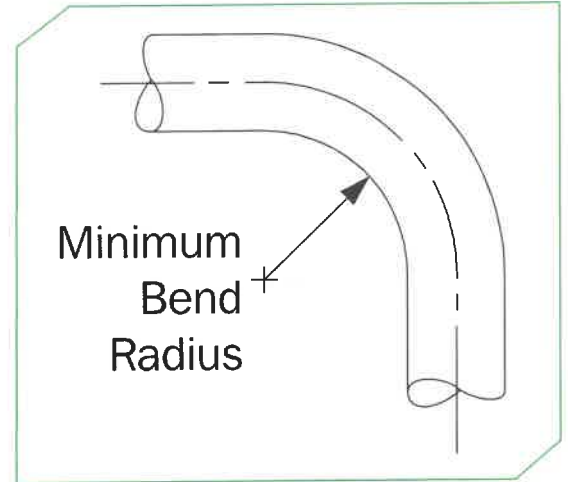


Tools & Installation

Tubing Minimum Bend Radius & Valve Torque Values

Minimum Bend Radius for 316SS, 304SS & HP160SS Tubing

Tubing Size O.D. x I.D. (in.)	Tubing Pressure (psi @ R.T.)	Minimum Bend Radius (in.)
1/4 x .109	22,500	1.25
3/8 x .203	22,500	1.75
9/16 x .312	22,500	2.63
9/16 x .359	15,200	2.63
3/4 x .438	22,500	3.50
3/4 x .516	15,200	3.50
1 x .562	22,500	4.63
1 x .688	15,200	4.63
1-1/2 x .937	15,200	10.00
1/4 x .083	65,000/ 101,000	1.25
3/8 x .125	65,000/ 101,000	1.75
9/16 x .188	65,000/ 101,000	2.63
9/16 x .250	40,000	2.63
1 x .438	43,000	4.63
5/16 x .062	152,000	6.00



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

Needle Valve Torque Values

Valve Series	Tubing Size (in.)	Packing Gland Hex (in.) Size	Packing Gland Torque (ft.-lbs.)	Running Torque (in.-lbs.)	Seating Torque (in.-lbs.)
Pipe Valves 15,000 psig @ RT 15V	1/4 NPT	5/8	30	40	55
	3/8 NPT	13/16	60	46	90
	1/2 NPT	13/16	60	46	90
Medium Pressure 22,500 psig @ RT 21V	1/4	5/8	30	40	55
	3/8	5/8	30	40	55
	9/16	13/16	60	60	90
	3/4	15/16	¾ turn	300	360
High Pressure 36,000 psig @ RT 36V	1	1 3/8	¾ turn	360	600
	1/4	13/16	45	50	60
	3/8				
9/16					
High Pressure 43,000 psig @ RT 43V	1	1-3/8	¾ turn	360	600
High Pressure 65,000 psig @ RT 65V	1/4	13/16	40	65	75
	3/8				
	9/16				
Ultra High Pressure 101,000 psig @ RT 101V	1/4	13/16	50	65	75
	3/8				
	9/16				
	5/16	15/16	60	100	120

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