

E.9 PROPERTIES OF WATER<sup>1</sup>

## I. Saturation Temperature

$T$ (°C)	$P$ (MPa)	$V^L$ m <sup>3</sup> /kg	$V^V$ m <sup>3</sup> /kg	$U^L$ kJ/kg	$\Delta U^{vap}$ kJ/kg	$U^V$ kJ/kg	$H^L$ kJ/kg	$\Delta H^{vap}$ kJ/kg	$H^V$ kJ/kg	$S^L$ kJ/kg-K	$\Delta S^{vap}$ kJ/kg-K	$S^V$ kJ/kg-K
0.01	0.000612	0.001000	205.9912	0.00	2374.92	2374.92	0.00	2500.92	2500.92	0.0000	9.1555	9.1555
5	0.000873	0.001000	147.0113	21.02	2360.76	2381.78	21.02	2489.04	2510.06	0.0763	8.9485	9.0248
10	0.001228	0.001000	106.3032	42.02	2346.63	2388.65	42.02	2477.19	2519.21	0.1511	8.7487	8.8998
15	0.001706	0.001001	77.8755	62.98	2332.51	2395.49	62.98	2465.35	2528.33	0.2245	8.5558	8.7803
20	0.002339	0.001002	57.7567	83.91	2318.41	2402.32	83.91	2453.52	2537.43	0.2965	8.3695	8.6660
25	0.003170	0.001003	43.3373	104.83	2304.30	2409.13	104.83	2441.68	2546.51	0.3672	8.1894	8.5566
30	0.004247	0.001004	32.8783	125.73	2290.18	2415.91	125.73	2429.82	2555.55	0.4368	8.0152	8.4520
35	0.005629	0.001006	25.2053	146.63	2276.04	2422.67	146.63	2417.92	2564.55	0.5051	7.8466	8.3517
40	0.007385	0.001008	19.5151	167.53	2261.86	2429.39	167.53	2405.98	2573.51	0.5724	7.6831	8.2555
45	0.009595	0.001010	15.2521	188.43	2247.65	2436.08	188.43	2394.00	2582.43	0.6386	7.5247	8.1633
50	0.012400	0.001012	12.0269	209.33	2233.40	2442.73	209.34	2381.95	2591.29	0.7038	7.3710	8.0748
55	0.015800	0.001015	9.5643	230.24	2219.10	2449.34	230.26	2369.83	2600.09	0.7680	7.2218	7.9898
60	0.019900	0.001017	7.6672	251.16	2204.74	2455.90	251.18	2357.65	2608.83	0.8313	7.0768	7.9081
65	0.025000	0.001020	6.1935	272.09	2190.32	2462.41	272.12	2345.38	2617.50	0.8937	6.9359	7.8296
70	0.031200	0.001023	5.0395	293.03	2175.83	2468.86	293.07	2333.03	2626.10	0.9551	6.7989	7.7540
75	0.038600	0.001026	4.1289	313.99	2161.25	2475.24	314.03	2320.57	2634.60	1.0158	6.6654	7.6812
80	0.047400	0.001029	3.4052	334.96	2146.60	2481.56	335.01	2308.01	2643.02	1.0756	6.5355	7.6111
85	0.057900	0.001032	2.8258	355.95	2131.86	2487.81	356.01	2295.32	2651.33	1.1346	6.4088	7.5434
90	0.070200	0.001036	2.3591	376.97	2117.00	2493.97	377.04	2282.49	2659.53	1.1929	6.2852	7.4781
95	0.084600	0.001040	1.9806	398.00	2102.04	2500.04	398.09	2269.52	2667.61	1.2504	6.1647	7.4151
100	0.101400	0.001043	1.6718	419.06	2086.96	2506.02	419.17	2256.40	2675.57	1.3072	6.0469	7.3541
105	0.120900	0.001047	1.4184	440.15	2071.75	2511.90	440.27	2243.12	2683.39	1.3633	5.9319	7.2952
110	0.143400	0.001052	1.2093	461.26	2056.41	2517.67	461.42	2229.64	2691.06	1.4188	5.8193	7.2381
115	0.169200	0.001056	1.0358	482.41	2040.92	2523.33	482.59	2215.99	2698.58	1.4737	5.7091	7.1828
120	0.198700	0.001060	0.8912	503.60	2025.26	2528.86	503.81	2202.12	2705.93	1.5279	5.6012	7.1291
125	0.232200	0.001065	0.7700	524.83	2009.44	2534.27	525.07	2188.03	2713.10	1.5816	5.4954	7.0770
130	0.270300	0.001070	0.6680	546.09	1993.44	2539.53	546.38	2173.70	2720.08	1.6346	5.3918	7.0264
135	0.313200	0.001075	0.5817	567.41	1977.24	2544.65	567.74	2159.13	2726.87	1.6872	5.2900	6.9772
140	0.361500	0.001080	0.5085	588.77	1960.85	2549.62	589.16	2144.28	2733.44	1.7392	5.1901	6.9293
145	0.415700	0.001085	0.4460	610.19	1944.23	2554.42	610.64	2129.16	2739.80	1.7907	5.0919	6.8826
150	0.476200	0.001091	0.3925	631.66	1927.39	2559.05	632.18	2113.75	2745.93	1.8418	4.9953	6.8371
155	0.543500	0.001096	0.3465	653.19	1910.32	2563.51	653.79	2098.02	2751.81	1.8924	4.9002	6.7926
160	0.618200	0.001102	0.3068	674.79	1892.99	2567.78	675.47	2081.97	2757.44	1.9426	4.8065	6.7491
165	0.700900	0.001108	0.2724	696.46	1875.39	2571.85	697.24	2065.57	2762.81	1.9923	4.7143	6.7066
170	0.792200	0.001114	0.2426	718.20	1857.53	2575.73	719.08	2048.82	2767.90	2.0417	4.6233	6.6650
175	0.892600	0.001121	0.2166	740.02	1839.37	2579.39	741.02	2031.69	2772.71	2.0906	4.5335	6.6241
180	1.002800	0.001127	0.1938	761.92	1820.91	2582.83	763.05	2014.16	2777.21	2.1392	4.4448	6.5840
185	1.123500	0.001134	0.1739	783.91	1802.13	2586.04	785.19	1996.22	2781.41	2.1875	4.3572	6.5447

1. Harvey, A. P., Peskin, A. P., Klein, S. A., December 1997. NIST/ASME Steam Properties, Version 2.1, NIST Standard Reference Data Program.

$T$ (°C)	$P$ (MPa)	$V^L$ m <sup>3</sup> /kg	$V^V$ m <sup>3</sup> /kg	$U^L$ kJ/kg	$\Delta U^{vap}$ kJ/kg	$U^V$ kJ/kg	$H^L$ kJ/kg	$\Delta H^{vap}$ kJ/kg	$H^V$ kJ/kg	$S^L$ kJ/kg-K	$\Delta S^{vap}$ kJ/kg-K	$S^V$ kJ/kg-K
190	1.25520	0.001141	0.1564	806.00	1783.01	2589.01	807.43	1977.85	2785.28	2.2355	4.2704	6.5059
195	1.39880	0.001149	0.1409	828.18	1763.56	2591.74	829.79	1959.03	2788.82	2.2832	4.1846	6.4678
200	1.55490	0.001157	0.1272	850.47	1743.73	2594.20	852.27	1939.74	2792.01	2.3305	4.0997	6.4302
205	1.72430	0.001164	0.1151	872.87	1723.53	2596.40	874.88	1919.95	2794.83	2.3777	4.0153	6.3930
210	1.90770	0.001173	0.1043	895.39	1702.92	2598.31	897.63	1899.64	2797.27	2.4245	3.9318	6.3563
215	2.10580	0.001181	0.0947	918.04	1681.90	2599.94	920.53	1878.79	2799.32	2.4712	3.8488	6.3200
220	2.31960	0.001190	0.0861	940.82	1660.43	2601.25	943.58	1857.37	2800.95	2.5177	3.7663	6.2840
225	2.54970	0.001199	0.0784	963.74	1638.50	2602.24	966.80	1835.35	2802.15	2.5640	3.6843	6.2483
230	2.79710	0.001209	0.0715	986.81	1616.09	2602.90	990.19	1812.71	2802.90	2.6101	3.6027	6.2128
235	3.06250	0.001219	0.0653	1010.04	1593.16	2603.20	1013.77	1789.40	2803.17	2.6561	3.5214	6.1775
240	3.34690	0.001229	0.0597	1033.44	1569.69	2603.13	1037.55	1765.41	2802.96	2.7020	3.4403	6.1423
245	3.65120	0.001240	0.0547	1057.02	1545.65	2602.67	1061.55	1740.67	2802.22	2.7478	3.3594	6.1072
250	3.97620	0.001252	0.0501	1080.79	1521.00	2601.79	1085.77	1715.16	2800.93	2.7935	3.2786	6.0721
255	4.32290	0.001264	0.0459	1104.77	1495.72	2600.49	1110.23	1688.84	2799.07	2.8392	3.1977	6.0369
260	4.69230	0.001276	0.0422	1128.97	1469.75	2598.72	1134.96	1661.64	2796.60	2.8849	3.1167	6.0016
265	5.08530	0.001289	0.0387	1153.41	1443.04	2596.45	1159.96	1633.53	2793.49	2.9307	3.0354	5.9661
270	5.50300	0.001303	0.0356	1178.10	1415.57	2593.67	1185.27	1604.42	2789.69	2.9765	2.9539	5.9304
275	5.94640	0.001318	0.0328	1203.07	1387.26	2590.33	1210.90	1574.27	2785.17	3.0224	2.8720	5.8944
280	6.41660	0.001333	0.0302	1228.33	1358.06	2586.39	1236.88	1542.99	2779.87	3.0685	2.7894	5.8579
285	6.91470	0.001349	0.0278	1253.92	1327.89	2581.81	1263.25	1510.48	2773.73	3.1147	2.7062	5.8209
290	7.44180	0.001366	0.0256	1279.86	1296.67	2576.53	1290.03	1476.67	2766.70	3.1612	2.6222	5.7834
295	7.99910	0.001385	0.0235	1306.19	1264.30	2570.49	1317.27	1441.43	2758.70	3.2080	2.5371	5.7451
300	8.58790	0.001404	0.0217	1332.95	1230.67	2563.62	1345.01	1404.63	2749.64	3.2552	2.4507	5.7059
305	9.20940	0.001425	0.0199	1360.18	1195.67	2555.85	1373.30	1366.13	2739.43	3.3028	2.3629	5.6657
310	9.86510	0.001448	0.0183	1387.93	1159.14	2547.07	1402.22	1325.73	2727.95	3.3510	2.2734	5.6244
315	10.55620	0.001472	0.0169	1416.28	1120.89	2537.17	1431.83	1283.22	2715.05	3.3998	2.1818	5.5816
320	11.28430	0.001499	0.0155	1445.31	1080.70	2526.01	1462.22	1238.37	2700.59	3.4494	2.0878	5.5372
325	12.05100	0.001528	0.0142	1475.11	1038.30	2513.41	1493.52	1190.81	2684.33	3.5000	1.9908	5.4908
330	12.85810	0.001561	0.0130	1505.80	993.35	2499.15	1525.87	1140.16	2666.03	3.5518	1.8904	5.4422
335	13.70730	0.001597	0.0118	1537.56	945.40	2482.96	1559.45	1085.90	2645.35	3.6050	1.7856	5.3906
340	14.60070	0.001638	0.0108	1570.62	893.82	2464.44	1594.53	1027.32	2621.85	3.6601	1.6755	5.3356
345	15.54060	0.001685	0.0098	1605.30	837.79	2443.09	1631.48	963.42	2594.90	3.7176	1.5586	5.2762
350	16.52940	0.001740	0.0088	1642.13	776.01	2418.14	1670.89	892.75	2563.64	3.7784	1.4326	5.2110
355	17.57010	0.001808	0.0079	1681.96	706.44	2388.40	1713.72	812.93	2526.65	3.8439	1.2941	5.1380
360	18.66600	0.001895	0.0069	1726.28	625.50	2351.78	1761.66	719.83	2481.49	3.9167	1.1369	5.0536
365	19.82140	0.002017	0.0060	1777.79	526.00	2303.79	1817.77	605.18	2422.95	4.0014	0.9483	4.9497
370	21.04360	0.002215	0.0050	1844.07	386.19	2230.26	1890.69	443.83	2334.52	4.1112	0.6900	4.8012
373.95	22.06400	0.003106	0.0031	2015.73	0.00	2015.73	2084.26	0.00	2084.26	4.4070	0.0000	4.4070

## II. Saturation Pressure

$T$ (°C)	$P$ (MPa)	$V^L$ m <sup>3</sup> /kg	$V^V$ m <sup>3</sup> /kg	$U^L$ kJ/kg	$\Delta U^{vap}$ kJ/kg	$U^V$ kJ/kg	$H^L$ kJ/kg	$\Delta H^{vap}$ kJ/kg	$H^V$ kJ/kg	$S^L$ kJ/kg-K	$\Delta S^{vap}$ kJ/kg-K	$S^V$ kJ/kg-K
6.97	0.001	0.001000	129.1780	29.30	2355.19	2384.49	29.30	2484.37	2513.67	0.1059	8.8690	8.9749
17.50	0.002	0.001001	66.9869	73.43	2325.47	2398.90	73.43	2459.45	2532.88	0.2606	8.4620	8.7226
24.08	0.003	0.001003	45.6532	100.98	2306.90	2407.88	100.98	2443.86	2544.84	0.3543	8.2221	8.5764
28.96	0.004	0.001004	34.7911	121.38	2293.12	2414.50	121.39	2432.28	2553.67	0.4224	8.0510	8.4734
32.87	0.005	0.001005	28.1853	137.74	2282.06	2419.80	137.75	2422.98	2560.73	0.4762	7.9176	8.3938
36.16	0.006	0.001006	23.7334	151.47	2272.76	2424.23	151.48	2415.15	2566.63	0.5208	7.8082	8.3290
39.00	0.007	0.001008	20.5245	163.34	2264.71	2428.05	163.35	2408.37	2571.72	0.5590	7.7155	8.2745
41.51	0.008	0.001008	18.0989	173.83	2257.58	2431.41	173.84	2402.37	2576.21	0.5925	7.6348	8.2273
43.76	0.009	0.001009	16.1992	183.24	2251.19	2434.43	183.25	2396.97	2580.22	0.6223	7.5635	8.1858
45.81	0.01	0.001010	14.6701	191.80	2245.36	2437.16	191.81	2392.05	2583.86	0.6492	7.4996	8.1488
60.06	0.02	0.001017	7.6480	251.40	2204.58	2455.98	251.42	2357.52	2608.94	0.8320	7.0752	7.9072
69.10	0.03	0.001022	5.2284	289.24	2178.46	2467.70	289.27	2335.28	2624.55	0.9441	6.8234	7.7675
75.86	0.04	0.001026	3.9930	317.58	2158.75	2476.33	317.62	2318.43	2636.05	1.0261	6.6429	7.6690
81.32	0.05	0.001030	3.2400	340.49	2142.72	2483.21	340.54	2304.68	2645.22	1.0912	6.5018	7.5930
85.93	0.06	0.001033	2.7317	359.85	2129.10	2488.95	359.91	2292.95	2652.86	1.1455	6.3856	7.5311
89.93	0.07	0.001036	2.3648	376.68	2117.20	2493.88	376.75	2282.67	2659.42	1.1921	6.2869	7.4790
93.49	0.08	0.001039	2.0871	391.63	2106.58	2498.21	391.71	2273.47	2665.18	1.2330	6.2009	7.4339
96.69	0.09	0.001041	1.8694	405.10	2096.97	2502.07	405.20	2265.11	2670.31	1.2696	6.1247	7.3943
99.61	0.1	0.001043	1.6939	417.40	2088.15	2505.55	417.50	2257.45	2674.95	1.3028	6.0561	7.3589
120.21	0.2	0.001061	0.8857	504.49	2024.60	2529.09	504.70	2201.53	2706.23	1.5302	5.5967	7.1269
133.52	0.3	0.001073	0.6058	561.11	1982.04	2543.15	561.43	2163.45	2724.88	1.6717	5.3199	6.9916
143.61	0.4	0.001084	0.4624	604.22	1948.88	2553.10	604.66	2133.39	2738.05	1.7765	5.1190	6.8955
151.83	0.5	0.001093	0.3748	639.54	1921.17	2560.71	640.09	2108.02	2748.11	1.8604	4.9603	6.8207
158.83	0.6	0.001101	0.3156	669.72	1897.07	2566.79	670.38	2085.76	2756.14	1.9308	4.8285	6.7593
164.95	0.7	0.001108	0.2728	696.23	1875.58	2571.81	697.00	2065.75	2762.75	1.9918	4.7153	6.7071
170.41	0.8	0.001115	0.2403	719.97	1856.06	2576.03	720.86	2047.44	2768.30	2.0457	4.6159	6.6616
175.35	0.9	0.001121	0.2149	741.55	1838.09	2579.64	742.56	2030.47	2773.03	2.0941	4.5272	6.6213
179.88	1	0.001127	0.1944	761.39	1821.36	2582.75	762.52	2014.59	2777.11	2.1381	4.4469	6.5850
187.96	1.2	0.001139	0.1633	796.96	1790.87	2587.83	798.33	1985.41	2783.74	2.2159	4.3058	6.5217
195.04	1.4	0.001149	0.1408	828.36	1763.40	2591.76	829.97	1958.88	2788.85	2.2835	4.1840	6.4675
201.37	1.6	0.001159	0.1237	856.60	1738.23	2594.83	858.46	1934.36	2792.82	2.3435	4.0764	6.4199
207.11	1.8	0.001168	0.1104	882.37	1714.87	2597.24	884.47	1911.44	2795.91	2.3975	3.9800	6.3775
212.38	2	0.001177	0.0996	906.15	1692.97	2599.12	908.50	1889.79	2798.29	2.4468	3.8922	6.3390
223.95	2.5	0.001197	0.0799	958.91	1643.15	2602.06	961.91	1840.02	2801.93	2.5543	3.7015	6.2558
233.85	3	0.001217	0.0667	1004.69	1598.47	2603.16	1008.34	1794.81	2803.15	2.6456	3.5400	6.1856
242.56	3.5	0.001235	0.0571	1045.47	1557.47	2602.94	1049.80	1752.84	2802.64	2.7254	3.3989	6.1243
250.35	4	0.001253	0.0498	1082.48	1519.24	2601.72	1087.49	1713.33	2800.82	2.7968	3.2728	6.0696
257.44	4.5	0.001270	0.0441	1116.53	1483.15	2599.68	1122.25	1675.70	2797.95	2.8615	3.1582	6.0197
263.94	5	0.001286	0.0394	1148.21	1448.77	2596.98	1154.64	1639.57	2794.21	2.9210	3.0527	5.9737
275.59	6	0.001319	0.0324	1206.01	1383.89	2589.90	1213.92	1570.67	2784.59	3.0278	2.8623	5.8901
285.83	7	0.001352	0.0274	1258.20	1322.78	2580.98	1267.66	1504.97	2772.63	3.1224	2.6924	5.8148
295.01	8	0.001385	0.0235	1306.23	1264.25	2570.48	1317.31	1441.37	2758.68	3.2081	2.5369	5.7450

$T$ (°C)	$P$ (MPa)	$V^L$ m <sup>3</sup> /kg	$V^V$ m <sup>3</sup> /kg	$U^L$ kJ/kg	$\Delta U^{vap}$ kJ/kg	$U^V$ kJ/kg	$H^L$ kJ/kg	$\Delta H^{vap}$ kJ/kg	$H^V$ kJ/kg	$S^L$ kJ/kg-K	$\Delta S^{vap}$ kJ/kg-K	$S^V$ kJ/kg-K
303.35	9	0.001418	0.0205	1351.11	1207.42	2558.53	1363.87	1379.07	2742.94	3.2870	2.3921	5.6791
311.00	10	0.001453	0.0180	1393.54	1151.65	2545.19	1408.06	1317.43	2725.49	3.3607	2.2553	5.6160
327.81	12.5	0.001546	0.0135	1492.26	1013.35	2505.61	1511.58	1162.73	2674.31	3.5290	1.9348	5.4638
342.16	15	0.001657	0.0103	1585.35	870.27	2455.62	1610.20	1000.50	2610.70	3.6846	1.6260	5.3106
354.67	17.5	0.001803	0.0079	1679.22	711.32	2390.54	1710.77	818.53	2529.30	3.8394	1.3037	5.1431
365.75	20	0.002040	0.0059	1786.41	508.63	2295.04	1827.21	585.14	2412.35	4.0156	0.9159	4.9315
373.95	22.06400	0.003106	0.0031	2015.73	0.00	2015.73	2084.26	0.00	2084.26	4.4070	0.0000	4.4070

### III. Superheated Steam

$P = 0.01\text{MPa}$ (45.8)					$P = 0.05\text{MPa}$ (81.3)					$P = 0.10\text{MPa}$ (99.6)				
$T$ (°C)	$V$ (m <sup>3</sup> /kg)	$U$ (kJ/kg)	$H$ (kJ/kg)	$S$ (kJ/kg-K)	$T$ (°C)	$V$ (m <sup>3</sup> /kg)	$U$ (kJ/kg)	$H$ (kJ/kg)	$S$ (kJ/kg-K)	$T$ (°C)	$V$ (m <sup>3</sup> /kg)	$U$ (kJ/kg)	$H$ (kJ/kg)	$S$ (kJ/kg-K)
45.8	14.6701	2437.2	2583.9	8.1488	81.3	3.2400	2483.2	2645.2	7.5930	99.6	1.6939	2505.6	2675.0	7.3588
50	14.9139	2443.3	2592.4	8.1755	100	3.4187	2511.5	2682.4	7.6953	100	1.6959	2506.2	2675.8	7.3610
100	17.1964	2515.5	2687.5	8.4489	150	3.8897	2585.7	2780.2	7.9413	150	1.9367	2582.9	2776.6	7.6148
150	19.5132	2587.9	2783.0	8.6892	200	4.3562	2660.0	2877.8	8.1592	200	2.1724	2658.2	2875.5	7.8356
200	21.8256	2661.3	2879.6	8.9049	250	4.8206	2735.1	2976.1	8.3568	250	2.4062	2733.9	2974.5	8.0346
250	24.1361	2736.1	2977.4	9.1015	300	5.2840	2811.6	3075.8	8.5386	300	2.6388	2810.6	3074.5	8.2172
300	26.4456	2812.3	3076.7	9.2827	350	5.7469	2889.4	3176.8	8.7076	350	2.8710	2888.7	3175.8	8.3866
350	28.7545	2890.0	3177.5	9.4513	400	6.2094	2968.9	3279.3	8.8659	400	3.1027	2968.3	3278.6	8.5452
400	31.0631	2969.3	3279.9	9.6094	450	6.6717	3049.9	3383.5	9.0151	450	3.3342	3049.4	3382.8	8.6946
450	33.3714	3050.3	3384.0	9.7584	500	7.1338	3132.6	3489.3	9.1566	500	3.5655	3132.2	3488.7	8.8361
500	35.6796	3132.9	3489.7	9.8998	550	7.5957	3217.0	3596.8	9.2913	550	3.7968	3216.6	3596.3	8.9709
550	37.9876	3217.2	3597.1	10.0344	600	8.0576	3303.1	3706.0	9.4201	600	4.0279	3302.8	3705.6	9.0998
600	40.2956	3303.3	3706.3	10.1631	650	8.5195	3391.0	3816.9	9.5436	650	4.2590	3390.7	3816.6	9.2234
650	42.6035	3391.2	3817.2	10.2866	700	8.9812	3480.6	3929.7	9.6625	700	4.4900	3480.4	3929.4	9.3424
700	44.9113	3480.8	3929.9	10.4055	750	9.4430	3572.0	4044.2	9.7773	750	4.7209	3571.8	4043.9	9.4572
750	47.2191	3572.2	4044.4	10.5202	800	9.9047	3665.2	4160.4	9.8882	800	4.9519	3665.0	4160.2	9.5681
800	49.5269	3665.3	4160.6	10.6311	850	10.3663	3760.1	4278.5	9.9957	850	5.1828	3760.0	4278.2	9.6757
850	51.8347	3760.3	4278.6	10.7386	900	10.8280	3856.8	4398.2	10.1000	900	5.4137	3856.6	4398.0	9.7800
900	54.1424	3856.9	4398.3	10.8429	950	11.2896	3955.1	4519.6	10.2014	950	5.6446	3955.0	4519.5	9.8813
950	56.4501	3955.2	4519.7	10.9442	1000	11.7513	4055.1	4642.7	10.3000	1000	5.8754	4055.0	4642.6	9.9800
1000	58.7578	4055.2	4642.8	11.0428	1050	12.2129	4156.8	4767.4	10.3960	1050	6.1063	4156.6	4767.3	10.0761
1050	61.0655	4156.8	4767.5	11.1389	1100	12.6745	4259.9	4893.7	10.4897	1100	6.3371	4259.8	4893.5	10.1697
1100	63.3732	4260.0	4893.7	11.2325	1150	13.1361	4364.6	5021.4	10.5811	1150	6.5680	4364.5	5021.3	10.2611
1150	65.6808	4364.7	5021.5	11.3239	1200	13.5977	4470.8	5150.7	10.6703	1200	6.7988	4470.7	5150.6	10.3504
1200	67.9885	4470.9	5150.7	11.4132	1250	14.0592	4578.4	5281.3	10.7576	1250	7.0296	4578.3	5281.2	10.4376
1250	70.2961	4578.4	5281.4	11.5004	1300	14.5208	4687.3	5413.3	10.8428	1300	7.2604	4687.2	5413.2	10.5229

$P = 0.20\text{MPa}$ (120.3)					$P = 0.30\text{MPa}$ (133.5)					$P = 0.40\text{MPa}$ (143.6)				
$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
120.3	0.8857	2529.1	2706.2	7.1269	133.5	0.6058	2543.2	2724.9	6.9916	143.6	0.4624	2553.1	2738.1	6.8955
150	0.9599	2577.1	2769.1	7.2810	150	0.6340	2571.0	2761.2	7.0791	150	0.4709	2564.4	2752.8	6.9306
200	1.0805	2654.6	2870.7	7.5081	200	0.7164	2651.0	2865.9	7.3131	200	0.5343	2647.2	2860.9	7.1723
250	1.1989	2731.4	2971.2	7.7100	250	0.7964	2728.9	2967.9	7.5180	250	0.5952	2726.4	2964.5	7.3804
300	1.3162	2808.8	3072.1	7.8941	300	0.8753	2807.0	3069.6	7.7037	300	0.6549	2805.1	3067.1	7.5677
350	1.4330	2887.3	3173.9	8.0644	350	0.9536	2885.9	3172.0	7.8750	350	0.7140	2884.4	3170.0	7.7399
400	1.5493	2967.1	3277.0	8.2236	400	1.0315	2966.0	3275.5	8.0347	400	0.7726	2964.9	3273.9	7.9002
450	1.6655	3048.5	3381.6	8.3734	450	1.1092	3047.5	3380.3	8.1849	450	0.8311	3046.6	3379.0	8.0508
500	1.7814	3131.4	3487.7	8.5152	500	1.1867	3130.6	3486.6	8.3271	500	0.8894	3129.8	3485.5	8.1933
550	1.8973	3215.9	3595.4	8.6502	550	1.2641	3215.3	3594.5	8.4623	550	0.9475	3214.6	3593.6	8.3287
600	2.0130	3302.2	3704.8	8.7792	600	1.3414	3301.6	3704.0	8.5914	600	1.0056	3301.0	3703.2	8.4580
650	2.1287	3390.2	3815.9	8.9030	650	1.4186	3389.7	3815.3	8.7153	650	1.0636	3389.1	3814.6	8.5820
700	2.2443	3479.9	3928.8	9.0220	700	1.4958	3479.5	3928.2	8.8344	700	1.1215	3479.0	3927.6	8.7012
750	2.3599	3571.4	4043.4	9.1369	750	1.5729	3571.0	4042.9	8.9494	750	1.1794	3570.6	4042.4	8.8162
800	2.4755	3664.7	4159.8	9.2479	800	1.6500	3664.3	4159.3	9.0604	800	1.2373	3663.9	4158.8	8.9273
850	2.5910	3759.6	4277.8	9.3555	850	1.7271	3759.3	4277.4	9.1680	850	1.2951	3759.0	4277.0	9.0350
900	2.7066	3856.3	4397.6	9.4598	900	1.8042	3856.0	4397.3	9.2724	900	1.3530	3855.7	4396.9	9.1394
950	2.8221	3954.7	4519.1	9.5612	950	1.8812	3954.4	4518.8	9.3739	950	1.4108	3954.2	4518.5	9.2409
1000	2.9375	4054.8	4642.3	9.6599	1000	1.9582	4054.5	4642.0	9.4726	1000	1.4686	4054.3	4641.7	9.3396
1050	3.0530	4156.4	4767.0	9.7560	1050	2.0352	4156.2	4766.7	9.5687	1050	1.5264	4155.9	4766.5	9.4357
1100	3.1685	4259.6	4893.3	9.8497	1100	2.1122	4259.4	4893.1	9.6624	1100	1.5841	4259.2	4892.8	9.5295
1150	3.2839	4364.3	5021.1	9.9411	1150	2.1892	4364.1	5020.9	9.7538	1150	1.6419	4363.9	5020.7	9.6209
1200	3.3994	4470.5	5150.4	10.0304	1200	2.2662	4470.3	5150.2	9.8431	1200	1.6997	4470.1	5150.0	9.7102
1250	3.5148	4578.1	5281.1	10.1176	1250	2.3432	4577.9	5280.9	9.9303	1250	1.7574	4577.8	5280.7	9.7975
1300	3.6302	4687.0	5413.1	10.2029	1300	2.4202	4686.9	5412.9	10.0156	1300	1.8152	4686.7	5412.8	9.8828

$P = 0.50\text{MPa}$ (151.8)					$P = 0.60\text{MPa}$ (158.8)					$P = 0.80\text{MPa}$ (170.4)				
$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
151.8	0.3748	2560.7	2748.1	6.8207	158.8	0.3156	2566.8	2756.1	6.7593	170.4	0.2403	2576.0	2768.3	6.6616
200	0.4250	2643.3	2855.8	7.0610	200	0.3521	2639.3	2850.6	6.9683	200	0.2609	2631.0	2839.7	6.8176
250	0.4744	2723.8	2961.0	7.2724	250	0.3939	2721.2	2957.6	7.1832	250	0.2932	2715.9	2950.4	7.0401
300	0.5226	2803.2	3064.6	7.4614	300	0.4344	2801.4	3062.0	7.3740	300	0.3242	2797.5	3056.9	7.2345
350	0.5702	2883.0	3168.1	7.6346	350	0.4743	2881.6	3166.1	7.5481	350	0.3544	2878.6	3162.2	7.4106
400	0.6173	2963.7	3272.3	7.7955	400	0.5137	2962.5	3270.8	7.7097	400	0.3843	2960.2	3267.6	7.5734
450	0.6642	3045.6	3377.7	7.9465	450	0.5530	3044.7	3376.5	7.8611	450	0.4139	3042.8	3373.9	7.7257
500	0.7109	3129.0	3484.5	8.0892	500	0.5920	3128.2	3483.4	8.0041	500	0.4433	3126.6	3481.3	7.8692
550	0.7576	3213.9	3592.7	8.2249	550	0.6309	3213.2	3591.8	8.1399	550	0.4726	3211.9	3590.0	8.0054
600	0.8041	3300.4	3702.5	8.3543	600	0.6698	3299.8	3701.7	8.2695	600	0.5019	3298.7	3700.1	8.1354
650	0.8505	3388.6	3813.9	8.4784	650	0.7085	3388.1	3813.2	8.3937	650	0.5310	3387.1	3811.9	8.2598
700	0.8970	3478.5	3927.0	8.5977	700	0.7472	3478.1	3926.4	8.5131	700	0.5601	3477.2	3925.3	8.3794
750	0.9433	3570.2	4041.8	8.7128	750	0.7859	3569.8	4041.3	8.6283	750	0.5892	3569.0	4040.3	8.4947
800	0.9897	3663.6	4158.4	8.8240	800	0.8246	3663.2	4157.9	8.7395	800	0.6182	3662.4	4157.0	8.6061
850	1.0360	3758.6	4276.6	8.9317	850	0.8632	3758.3	4276.2	8.8472	850	0.6472	3757.6	4275.4	8.7139

900	1.0823	3855.4	4396.6	9.0362	900	0.9018	3855.1	4396.2	8.9518	900	0.6762	3854.5	4395.5	8.8185
950	1.1285	3953.9	4518.2	9.1377	950	0.9404	3953.6	4517.8	9.0533	950	0.7052	3953.1	4517.2	8.9201
1000	1.1748	4054.0	4641.4	9.2364	1000	0.9789	4053.7	4641.1	9.1521	1000	0.7341	4053.2	4640.5	9.0189
1050	1.2210	4155.7	4766.2	9.3326	1050	1.0175	4155.5	4766.0	9.2482	1050	0.7630	4155.0	4765.4	9.1151
1100	1.2673	4259.0	4892.6	9.4263	1100	1.0560	4258.7	4892.4	9.3420	1100	0.7920	4258.3	4891.9	9.2089
1150	1.3135	4363.7	5020.5	9.5178	1150	1.0946	4363.5	5020.3	9.4335	1150	0.8209	4363.1	5019.8	9.3004
1200	1.3597	4470.0	5149.8	9.6071	1200	1.1331	4469.8	5149.6	9.5228	1200	0.8498	4469.4	5149.2	9.3898
1250	1.4059	4577.6	5280.5	9.6944	1250	1.1716	4577.4	5280.4	9.6101	1250	0.8787	4577.1	5280.0	9.4771
1300	1.4521	4686.6	5412.6	9.7797	1300	1.2101	4686.4	5412.5	9.6954	1300	0.9076	4686.1	5412.2	9.5625

$P = 1.00\text{MPa}$  (179.9)

$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
179.9	0.1944	2582.8	2777.1	6.5850
200	0.2060	2622.2	2828.3	6.6955
250	0.2327	2710.4	2943.1	6.9265
300	0.2580	2793.6	3051.6	7.1246
350	0.2825	2875.7	3158.2	7.3029
400	0.3066	2957.9	3264.5	7.4669
450	0.3304	3040.9	3371.3	7.6200
500	0.3541	3125.0	3479.1	7.7641
550	0.3777	3210.5	3588.1	7.9008
600	0.4011	3297.5	3698.6	8.0310
650	0.4245	3386.0	3810.5	8.1557
700	0.4478	3476.2	3924.1	8.2755
750	0.4711	3568.1	4039.3	8.3909
800	0.4944	3661.7	4156.1	8.5024
850	0.5176	3757.0	4274.6	8.6103
900	0.5408	3853.9	4394.8	8.7150
950	0.5640	3952.5	4516.5	8.8166
1000	0.5872	4052.7	4639.9	8.9155
1050	0.6104	4154.5	4764.9	9.0118
1100	0.6335	4257.9	4891.4	9.1056
1150	0.6567	4362.7	5019.4	9.1972
1200	0.6798	4469.0	5148.9	9.2866
1250	0.7030	4576.7	5279.7	9.3739
1300	0.7261	4685.8	5411.9	9.4593

$P = 1.20\text{MPa}$  (188.0)

$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
188.0	0.1633	2587.8	2783.7	6.5217
200	0.1693	2612.9	2816.1	6.5909
250	0.1924	2704.7	2935.6	6.8313
300	0.2139	2789.7	3046.3	7.0335
350	0.2346	2872.7	3154.2	7.2139
400	0.2548	2955.5	3261.3	7.3793
450	0.2748	3038.9	3368.7	7.5332
500	0.2946	3123.4	3476.9	7.6779
550	0.3143	3209.1	3586.3	7.8150
600	0.3339	3296.3	3697.0	7.9455
650	0.3535	3385.0	3809.2	8.0704
700	0.3730	3475.3	3922.9	8.1904
750	0.3924	3567.3	4038.2	8.3060
800	0.4118	3661.0	4155.2	8.4176
850	0.4312	3756.3	4273.8	8.5256
900	0.4506	3853.3	4394.0	8.6303
950	0.4699	3952.0	4515.9	8.7320
1000	0.4893	4052.2	4639.4	8.8310
1050	0.5086	4154.1	4764.4	8.9273
1100	0.5279	4257.5	4891.0	9.0212
1150	0.5472	4362.3	5019.0	9.1128
1200	0.5665	4468.7	5148.5	9.2022
1250	0.5858	4576.4	5279.3	9.2895
1300	0.6051	4685.4	5411.5	9.3749

$P = 1.40\text{MPa}$  (195.0)

$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
195.0	0.1408	2591.8	2788.9	6.4675
200	0.1430	2602.7	2803.0	6.4975
250	0.1636	2698.9	2927.9	6.7488
300	0.1823	2785.7	3040.9	6.9552
350	0.2003	2869.7	3150.1	7.1379
400	0.2178	2953.1	3258.1	7.3046
450	0.2351	3037.0	3366.1	7.4594
500	0.2522	3121.8	3474.8	7.6047
550	0.2691	3207.7	3584.5	7.7422
600	0.2860	3295.1	3695.4	7.8730
650	0.3028	3384.0	3807.8	7.9982
700	0.3195	3474.4	3921.7	8.1183
750	0.3362	3566.5	4037.2	8.2340
800	0.3529	3660.2	4154.3	8.3457
850	0.3695	3755.6	4273.0	8.4538
900	0.3861	3852.7	4393.3	8.5587
950	0.4027	3951.4	4515.2	8.6604
1000	0.4193	4051.7	4638.8	8.7594
1050	0.4359	4153.6	4763.9	8.8558
1100	0.4525	4257.0	4890.5	8.9497
1150	0.4690	4361.9	5018.6	9.0413
1200	0.4856	4468.3	5148.1	9.1308
1250	0.5021	4576.0	5279.0	9.2182
1300	0.5187	4685.1	5411.2	9.3036

$P = 1.60\text{MPa}$  (201.4)

$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
201.4	0.1237	2594.8	2792.8	6.4199
250	0.1419	2692.9	2919.9	6.6753
300	0.1587	2781.6	3035.4	6.8863
350	0.1746	2866.6	3146.0	7.0713
400	0.1901	2950.7	3254.9	7.2394
450	0.2053	3035.0	3363.5	7.3950
500	0.2203	3120.1	3472.6	7.5409
550	0.2352	3206.3	3582.6	7.6788

$P = 1.80\text{MPa}$  (207.1)

$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
207.1	0.1104	2597.2	2795.9	6.3775
250	0.1250	2686.7	2911.7	6.6087
300	0.1402	2777.4	3029.9	6.8246
350	0.1546	2863.6	3141.8	7.0120
400	0.1685	2948.3	3251.6	7.1814
450	0.1821	3033.1	3360.9	7.3380
500	0.1955	3118.5	3470.4	7.4845
550	0.2088	3205.0	3580.8	7.6228

$P = 2.00\text{MPa}$  (212.4)

$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
212.4	0.0996	2599.1	2798.3	6.3390
250	0.1115	2680.2	2903.2	6.5475
300	0.1255	2773.2	3024.2	6.7684
350	0.1386	2860.5	3137.7	6.9583
400	0.1512	2945.9	3248.3	7.1292
450	0.1635	3031.1	3358.2	7.2866
500	0.1757	3116.9	3468.2	7.4337
550	0.1877	3203.6	3579.0	7.5725

600	0.2500	3293.9	3693.9	7.8100	600	0.2220	3292.7	3692.3	7.7543	600	0.1996	3291.5	3690.7	7.7043
650	0.2647	3382.9	3806.5	7.9354	650	0.2351	3381.9	3805.1	7.8799	650	0.2115	3380.8	3803.8	7.8302
700	0.2794	3473.5	3920.5	8.0557	700	0.2482	3472.6	3919.4	8.0004	700	0.2233	3471.6	3918.2	7.9509
750	0.2940	3565.7	4036.1	8.1716	750	0.2613	3564.9	4035.1	8.1164	750	0.2350	3564.0	4034.1	8.0670
800	0.3087	3659.5	4153.3	8.2834	800	0.2743	3658.8	4152.4	8.2284	800	0.2467	3658.0	4151.5	8.1790
850	0.3232	3755.0	4272.2	8.3916	850	0.2872	3754.3	4271.3	8.3367	850	0.2584	3753.6	4270.5	8.2874
900	0.3378	3852.1	4392.6	8.4965	900	0.3002	3851.5	4391.9	8.4416	900	0.2701	3850.9	4391.1	8.3925
950	0.3523	3950.9	4514.6	8.5984	950	0.3131	3950.3	4514.0	8.5435	950	0.2818	3949.8	4513.3	8.4945
1000	0.3669	4051.2	4638.2	8.6974	1000	0.3261	4050.7	4637.6	8.6426	1000	0.2934	4050.2	4637.0	8.5936
1050	0.3814	4153.1	4763.4	8.7938	1050	0.3390	4152.7	4762.8	8.7391	1050	0.3051	4152.2	4762.3	8.6901
1100	0.3959	4256.6	4890.0	8.8878	1100	0.3519	4256.2	4889.5	8.8331	1100	0.3167	4255.7	4889.1	8.7842
1150	0.4104	4361.5	5018.2	8.9794	1150	0.3648	4361.1	5017.7	8.9248	1150	0.3283	4360.7	5017.3	8.8759
1200	0.4249	4467.9	5147.7	9.0689	1200	0.3777	4467.5	5147.3	9.0143	1200	0.3399	4467.2	5147.0	8.9654
1250	0.4394	4575.7	5278.7	9.1563	1250	0.3905	4575.3	5278.3	9.1017	1250	0.3515	4575.0	5278.0	9.0529
1300	0.4538	4684.8	5410.9	9.2417	1300	0.4034	4684.5	5410.6	9.1872	1300	0.3631	4684.1	5410.3	9.1384
<i>P</i> = 2.50MPa (224.0)					<i>P</i> = 3.00MPa (233.9)					<i>P</i> = 3.50MPa (242.6)				
<i>T</i> (°C)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)	<i>T</i> (°C)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)	<i>T</i> (°C)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)
224.0	0.0799	2602.1	2801.9	6.2558	233.9	0.0667	2603.2	2803.2	6.1856	242.6	0.0571	2602.9	2802.6	6.1243
250	0.0871	2663.3	2880.9	6.4107	250	0.0706	2644.7	2856.5	6.2893	250	0.0588	2624.0	2829.7	6.1764
300	0.0989	2762.2	3009.6	6.6459	300	0.0812	2750.8	2994.3	6.5412	300	0.0685	2738.8	2978.4	6.4484
350	0.1098	2852.5	3127.0	6.8424	350	0.0906	2844.4	3116.1	6.7449	350	0.0768	2836.0	3104.8	6.6601
400	0.1201	2939.8	3240.1	7.0170	400	0.0994	2933.5	3231.7	6.9234	400	0.0846	2927.2	3223.2	6.8427
450	0.1302	3026.2	3351.6	7.1767	450	0.1079	3021.2	3344.8	7.0856	450	0.0920	3016.1	3338.0	7.0074
500	0.1400	3112.8	3462.7	7.3254	500	0.1162	3108.6	3457.2	7.2359	500	0.0992	3104.5	3451.6	7.1593
550	0.1497	3200.1	3574.3	7.4653	550	0.1244	3196.6	3569.7	7.3768	550	0.1063	3193.1	3565.0	7.3014
600	0.1593	3288.5	3686.8	7.5979	600	0.1324	3285.5	3682.8	7.5103	600	0.1133	3282.5	3678.9	7.4356
650	0.1689	3378.2	3800.4	7.7243	650	0.1405	3375.6	3796.9	7.6373	650	0.1202	3372.9	3793.5	7.5633
700	0.1783	3469.3	3915.2	7.8455	700	0.1484	3467.0	3912.2	7.7590	700	0.1270	3464.7	3909.3	7.6854
750	0.1878	3562.0	4031.5	7.9620	750	0.1563	3559.9	4028.9	7.8758	750	0.1338	3557.8	4026.3	7.8027
800	0.1972	3656.2	4149.2	8.0743	800	0.1642	3654.3	4146.9	7.9885	800	0.1406	3652.5	4144.6	7.9156
850	0.2066	3752.0	4268.5	8.1830	850	0.1720	3750.3	4266.5	8.0973	850	0.1474	3748.6	4264.4	8.0247
900	0.2160	3849.4	4389.3	8.2882	900	0.1799	3847.9	4387.5	8.2028	900	0.1541	3846.4	4385.7	8.1303
950	0.2253	3948.4	4511.7	8.3904	950	0.1877	3947.0	4510.1	8.3051	950	0.1608	3945.6	4508.4	8.2328
1000	0.2347	4048.9	4635.6	8.4896	1000	0.1955	4047.7	4634.1	8.4045	1000	0.1675	4046.4	4632.7	8.3324
1050	0.2440	4151.0	4761.0	8.5863	1050	0.2033	4149.9	4759.7	8.5012	1050	0.1742	4148.7	4758.4	8.4292
1100	0.2533	4254.7	4887.9	8.6804	1100	0.2111	4253.6	4886.7	8.5955	1100	0.1809	4252.5	4885.6	8.5235
1150	0.2626	4359.7	5016.2	8.7722	1150	0.2188	4358.7	5015.2	8.6874	1150	0.1875	4357.7	5014.1	8.6155
1200	0.2719	4466.2	5146.0	8.8618	1200	0.2266	4465.3	5145.0	8.7770	1200	0.1942	4464.4	5144.1	8.7053
1250	0.2812	4574.1	5277.1	8.9493	1250	0.2343	4573.3	5276.2	8.8646	1250	0.2009	4572.4	5275.4	8.7929
1300	0.2905	4683.3	5409.5	9.0349	1300	0.2421	4682.5	5408.8	8.9502	1300	0.2075	4681.7	5408.0	8.8785

$P = 4.00\text{MPa}$ (250.4)					$P = 4.50\text{MPa}$ (257.4)					$P = 5.00\text{MPa}$ (263.9)				
$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
250.4	0.0498	2601.7	2800.8	6.0696	257.4	0.0441	2599.7	2798.0	6.0197	263.9	0.0394	2597.0	2794.2	5.9737
300	0.0589	2726.2	2961.7	6.3639	300	0.0514	2713.0	2944.2	6.2854	300	0.0453	2699.0	2925.7	6.2110
350	0.0665	2827.4	3093.3	6.5843	350	0.0584	2818.6	3081.5	6.5153	350	0.0520	2809.5	3069.3	6.4516
400	0.0734	2920.7	3214.5	6.7714	400	0.0648	2914.2	3205.6	6.7070	400	0.0578	2907.5	3196.7	6.6483
450	0.0800	3011.0	3331.2	6.9386	450	0.0708	3005.8	3324.2	6.8770	450	0.0633	3000.6	3317.2	6.8210
500	0.0864	3100.3	3446.0	7.0922	500	0.0765	3096.0	3440.4	7.0323	500	0.0686	3091.7	3434.7	6.9781
550	0.0927	3189.5	3560.3	7.2355	550	0.0821	3186.0	3555.6	7.1767	550	0.0737	3182.4	3550.9	7.1237
600	0.0989	3279.4	3674.9	7.3705	600	0.0877	3276.4	3670.9	7.3127	600	0.0787	3273.3	3666.8	7.2605
650	0.1049	3370.3	3790.1	7.4988	650	0.0931	3367.7	3786.6	7.4416	650	0.0836	3365.0	3783.2	7.3901
700	0.1110	3462.4	3906.3	7.6214	700	0.0985	3460.0	3903.3	7.5646	700	0.0885	3457.7	3900.3	7.5136
750	0.1170	3555.8	4023.6	7.7390	750	0.1038	3553.7	4021.0	7.6826	750	0.0934	3551.6	4018.4	7.6320
800	0.1229	3650.6	4142.3	7.8523	800	0.1092	3648.8	4140.0	7.7962	800	0.0982	3646.9	4137.7	7.7458
850	0.1289	3747.0	4262.4	7.9616	850	0.1145	3745.3	4260.3	7.9057	850	0.1029	3743.6	4258.3	7.8556
900	0.1348	3844.8	4383.9	8.0674	900	0.1197	3843.3	4382.1	8.0118	900	0.1077	3841.8	4380.2	7.9618
950	0.1406	3944.2	4506.8	8.1701	950	0.1250	3942.8	4505.2	8.1146	950	0.1124	3941.5	4503.6	8.0648
1000	0.1465	4045.1	4631.2	8.2697	1000	0.1302	4043.9	4629.8	8.2144	1000	0.1171	4042.6	4628.3	8.1648
1050	0.1524	4147.5	4757.1	8.3667	1050	0.1354	4146.4	4755.8	8.3115	1050	0.1219	4145.2	4754.5	8.2620
1100	0.1582	4251.4	4884.4	8.4611	1100	0.1406	4250.4	4883.2	8.4060	1100	0.1266	4249.3	4882.0	8.3566
1150	0.1641	4356.7	5013.1	8.5532	1150	0.1458	4355.8	5012.0	8.4981	1150	0.1312	4354.8	5011.0	8.4488
1200	0.1699	4463.5	5143.1	8.6430	1200	0.1510	4462.5	5142.2	8.5880	1200	0.1359	4461.6	5141.2	8.5388
1250	0.1757	4571.5	5274.5	8.7307	1250	0.1562	4570.7	5273.7	8.6758	1250	0.1406	4569.8	5272.8	8.6266
1300	0.1816	4680.9	5407.2	8.8164	1300	0.1614	4680.1	5406.4	8.7615	1300	0.1453	4679.3	5405.7	8.7124

$P = 6.00\text{MPa}$ (275.6)					$P = 7.00\text{MPa}$ (285.8)					$P = 8.00\text{MPa}$ (295.0)				
$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
275.6	0.0324	2589.9	2784.6	5.8901	285.8	0.0274	2581.0	2772.6	5.8148	295.0	0.0235	2570.5	2758.7	5.7450
300	0.0362	2668.4	2885.5	6.0703	300	0.0295	2633.5	2839.9	5.9337	300	0.0243	2592.3	2786.5	5.7937
350	0.0423	2790.4	3043.9	6.3357	350	0.0353	2770.1	3016.9	6.2304	350	0.0300	2748.3	2988.1	6.1321
400	0.0474	2893.7	3178.2	6.5432	400	0.0400	2879.5	3159.2	6.4502	400	0.0343	2864.6	3139.4	6.3658
450	0.0522	2989.9	3302.9	6.7219	450	0.0442	2979.0	3288.3	6.6353	450	0.0382	2967.8	3273.3	6.5579
500	0.0567	3083.1	3423.1	6.8826	500	0.0482	3074.3	3411.4	6.8000	500	0.0418	3065.4	3399.5	6.7266
550	0.0610	3175.2	3541.3	7.0307	550	0.0520	3167.9	3531.6	6.9506	550	0.0452	3160.5	3521.8	6.8799
600	0.0653	3267.2	3658.7	7.1693	600	0.0557	3260.9	3650.6	7.0910	600	0.0485	3254.7	3642.4	7.0221
650	0.0694	3359.6	3776.2	7.3001	650	0.0593	3354.3	3769.3	7.2231	650	0.0517	3348.9	3762.3	7.1556
700	0.0735	3453.0	3894.3	7.4246	700	0.0629	3448.3	3888.2	7.3486	700	0.0548	3443.6	3882.2	7.2821
750	0.0776	3547.5	4013.2	7.5438	750	0.0664	3543.3	4007.9	7.4685	750	0.0579	3539.1	4002.6	7.4028
800	0.0816	3643.2	4133.1	7.6582	800	0.0699	3639.5	4128.4	7.5836	800	0.0610	3635.7	4123.8	7.5184
850	0.0857	3740.3	4254.2	7.7685	850	0.0733	3736.9	4250.1	7.6944	850	0.0641	3733.5	4246.0	7.6297
900	0.0896	3838.8	4376.6	7.8751	900	0.0768	3835.7	4373.0	7.8014	900	0.0671	3832.6	4369.3	7.7371
950	0.0936	3938.7	4500.3	7.9784	950	0.0802	3935.9	4497.1	7.9050	950	0.0701	3933.1	4493.8	7.8411
1000	0.0976	4040.1	4625.4	8.0786	1000	0.0836	4037.5	4622.5	8.0055	1000	0.0731	4035.0	4619.6	7.9419
1050	0.1015	4142.9	4751.9	8.1760	1050	0.0870	4140.5	4749.3	8.1031	1050	0.0761	4138.2	4746.7	8.0397
1100	0.1054	4247.1	4879.7	8.2709	1100	0.0903	4245.0	4877.3	8.1981	1100	0.0790	4242.8	4875.0	8.1350
1150	0.1093	4352.8	5008.9	8.3632	1150	0.0937	4350.8	5006.7	8.2907	1150	0.0820	4348.8	5004.6	8.2277
1200	0.1133	4459.8	5139.3	8.4534	1200	0.0971	4457.9	5137.4	8.3810	1200	0.0849	4456.1	5135.5	8.3181
1250	0.1172	4568.1	5271.1	8.5413	1250	0.1004	4566.4	5269.4	8.4690	1250	0.0879	4564.6	5267.7	8.4063
1300	0.1211	4677.7	5404.1	8.6272	1300	0.1038	4676.1	5402.6	8.5551	1300	0.0908	4674.5	5401.0	8.4924



$P = 9.00\text{MPa}$ (303.4)					$P = 10.00\text{MPa}$ (311.0)					$P = 12.50\text{MPa}$ (327.8)				
$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
303.4	0.0205	2558.5	2742.9	5.6791	311.0	0.0180	2545.2	2725.5	5.6160	327.8	0.0135	2505.61	2674.31	5.4638
350	0.0258	2724.9	2957.3	6.0380	350	0.0224	2699.6	2924.0	5.9459	350	0.0161	2624.8	2826.6	5.7130
400	0.0300	2849.2	3118.8	6.2876	400	0.0264	2833.1	3097.4	6.2141	400	0.0200	2789.6	3040.0	6.0433
450	0.0335	2956.3	3258.0	6.4872	450	0.0298	2944.5	3242.3	6.4219	450	0.0230	2913.7	3201.4	6.2749
500	0.0368	3056.3	3387.4	6.6603	500	0.0328	3047.0	3375.1	6.5995	500	0.0256	3023.2	3343.6	6.4650
550	0.0399	3153.0	3512.0	6.8164	550	0.0357	3145.4	3502.0	6.7585	550	0.0280	3126.1	3476.5	6.6317
600	0.0429	3248.4	3634.1	6.9605	600	0.0384	3242.0	3625.8	6.9045	600	0.0303	3225.8	3604.6	6.7828
650	0.0458	3343.4	3755.2	7.0953	650	0.0410	3337.9	3748.1	7.0408	650	0.0325	3324.1	3730.2	6.9227
700	0.0486	3438.8	3876.1	7.2229	700	0.0436	3434.0	3870.0	7.1693	700	0.0346	3422.0	3854.6	7.0539
750	0.0514	3534.9	3997.3	7.3443	750	0.0461	3530.7	3992.0	7.2916	750	0.0367	3520.1	3978.6	7.1782
800	0.0541	3632.0	4119.1	7.4606	800	0.0486	3628.2	4114.5	7.4085	800	0.0387	3618.7	4102.8	7.2967
850	0.0569	3730.2	4241.9	7.5724	850	0.0511	3726.8	4237.8	7.5207	850	0.0407	3718.3	4227.5	7.4102
900	0.0596	3829.6	4365.7	7.6802	900	0.0535	3826.5	4362.0	7.6290	900	0.0427	3818.9	4352.9	7.5194
950	0.0622	3930.3	4490.6	7.7844	950	0.0560	3927.5	4487.3	7.7335	950	0.0447	3920.6	4479.2	7.6249
1000	0.0649	4032.4	4616.7	7.8855	1000	0.0584	4029.9	4613.8	7.8349	1000	0.0466	4023.5	4606.5	7.7269
1050	0.0676	4135.9	4744.0	7.9836	1050	0.0608	4133.5	4741.4	7.9332	1050	0.0486	4127.7	4734.9	7.8258
1100	0.0702	4240.6	4872.7	8.0790	1100	0.0632	4238.5	4870.3	8.0288	1100	0.0505	4233.1	4864.5	7.9219
1150	0.0729	4346.8	5002.5	8.1719	1150	0.0656	4344.8	5000.4	8.1219	1150	0.0524	4339.8	4995.1	8.0154
1200	0.0755	4454.2	5133.6	8.2625	1200	0.0679	4452.3	5131.7	8.2126	1200	0.0543	4447.7	5127.0	8.1065
1250	0.0781	4562.9	5266.0	8.3508	1250	0.0703	4561.2	5264.2	8.3010	1250	0.0562	4556.9	5260.0	8.1952
1300	0.0807	4672.9	5399.5	8.4370	1300	0.0727	4671.3	5397.9	8.3874	1300	0.0581	4667.3	5394.1	8.2819
$P = 15.00\text{MPa}$ (342.2)					$P = 17.50\text{MPa}$ (354.7)					$P = 20.00\text{MPa}$ (365.8)				
$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$	$T(^{\circ}\text{C})$	$V(\text{m}^3/\text{kg})$	$U(\text{kJ}/\text{kg})$	$H(\text{kJ}/\text{kg})$	$S(\text{kJ}/\text{kg}\cdot\text{K})$
342.2	0.0103	2455.6	2610.7	5.3106	354.7	0.0079	2390.5	2529.3	5.1431	365.8	0.0059	2295.0	2412.4	4.9315
350	0.0115	2520.9	2693.1	5.4437	400	0.0125	2684.3	2902.4	5.7211	400	0.0100	2617.9	2816.9	5.5525
400	0.0157	2740.6	2975.7	5.8819	450	0.0152	2845.4	3111.4	6.0212	450	0.0127	2807.2	3061.7	5.9043
450	0.0185	2880.7	3157.9	6.1434	500	0.0174	2972.4	3276.7	6.2424	500	0.0148	2945.3	3241.2	6.1446
500	0.0208	2998.4	3310.8	6.3480	550	0.0193	3085.8	3423.6	6.4266	550	0.0166	3064.7	3396.1	6.3389
550	0.0229	3106.2	3450.4	6.5230	600	0.0211	3192.5	3561.3	6.5890	600	0.0182	3175.3	3539.0	6.5075
600	0.0249	3209.3	3583.1	6.6796	650	0.0227	3295.8	3693.8	6.7366	650	0.0197	3281.4	3675.3	6.6593
650	0.0268	3310.1	3712.1	6.8233	700	0.0243	3397.5	3823.5	6.8734	700	0.0211	3385.1	3807.8	6.7990
700	0.0286	3409.8	3839.1	6.9572	750	0.0259	3498.6	3951.7	7.0019	750	0.0225	3487.7	3938.1	6.9297
750	0.0304	3509.4	3965.2	7.0836	800	0.0274	3599.7	4079.3	7.1236	800	0.0239	3590.1	4067.5	7.0531
800	0.0321	3609.2	4091.1	7.2037	850	0.0289	3701.2	4206.8	7.2398	850	0.0252	3692.6	4196.4	7.1705
850	0.0338	3709.8	4217.1	7.3185	900	0.0303	3803.4	4334.5	7.3511	900	0.0265	3795.7	4325.4	7.2829
900	0.0355	3811.2	4343.7	7.4288	950	0.0318	3906.6	4462.9	7.4582	950	0.0278	3899.5	4454.7	7.3909
950	0.0372	3913.6	4471.0	7.5350	1000	0.0332	4010.7	4592.0	7.5616	1000	0.0290	4004.3	4584.7	7.4950
1000	0.0388	4017.1	4599.2	7.6378	1050	0.0346	4115.9	4721.9	7.6617	1050	0.0303	4110.0	4715.4	7.5957
1050	0.0404	4121.8	4728.4	7.7373	1100	0.0360	4222.3	4852.8	7.7588	1100	0.0315	4216.9	4846.9	7.6933
1100	0.0421	4227.7	4858.6	7.8339	1150	0.0374	4329.8	4984.6	7.8531	1150	0.0327	4324.8	4979.4	7.7880
1150	0.0437	4334.8	4989.9	7.9278	1200	0.0388	4438.4	5117.5	7.9449	1200	0.0340	4433.8	5112.8	7.8802
1200	0.0453	4443.1	5122.3	8.0192	1250	0.0402	4548.3	5251.5	8.0343	1250	0.0352	4544.0	5247.2	7.9699
1250	0.0469	4552.6	5255.7	8.1083	1300	0.0416	4659.2	5386.4	8.1215	1300	0.0364	4655.2	5382.6	8.0574

*P* = 25.00MPa

<i>T</i> (°C)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)
400	0.0060	2428.5	2578.7	5.1400
450	0.0092	2721.2	2950.6	5.6759
500	0.0111	2887.3	3165.9	5.9642
550	0.0127	3020.8	3339.2	6.1816
600	0.0141	3140.0	3493.5	6.3637
650	0.0154	3251.9	3637.7	6.5242
700	0.0166	3359.9	3776.0	6.6702
750	0.0178	3465.8	3910.9	6.8054
800	0.0189	3570.7	4043.8	6.9322
850	0.0200	3675.4	4175.6	7.0523
900	0.0211	3780.2	4307.1	7.1668
950	0.0221	3885.5	4438.5	7.2765
1000	0.0232	3991.5	4570.2	7.3820
1050	0.0242	4098.3	4702.5	7.4839
1100	0.0252	4206.0	4835.4	7.5825
1150	0.0262	4314.8	4969.0	7.6781
1200	0.0272	4424.6	5103.5	7.7710
1250	0.0281	4535.4	5238.8	7.8613
1300	0.0291	4647.2	5375.1	7.9493

*P* = 30.00MPa

<i>T</i> (°C)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)
400	0.0028	2071.9	2156.2	4.4808
450	0.0067	2618.9	2821.0	5.4421
500	0.0087	2824.0	3084.7	5.7956
550	0.0102	2974.5	3279.7	6.0402
600	0.0114	3103.4	3446.7	6.2373
650	0.0126	3221.7	3599.4	6.4074
700	0.0137	3334.3	3743.9	6.5598
750	0.0147	3443.6	3883.4	6.6997
800	0.0156	3551.2	4020.0	6.8300
850	0.0166	3658.0	4154.9	6.9529
900	0.0175	3764.6	4288.8	7.0695
950	0.0184	3871.4	4422.3	7.1810
1000	0.0192	3978.6	4555.8	7.2880
1050	0.0201	4086.5	4689.6	7.3910
1100	0.0210	4195.2	4823.8	7.4906
1150	0.0218	4304.8	4958.7	7.5871
1200	0.0226	4415.3	5094.2	7.6807
1250	0.0235	4526.8	5230.5	7.7716
1300	0.0243	4639.2	5367.6	7.8602

*P* = 35.00MPa

<i>T</i> (°C)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)
400	0.0021	1914.8	1988.5	4.2142
450	0.0050	2497.5	2671.0	5.1945
500	0.0069	2755.3	2997.9	5.6331
550	0.0083	2925.8	3218.0	5.9092
600	0.0095	3065.6	3398.9	6.1228
650	0.0106	3190.9	3560.7	6.3030
700	0.0115	3308.3	3711.6	6.4622
750	0.0124	3421.2	3855.9	6.6069
800	0.0133	3531.5	3996.3	6.7409
850	0.0141	3640.5	4134.2	6.8665
900	0.0149	3748.9	4270.6	6.9853
950	0.0157	3857.2	4406.2	7.0985
1000	0.0165	3965.8	4541.5	7.2069
1050	0.0172	4074.8	4676.8	7.3112
1100	0.0179	4184.4	4812.4	7.4118
1150	0.0187	4294.8	4948.4	7.5091
1200	0.0194	4406.1	5085.0	7.6034
1250	0.0201	4518.2	5222.2	7.6950
1300	0.0208	4631.2	5360.1	7.7841

*P* = 40.00MPa

<i>T</i> (°C)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)
400	0.0019	1854.9	1931.4	4.1145
450	0.0037	2364.2	2511.8	4.9449
500	0.0056	2681.6	2906.5	5.4744
550	0.0070	2875.0	3154.4	5.7857
600	0.0081	3026.8	3350.4	6.0170
650	0.0091	3159.5	3521.6	6.2078
700	0.0099	3282.0	3679.1	6.3740
750	0.0107	3398.6	3828.4	6.5236
800	0.0115	3511.8	3972.6	6.6612
850	0.0123	3623.1	4113.6	6.7896
900	0.0130	3733.3	4252.5	6.9106
950	0.0137	3843.1	4390.2	7.0256
1000	0.0144	3952.9	4527.3	7.1355
1050	0.0150	4063.0	4664.2	7.2409
1100	0.0157	4173.7	4801.1	7.3425
1150	0.0163	4284.9	4938.3	7.4406
1200	0.0170	4396.9	5075.9	7.5357
1250	0.0176	4509.7	5214.1	7.6279
1300	0.0182	4623.3	5352.8	7.7175

*P* = 50.00MPa

<i>T</i> (°C)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)
400	0.0017	1787.8	1874.4	4.0029
450	0.0025	2160.3	2284.7	4.5896
500	0.0039	2528.1	2722.6	5.1762
550	0.0051	2769.5	3025.3	5.5563
600	0.0061	2947.1	3252.5	5.8245
650	0.0070	3095.6	3443.4	6.0373
700	0.0077	3228.7	3614.6	6.2178
750	0.0084	3353.1	3773.9	6.3775
800	0.0091	3472.2	3925.8	6.5225
850	0.0097	3588.0	4072.9	6.6565
900	0.0103	3702.0	4216.8	6.7819
950	0.0109	3814.9	4358.7	6.9004
1000	0.0114	3927.3	4499.4	7.0131
1050	0.0120	4039.7	4639.3	7.1209
1100	0.0125	4152.2	4778.9	7.2244
1150	0.0131	4265.1	4918.4	7.3242
1200	0.0136	4378.6	5058.1	7.4207
1250	0.0141	4492.7	5198.1	7.5141
1300	0.0146	4607.4	5338.4	7.6048

*P* = 60.00MPa

<i>T</i> (°C)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)
400	0.0016	1745.2	1843.2	3.9317
450	0.0021	2055.1	2180.2	4.4140
500	0.0030	2393.2	2570.3	4.9356
550	0.0040	2664.5	2901.9	5.3517
600	0.0048	2866.8	3156.8	5.6527
650	0.0056	3031.3	3366.7	5.8867
700	0.0063	3175.4	3551.3	6.0814
750	0.0069	3307.6	3720.5	6.2510
800	0.0075	3432.6	3880.0	6.4033
850	0.0080	3553.2	4033.1	6.5428
900	0.0085	3670.9	4182.0	6.6725
950	0.0090	3786.9	4328.1	6.7944
1000	0.0095	3901.9	4472.2	6.9099
1050	0.0100	4016.5	4615.1	7.0200
1100	0.0104	4130.9	4757.3	7.1255
1150	0.0109	4245.5	4899.1	7.2269
1200	0.0113	4360.4	5040.8	7.3248
1250	0.0118	4475.8	5182.5	7.4194
1300	0.0122	4591.8	5324.5	7.5111

## IV. Compressed Liquid

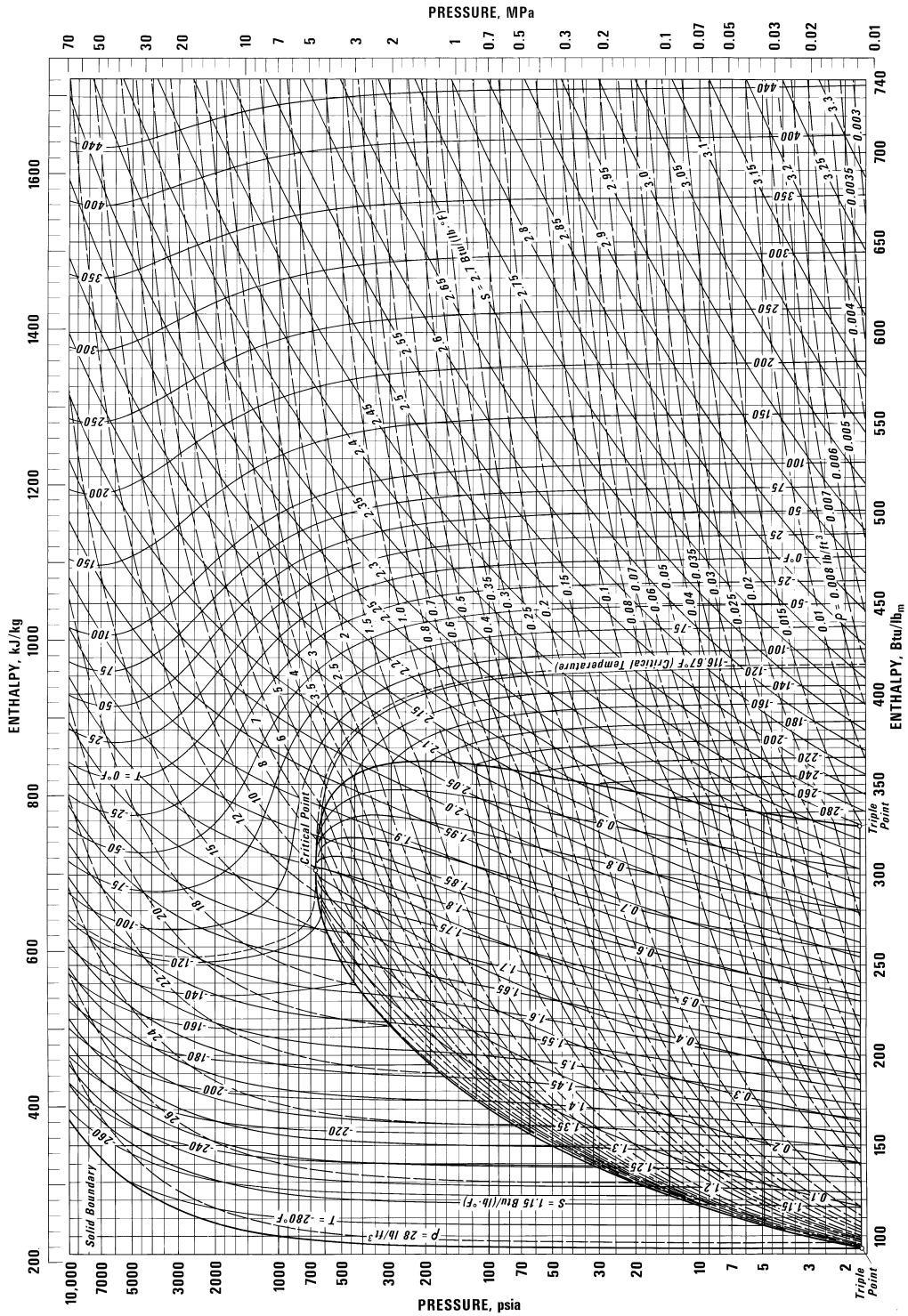
<i>P</i> = 5 MPa					<i>P</i> = 10 MPa					<i>P</i> = 15 MPa				
<i>T</i> (°C)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)		
0	0.000998	0.0	5.0	0.0001	0.000995	0.1	10.1	0.0003	0.000993	0.2	15.1	0.0004		
20	0.001000	83.6	88.6	0.2954	0.000997	83.3	93.3	0.2943	0.000995	83.0	97.9	0.2932		
40	0.001006	166.9	172.0	0.5705	0.001003	166.3	176.4	0.5685	0.001001	165.7	180.8	0.5666		
60	0.001015	250.3	255.4	0.8287	0.001013	249.4	259.6	0.8260	0.001011	248.6	263.7	0.8234		
80	0.001027	333.8	339.0	1.0723	0.001024	332.7	342.9	1.0691	0.001022	331.6	346.9	1.0659		
100	0.001041	417.6	422.9	1.3034	0.001038	416.2	426.6	1.2996	0.001036	414.8	430.4	1.2958		
120	0.001058	501.9	507.2	1.5236	0.001055	500.2	510.7	1.5191	0.001052	498.5	514.3	1.5148		
140	0.001077	586.8	592.2	1.7344	0.001074	584.7	595.5	1.7293	0.001071	582.7	598.7	1.7243		
160	0.001099	672.5	678.0	1.9374	0.001095	670.1	681.0	1.9315	0.001092	667.6	684.0	1.9259		
180	0.001124	759.5	765.1	2.1338	0.001120	756.5	767.7	2.1271	0.001116	753.6	770.3	2.1206		
200	0.001153	847.9	853.7	2.3251	0.001148	844.3	855.8	2.3174	0.001144	840.8	858.0	2.3100		
220	0.001187	938.4	944.3	2.5127	0.001181	934.0	945.8	2.5037	0.001175	929.8	947.4	2.4951		
240	0.001227	1031.6	1037.7	2.6983	0.001219	1026.1	1038.3	2.6876	0.001212	1021.0	1039.2	2.6774		
260	0.001275	1128.5	1134.9	2.8841	0.001265	1121.6	1134.3	2.8710	0.001256	1115.1	1134.0	2.8586		
280					0.001323	1221.8	1235.0	3.0565	0.001310	1213.4	1233.0	3.0409		
300					0.001398	1329.4	1343.3	3.2488	0.001378	1317.6	1338.3	3.2279		
320									0.001473	1431.9	1454.0	3.4263		
340									0.001631	1567.9	1592.4	3.6555		

<i>P</i> = 20 MPa					<i>P</i> = 50 MPa					<i>P</i> = 100.0MPa				
<i>T</i> (°C)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)	<i>V</i> (m <sup>3</sup> /kg)	<i>U</i> (kJ/kg)	<i>H</i> (kJ/kg)	<i>S</i> (kJ/kg-K)		
0	0.000990	0.2	20.0	0.0005	0.000977	0.3	49.1	-0.0010	0.000957	-0.3	95.4	-0.0085		
20	0.000993	82.7	102.6	0.2921	0.000980	80.9	130.0	0.2845	0.000962	78.0	174.2	0.2699		
40	0.000999	165.2	185.2	0.5646	0.000987	161.9	211.3	0.5528	0.000969	157.0	253.9	0.5328		
60	0.001008	247.8	267.9	0.8208	0.000996	243.1	292.9	0.8055	0.000978	236.2	334.0	0.7809		
80	0.001020	330.5	350.9	1.0627	0.001007	324.4	374.8	1.0442	0.000988	315.6	414.5	1.0153		
100	0.001034	413.5	434.2	1.2920	0.001020	405.9	456.9	1.2705	0.001000	395.1	495.1	1.2375		
120	0.001050	496.8	517.8	1.5105	0.001035	487.7	539.4	1.4859	0.001014	474.6	576.0	1.4487		
140	0.001068	580.7	602.1	1.7194	0.001052	569.8	622.4	1.6916	0.001028	554.4	657.2	1.6501		
160	0.001089	665.3	687.0	1.9203	0.001070	652.3	705.8	1.8889	0.001045	634.3	738.8	1.8429		
180	0.001112	750.8	773.0	2.1143	0.001091	735.5	790.1	2.0790	0.001063	714.5	820.8	2.0280		
200	0.001139	837.5	860.3	2.3027	0.001115	819.4	875.2	2.2628	0.001083	795.1	903.4	2.2064		
220	0.001170	925.8	949.2	2.4867	0.001141	904.4	961.4	2.4414	0.001104	876.3	986.7	2.3788		
240	0.001205	1016.1	1040.2	2.6676	0.001171	990.6	1049.1	2.6156	0.001128	958.0	1070.8	2.5459		
260	0.001247	1109.0	1134.0	2.8469	0.001204	1078.2	1138.4	2.7864	0.001154	1040.3	1155.8	2.7084		
280	0.001298	1205.5	1231.5	3.0265	0.001243	1167.7	1229.9	2.9547	0.001183	1123.5	1241.8	2.8669		
300	0.001361	1307.1	1334.4	3.2091	0.001288	1259.6	1324.0	3.1218	0.001215	1207.6	1329.1	3.0219		
320	0.001445	1416.6	1445.5	3.3996	0.001341	1354.3	1421.4	3.2888	0.001250	1292.8	1417.8	3.1740		
340	0.001569	1540.2	1571.6	3.6086	0.001405	1452.9	1523.1	3.4575	0.001290	1379.1	1508.2	3.3238		
360	0.001825	1703.6	1740.1	3.8787	0.001485	1556.5	1630.7	3.6301	0.001335	1466.8	1600.3	3.4717		
380					0.001588	1667.1	1746.5	3.8101	0.001385	1556.0	1694.5	3.6182		

# E.10 PRESSURE-ENTHALPY DIAGRAM FOR METHANE

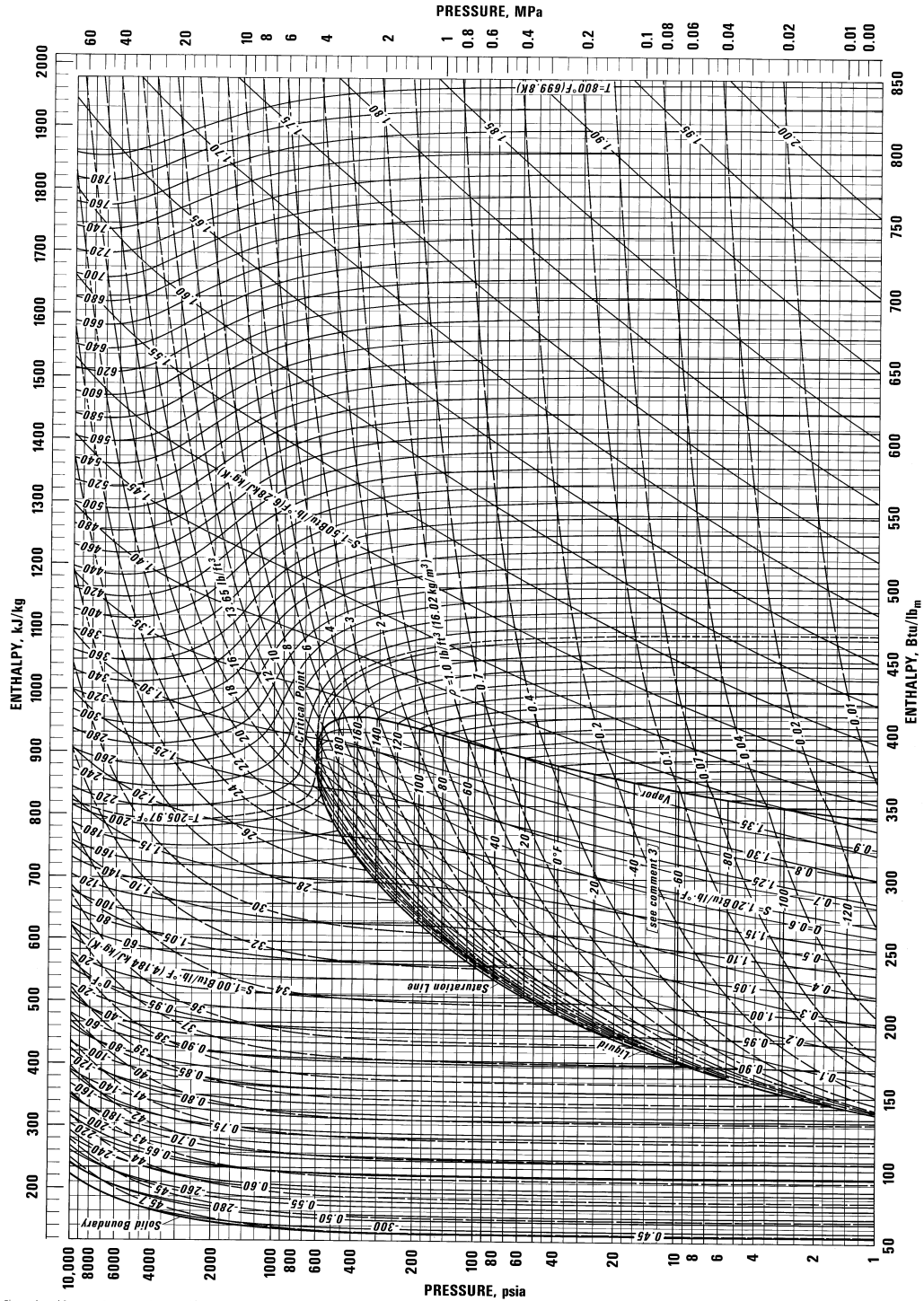
(Source: NIST, Thermophysics Division, Boulder, CO, USA, used with permission.)



Cryogenics Division, NBS-IBS, Boulder, Colorado  
Chart 2029W (4.4.77)

## E.11 PRESSURE-ENTHALPY DIAGRAM FOR PROPANE

(Source: NIST, Thermophysics Division, Boulder, CO, USA, used with permission.)



Thermophysical Properties Division, NBS-NEL, Boulder, Colorado  
Chart 2071 (3-15-79)

## E.12 PRESSURE-ENTHALPY DIAGRAM FOR R134a (1,1,1,2-TETRAFLUROETHANE)

(Source: NIST, Thermophysics Division, Boulder, CO, USA, used with permission.)

