

11.8 Technical parameters

Connection	Ø A (mm)	Ø I (mm)	Ø B (mm)	L (mm)	UNF left-handed thread
4M	6.35	2.77	3.6	9	1/4-28-LH
4H	6.35	2.11	3.2	14	1/4-28-LH
4U	6.35	1.59	3.2	14	1/4-28-LH
6M	9.53	5.16	6.4	11	3/8-24-LH
6H/6U	9.53	3.18	5.6	19	3/8-24-LH
6U	9.53	1.59	5.6	19	3/8-24-LH
9M	14.29	7.93	10.3	13	9/16-18-LH
9H/9U	14.29	4.78	7.1	24	9/16-18-LH
5U	7.94	1.57	3.2	17	5/16-24-LH
12M	19.05	11.13	14.27	15.88	3/4-16-LH
16M	25.4	14.27	18.26	19.84	1-14UNS-LH
24M	38.1	23.8	27	25.4	1½-12-LH

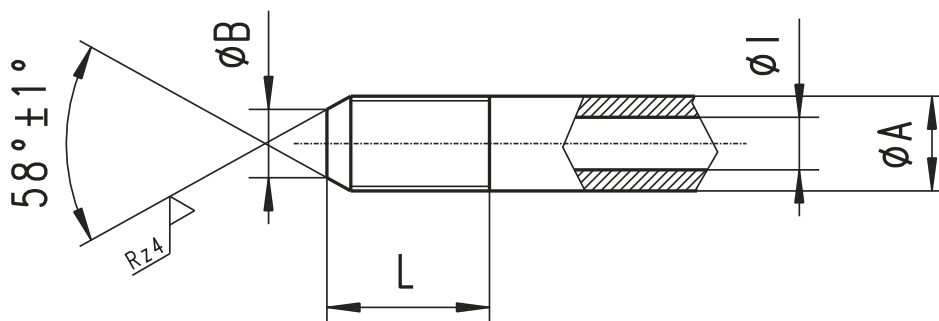
Table: Pipe end dimensions

Connection	Tube dimensions		Advance (mm)	Allowance
	Ø A (mm)	Ø I (mm)	Rotations**	(mm)*
4M	6.35	2.77	3	14
4H/4U	6.35	2.11	4	13
6M	9.53	5.16	4	18
6H/6U	9.53	3.18	5	18
9M	14.29	7.93	7	21
9H/9U	14.29	4.78	9	22
5U	7.94	1.58	5	32
24M	38.1	23.8	12	47.5

*Allowance for inserting the tube into the connecting part.

**Number of turns required for cutting the cone.

Table: Assembly instructions cone processing



12. Disposal

MAXIMATOR valves, fittings and tubing must be disposed of according to the national regulations at the end of their service life.

13.3 Needle Valve Torque Values

Valve Series	Tubing Size in. (mm)	Packing Gland Hex in. (mm) Size	Packing Gland Torque ft.-lbs. (Nm)	Running Torque in.-lbs. (Nm)	Seating Torque in.-lbs. (Nm)
Pipe 15,200 psig @RT 15V	1/4 (6.35)	5/8 (15.9)	30 (41)	40 (4.5)	55 (6.2)
	3/8 (9.53)	5/8 (15.9)	30 (41)	40 (4.5)	55 (6.2)
	9/16 (14.29)	13/16 (20.6)	60 (82)	46 (6.8)	90 (10.2)
	3/4 (19.05)	15/16 (23.8)	3/4 turn	300 (33.9)	360 (40.7)
	1 (25.4)	1-3/8 (34.9)	3/4 turn	360 (40.7)	600 (67.8)
	1 1/2 (38.1)	1-5/8 (41.28)	36 (50)	800 (90)	890 (100)
Medium Pressure 22,500 psig @ RT 21V	1/4 (6.35)				
	3/8 (9.53)	13/16 (20.6)	45 (61)	50 (5.6)	60 (6.8)
	9/16 (14.29)				
High Pressure 36,000 psig @ RT 36V	1/4 (6.35)				
	3/8 (9.53)	13/16 (20.6)	45 (61)	50 (5.6)	60 (6.8)
	9/16 (14.29)				
High Pressure 43,000 psig @ RT 43V	1 (25.4)	1-3/8 (34.9)	3/4 turn	360 (40.7)	600 (67.8)
High Pressure 65,000 psig @ RT 65V	1/4 (6.35)				
	3/8 (9.53)	13/16 (20.6)	35 (48)	65 (7.3)	75 (8.5)
	9/16 (14.29)				
Ultra High Pressure 101,000 psig @ RT 101V	1/4 (6.35)				
	3/8 (9.53)	13/16 (20.6)	40 (55)	65 (7.3)	75 (8.5)
	9/16 (14.29)				
	5/16 (7.94)	15/16 (23.8)	60 (82)	100 (11.3)	120 (13.6)

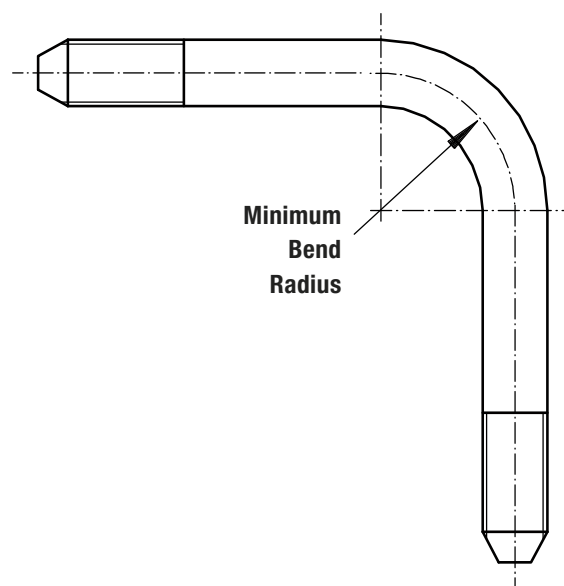
All dimensions are for references only and are subject to change.

13.4 Recommended Bend Radius for 316SS Tubing

Tubing Size O.D. x I.D. in. (mm)	Tubing Pressure psi (bar) @ R.T.	Recommended Minimum Bend Radius in. (mm)
1/4 x .109 (6.35 x 2.77)	22,500 (1,550)	1.25 (31.8)
3/8 x .203 (9.53 x 5.17)	22,500 (1,550)	1.75 (44.5)
9/16 x .312 (14.29 x 7.93)	22,500 (1,550)	2.63 (66.8)
9/16 x .359 (14.29 x 9.13)	15,200 (1,050)	2.63 (66.8)
3/4 x .438 (19.05 x 11.12)	22,500 (1,550)	3.50 (88.9)
3/4 x .516 (19.05 x 13.1)	15,200 (1,050)	3.50 (88.9)
1 x .562 (25.4 x 14.27)	22,500 (1,550)	4.63 (117.6)
1 x .688 (25.4 x 17.47)	15,200 (1,050)	4.63 (117.6)
1 1/2 x .937 (38.1 x 23.8)	15,200 (1,050)	6.5 (165.1)
1/4 x .083 (6.35 x 2.11)	65,000 (4,500)*	1.25 (31.8)
3/8 x .125 (9.53 x 3.17)	65,000 (4,500)*	1.75 (44.5)
9/16 x .188 (14.29 x 4.77)	65,000 (4,500)*	2.63 (66.8)
1 x .438 (25.4 x 11.13)	43,000 (2,965)	4.63 (117.6)
5/16 x .062 (7.94 x 1.58)	152,000 (10,500)	6.00 (152.4)

* also valid for 101,000 (7,000). All dimensions are for references only and are subject to change.

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Tubing Size O.D. x I.D in. (mm)	Tubing Pressure psi (bar) @ R.T	Dimension in. (mm)			Male Conn. Type	Female Conn. Type	A**	B (±0.1)	Dimension in. (mm)				Tubing Engagement Allowance
		D	L	Left Hand Thread**					C	D	E	F*	
High Pressure													
1/4 x .083 (6.35 x 2.11)	65,000 (4,500)	0.125 (3.2)	0.562 (14.3)	1/4-28	4H	4H	9/16-18	0.17 (4.2)	0.39 (10)	0.39 (10)	0.45 (11.5)	0.094 (2.3)	0.50 (12.7)
3/8 x .125 (9.53 x 3.17)	65,000 (4,500)	0.219 (5.6)	0.750 (19.1)	3/8-24	6H	6H	3/4-16	0.26 (6.5)	0.53 (13.5)	0.53 (13.5)	0.63 (16)	0.125 (3.2)	0.69 (17.5)
9/16 x .188 (14.29 x 4.77)	65,000 (4,500)	0.281 (7.1)	0.938 (23.8)	9/16-18	9H	9H	1-1/8-12	0.38 (9.7)	0.62 (15.7)	0.62 (15.7)	0.75 (19.1)	0.188 (4.8)	0.84 (21.3))
1 x .438 (25.4 x 11.13)	43,000 (2,965)	0.563 (14.3)	1.083 (27.5)	1-14 UNS	16M	16M	1-3/8-12	0.88 (22.4)	0.81 (20.6)	1.06 (27)	1.31 (33.3)	0.438 (11.1)	1.59 (40.3)
Ultra High Pressure													
1/4 x .063 (6.35 x 1.59)	101,000 (7,000)	0.125 (3.2)	0.562 (14.3)	1/4-28	4U	4U	9/16-18	0.17 (4.2)	0.39 (10)	0.39 (10)	0.45 (11.5)	0.094 (2.3)	0.50 (12.7)
3/8 x .125 (9.53 x 3.17)	101,000 (7,000)	0.219 (5.6)	0.750 (19.1)	3/8-24	6U	6U	3/4-16	0.26 (6.5)	0.53 (13.5)	0.53 (13.5)	0.63 (16)	0.118 (3)	0.69 (17.5)
9/16 x .188 (14.29 x 4.77)	101,000 (7,000)	0.281 (7.1)	0.938 (23.8)	9/16-18	9U	9U	1-1/8-12	0.38 (9.7)	0.62 (15.7)	0.62 (15.7)	0.75 (19.1)	0.188 (4.8)	0.84 (21.3)
5/16 x 0.62 (7.95 x 1.58)	152,000 (10,500)	0.125 (3.2)	0.687 (17.4)	5/16-24	5U	5U	5/8-18	0.25 (6.2)	0.63 (16)	0.93 (23.5)	1.06 (27)	0.09 (2.3)	1.25 (31.75)

* Port diameters may vary depending on specific valve or fitting component type. See actual component catalog page for orifice sizes and pressure ratings.

** Unified National Fine thread, Class 2.

15 Conversation Tables

Temperature Equivalents

Celcius [°C]	Kelvin [K]	Fahrenheit [°F]	Rankine [°R]
0	273	32	492
-273	0	-460	0
-18	255	0	460

Linear Equivalents

meter [m]	centimeter [cm]	millimeter [mm]	foot [ft]	inch [in]
1	100	1000	3.28083	39.37
0.01	1	10	0.03281	0.3937
0.001	0.1	1	0.003281	0.03937
0.3048	30.48	304.8	1	12
0.0254	2.54	25.4	0.0833	1

Pressure Equivalents

Pascal [Pa]	MPascal [MPa]	Bar [bar]	[psi]	kg/cm ²
1	1x10 ⁻⁶	1x10 ⁻⁵	1.4504x10 ⁻⁴	1.0197x10 ⁻⁵
1x10 ⁻⁶	1	10	145.04	10.1971
100000	0.1	1	14.504	1.01971
6894.757	6.8948x10 ⁻³	0.06895	1	0.07031
98066.5	0.098067	0.98067	14.223	1

Volume Equivalents

meter ³ [m ³]	liter [l]	foot ³ [ft ³]	inch ³ [in ³]	gallon*
1	1000	35.31	61023	264.2
1x10 ⁻³	1	0.3531	61.023	0.2642
28.317x10 ⁻³	28.317	1	1728	7.4822
1.638x10 ⁻⁵	0.1639	5.787x10 ⁻⁴	1	43.29x10 ⁻⁴
3.785x10 ⁻³	3.785	0.1337	231	1

* U.S. Gallons: U.S. gallon = 0.833 British Imperial gallon; British Imperial gallon = 1.201 U.S. gallon

Density Equivalents

kg/m ³	g/cm ³	pound/ft ³	pound/in ³	pound/gallon*
1	0.001	0.062427	3.613x10 ⁻⁵	0.008345
1000	1	62.427	0.03613	8.3454
16.018	0.016018	1	5.787x10 ⁻⁴	0.13368
27679.9	27.6799	1728	1	231
119.826	0.11983	7.4805	4.33x10 ⁻³	1