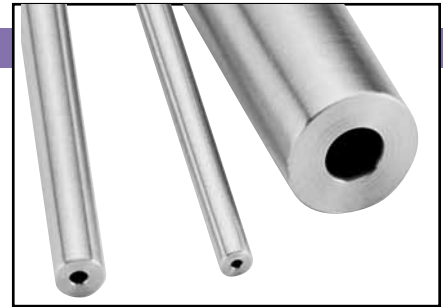


High Pressure Tubing

Pressures to 150,000 psi (10342 bar)

Autoclave Engineers offers a complete selection of austenetic, cold drawn stainless steel tubing designed to match the performance standards of Autoclave valves and fittings. Autoclave high pressure tubing is manufactured specifically for high pressure applications requiring both strength and corrosion resistance. The tubing is furnished in random lengths between 20 feet (6 meters) and 27 feet (8.2 meters). The average is 24 feet (7.3 meters). High pressure tubing is available in five sizes and a variety of materials. Special longer lengths are available. Consult factory.



Inspection and Testing

Autoclave Engineer's high pressure tubing is inspected to assure freedom from seams, laps, fissures or other flaws, as well as carburization or intergranular carbide precipitation. The outside and inside diameters of the tubing are controlled within close tolerances. Sample pieces of tubing for each lot are tested to confirm mechanical properties. Hydrostatic testing is also performed on a statistical basis and is conducted at the working pressure of the tube. Autoclave will perform 100% hydrostatic testing at additional cost if desired.

Special Materials

In addition to the type 316 and 304 stainless steel tubing listed in this section, Autoclave has limited stock of hard-to-obtain shorter lengths of the following tubing materials in some sizes:

*Monel 400**, *Inconel 600**, *Titanium Grade 2**, *Nickel 200**, *Hastelloy C276** - (* Trademark names)

Please consult factory for stock availability.

Tubing Tolerance

Nominal Tubing Size
inches (mm)

Tolerance/Outside Diameter
inches (mm)

1/4 (6.35)	.248/.243 (6.30/6.17)
5/16 (7.94)	.310/.306 (7.87/7.77)
3/8 (9.53)	.370/.365 (9.40/9.27)
9/16 (14.29)	.557/.552 (14.15/14.02)
1 (25.40)	.995/.990 (25.27/25.14)

Catalog Number	Tube Material	Fits Connection Type	Tube Size Inches (mm)			Flow Area in. ² (mm ²)	Working Pressure psi (bar)*				
			Outside Diameter	Inside Diameter	Wall Thickness		-325 to 100°F -198 to -37.8°C	200°F 93°C	400°F 204°C	600°F 316°C	800°F 427°C
MS15-081	316SS	F250C	1/4 (6.35)	0.083 (2.11)	0.083 (2.11)	0.005 (3.23)	60,000 (4136.79)	60,000 (4136.79)	57,750 (3981.66)	54,250 (3740.35)	50,700 (3495.59)
MS15-182	304SS						60,000 (4136.79)	56,800 (3916.16)	51,650 (3561.09)	50,700 (3495.59)	48,450 (3340.46)
MS15-202	Stainless						100,000 (6894.64)	100,000 (6894.64)	96,210 (6633.24)	90,368 (6230.55)	84,420 (5820.46)
MS15-082	316SS	F312C150	5/16 (7.94)	0.062 (1.57)	0.125 (3.18)	0.033 (1.94)	150,000 (10341.97)	150,000 (10341.97)	144,400 (9955.87)	136,350 (9400.85)	126,750 (8738.97)
MS15-087	316SS	F375C	3/8 (9.53)	0.125 (3.18)	0.125 (3.18)	0.012 (7.74)	60,000 (4136.79)	60,000 (4136.79)	57,750 (3981.66)	54,250 (3740.35)	50,700 (3495.59)
MS15-183	304SS						60,000 (4136.79)	56,800 (3916.16)	51,650 (3561.09)	50,700 (3495.59)	48,450 (3340.46)
MS15-201	Stainless						100,000 (6894.64)	100,000 (6894.64)	96,210 (6633.24)	90,368 (6230.55)	84,420 (5820.46)
MS15-083	316SS	F562C	9/16 (14.29)	0.188 (4.78)	0.187 (4.75)	0.028 (18.06)	60,000 (4136.79)	60,000 (4136.79)	57,750 (3981.66)	54,250 (3740.35)	50,700 (3495.59)
MS15-185	304SS						60,000 (4136.79)	56,800 (3916.16)	51,650 (3561.09)	50,700 (3495.59)	48,450 (3340.46)
MS15-210	Stainless						100,000 (6894.64)	100,000 (6894.64)	96,210 (6633.24)	90,368 (6230.55)	84,420 (5820.46)
MS15-090	316SS	F562C40	9/16 (14.29)	0.250 (6.35)	0.156 (3.96)	0.048 (30.97)	40,000 (2757.86)	40,000 (2757.86)	38,500 (2654.44)	36,100 (2488.96)	33,800 (2330.39)
MS15-189	304SS						40,000 (2757.86)	36,800 (2537.23)	31,650 (2182.16)	30,700 (2116.66)	28,450 (1961.53)
MS15-209	Stainless	F562C40-312	9/16 (14.29)	0.312 (7.92)	0.125 (3.18)	0.076 (49.03)	40,000 (2757.86)	40,000 (2757.86)	38,500 (2654.44)	36,100 (2488.97)	33,800 (2330.39)
MS15-199	304SS	F1000C43	1 (25.40)	0.438 (11.13)	0.281 (7.14)	0.151 (97.42)	43,000 (2964.70)	40,600 (2799.23)	36,900 (2544.13)	36,300 (2502.76)	34,700 (2392.44)

Note:

1. Autofrettagged tubing available (see technical Information section: Pressure Cycling for Autofrettagge information)
2. For HighPressure, High Cycle (HPHC) tubing, MS15-201, MS15-202, MS15-203, and MS15-204 are available. (See Technical Information section: Pressure Cycling for additional information)

*Maximum pressure rating is based on the lowest rating of any component.

Actual working pressure may be determined by tubing pressure rating, if lower.

All dimensions for reference only and subject to change.

For prompt service, Autoclave stocks select products. Consult your local representative.