

Temperature Adjustment Factors

In general, the strength and therefore the pressure rating of metal hose decreases as the temperature increases. Thus, as the operating temperature of a metal hose assembly increases, the maximum allowable working pressure of the assembly decreases. The pressure ratings shown in the specifications charts for corrugated and interlocked hose are valid at 70°F. Elevated service temperatures will decrease these pressure ratings by the factors shown in the following chart for the alloy used in the braid wire. What also must be considered is the maximum working temperature of the end fittings, of the hose and their method of attachment.

For example to calculate the maximum working pressure for:

- 3/4" ID, 321 stainless steel corrugated hose
- with single-braided, 304L braid
- at 800°F.

From the corrugated metal hose specification table, the maximum working pressure at 70°F is 792 PSIG. Multiply 792 PSIG by 0.73. The maximum working pressure at 800°F is 578 PSIG.

Temperature Adjustment Factor Based on Braid Alloy

Temperature (F)	304/304L Stainless Steel	316 L Stainless Steel	321 Stainless Steel	Carbon Steel	Monel	Bronze
70	1.00	1.00	1.00	1.00	1.00	1.00
150	.95	.93	.97	.99	.93	.92
200	.91	.89	.94	.97	.90	.89
250	.88	.86	.92	.96	.87	.86
300	.85	.83	.88	.93	.83	.83
350	.81	.81	.86	.91	.82	.81
400	.78	.78	.83	.87	.79	.78
450	.77	.78	.81	.86	.77	.75
500	.77	.77	.78	.81	.73	----
600	.76	.76	.77	.74	.72	----
700	.74	.76	.76	.66	.71	----
800	.73	.75	.68	.52	.70	----
900	.68	.74	.62	----	----	----
1,000	.60	.73	.60	----	----	----
1,100	.58	.67	.58	----	----	----
1,200	.53	.61	.53	----	----	----
1,300	.44	.55	.46	----	----	----
1,400	.35	.48	.42	----	----	----
1,500	.26	.39	.37	----	----	----

Saturated Steam Pressure To Temperature (PSIG)

Saturated Steam (PSIG)	Temp (F)	Saturated Steam (PSIG)	Temp (F)	Saturated Steam (PSIG)	Temp (F)
0	212	150	366	450	460
10	238	175	377	475	465
20	259	200	388	500	470
30	274	225	397	550	480
40	287	250	406	600	489
50	298	275	414	700	505
60	307	300	422	800	520
75	320	325	429	900	534
80	324	350	436	1000	546
90	331	375	442	1250	574
100	338	400	448	1500	606
125	353	425	454	2500	669

Saturated Steam Pressure To Temperature (Hg)

Saturated Steam Vacuum (in. of Hg)	Temp (F)
----	0
29.84	20
29.74	32
29.67	40
29.39	60
28.89	80
27.99	100
26.48	120
24.04	140
20.27	160
15.20	180
6.46	200