

PRESSURE – TEMPERATURE RATING

Pressure –Temperature Ratings show the maximum allowable working pressures at the temperatures from -20 F to the maximum allowable for the materials. They are established by the stress calculations utilizing the minimum wall thickness and the maximum allowable stress of the materials at specified temperatures. Because the maximum allowable stress of any kind of material always decreases as the temperature increases, the maximum allowable working pressure for the component always decreases as the temperature increases, as shown on the tables.

For your convenience, relevant portions of the American National Standard Institute B 16.34 -1996, Pressure Temperature Ratings are reproduced below:

American National Standard Institute

A 182 Gr. F22 CI. 3 (2)

Flanged, Threaded and Welding End, **Stainless** (A182 F316L)

Working Pressures by Classes, psig

Working Pressure by Classes, psig

Temp. °F	300	600	900	1500
-20 to 100	750	1500	2250	3750
200	750	1500	2250	3750
300	730	1455	2185	3640
400	705	1410	2115	3530
500	665	1330	1995	3325
600	605	1210	1815	3025
650	590	1175	1765	2940
700	570	1135	1705	2840
750	530	1065	1595	2660
800	510	1015	1525	2540
850	485	975	1460	2435
900	450	900	1350	2245
950	375	755	1130	1885
1000	260	520	780	1305
1050	175	350	525	875
1100	110	220	330	550
1150	70	135	205	345
1200	40	80	125	205

	150	300	400	600	800	900	1500
-20 to 100	230	600	800	1200	1600	1800	3000
200	195	505	675	1015	1350	1520	2530
300	175	455	605	910	1210	1360	2270
400	160	415	550	825	1100	1240	2065
500	145	380	510	765	1020	1145	1910
600	140	360	480	720	960	1080	1800
650	125	350	470	700	935	1050	1750
700	110	345	460	685	915	1030	1715
750	95	335	450	670	895	1010	1680
800	80	330	440	660	875	985	1645
850	65	320	430	645	860	965	1610

Flange, Threaded and Welding End; **Carbon Steel** (A105)

Working Pressure by Classes, psig

Temp. °F	150	300	400	600	800	900	1500
-20 to 100	285	740	990	1480	1975	2220	3705
200	260	675	900	1350	1800	2025	3375
300	230	655	875	1315	1750	1970	3280
400	200	635	845	1270	1690	1900	3170
500	170	600	800	1200	1595	1795	2995
600	140	550	730	1095	1460	1640	2735
650	125	535	715	1075	1430	1610	2685
700	110	535	710	1065	1420	1600	2665
750	95	505	670	1010	1345	1510	2520
800	80	410	550	825	1100	1235	2060
850	65	270	355	535	715	805	1340
900	50	170	230	345	460	515	860
950	35	105	140	205	275	310	515
1000	20	50	70	105	140	155	260

Note:

(1) For welding end valves only. Flanged end ratings terminate at 1000°F.