

# Properties of Saturated Steam

Sensible, latent, and total heat in evaporated water; and steam; at different gauge pressures and boiling temperatures.

Gauge Pressure (psig)	Temperature (°F)	Specific Volume Saturated Vapor (ft <sup>3</sup> /lb)	Enthalpy		
			Saturated Liquid (Btu/lb)	Evaporated (Btu/lb)	Saturated Vapor (Btu/lb)
<b>25</b> (inches Mercury Vacuum)	134	142	102	1017	1119
<b>20</b> (inches Mercury Vacuum)	162	73.9	129	1001	1130
<b>15</b> (inches Mercury Vacuum)	179	51.3	147	990	1137
<b>10</b> (inches Mercury Vacuum)	192	39.4	160	982	1142
<b>5</b> (inches Mercury Vacuum)	203	31.8	171	976	1147
<b>0</b> (1)	212	26.8	180	970	1150
<b>1</b>	215	25.2	183	968	1151
<b>2</b>	219	23.5	187	966	1153
<b>3</b>	222	22.3	190	964	1154
<b>4</b>	224	21.4	192	962	1154
<b>5</b>	227	20.1	195	960	1155
<b>6</b>	230	19.4	198	959	1157
<b>7</b>	232	18.7	200	957	1157
<b>8</b>	233	18.4	201	956	1157
<b>9</b>	237	17.1	205	954	1159
<b>10</b>	239	16.5	207	953	1160
<b>12</b>	244	15.3	212	949	1161
<b>14</b>	248	14.3	216	947	1163
<b>16</b>	252	13.4	220	944	1164
<b>18</b>	256	12.6	224	941	1165
<b>20</b>	259	11.9	227	939	1166
<b>22</b>	262	11.3	230	937	1167
<b>24</b>	265	10.8	233	934	1167
<b>26</b>	268	10.3	236	933	1169

(1) Atmospheric pressure is used for the table except for (2)

(2) **Critical Point** - At 3206.2 psia and 705.40°F the vapor and liquid are indistinguishable. No change of state occurs when pressure increases above the critical point or when heat is added. At the critical point it is no longer referred to water or steam and it is not possible to keep the water and steam apart.

**Note:** Gauge Pressure = Absolute Pressure – Atmospheric Pressure

**NTP** (Normal Temperature and Pressure) is defined as air at 20°C (293.15 K, 68°F) and 1 atm (101.325 kN/m<sup>2</sup>, 101.325 kPa, 14.7 psia, 0 psig, 30 in Hg, 760 torr)

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			Saturated Liquid (Btu/lb)	Evaporated (Btu/lb)	Saturated Vapor (Btu/lb)
28	271	9.85	239	930	1169
30	274	9.46	243	929	1172
32	277	9.1	246	927	1173
34	279	8.75	248	925	1173
36	282	8.42	251	923	1174
38	284	8.08	253	922	1175
40	286	7.82	256	920	1176
42	289	7.57	258	918	1176
44	291	7.31	260	917	1177
46	293	7.14	262	915	1177
48	295	6.94	264	914	1178
50	298	6.68	267	912	1179
55	300	6.27	271	909	1180
60	307	5.84	277	906	1183
65	312	5.49	282	901	1183
70	316	5.18	286	898	1184
75	320	4.91	290	895	1185
80	324	4.67	294	891	1185
85	328	4.44	298	889	1187
90	331	4.24	302	886	1188
95	335	4.05	305	883	1188
100	338	3.89	309	880	1189
105	341	3.74	312	878	1190
110	344	3.59	316	875	1191
115	347	3.46	319	873	1192
120	350	3.34	322	871	1193
125	353	3.23	325	868	1193
130	356	3.12	328	866	1194
135	358	3.02	330	864	1194

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			Saturated Liquid (Btu/lb)	Evaporated (Btu/lb)	Saturated Vapor (Btu/lb)
140	361	2.92	333	861	1194
145	363	2.84	336	859	1195
150	366	2.74	339	857	1196
155	368	2.68	341	855	1196
160	371	2.6	344	853	1197
165	373	2.54	346	851	1197
170	375	2.47	348	849	1197
175	377	2.41	351	847	1198
180	380	2.31	353	845	1198
185	382	2.29	355	843	1198
190	384	2.24	358	841	1199
195	386	2.19	360	839	1199
200	388	2.14	362	837	1199
205	390	2.09	364	836	1200
210	392	2.05	366	834	1200
215	394	2	368	832	1200
220	396	1.96	370	830	1200
225	397	1.92	372	828	1200
230	399	1.89	374	827	1201
235	401	1.85	376	825	1201
240	403	1.81	378	823	1201
245	404	1.78	380	822	1202
250	406	1.75	382	820	1202
255	408	1.72	383	819	1202
260	409	1.69	385	817	1202
265	411	1.66	387	815	1202
270	413	1.63	389	814	1203
275	414	1.6	391	812	1203
280	416	1.57	392	811	1203

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			Saturated Liquid (Btu/lb)	Evaporated (Btu/lb)	Saturated Vapor (Btu/lb)
285	417	1.55	394	809	1203
290	418	1.53	395	808	1203
295	420	1.49	397	806	1203
300	421	1.47	398	805	1203
305	423	1.45	400	803	1203
310	425	1.43	402	802	1204
315	426	1.41	404	800	1204
320	427	1.38	405	799	1204
325	429	1.36	407	797	1204
330	430	1.34	408	796	1204
335	432	1.33	410	794	1204
340	433	1.31	411	793	1204
345	434	1.29	413	791	1204
350	435	1.28	414	790	1204
355	437	1.26	416	789	1205
360	438	1.24	417	788	1205
365	440	1.22	419	786	1205
370	441	1.2	420	785	1205
375	442	1.19	421	784	1205
380	443	1.18	422	783	1205
385	445	1.16	424	781	1205
390	446	1.14	425	780	1205
395	447	1.13	427	778	1205
400	448	1.12	428	777	1205
450	460	1	439	766	1205
500	470	0.89	453	751	1204
550	479	0.82	464	740	1204
600	489	0.74	475	728	1203
650	497	0.69	483	719	1202

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700	505	0.64	491	710	1201
750	513	0.6	504	696	1200
800	520	0.56	512	686	1198
900	534	0.49	529	666	1195
1000	546	0.44	544	647	1191
1250	574	0.34	580	600	1180
1500	597	0.23	610	557	1167
1750	618	0.22	642	509	1151
2000	636	0.19	672	462	1134
2250	654	0.16	701	413	1114
2500	669	0.13	733	358	1091
2750	683	0.11	764	295	1059
3000	696	0.08	804	213	1017
3206.2 (2)	705.40	-	-	-	-

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