

Technical Data

ANSI Pressure Temperature Ratings

NOTES:

1. The ANSI flange ratings charts (condensed list here) should be used only as a guide in selecting the properly rated flange as well as other components used in a flanged or circulation heater.
2. Other factors which should be taken into consideration include the anticipated element sheath temperature, the length of the unheated section of the element sheath, and the anticipated vessel temperature at both design conditions and overheat/shut-down conditions.
3. As "Rule of Thumb", generally Carbon Steel is commonly used for temperatures to 750° F and Stainless Steel is considered suitable to 1200° F. Corrosion and oxidation rates of the flange material should be taken into account when using these "Rules of Thumb".
4. The information referenced in Notes 2 and 3 above should be used only as a guide. Contact Gaumer Process for assistance in selecting the properly rated flange and the flange material to suit your application.
5. The actual thickness of the flange used in the flanged heater may have to be thickened to meet necessary calculated conditions for ASME Coding of the flanged heater. Contact Gaumer Process for more information on this subject.

Pressure-Temperature Ratings (psig)						Class - 150 #	
Pressure Class #	Service Temp (F)	Carbon Steel	Cr-Mo	SS 304	SS 316	SS304L SS316L	SS 321:
150	100	285	290	275	275	230	275
150	200	260	260	235	240	195	235
150	300	230	230	205	215	175	210
150	400	200	200	180	195	160	190
150	500	170	170	170	170	145	170
150	600	140	140	140	140	140	140
150	650	125	125	125	125	125	125
150	700	110	110	110	110	110	110
150	750	95	95	95	95	95	95
150	800	80	80	80	80	80	80
150	850	65	65	65	65	65	65
150	900	50	50	50	50		50
150	950	35	35	35	35		35
150	1000	20	20	20	20		20

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Pressure-Temperature Ratings (psig)							Class - 300 #
Pressure Class #	Service Temp (F)	Carbon Steel	Cr-Mo	SS 304	SS 316	SS304L SS316L	SS 321:
300	100	740	750	720	720	600	720
300	200	675	750	600	620	505	610
300	300	655	730	530	560	455	545
300	400	635	705	470	515	415	495
300	500	600	665	435	480	380	460
300	600	550	605	415	450	360	435
300	650	535	590	410	445	350	430
300	700	535	570	405	430	345	420
300	750	505	530	400	425	335	415
300	800	410	510	395	415	330	415
300	850	270	485	390	405	320	410
300	900	170	450	385	395		405
300	950	105	345	375	385		385
300	1000	50	215	325	365		355
300	1050		190	310	360		345
300	1100			260	325		300
300	1150			195	275		235
300	1200			155	205		180
300	1250			110	180		140
300	1300			85	140		105
300	1350			60	105		80
300	1400			50	75		60
300	1450			35	60		50
300	1500			25	40		40

Pressure-Temperature Ratings (psig)							Class - 400 #
Pressure Class #	Service Temp (F)	Carbon Steel	Cr-Mo	SS 304	SS 316	SS304L SS316L	SS 321:
400	100	990	1000	960	960	800	960
400	200	900	1000	800	825	675	815
400	300	875	970	705	745	605	725
400	400	845	940	630	685	550	660
400	500	800	885	585	635	510	610
400	600	730	805	555	600	480	585
400	650	715	785	540	575	460	560
400	700	710	755	540	575	460	560
400	750	670	710	530	565	450	555
400	800	550	675	525	555	440	550
400	850	355	650	520	540	430	545
400	900	230	600	510	525		540
400	950	140	460	500	515		515

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Pressure-Temperature Ratings (psig)							Class - 400 #
Pressure Class #	Service Temp (F)	Carbon Steel	Cr-Mo	SS 304	SS 316	SS304L SS316L	SS 321:
400	1000	70	285	430	485		475
400	1050		250	410	480		460
400	1100			345	430		400
400	1150			260	365		315
400	1200			205	275		240
400	1250			145	245		185
400	1300			110	185		140
400	1350			85	140		110
400	1400			65	110		80
400	1450			45	80		65
400	1500			30	65		50

Pressure-Temperature Ratings (psig)							Class - 600 #
Pressure Class #	Service Temp (F)	Carbon Steel	Cr-Mo	SS 304	SS 316	SS304L SS316L	SS 321:
600	100	1480	1500	1440	1440	1200	1440
600	200	1350	1500	1200	1240	1015	1220
600	300	1315	1455	1055	1120	910	1090
600	400	1270	1410	940	1030	825	990
600	500	1200	1330	875	955	765	915
600	600	1095	1210	830	905	720	875
600	650	1075	1175	815	890	700	855
600	700	1065	1135	805	865	685	840
600	750	1010	1065	795	845	670	830
600	800	825	1015	790	830	660	825
600	850	535	975	780	810	645	815
600	900	345	900	770	790		810
600	950	205	685	750	775		775
600	1000	105	425	645	725		715
600	1050		380	620	720		695
600	1100			515	645		605
600	1150			390	550		475
600	1200			310	410		365
600	1250			220	365		280
600	1300			165	275		210
600	1350			125	205		165
600	1400			90	150		125
600	1450			70	115		95
600	1500			50	85		75

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Pressure-Temperature Ratings (psig)						Class - 900 #	
Pressure Class #	Service Temp (F)	Carbon Steel	Cr-Mo	SS 304	SS 316	SS304L SS316L	SS 321:
900	100	2220	2250	2160	2160	1800	2160
900	200	2025	2250	1800	1860	1520	1830
900	300	1970	2185	1585	1680	1360	1635
900	400	1900	2115	1410	1540	1240	1485
900	500	1975	1995	1310	1435	1145	1375
900	600	1640	1815	1245	1355	1080	1310
900	650	1610	1765	1225	1330	1050	1280
900	700	1600	1705	1210	1295	1030	1260
900	750	1510	1595	1195	1270	1010	1245
900	800	1235	1525	1180	1245	985	1240
900	850	805	1460	1165	1215	965	1225
900	900	515	1350	1150	1180		1215
900	950	310	1030	1125	1160		1160
900	1000	155	640	965	1090		1070
900	1050		565	925	1080		1040
900	1100			770	965		905
900	1150			585	825		710
900	1200			465	620		545
900	1250			330	545		420
900	1300			245	410		320
900	1350			185	310		245
900	1400			145	225		185
900	1450			105	175		145
900	1500			70	125		115

Pressure-Temperature Ratings (psig)						Class - 1500 #	
Pressure Class #	Service Temp (F)	Carbon Steel	Cr-Mo	SS 304	SS 316	SS304L SS316L	SS 321:
1500	100	3600	3750	3600	3600	3000	3600
1500	200	3500	3750	3000	3095	2530	2530
1500	300	3415	3610	2700	2795	2270	2975
1500	400	3330	3465	2485	2570	2065	2760
1500	500	3125	3325	2330	2390	1910	2570
1500	600	2770	3025	2185	2225	1800	2435
1500	650	2580	2940	2150	2220	1750	2390
1500	700	2350	2840	2125	2170	1715	2330
1500	750	2125	2660	2075	2135	1680	2290
1500	800	1830	2540	2015	2110	1645	2255
1500	850	1500	2435	1980	2090	1610	2230
1500	900	1115	2245	1945	2075		2210
1500	950	770	1595	1910	1930		1930

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Pressure-Temperature Ratings (psig)						Class - 1500 #	
Pressure Class #	Service Temp (F)	Carbon Steel	Cr-Mo	SS 304	SS 316	SS304L SS316L	SS 321:
1500	1000	430	1080	1605	1750		1785
1500	1050		720	1545	1720		1565
1500	1100		480	1285	1525		1360
1500	1150		310	995	1185		1185
1500	1200		190	770	925		925
1500	1250			565	735		705
1500	1300			430	585		550
1500	1350			310	480		430
1500	1400			240	380		325
1500	1450			170	290		255
1500	1500						