

APPENDIX A.3

Saturated Steam Tables: English Units

Temp. °F	Abs. pressure lb/in ²	Specific Volume (ft ³ /lb)			Enthalpy (BTU/lb)		
		Sat. liquid <i>v_f</i>	Evap <i>v_{fg}</i>	Sat. vapor <i>v_g</i>	Sat. liquid <i>h_f</i>	Evap. <i>h_{fg}</i>	Sat. vapor <i>h_g</i>
32	0.08859	0.016022	3304.7	3304.7	-0.0179	1075.5	1075.5
35	0.09998	0.016020	2950.5	2950.5	3.002	1073.8	1076.8
40	0.12163	0.016019	2445.8	2445.8	8.027	1071.0	1079.0
45	0.14753	0.016020	2039.3	2039.3	13.044	1068.2	1081.2
50	0.17796	0.016023	1704.8	1704.8	18.054	1065.3	1083.4
55	0.21404	0.016027	1384.2	1384.2	23.059	1062.5	1085.6
60	0.25611	0.016033	1207.6	1207.6	28.060	1059.7	1087.7
65	0.30562	0.016041	1022.8	1022.8	33.057	1056.9	1089.9
70	0.36292	0.016050	868.3	868.4	38.052	1054.0	1092.1
75	0.42985	0.016061	740.8	740.8	43.045	1051.3	1094.3
80	0.50683	0.016072	633.3	633.3	48.037	1048.4	1096.4
85	0.59610	0.016085	543.9	543.9	53.028	1045.6	1098.6
90	0.69813	0.016099	468.1	468.1	58.018	1042.7	1100.0
95	0.81567	0.016114	404.6	404.6	63.008	1039.9	1102.9
100	0.94924	0.016130	350.4	350.4	67.999	1037.1	1105.1
105	1.10218	0.016148	304.6	304.6	72.991	1034.3	1107.2
110	1.2750	0.016165	265.4	265.4	77.98	1031.4	1109.3
115	1.4716	0.016184	232.03	232.0	82.97	1028.5	1111.5
120	1.6927	0.016204	203.25	203.26	87.97	1025.6	1113.6
125	1.9435	0.016225	178.66	178.67	92.96	1022.8	1115.7
130	2.2230	0.016247	157.32	157.33	97.96	1019.8	1117.8
135	2.5382	0.016270	138.98	138.99	102.95	1016.9	1119.9
140	2.8892	0.016293	122.98	123.00	107.95	1014.0	1122.0
145	3.2825	0.016317	109.16	109.18	112.95	1011.1	1124.1
150	3.7184	0.016343	97.05	97.07	117.95	1008.2	1126.1

(Continued)

Temp. °F	Abs. pressure lb/in ²	Specific Volume (ft ³ /lb)			Enthalpy (BTU/lb)		
		Sat. liquid v_f	Evap v_{fx}	Sat. vapor v_x	Sat. liquid h_f	Evap. h_{fg}	Sat. vapor h_g
155	4.2047	0.016369	86.53	86.55	122.95	1005.2	1128.2
160	4.7414	0.016395	77.27	77.29	127.96	1002.2	1130.2
165	5.3374	0.016423	69.19	69.20	132.97	999.2	1132.2
170	5.9926	0.016451	62.04	62.06	137.97	996.2	1134.2
175	6.7173	0.016480	55.77	55.79	142.99	993.2	1136.2
180	7.5110	0.016510	50.21	50.22	148.00	990.2	1138.2
185	8.3855	0.016543	45.31	45.33	153.02	987.2	1140.2
190	9.340	0.016572	40.941	40.957	158.04	984.1	1142.1
195	10.386	0.016605	37.078	37.094	163.06	981.0	1144.1
200	11.526	0.016637	33.622	33.639	168.09	977.9	1146.0
205	12.776	0.016707	30.567	30.583	173.12	974.8	1147.8
210	14.132	0.016705	27.822	27.839	178.16	971.6	1149.8
212	14.696	0.016719	26.782	26.799	180.17	970.3	1150.5
220	17.186	0.016775	23.131	23.148	188.23	965.2	1153.4
225	18.921	0.016812	21.161	21.177	193.28	961.9	1155.2
230	20.791	0.016849	19.379	19.396	198.33	958.7	1157.1
235	22.804	0.016887	17.766	17.783	203.39	956.5	1158.9
240	24.968	0.016926	16.304	16.321	208.45	952.1	1160.6
245	27.319	0.016966	14.998	15.015	213.52	948.8	1162.4
250	29.840	0.017006	13.811	13.828	218.59	945.5	1164.1
255	32.539	0.017047	12.729	12.747	223.67	942.1	1165.8
260	35.427	0.017089	11.745	11.762	228.76	938.6	1167.4
265	38.546	0.017132	10.858	10.875	233.85	935.2	1169.0
270	41.875	0.017175	10.048	10.065	238.95	931.7	1170.7
275	45.423	0.017219	9.306	9.324	244.06	928.2	1172.2
280	49.200	0.017264	8.627	8.644	249.17	924.6	1173.8
285	53.259	0.017310	8.0118	8.0291	254.32	920.9	1175.3
290	57.752	0.017360	7.4468	7.4641	259.45	917.3	1176.8

Source: Abridged from: ASME 1967. *Steam Tables. Properties of Saturated and Superheated Steam*. American Society of Mechanical Engineers, NY. Used with permission.

APPENDIX A.4

Saturated Steam Tables: Metric Units

Temperature °C	Absolute pressure kPa	Enthalpy (MJ/kg)		
		Saturated liquid h_f	Evaporation h_{fg}	Saturated vapor h_g
0	0.6108	-0.00004	2.5016	2.5016
2.5	0.7314	0.01049	2.4956	2.5061
5	0.8724	0.02100	2.4897	2.5108
7.5	1.0365	0.03151	2.4839	2.5153
10	1.2270	0.04204	2.4779	2.5200
12.5	1.4489	0.05253	2.4720	2.5245
15	1.7049	0.06292	2.4661	2.5291
17.5	2.0326	0.07453	2.4595	2.5342
20	2.3366	0.08386	2.4544	2.5381
22.5	2.7248	0.09780	2.4484	2.5428
25	3.1599	0.10477	2.4425	2.5473
27.5	3.6708	0.11522	2.4367	2.5518
30	4.2415	0.12566	2.4307	2.5563
32.5	4.8913	0.13611	2.4246	2.5609
35	5.6238	0.14656	2.4188	2.5653
37.5	6.4488	0.15701	2.4129	2.5699
40	7.3749	0.16745	2.4069	2.5744
42.5	8.4185	0.17789	2.4009	2.5788
45	9.5851	0.18834	2.3949	2.5832
47.5	10.8868	0.19880	2.3889	2.5877
50	12.3354	0.20925	2.3829	2.5921
52.5	13.9524	0.21971	2.3769	2.5966
55	15.7459	0.23017	2.3705	2.6000
57.5	17.7295	0.24062	2.3648	2.6054
60	19.9203	0.25109	2.3586	2.6098
62.5	22.3466	0.26155	2.3525	2.6140

(Continued)

Temperature °C	Absolute pressure kPa	Enthalpy (MJ/kg)		
		Saturated liquid h_f	(MJ/kg) Evaporation h_{fg}	Saturated vapor h_g
65	25.0159	0.27202	2.3464	2.6184
67.5	27.9479	0.28249	2.3402	2.6226
70	31.1622	0.29298	2.3339	2.6270
72.5	34.6961	0.30345	2.3276	2.6312
75	38.5575	0.31394	2.3214	2.6354
77.5	42.7706	0.32442	2.3151	2.6395
80	47.3601	0.33492	2.30879	2.64373
82.5	52.5777	0.34542	2.30251	2.64792
85	57.8159	0.34659	2.29611	2.65199
87.5	63.7196	0.36643	2.28971	2.65606
90	70.1059	0.37693	2.28320	2.66025
92.5	77.0489	0.38747	2.27669	2.66420
95	84.5676	0.39799	2.27023	2.66821
97.5	92.6379	0.40853	2.26349	2.67214
100	101.3250	0.41908	2.25692	2.67606
102.5	110.7410	0.42962	2.25035	2.67996
105	120.8548	0.44017	2.24354	2.68368
107.5	131.7114	0.45074	2.23674	2.68752
110	143.3489	0.46132	2.22994	2.69129
112.5	155.8051	0.47190	2.22313	2.69508
115	169.1284	0.48249	2.21615	2.69874
117.5	183.3574	0.49309	2.20929	2.70241
120	198.5414	0.50372	2.20225	2.70607
122.5	214.8337	0.51434	2.19519	2.70949
125	232.1809	0.52499	2.18807	2.71311
127.5	250.6391	0.53565	2.18083	2.71651
130	270.2538	0.54631	2.17365	2.71991
132.5	291.0837	0.55698	2.11632	2.72331
135	313.1771	0.56768	2.15899	2.72654

Source: Calculated from ASME 1967. *Steam Tables. Properties of Saturated and Superheated Steam*—from 0.08865 to 15.500 lb per sq in. absolute pressure. American Society of Mechanical Engineers, NY. Used with permission.