/4	-4M0-2-4RT				
6	1/8	-6M0-2-2RT	27.0	15.3	4.8	1/2
	1/4	-6M0-2-4RT	27.0			1/2
	3/8	-6M0-2-6RT	29.8			11/16
	1/2	-6M0-2-8RT	31.8			13/16
8	1/8	-8M0-2-2RT	28.8	16.2	4.8	9/16
	1/4	-8M0-2-4RT	28.8		6.4	9/16
	3/8	-8M0-2-6RT	30.6		6.4	11/16
	1/2	-8M0-2-8RT	32.6		6.4	13/16
10	1/4	-10M0-2-4RT	31.5	17.2	7.1	11/16
	3/8	-10M0-2-6RT	31.5		7.9	11/16
	1/2	-10M0-2-8RT	33.5		7.9	13/16
12	1/8	-12M0-2-2RT	36.0	22.8	4.8	13/16
	1/4	-12M0-2-4RT	36.0		7.1	13/16
	3/8	-12M0-2-6RT	36.0		9.5	13/16
	1/2	-12M0-2-8RT	36.0		9.5	13/16
	3/4	-12M0-2-12RT	39.8		9.5	1 1/16
14	1/2	-14M0-2-8RT	38.1	24.4	11.1	15/16
15	1/2	-15M0-2-8RT	38.1	24.4	11.9	15/16
16	3/8	-16M0-2-6RT	38.0	24.4	9.5	15/16
	1/2	-16M0-2-8RT			11.9	
18	1/2	-18M0-2-8RT	39.8	24.4	11.9	1 1/16
	3/4	-18M0-2-12RT			15.1	
20	1/2	-20M0-2-8RT	44.6	26.0	11.9	1 3/8
	3/4	-20M0-2-12RT			15.9	
22	3/4	-22M0-2-12RT	44.6	26.0	15.9	1 3/8
	1	-22M0-2-16RT			18.3	
25	3/4	-25M0-2-12RT	49.1	31.3	15.9	1 3/8
	1	-25M0-2-16RT			21.8	
28	1	-28M0-2-16RT	64.0	36.6	21.8	41 mm
	1	B-28M0-2-16RT	55.4	31.6	22.2	1 11/16

① The E dimension is the minimum nominal opening. These fittings may have a larger opening at the pipe/straight thread end.



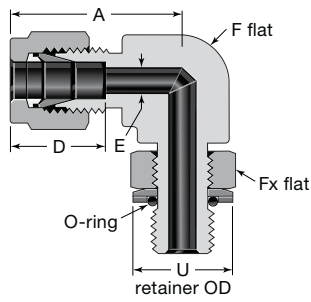
Reducing

Tube OD		Basic Ordering Number	Dimensions			
T	Tx		A	D	E	F, in.
Dimensions, mm						
6	6	-6M0-2R-6M	27.0	15.3	4.6	1/2
12	12	-12M0-2R-12M	38.1	22.8	8.8	15/16

Refer to Installation Instructions, beginning on page 62.

90° Elbows

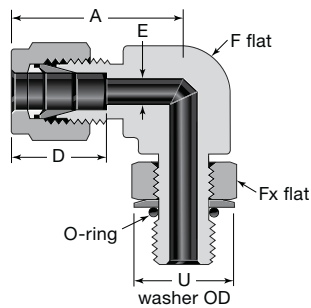
Male



Positionable, ISO/BSP Parallel Thread (PR)

Tube OD	ISO Thread Size in.	Basic Ordering Number	Dimensions					
			A	D	E ^①	F, in.	Fx, in.	U
Dimensions, in.								
1/4	1/8	-400-2-2PR	1.06		0.16	1/2	9/16	0.60
	1/4	-400-2-4PR	1.14	0.60	0.19	5/8	3/4	0.80
3/8	1/4	-600-2-4PR	1.20	0.66	0.23	5/8	3/4	0.80
	3/8	-600-2-6PR	1.31		0.28	13/16	7/8	0.96
1/2	1/4	-810-2-4PR	1.42		0.23	13/16	3/4	0.80
	3/8	-810-2-6PR	1.42	0.90	0.31	13/16	7/8	0.96
	1/2	-810-2-8PR	1.50		0.41	15/16	1 1/16	1.16
5/8	1/2	-1010-2-8PR	1.50	0.96	0.47	15/16	1 1/16	1.16
3/4	1/2	-1210-2-8PR	1.57	0.96	0.47	1 1/16	1 1/16	1.16
	3/4	-1210-2-12PR			0.62		1 3/8	1.43
1	3/4	-1610-2-12PR	1.93	1.23	0.62	1 3/8	1 3/8	1.43
	1	-1610-2-16PR			0.78		1 5/8	1.82
Dimensions, mm								
6	1/8	-6M0-2-2PR	27.0		4.0	1/2	9/16	15.2
	1/4	-6M0-2-4PR	29.0	15.3	4.8	5/8	3/4	20.3
8	1/8	-8M0-2-2PR	28.8		4.0	9/16	9/16	15.2
	1/4	-8M0-2-4PR	29.9	16.2	5.9	5/8	3/4	20.3
10	1/4	-10M0-2-4PR	33.5		5.9	13/16	3/4	20.3
	3/8	-10M0-2-6PR		17.2	7.9		7/8	24.4
12	1/4	-12M0-2-4PR	36.0		5.9	13/16	3/4	20.3
	3/8	-12M0-2-6PR	36.0		7.9	13/16	7/8	24.4
	1/2	-12M0-2-8PR	38.0	22.8	9.5	15/16	1 1/16	29.5
	3/4	-12M0-2-12PR	39.8		9.5	1 1/16	1 3/8	36.3

① The E dimension is the minimum nominal opening. These fittings may have a larger opening at the pipe/straight thread end.



SAE/MS positionable fittings are available in carbon steel and stainless steel only. Adapts to SAE J1926/1 and ISO 11926-1 straight thread boss.

Positionable, SAE/MS Straight Thread (ST)

Tube OD	SAE/MS Thread Size	Basic Ordering Number	Dimensions					
			A	D	E ^①	F, in.	Fx, in.	U
Dimensions, in.								
1/4	7/16-20	-400-2-4ST	1.12		0.19	1/2	9/16	0.65
	9/16-18	-400-2-6ST	1.20	0.60		5/8	11/16	0.79
5/16	1/2-20	-500-2-5ST	1.19	0.64	0.23	9/16	5/8	0.72
3/8	7/16-20	-600-2-4ST	1.26		0.20	5/8	9/16	0.65
	9/16-18	-600-2-6ST	1.26	0.66	0.28	5/8	11/16	0.79
	3/4-16	-600-2-8ST	1.37		0.28	13/16	7/8	1.01
1/2	9/16-18	-810-2-6ST	1.48		0.28	13/16	11/16	0.79
	3/4-16	-810-2-8ST		0.90	0.41		7/8	1.01
5/8	7/8-14	-1010-2-10ST	1.56	0.96	0.50	15/16	1	1.16
3/4	1 1/16-12	-1210-2-12ST	1.63	0.96	0.62	1 1/16	1 1/4	1.44
7/8	1 3/16-12	-1410-2-14ST	1.70	1.02	0.72	1 3/16	1 3/8	1.59
1	1 5/16-12	-1610-2-16ST	1.99	1.23	0.88	1 3/8	1 1/2	1.73
1 1/4	1 5/8-12	-2000-2-20ST	2.67	1.62	1.09	1 11/16	1 7/8	2.16
1 1/2	1 7/8-12	-2400-2-24ST	3.07	1.97	1.34	2	2 1/8	2.45
2	2 1/2-12	-3200-2-32ST	4.22	2.66	1.81	2 3/4	2 3/4	3.16

① The E dimension is the minimum nominal opening. These fittings may have a larger opening at the pipe/straight thread end.

For ST and ST positionable fittings used in ECE-R110 applications, add the **DE** O-ring suffix to the ordering number. Example: SS-600-2-6ST**DE**

Refer to Installation Instructions, beginning on page 62.