

Table A.1.1 Saturated steam – by temperature.

(Adapted from J.H. Keenan, F.G. Keyes, P.G. Hill and J.G. Moore, *Steam Tables (S.I. Units)*, Wiley, New York, 1978)

T °C	p	v_f m ³ /kg	v_g m ³ /kg	u_f kJ/kg	u_{fg} kJ/kg	u_g kJ/kg	h_f kJ/kg	h_{fg} kJ/kg	h_g kJ/kg	s_f kJ/kg K	s_{fg} kJ/kg K	s_g kJ/kg K
0.01	0.6113 kPa	0.001000	206.14	0.00	2375.3	2375.3	0.00	2501.3	2501.3	0.0000	9.1562	9.1562
5	0.8721	0.001000	147.12	20.97	2361.3	2382.3	20.97	2489.6	2510.6	0.0761	8.9496	9.0257
10	1.2276	0.001000	106.38	42.00	2347.2	2389.2	42.00	2477.8	2519.8	0.1510	8.7498	8.9008
15	1.7051	0.001001	77.93	62.99	2333.1	2396.1	62.99	2466.0	2529.0	0.2245	8.5569	8.7814
20	2.339	0.001002	57.79	83.95	2319.0	2402.9	83.95	2454.1	2538.1	0.2966	8.3706	8.6672
25	3.169	0.001003	43.36	104.88	2304.9	2409.8	104.88	2442.3	2547.2	0.3674	8.1906	8.5580
30	4.246	0.001004	32.89	125.78	2290.8	2416.6	125.78	2430.5	2556.3	0.4369	8.0164	8.4533
35	5.628	0.001006	25.22	146.67	2276.7	2423.4	146.68	2418.7	2565.3	0.5053	7.8478	8.3531
40	7.384	0.001008	19.52	167.56	2262.5	2430.1	167.57	2406.7	2574.2	0.5725	7.6845	8.2570
45	9.593	0.001010	15.26	188.44	2248.4	2436.8	188.45	2394.7	2583.2	0.6387	7.5261	8.1648
50	12.349	0.001012	12.03	209.32	2234.2	2443.5	209.33	2382.7	2592.1	0.7038	7.3725	8.0763
55	15.758	0.001015	9.5680	230.21	2219.9	2450.1	230.23	2370.6	2600.9	0.7679	7.2234	7.9913
60	19.94	0.001017	7.6710	251.11	2205.5	2456.6	251.13	2358.4	2609.6	0.8312	7.0784	7.9096
65	25.03	0.001020	6.1970	272.02	2191.1	2463.1	272.05	2346.2	2618.2	0.8935	6.9375	7.8310
70	31.19	0.001023	5.0420	292.95	2176.7	2469.6	292.98	2333.9	2626.9	0.9549	6.8004	7.7553
75	38.58	0.001026	4.1310	313.90	2162.0	2475.9	313.94	2321.3	2635.3	1.0155	6.6669	7.6824
80	47.39	0.001029	3.4070	334.86	2147.3	2482.2	334.91	2308.7	2643.7	1.0753	6.5369	7.6122
85	57.83	0.001033	2.8280	355.84	2132.6	2488.4	355.90	2296.0	2651.9	1.1343	6.4102	7.5445
90	70.14	0.001036	2.3610	376.85	2117.7	2494.5	376.92	2283.2	2660.1	1.1925	6.2866	7.4791
95	84.55	0.001040	1.9820	397.88	2102.7	2500.6	397.97	2270.2	2668.2	1.2500	6.1659	7.4159
100	101.325	0.001044	1.6729	418.94	2087.6	2506.5	419.05	2257.0	2676.0	1.3069	6.0480	7.3549
105	0.12082 MPa	0.001048	1.4194	440.02	2072.4	2512.4	440.15	2243.7	2683.9	1.3630	5.9328	7.2958
110	0.14327	0.001052	1.2102	461.14	2057.0	2518.1	461.29	2230.2	2691.5	1.4185	5.8202	7.2387
115	0.16906	0.001056	1.0396	482.30	2041.4	2523.7	482.48	2217.0	2699.5	1.4734	5.7099	7.1833
120	0.19853	0.001060	0.8919	503.50	2025.8	2529.3	503.71	2202.7	2706.4	1.5276	5.6020	7.1296
125	0.2321	0.001065	0.7706	524.74	2009.9	2534.6	524.99	2188.5	2713.5	1.5813	5.4962	7.0775

Table A.1.1 (continued)

T °C	p	v_f m ³ /kg	v_g m ³ /kg	u_f kJ/kg	u_{fg} kJ/kg	u_g kJ/kg	h_f kJ/kg	h_{fg} kJ/kg	h_g kJ/kg	s_f kJ/kg K	s_{fg} kJ/kg K	s_g kJ/kg K
130	0.2701	0.001070	0.6685	546.02	1993.9	2539.9	546.31	2174.2	2720.5	1.6344	5.3925	7.0269
135	0.3130	0.001075	0.5822	567.35	1977.7	2545.0	567.69	2159.5	2727.2	1.6870	5.2907	6.9777
140	0.3613	0.001080	0.5089	588.74	1961.3	2550.0	589.13	2144.7	2733.9	1.7391	5.1908	6.9299
145	0.4154	0.001085	0.4463	610.18	1944.7	2554.9	610.63	2129.7	2740.3	1.7907	5.0926	6.8833
150	0.4758	0.001091	0.3928	631.68	1927.8	2559.5	632.20	2114.2	2746.4	1.8418	4.9961	6.8379
155	0.5431	0.001096	0.3468	653.24	1910.9	2564.1	653.84	2098.6	2752.4	1.8925	4.9010	6.7935
160	0.6178	0.001102	0.3071	674.87	1893.5	2568.4	675.55	2082.6	2758.1	1.9427	4.8075	6.7502
165	0.7005	0.001108	0.2727	696.56	1875.9	2572.5	697.34	2066.2	2763.5	1.9925	4.7153	6.7078
170	0.7917	0.001114	0.2428	718.33	1858.2	2576.5	719.21	2049.5	2768.7	2.0419	4.6244	6.6663
175	0.8920	0.001121	0.2168	740.17	1840.0	2580.2	741.17	2032.4	2773.6	2.0909	4.5347	6.6256
180	1.0021	0.001127	0.19405	762.09	1821.6	2583.7	763.22	2014.9	2778.2	2.1396	4.4461	6.5857
185	1.1227	0.001134	0.17409	784.10	1802.9	2587.0	785.37	1997.1	2782.5	2.1879	4.3586	6.5465
190	1.2544	0.001141	0.15654	806.19	1783.8	2590.0	807.62	1978.7	2786.4	2.2359	4.2720	6.5079
195	1.3978	0.001149	0.14105	828.37	1764.4	2592.8	829.98	1960.0	2790.0	2.2835	4.1863	6.4698
200	1.5538	0.001157	0.12736	850.65	1744.7	2595.3	852.45	1940.7	2793.2	2.3309	4.1014	6.4323
205	1.7230	0.001164	0.11521	873.04	1724.5	2597.5	875.05	1921.0	2796.0	2.3780	4.0172	6.3952
210	1.9062	0.001173	0.10441	895.53	1704.0	2599.5	897.77	1900.8	2798.5	2.4248	3.9337	6.3585
215	2.1040	0.001181	0.09479	918.14	1683.0	2601.1	920.62	1879.9	2800.5	2.4714	3.8507	6.3221
220	2.318	0.001190	0.08619	940.87	1661.5	2602.4	943.63	1858.6	2802.2	2.5178	3.7683	6.2861
225	2.548	0.001199	0.07849	963.73	1639.6	2603.3	966.79	1836.5	2803.3	2.5639	3.6864	6.2503
230	2.795	0.001209	0.07158	986.74	1617.2	2603.9	990.12	1813.8	2804.0	2.6099	3.6047	6.2146
235	3.060	0.001219	0.06537	1009.89	1594.2	2604.1	1013.62	1790.5	2804.1	2.6558	3.5233	6.1791
240	3.344	0.001229	0.05976	1033.21	1570.8	2604.0	1037.32	1766.5	2803.8	2.7015	3.4422	6.1437
245	3.648	0.001240	0.05471	1056.71	1546.7	2603.4	1061.23	1741.7	2803.0	2.7472	3.3611	6.1083
250	3.973	0.001251	0.05013	1080.39	1522.0	2602.4	1085.36	1716.2	2801.6	2.7927	3.2803	6.0730
255	4.319	0.001263	0.04598	1104.28	1496.6	2600.9	1109.73	1689.8	2799.5	2.8383	3.1992	6.0375
260	4.688	0.001276	0.04221	1128.39	1470.6	2599.0	1134.37	1662.5	2796.9	2.8838	3.1181	6.0019
265	5.081	0.001289	0.03877	1152.74	1443.9	2596.6	1159.29	1634.3	2793.6	2.9294	3.0368	5.9662
270	5.499	0.001302	0.03564	1177.36	1416.3	2593.7	1184.52	1605.2	2789.7	2.9751	2.9550	5.9301
275	5.942	0.001317	0.03279	1202.25	1388.0	2590.2	1210.08	1575.0	2785.0	3.0208	2.8730	5.8938

Table A.1.1 (continued)

T °C	p	ν_f m ³ /kg	ν_g m ³ /kg	u_f kJ/kg	u_{fg} kJ/kg	u_g kJ/kg	h_f kJ/kg	h_{fg} kJ/kg	h_g kJ/kg	s_f kJ/kg K	s_{fg} kJ/kg K	s_g kJ/kg K
280	6.412	0.001332	0.03017	1227.46	1358.6	2586.1	1236.00	1543.5	2779.6	3.0668	2.7903	5.8571
285	6.909	0.001348	0.02777	1253.00	1328.4	2581.4	1262.31	1510.9	2773.3	3.1130	2.7069	5.8199
290	7.436	0.001366	0.02557	1278.92	1297.1	2576.0	1289.08	1477.1	2766.1	3.1594	2.6227	5.7821
295	7.993	0.001384	0.02354	1305.20	1264.7	2569.9	1316.26	1441.8	2758.1	3.2062	2.5375	5.7437
300	8.581	0.001404	0.02167	1332.00	1231.0	2563.0	1344.05	1404.9	2749.0	3.2534	2.4511	5.7045
305	9.202	0.001425	0.019948	1359.30	1195.9	2555.2	1372.41	1366.3	2738.8	3.3010	2.3633	5.6643
310	9.856	0.001447	0.018350	1387.10	1159.3	2546.4	1401.36	1325.9	2727.3	3.3493	2.2737	5.6230
315	10.547	0.001472	0.016867	1415.50	1121.1	2536.6	1431.03	1283.5	2714.5	3.3982	2.1822	5.5804
320	11.274	0.001499	0.015488	1444.60	1080.9	2525.5	1461.50	1238.6	2700.1	3.4480	2.0882	5.5362
330	12.845	0.001561	0.012996	1505.30	993.6	2498.9	1525.35	1140.5	2665.8	3.5507	1.8910	5.4417
340	14.586	0.001638	0.010797	1570.30	894.3	2464.6	1594.19	1027.9	2622.1	3.6594	1.6763	5.3357
350	16.513	0.001740	0.008813	1641.90	776.5	2418.4	1670.63	893.3	2563.9	3.7777	1.4335	5.2112
360	18.651	0.001893	0.006945	1725.20	626.3	2351.5	1760.51	720.5	2481.0	3.9147	1.1379	5.0526
370	21.030	0.002213	0.004925	1844.00	384.5	2228.5	1890.54	441.5	2332.1	4.1106	0.6865	4.7971
374.14	22.090	0.003155	0.003155	2029.60	0.0	2029.6	2099.29	0.0	2099.3	4.4298	0.0000	4.4298

Table A.1.2 Saturated steam – by pressure.

(Adapted from J.H. Keenan, F.G. Keyes, P.G. Hill and J.G. Moore, *Steam Tables (S.I. Units)*, Wiley, New York, 1978)

p kPa	T °C	ν_f m ³ /kg	ν_g m ³ /kg	u_f kJ/kg	u_{fg} kJ/kg	u_g kJ/kg	h_f kJ/kg	h_{fg} kJ/kg	h_g kJ/kg	s_f kJ/kg K	s_{fg} kJ/kg K	s_g kJ/kg K
0.6113	0.01	0.001000	206.14	0.00	2375.3	2375.3	0.00	2501.3	2501.3	0.0000	9.1562	9.1562
1.0	6.98	0.001000	129.21	29.30	2355.7	2385.0	29.30	2484.9	2514.2	0.1059	8.8697	8.9756
1.5	13.03	0.001001	87.98	54.71	2338.6	2393.3	54.71	2470.6	2525.3	0.1957	8.6322	8.8279
2.0	17.50	0.001001	67.00	73.48	2325.8	2399.3	73.48	2459.8	2533.3	0.2607	8.4630	8.7237
2.5	21.08	0.001002	54.25	88.48	2315.9	2404.4	88.48	2451.5	2540.0	0.3120	8.3312	8.6432
3.0	24.08	0.001003	45.67	101.04	2307.5	2408.5	101.04	2444.5	2545.5	0.3545	8.2231	8.5776
4.0	28.96	0.001004	34.80	121.45	2293.8	2415.2	121.45	2432.9	2554.4	0.4226	8.0520	8.4746
5.0	32.88	0.001005	28.19	137.81	2282.7	2420.5	137.82	2423.6	2561.5	0.4764	7.9187	8.3951
7.5	40.29	0.001008	19.24	168.78	2261.7	2430.5	168.79	2406.0	2574.8	0.5764	7.6751	8.2515
10	45.81	0.001010	14.67	191.82	2246.1	2437.9	191.83	2392.8	2584.6	0.6493	7.5009	8.1502
15	53.97	0.001014	10.02	225.92	2222.8	2448.7	225.94	2373.1	2599.0	0.7549	7.2536	8.0085
20	60.06	0.001017	7.6490	251.38	2205.3	2456.7	251.40	2358.3	2609.7	0.8320	7.0765	7.9085
25	64.97	0.001020	6.2040	271.90	2191.2	2463.1	271.93	2346.3	2618.2	0.8931	6.9383	7.8314
30	69.10	0.001022	5.2290	289.20	2179.2	2468.4	289.23	2336.0	2625.3	0.9439	6.8247	7.7686
40	75.87	0.001027	3.9930	317.53	2159.5	2477.0	317.57	2319.1	2636.7	1.0259	6.6441	7.6700
50	81.33	0.001030	3.2400	340.44	2143.5	2483.9	340.49	2305.4	2645.9	1.0910	6.5029	7.5939
75	91.78	0.001037	2.2170	384.31	2112.4	2496.7	384.39	2278.6	2663.0	1.2130	6.2434	7.4564
100	99.63	0.001043	1.6940	417.36	2088.7	2506.1	417.46	2258.0	2675.5	1.3026	6.0568	7.3594
125	105.99	0.001048	1.3749	444.19	2069.3	2513.5	444.32	2241.0	2685.4	1.3740	5.9104	7.2844
150	111.37	0.001053	1.1593	466.94	2052.8	2519.7	467.10	2226.5	2693.6	1.4336	5.7897	7.2233
175	116.06	0.001057	1.0036	486.80	2038.1	2524.9	486.98	2213.5	2700.5	1.4839	5.6878	7.1717
200	120.23	0.001061	0.8857	504.49	2025.0	2529.5	504.70	2201.9	2706.6	1.5301	5.5970	7.1271
225	124.00	0.001064	0.7933	520.47	2013.1	2533.6	520.71	2191.4	2712.1	1.5706	5.5172	7.0878
250	127.44	0.001067	0.7187	535.10	2002.1	2537.2	535.37	2181.5	2716.9	1.6072	5.4455	7.0527
275	130.60	0.001070	0.6573	548.59	1991.9	2540.5	548.88	2172.4	2721.3	1.6408	5.3801	7.0209
300	133.55	0.001073	0.6058	561.15	1982.5	2543.6	561.47	2163.9	2725.3	1.6718	5.3201	6.9919

Table A.1.2 (continued)

p kPa	T °C	v		u			h			s		
		v_f	v_g	u_f	u_{fg}	u_g	h_f	h_{fg}	h_g	s_f	s_{fg}	s_g
		m ³ /kg		kJ/kg			kJ/kg			kJ/kg K		
325	136.30	0.001076	0.5620	572.90	1973.5	2546.4	573.25	2155.8	2729.1	1.7006	5.2646	6.9652
350	138.88	0.001079	0.5243	583.95	1965.0	2548.9	584.33	2148.1	2732.4	1.7275	5.2130	6.9405
375	141.32	0.001081	0.4914	594.40	1956.9	2551.3	594.81	2140.8	2735.6	1.7528	5.1647	6.9175
400	143.63	0.001084	0.4625	604.31	1949.3	2553.6	604.74	2133.9	2738.6	1.7766	5.1193	6.8959
450	147.93	0.001088	0.4140	622.77	1934.8	2557.6	623.26	2120.6	2743.9	1.8207	5.0358	6.8565
500	151.86	0.001093	0.3749	639.68	1921.5	2561.2	640.23	2108.4	2748.7	1.8607	4.9606	6.8213
550	155.48	0.001097	0.3427	655.32	1909.2	2564.5	655.92	2097.1	2753.0	1.8973	4.8920	6.7893
600	158.85	0.001101	0.3157	669.90	1897.5	2567.4	670.56	2086.3	2756.8	1.9312	4.8288	6.7600
650	162.01	0.001104	0.2927	683.56	1886.5	2570.1	684.28	2076.1	2760.4	1.9627	4.7704	6.7331
700	164.97	0.001108	0.2729	696.44	1876.1	2572.5	697.22	2066.3	2763.5	1.9922	4.7158	6.7080
750	167.78	0.001112	0.2556	708.64	1866.1	2574.7	709.47	2056.9	2766.4	2.0200	4.6647	6.6847
800	170.43	0.001115	0.2404	720.22	1856.6	2576.8	721.11	2048.0	2769.1	2.0462	4.6166	6.6628
850	172.96	0.001118	0.2270	731.27	1847.4	2578.7	732.22	2039.4	2771.7	2.0710	4.5711	6.6421
900	175.38	0.001121	0.2150	741.83	1838.7	2580.5	742.84	2031.2	2774.0	2.0946	4.5280	6.6226
950	177.69	0.001124	0.2042	751.95	1830.2	2582.1	753.02	2023.1	2776.1	2.1172	4.4869	6.6041
1000	179.91	0.001127	0.194440	761.09	1822.5	2583.6	762.22	2015.8	2778.0	2.1387	4.4478	6.5865
1100	184.09	0.001133	0.177530	780.09	1806.3	2586.4	781.34	2000.3	2781.7	2.1792	4.3744	6.5536
1200	187.99	0.001139	0.163330	797.29	1791.5	2588.8	798.66	1986.1	2784.8	2.2166	4.3067	6.5233
1300	191.07	0.001144	0.151250	813.44	1777.6	2591.0	814.93	1972.7	2787.6	2.2515	4.2438	6.4953
1400	195.07	0.001149	0.140840	828.70	1764.1	2592.8	830.31	1959.7	2790.0	2.2842	4.1851	6.4693
1500	198.32	0.001154	0.131770	843.16	1851.3	2594.5	844.89	1947.3	2792.2	2.3150	4.1298	6.4448
1750	205.76	0.001166	0.113490	876.46	1721.3	2597.8	878.50	1917.9	2796.4	2.3851	4.0045	6.3896
2000	212.42	0.001177	0.099630	906.44	1693.9	2600.3	908.79	1890.8	2799.6	2.4474	3.8935	6.3409
2250	218.45	0.001187	0.088750	933.83	1668.2	2602.0	936.50	1865.2	2801.7	2.5035	3.7937	6.2972
2500	223.99	0.001197	0.079980	959.11	1644.0	2603.1	962.10	1840.9	2803.1	2.5547	3.7028	6.2575
3000	233.90	0.001217	0.066680	1004.78	1599.3	2604.1	1008.43	1795.7	2804.1	2.6457	3.5412	6.1869
3500	242.60	0.001235	0.057070	1045.43	1558.3	2603.7	1049.75	1753.7	2803.4	2.7253	3.4000	6.1253
4000	250.40	0.001252	0.049780	1082.31	1520.0	2602.3	1087.32	1714.1	2801.4	2.7964	3.2737	6.0701
5000	263.99	0.001286	0.039440	1147.81	1449.3	2597.1	1154.24	1640.1	2794.3	2.9202	3.0532	5.9734

Table A.1.2 (continued)

p kPa	T °C	v		u			h			s		
		v_f	v_g	u_f	u_{fg}	u_g	h_f	h_{fg}	h_g	s_f	s_{fg}	s_g
		m ³ /kg		kJ/kg			kJ/kg			kJ/kg K		
6000	275.64	0.001319	0.032440	1205.44	1384.3	2589.7	1213.35	1571.0	2784.3	3.0267	2.8625	5.8892
7000	285.88	0.001351	0.027370	1257.55	1323.0	2580.5	1267.01	1505.1	2772.1	3.1211	2.6922	5.8133
8000	295.06	0.001384	0.023520	1305.57	1264.2	2569.8	1316.64	1441.3	2758.0	3.2068	2.5364	5.7432
9000	303.40	0.001418	0.020480	1350.51	1207.3	2557.8	1363.27	1378.8	2742.1	3.2858	2.3914	5.6772
10000	311.06	0.001452	0.018026	1393.04	1151.4	2544.4	1407.56	1317.1	2724.7	3.3596	2.2545	5.6141
11000	318.15	0.001489	0.015987	1433.70	1096.1	2529.8	1450.08	1255.6	2705.7	3.4295	2.1232	5.5527
12000	324.75	0.001527	0.014263	1473.00	1040.7	2513.7	1491.32	1193.5	2684.9	3.4962	1.9962	5.4924
13000	330.93	0.001567	0.012780	1511.10	985.0	2496.1	1531.47	1130.8	2662.2	3.5606	1.8717	5.4323
14000	336.75	0.001611	0.011485	1548.60	928.2	2476.8	1571.15	1066.4	2637.6	3.6232	1.7485	5.3717
15000	342.24	0.001658	0.010337	1585.60	869.9	2455.5	1610.47	1000.1	2610.6	3.6848	1.6250	5.3098
16000	347.44	0.001711	0.009306	1622.70	809.0	2431.7	1650.08	930.5	2580.6	3.7461	1.4994	5.2455
17000	352.37	0.001770	0.008364	1660.20	744.8	2405.0	1690.29	856.9	2547.2	3.8079	1.3698	5.1777
18000	357.06	0.001840	0.007489	1698.90	675.4	2374.3	1732.02	777.1	2509.1	3.8715	1.2329	5.1044
19000	361.54	0.001924	0.006657	1739.90	598.2	2338.1	1776.46	688.1	2464.6	3.9388	1.0840	5.0228
20000	365.81	0.002036	0.005834	1785.60	507.4	2293.0	1826.32	583.4	2409.7	4.0139	0.9130	4.9269
21000	369.89	0.002207	0.004952	1842.10	388.5	2230.6	1888.45	446.1	2334.6	4.1075	0.6938	4.8013
22000	373.80	0.002742	0.003568	1961.90	125.2	2087.1	2022.22	143.4	2165.6	4.3110	0.2217	4.5327
22090	374.14	0.003155	0.003155	2029.60	0.0	2029.6	2099.29	0.0	2099.3	4.4298	0.0000	4.4298

Table A.1.3 Superheated steam.

(Adapted from J.H. Keenan, F.G. Keyes, P.G. Hill and J.G. Moore, *Steam Tables (S.I. Units)*, Wiley, New York, 1978)

$p = 0.01 \text{ MPa}$					$p = 0.05 \text{ MPa}$					$p = 0.10 \text{ MPa}$				
T	v	u	h	s	T	v	u	h	s	T	v	u	h	s
45.81	14.6740	2437.9	2584.6	8.1502	81.33	3.2400	2483.9	2645.9	7.5939	99.63	1.6940	2506.1	2675.5	7.3594
100	17.1960	2515.5	2687.5	8.4479	100	3.4180	2511.6	2682.5	7.6947	100	1.6958	2506.7	2676.3	7.3614
150	19.5120	2587.9	2783.0	8.6882	150	3.8890	2585.6	2780.1	7.9401	150	1.9364	2582.8	2776.4	7.6134
200	21.8250	2661.3	2879.6	8.9038	200	4.3560	2659.9	2877.7	8.1580	200	2.1720	2658.1	2875.3	7.8343
250	24.1360	2736.0	2977.4	9.1002	250	4.8200	2735.0	2976.0	8.3556	250	2.4060	2733.7	2974.3	8.0333
300	26.4450	2812.1	3076.6	9.2813	300	5.2840	2811.3	3075.5	8.5373	300	2.6390	2810.4	3074.3	8.2158
400	31.0630	2968.9	3279.5	9.6077	400	6.2090	2968.5	3279.0	8.8642	400	3.1030	2967.9	3278.2	8.5435
500	35.6790	3132.3	3489.1	9.8978	500	7.1340	3132.0	3488.7	9.1546	500	3.5650	3131.6	3488.1	8.8342
600	40.2950	3302.5	3705.5	10.1608	600	8.0570	3302.2	3705.1	9.4178	600	4.0280	3301.9	3704.7	9.0976
700	44.9110	3479.6	3928.7	10.4028	700	8.9810	3479.4	3928.5	9.6599	700	4.4900	3479.2	3928.2	9.3398
800	49.5260	3663.8	4159.1	10.6281	800	9.9040	3663.6	4158.8	9.8852	800	4.9520	3663.5	4158.7	9.5652
900	54.1410	3855.0	4396.4	10.8396	900	10.8280	3854.9	4396.3	10.0967	900	5.4140	3854.8	4396.2	9.7767
1000	58.7570	4053.0	4640.6	11.0393	1000	11.7510	4052.9	4640.5	10.2964	1000	5.8750	4052.8	4640.3	9.9764
1100	63.3720	4257.5	4891.2	11.2287	1100	12.6740	4257.4	4891.1	10.4859	1100	6.3370	4257.3	4891.0	10.1659
1200	67.9870	4467.9	5147.8	11.4091	1200	13.5970	4467.8	5147.7	10.6662	1200	6.7990	4467.7	5147.6	10.3463
1300	72.6020	4683.7	5409.7	11.5811	1300	14.5210	4683.6	5409.7	10.8382	1300	7.2600	4683.5	5409.5	10.5183

$p = 0.20 \text{ MPa}$					$p = 0.30 \text{ MPa}$					$p = 0.40 \text{ MPa}$				
T	v	u	h	s	T	v	u	h	s	T	v	u	h	s
151.86	0.8857	2529.5	2706.6	7.1272	133.55	0.6058	2543.6	2725.3	6.9919	143.63	0.4625	2553.6	2738.6	6.8959
150	0.9596	2576.9	2768.8	7.2795	150	0.6339	2570.8	2761.0	7.0778	150	0.4708	2564.5	2752.8	6.9299
200	1.0803	2654.4	2870.5	7.5066	200	0.7163	2650.7	2865.6	7.3115	200	0.5342	2646.8	2860.5	7.1706
250	1.1988	2731.2	2971.0	7.7086	250	0.7964	2728.7	2967.6	7.5166	250	0.5951	2726.1	2964.1	7.3789
300	1.3162	2808.6	3071.8	7.8926	300	0.8753	2806.7	3069.3	7.7022	300	0.6548	2804.8	3066.7	7.5662
400	1.5493	2966.7	3276.6	8.2218	400	1.0315	2965.6	3275.1	8.0330	400	0.7726	2964.4	3273.4	7.8995
500	1.7814	3130.8	3487.1	8.5133	500	1.1867	3130.0	3486.0	8.3251	500	0.8893	3129.2	3484.9	8.1913
600	2.0130	3301.4	3704.0	8.7770	600	1.3414	3300.8	3703.2	8.5892	600	1.0055	3300.2	3702.4	8.4558
700	2.2440	3478.8	3927.6	9.0194	700	1.4957	3478.4	3927.1	8.8319	700	1.1215	3477.9	3926.5	8.6987
800	2.4750	3663.1	4158.1	9.2449	800	1.6499	3662.9	4157.9	9.0576	800	1.2372	3662.4	4157.3	8.9244
900	2.7060	3854.5	4395.7	9.4566	900	1.8041	3854.2	4395.4	9.2692	900	1.3529	3853.9	4395.1	9.1362
1000	2.9370	4052.5	4639.9	9.6563	1000	1.9581	4052.3	4639.7	9.4690	1000	1.4685	4052.0	4639.4	9.3360
1100	3.1680	4257.0	4890.6	9.8458	1100	2.1121	4256.8	4890.4	9.6585	1100	1.5840	4256.5	4890.1	9.5256
1200	3.3990	4467.3	5147.1	10.0262	1200	2.2661	4467.2	5147.0	9.8389	1200	1.6996	4467.0	5146.8	9.7060
1300	3.6300	4683.2	5409.2	10.1982	1300	2.4201	4683.0	5409.0	10.0110	1300	1.8151	4682.8	5408.8	9.8780

Table A.1.3 (continued)

$p = 0.50 \text{ MPa}$					$p = 0.60 \text{ MPa}$					$p = 0.80 \text{ MPa}$				
T	v	u	h	s	T	v	u	h	s	T	v	u	h	s
151.86	0.37490	2561.2	2748.7	6.8213	158.85	0.31570	2567.4	2756.8	6.7600	170.430	0.24040	2576.8	2769.1	6.6628
200	0.42490	2642.9	2855.4	7.0592	200	0.35200	2638.9	2850.1	6.9665	200	0.26080	2630.6	2839.2	6.8158
250	0.47440	2723.5	2960.7	7.2709	250	0.39380	2720.9	2957.2	7.1816	250	0.29310	2715.5	2950.0	7.0384
300	0.52260	2802.9	3064.2	7.4599	300	0.43400	2801.0	3061.4	7.3724	300	0.32410	2797.2	3056.5	7.2328
350	0.57010	2882.6	3167.7	7.6329	350	0.47420	2881.2	3165.7	7.5464	350	0.35440	2878.2	3161.7	7.4089
400	0.61730	2963.2	3271.9	7.7938	400	0.51370	2962.1	3270.3	7.7079	400	0.38430	2959.7	3267.1	7.5716
500	0.71090	3128.4	3483.9	8.0873	500	0.59200	3127.6	3482.8	8.0021	500	0.44330	3126.0	3480.6	7.8673
600	0.80410	3299.6	3701.7	8.3522	600	0.66970	3299.1	3700.9	8.2674	600	0.50180	3297.9	3699.3	8.1333
700	0.89690	3477.5	3926.0	8.5952	700	0.74720	3477.0	3925.3	8.5107	700	0.56010	3476.2	3924.3	8.3770
800	0.98960	3662.1	4156.9	8.8211	800	0.82450	3661.8	4156.5	8.7367	800	0.61810	3661.1	4155.6	8.6033
900	1.08220	3853.6	4394.7	9.0329	900	0.90750	3853.4	4397.9	8.9486	900	0.67610	3852.8	4393.7	8.8153
1000	1.17470	4051.8	4639.2	9.2328	1000	0.97880	4051.5	4638.8	9.1485	1000	0.73400	4051.0	4638.2	9.0153
1100	1.26720	4256.3	4889.9	9.4224	1100	1.05590	4256.1	4889.6	9.3381	1100	0.79190	4255.6	4889.1	9.2050
1200	1.35960	4466.8	5146.6	9.6029	1200	1.13300	4466.5	5146.3	9.5185	1200	0.84970	4466.1	5145.9	9.3855
1300	1.45210	4682.5	5408.6	9.7749	1300	1.21010	4682.3	5408.4	9.6906	1300	0.90760	4681.8	5407.9	9.5575

$p = 1.00 \text{ MPa}$					$p = 1.20 \text{ MPa}$					$p = 1.40 \text{ MPa}$				
T	v	u	h	s	T	v	u	h	s	T	v	u	h	s
179.91	0.19444	2583.6	2789.6	6.5865	187.99	0.16333	2588.8	2792.0	6.5233	195.070	0.14084	2592.8	2793.0	6.4693
200	0.20600	2621.9	2827.9	6.6940	200	0.16930	2612.8	2816.0	6.5898	200	0.14302	2603.1	2803.3	6.4975
250	0.23270	2709.9	2942.6	6.9247	250	0.19234	2704.2	2935.0	6.8294	250	0.16350	2698.3	2927.2	6.7467
300	0.25790	2793.2	3051.1	7.1229	300	0.21380	2789.2	3045.8	7.0317	300	0.18228	2785.2	3040.4	6.9534
350	0.28250	2875.2	3157.7	7.3011	350	0.23450	2872.2	3153.6	7.2121	350	0.20030	2869.2	3149.6	7.1360
400	0.30660	2957.3	3263.9	7.4651	400	0.25480	2954.9	3260.7	7.3774	400	0.21780	2952.5	3257.4	7.3026
500	0.35410	3124.4	3478.5	7.7622	500	0.29460	3122.8	3476.3	7.6759	500	0.25210	3121.1	3474.1	7.6027
600	0.40110	3296.8	3697.9	8.0290	600	0.33390	3295.6	3696.3	7.9435	600	0.28600	3294.4	3694.8	7.8710
700	0.44780	3475.3	3923.1	8.2731	700	0.37290	3474.4	3921.9	8.1881	700	0.31950	3473.6	3920.9	8.1160
800	0.49430	3660.4	4154.7	8.4996	800	0.41180	3659.7	4153.9	8.4148	800	0.35280	3659.0	4152.9	8.3431
900	0.54070	3852.2	4392.9	8.7118	900	0.45050	3851.6	4392.2	8.6272	900	0.38610	3851.1	4391.6	8.5556
1000	0.58710	4050.5	4637.6	8.9119	1000	0.48920	4050.0	4637.0	8.8274	1000	0.41920	4049.5	4636.4	8.7559
1100	0.63350	4255.1	4888.6	9.1017	1100	0.52780	4254.6	4888.0	9.0172	1100	0.45240	4254.1	4887.5	8.9457
1200	0.67980	4465.6	5145.4	9.2822	1200	0.56650	4465.1	5144.9	9.1977	1200	0.48550	4464.7	5144.4	9.1262
1300	0.72610	4681.3	5407.4	9.4543	1300	0.60510	4680.9	5407.0	9.3698	1300	0.51860	4680.4	5406.4	9.2984

Table A.1.3 (continued)

$p = 1.60 \text{ MPa}$					$p = 1.80 \text{ MPa}$					$p = 2.00 \text{ MPa}$				
T	ν	u	h	s	T	ν	u	h	s	T	ν	u	h	s
201.40	0.12380	2596.0	2794.1	6.4218	207.15	0.11042	2598.4	2797.2	6.3794	212.42	0.09963	2600.3	2799.6	6.3409
250	0.14184	2692.3	2919.2	6.6732	250	0.12497	2686.0	2910.9	6.6066	250	0.11144	2679.6	2902.5	6.5453
300	0.15862	2781.1	3034.9	6.8844	300	0.14021	2776.9	3029.3	6.8226	300	0.12547	2772.6	3023.5	6.7664
350	0.17456	2866.1	3145.4	7.0694	350	0.15457	2863.0	3141.2	7.0100	350	0.13857	2859.8	3136.9	6.9563
400	0.19005	2950.1	3254.2	7.2374	400	0.16847	2947.7	3250.9	7.1794	400	0.15120	2945.2	3247.6	7.1271
500	0.22030	3119.5	3472.0	7.5390	500	0.19550	3117.9	3469.8	7.4825	500	0.17568	3116.2	3467.6	7.4317
600	0.25000	3293.3	3693.3	7.8080	600	0.22200	3292.1	3691.7	7.7523	600	0.19960	3290.9	3690.1	7.7024
700	0.27940	3472.7	3919.7	8.0535	700	0.24820	3471.8	3918.6	7.9983	700	0.22320	3470.9	3917.3	7.9487
800	0.30860	3658.3	4152.1	8.2808	800	0.27420	3657.6	4151.2	8.2258	800	0.24600	3657.0	4149.0	8.1765
900	0.33770	3850.5	4390.8	8.4935	900	0.30010	3849.9	4390.1	8.4386	900	0.27000	3849.3	4389.3	8.3895
1000	0.36680	4049.0	4635.9	8.6938	1000	0.32600	4048.5	4635.3	8.6391	1000	0.29330	4048.0	4634.6	8.5901
1100	0.39580	4253.7	4887.0	8.8837	1100	0.35180	4253.2	4886.4	8.8290	1100	0.31660	4252.7	4885.9	8.7800
1200	0.42480	4464.2	5143.9	9.0643	1200	0.77600	4463.7	5860.5	9.0096	1200	0.33980	4463.3	5142.9	8.9607
1300	0.45380	4679.9	5406.0	9.2364	1300	0.40340	4679.5	5405.6	9.1818	1300	0.36310	4679.0	5405.2	9.1329

$p = 2.50 \text{ MPa}$					$p = 3.00 \text{ MPa}$					$p = 3.50 \text{ MPa}$				
T	ν	u	h	s	T	ν	u	h	s	T	ν	u	h	s
223.99	0.07998	2603.1	2803.1	6.2675	233.90	0.06668	2604.1	2804.1	6.1869	242.60	0.05707	2603.7	2803.4	6.1253
250	0.08700	2662.6	2880.1	6.4085	250	0.07058	2644.0	2855.7	6.2872	250	0.05872	2623.7	2829.2	6.1749
300	0.09890	2761.6	3008.9	6.6438	300	0.08114	2750.1	2993.5	6.5390	300	0.06842	2738.0	2977.5	6.4461
350	0.10976	2851.9	3126.3	6.8403	350	0.09053	2843.7	3115.3	6.7428	350	0.07678	2835.3	3104.0	6.6579
400	0.12010	2939.1	3239.4	7.0148	400	0.09936	2932.8	3230.9	6.9212	400	0.08453	2926.4	3222.3	6.8405
450	0.13014	3025.5	3350.9	7.1746	450	0.10787	3020.4	3344.0	7.0834	450	0.09196	3015.3	3337.2	7.0052
500	0.13998	3112.1	3462.1	7.3234	500	0.11619	3108.0	3456.6	7.2338	500	0.09918	3103.0	3450.1	7.1572
600	0.15930	3288.0	3686.3	7.5960	600	0.13243	3285.0	3682.3	7.5085	600	0.11324	3282.1	3678.4	7.4339
700	0.17832	3468.7	3914.5	7.8435	700	0.14838	3466.5	3911.6	7.7571	700	0.12699	3464.3	3908.8	7.6837
800	0.19716	3655.3	4148.2	8.0720	800	0.16414	3653.5	4145.9	7.9862	800	0.14056	3651.8	4143.8	7.9134
900	0.21590	3847.9	4387.7	8.2853	900	0.17980	3846.5	4385.9	8.1999	900	0.15402	3845.0	4384.1	8.1276
1000	0.23460	4046.7	4633.2	8.4861	1000	0.19541	4045.4	4631.6	8.4009	1000	0.16743	4044.1	4630.1	8.3288
1100	0.25320	4251.5	4884.5	8.6762	1100	0.21098	4250.3	4883.2	8.5912	1100	0.18080	4249.2	4882.0	8.5192
1200	0.27180	4462.1	5141.6	8.8569	1200	0.22652	4460.9	5140.5	8.7720	1200	0.19415	4459.8	5139.3	8.7000
1300	0.29050	4677.8	5404.1	9.0291	1300	0.24206	4676.5	5402.7	8.9442	1300	0.20749	4675.5	5401.7	8.8723

Table A.1.3 (continued)

$p = 4.00 \text{ MPa}$					$p = 4.50 \text{ MPa}$					$p = 5.00 \text{ MPa}$				
T	ν	u	h	s	T	ν	u	h	s	T	ν	u	h	s
250.40	0.04978	2602.3	2801.4	6.0701	257.49	0.04406	2600.1	2798.4	6.0198	263.99	0.03944	2597.1	2794.3	5.9734
300	0.05884	2725.3	2960.7	6.3615	300	0.05135	2712.0	2943.1	6.2828	300	0.04532	2698.0	2924.6	6.2084
350	0.06645	2826.7	3092.5	6.5821	350	0.05840	2817.8	3080.6	6.5131	350	0.05194	2808.7	3068.4	6.4493
400	0.07341	2919.9	3213.5	6.7690	400	0.06475	2913.3	3204.7	6.7047	400	0.05781	2906.6	3195.7	6.6459
450	0.08002	3010.2	3330.3	6.9363	450	0.07074	3005.0	3323.3	6.8746	450	0.06330	2999.7	3316.2	6.8186
500	0.08643	3099.5	3445.2	7.0901	500	0.07651	3095.3	3439.6	7.0301	500	0.06857	3091.0	3433.9	6.9759
600	0.09885	3279.1	3674.5	7.3688	600	0.08765	3276.0	3670.4	7.3110	600	0.07869	3273.0	3666.5	7.2589
700	0.11095	3462.1	3905.9	7.6198	700	0.09847	3459.9	3903.0	7.5631	700	0.08849	3457.6	3900.1	7.5122
800	0.12287	3650.0	4141.5	7.8502	800	0.10911	3648.4	4139.4	7.7942	800	0.09811	3646.6	4137.2	7.7440
900	0.13469	3843.6	4382.4	8.0647	900	0.11965	3842.2	4380.6	8.0091	900	0.10762	3840.7	4378.8	7.9593
1000	0.14645	4042.9	4628.7	8.2662	1000	0.13013	4041.6	4627.2	8.2108	1000	0.11707	4040.4	4625.8	8.1612
1100	0.15817	4248.0	4880.7	8.4567	1100	0.14056	4246.8	4879.3	8.4015	1100	0.12648	4245.6	4878.0	8.3520
1200	0.16987	4458.6	5138.1	8.6376	1200	0.15098	4457.5	5136.9	8.5825	1200	0.13587	4456.3	5135.7	8.5331
1300	0.18156	4674.3	5400.5	8.8100	1300	0.16139	4673.1	5399.4	8.7549	1300	0.14526	4672.0	5398.3	8.7055

$p = 6.00 \text{ MPa}$					$p = 7.00 \text{ MPa}$					$p = 8.00 \text{ MPa}$				
T	ν	u	h	s	T	ν	u	h	s	T	ν	u	h	s
275.64	0.03244	2589.7	2784.3	5.8892	265.88	0.02737	2580.5	2772.1	5.8133	295.06	0.02352	2569.8	2758.0	5.7432
300	0.03616	2667.2	2884.2	6.0674	300	0.02947	2632.2	2838.5	5.9305	300	0.02426	2590.9	2785.0	5.7906
350	0.04223	2789.6	3043.0	6.3335	350	0.03524	2769.4	3016.1	6.2283	350	0.02995	2747.7	2987.3	6.1301
400	0.04739	2892.9	3177.2	6.5408	400	0.03993	2878.6	3158.1	6.4478	400	0.03432	2863.8	3138.4	6.3634
450	0.05214	2988.9	3301.7	6.7193	450	0.04416	2978.0	3287.1	6.6327	450	0.03817	2966.7	3272.1	6.5551
500	0.05665	3082.2	3422.1	6.8803	500	0.04814	3073.4	3410.4	6.7975	500	0.04176	3064.3	3398.4	6.7240
600	0.06525	3266.9	3658.4	7.1677	600	0.05565	3260.7	3650.3	7.0894	600	0.04845	3254.4	3642.0	7.0206
700	0.07352	3453.1	3894.2	7.4234	700	0.06283	3448.5	3888.3	7.3476	700	0.05481	3443.9	3882.4	7.2812
800	0.08160	3643.1	4132.7	7.6566	800	0.06981	3639.5	4128.2	7.5822	800	0.06097	3636.0	4123.8	7.5173
900	0.08958	3837.8	4375.3	7.8727	900	0.07669	3835.0	4371.8	7.7991	900	0.06702	3832.1	4368.3	7.7351
1000	0.09749	4037.8	4622.7	8.0751	1000	0.08350	4035.3	4619.8	8.0020	1000	0.07301	4032.8	4616.9	7.9384
1100	0.10536	4243.3	4875.5	8.2661	1100	0.09027	4240.9	4872.8	8.1933	1100	0.07896	4238.6	4870.3	8.1300
1200	0.11321	4454.0	5133.3	8.4474	1200	0.09703	4451.7	5130.9	8.3747	1200	0.08489	4449.5	5128.6	8.3115
1300	0.12106	4669.6	5396.0	8.6199	1300	0.10377	4667.3	5393.7	8.5473	1300	0.09080	4665.0	5391.4	8.4842

Table A.1.3 (continued)

<i>p</i> = 9.00 MPa					<i>p</i> = 10.00 MPa					<i>p</i> = 12.50 MPa				
<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>	<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>	<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>
303.40	0.02048	2557.8	2742.1	5.6772	311.06	0.01803	2544.4	2724.7	5.6141	327.89	0.01350	2505.1	2673.8	5.4624
350	0.02580	2724.4	2956.6	6.0361	350	0.02242	2699.2	2923.4	5.9443	350	0.01613	2624.6	2826.2	5.7118
400	0.02993	2848.4	3117.8	6.2854	400	0.02641	2832.4	3096.5	6.2120	400	0.02000	2789.3	3039.3	6.0417
450	0.03350	2955.1	3256.6	6.4844	450	0.02975	2943.4	3240.9	6.4190	450	0.02299	2912.5	3199.9	6.2719
500	0.03677	3055.2	3386.1	6.6576	500	0.03279	3045.8	3373.7	6.5966	500	0.02560	3021.7	3341.7	6.4618
600	0.04285	3248.1	3633.8	6.9589	600	0.03837	3241.7	3625.4	6.9029	600	0.03029	3225.4	3604.0	6.7810
700	0.04857	3439.4	3876.5	7.2221	700	0.04358	3434.7	3870.5	7.1687	700	0.03460	3422.9	3855.4	7.0536
800	0.05409	3632.5	4119.3	7.4596	800	0.04859	3628.9	4114.8	7.4077	800	0.03869	3620.0	4103.6	7.2965
900	0.05950	3829.3	4364.8	7.6783	900	0.05349	3826.3	4361.2	7.6272	900	0.04267	3819.1	4352.5	7.5182
1000	0.06485	4030.4	4614.1	7.8821	1000	0.05832	4027.8	4611.0	7.8315	1000	0.04658	4021.6	4603.9	7.7237
1100	0.07016	4236.3	4867.7	8.0740	1100	0.06312	4234.0	4865.2	8.0237	1100	0.05045	4228.2	4858.8	7.9165
1200	0.07544	4447.2	5126.2	8.2556	1200	0.06789	4444.9	5123.8	8.2055	1200	0.05430	4439.3	5118.1	8.0987
1300	0.08072	4662.7	5389.2	8.4284	1300	0.07265	4660.5	5387.0	8.3783	1300	0.05813	4654.8	5381.4	8.2717

<i>p</i> = 15.00 MPa					<i>p</i> = 17.50 MPa					<i>p</i> = 20.00 MPa				
<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>	<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>	<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>
342.24	0.01034	2455.5	2610.6	5.3098	354.75	0.00792	2390.2	2528.8	5.1419	365.81	0.00583	2293.0	2409.7	4.9269
400	0.01565	2740.7	2975.4	5.8811	400	0.01245	2685.0	2902.8	5.7213	400	0.00994	2619.3	2818.1	5.5540
450	0.01845	2879.5	3156.2	6.1404	450	0.01517	2844.2	3109.7	6.0184	450	0.01270	2806.2	3060.1	5.9017
500	0.02080	2996.6	3308.6	6.3443	500	0.01736	2970.3	3274.1	6.2383	500	0.01477	2942.9	3238.3	6.1401
600	0.02491	3208.6	3582.3	6.6776	600	0.02106	3191.5	3560.1	6.5866	600	0.01818	3174.0	3537.6	6.5048
700	0.02861	3410.9	3840.1	6.9572	700	0.02434	3398.7	3824.7	6.8736	700	0.02113	3386.4	3809.0	6.7993
800	0.03210	3610.9	4092.4	7.2040	800	0.02738	3601.8	4081.0	7.1244	800	0.02385	3592.7	4069.7	7.0544
900	0.03546	3811.9	4343.8	7.4279	900	0.03031	3804.7	4335.1	7.3507	900	0.02645	3797.5	4326.5	7.2830
1000	0.03875	4015.4	4596.7	7.6348	1000	0.03316	4009.3	4589.6	7.5589	1000	0.02897	4003.1	4582.5	7.4925
1100	0.04200	4222.6	4852.6	7.8283	1100	0.03597	4216.9	4846.4	7.7531	1100	0.03145	4211.3	4840.3	7.6874
1200	0.04523	4433.8	5112.3	8.0108	1200	0.03876	4428.3	5106.6	7.9360	1200	0.03391	4422.8	5101.0	7.8707
1300	0.04845	4649.1	5375.9	8.1840	1300	0.04154	4643.5	5370.5	8.1093	1300	0.03636	4638.0	5365.2	8.0442

Table A.1.3 (continued)

<i>p</i> = 25.00 MPa					<i>p</i> = 30.00 MPa					<i>p</i> = 35.00 MPa				
<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>	<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>	<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>
375	0.00197	1798.7	1848.0	4.0320	375	0.00179	1737.8	1791.5	3.9305	375	0.00170	1702.9	1762.4	3.8722
400	0.00600	2430.1	2580.2	5.1418	400	0.00279	2067.4	2151.1	4.4728	400	0.00210	1914.1	1987.6	4.2126
450	0.00916	2720.7	2949.8	5.6744	450	0.00674	2619.3	2821.4	5.4424	450	0.00496	2498.7	2672.3	5.1962
500	0.01112	2884.3	3162.4	5.9592	500	0.00868	2820.7	3081.0	5.7905	500	0.00693	2751.9	2994.3	5.6282
600	0.01414	3137.9	3491.3	6.3602	600	0.01145	3100.5	3443.9	6.2331	600	0.00953	3062.0	3395.4	6.1179
700	0.01665	3361.3	3777.5	6.6707	700	0.01366	3335.8	3745.6	6.5606	700	0.01153	3309.8	3713.5	6.4631
800	0.01891	3574.3	4047.1	6.9345	800	0.01562	3555.5	4024.2	6.8332	800	0.01328	3536.7	4001.4	6.7450
900	0.02105	3783.0	4309.1	7.1680	900	0.01745	3768.5	4291.9	7.0718	900	0.01488	3754.0	4274.9	6.9886
1000	0.02310	3990.9	4568.4	7.3802	1000	0.01920	3978.8	4554.7	7.2867	1000	0.01641	3966.7	4541.1	7.2064
1100	0.02512	4200.2	4828.2	7.5765	1100	0.02090	4189.2	4816.3	7.4845	1100	0.01790	4178.3	4804.6	7.4057
1200	0.02711	4412.0	5089.8	7.7605	1200	0.02259	4401.3	5079.0	7.6692	1200	0.01936	4390.7	5068.3	7.5910
1300	0.02910	4626.9	5354.4	7.9342	1300	0.02427	4616.0	5344.0	7.8432	1300	0.02082	4605.1	5333.6	7.7653

<i>p</i> = 40.00 MPa					<i>p</i> = 50.00 MPa					<i>p</i> = 60.00 MPa				
<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>	<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>	<i>T</i>	<i>ν</i>	<i>u</i>	<i>h</i>	<i>s</i>
375	0.00164	1677.1	1742.7	3.8290	375	0.00156	1638.6	1716.6	3.7639	375	0.00150	1609.4	1699.6	3.7141
400	0.00191	1854.6	1930.9	4.1135	400	0.00173	1788.1	1874.6	4.0031	400	0.00163	1745.4	1843.4	3.9318
450	0.00369	2365.1	2512.8	4.9459	450	0.00249	2159.6	2283.9	4.5884	450	0.00209	2053.9	2179.0	4.4121
500	0.00562	2678.4	2903.3	5.4700	500	0.00389	2525.5	2720.1	5.1726	500	0.00296	2390.6	2568.0	4.9321
600	0.00809	3022.6	3346.4	6.0114	600	0.00611	2942.0	3247.6	5.8178	600	0.00483	2861.1	3151.1	5.6452
700	0.00994	3283.6	3681.2	6.3750	700	0.00773	3230.5	3616.9	6.2189	700	0.00627	3177.2	3553.5	6.0824
800	0.01152	3517.8	3978.7	6.6662	800	0.00908	3479.8	3933.6	6.5290	800	0.00746	3441.5	3889.0	6.4109
900	0.01296	3739.4	4257.9	6.9150	900	0.01028	3710.3	4224.5	6.7882	900	0.00851	3681.0	4191.5	6.6805
1000	0.01432	3954.6	4527.6	7.1356	1000	0.01141	3930.5	4501.1	7.0146	1000	0.00948	3906.4	4475.2	6.9127
1100	0.01564	4167.4	4793.1	7.3364	1100	0.01250	4145.7	4770.5	7.2184	1100	0.01041	4124.1	4748.6	7.1195
1200	0.01694	4380.1	5057.7	7.5224	1200	0.01356	4359.1	5037.2	7.4058	1200	0.01132	4338.2	5017.2	7.3083
1300	0.01823	4594.3	5323.5	7.6969	1300	0.01462	4572.8	5303.6	7.5808	1300	0.01222	4551.4	5284.3	7.4837

Table A.1.4 Compressed liquid water.

(Adapted from J.H. Keenan, F.G. Keyes, P.G. Hill and J.G. Moore, *Steam Tables (S.I. Units)*, Wiley, New York, 1978)

$p = 5.00 \text{ MPa}$					$p = 10.00 \text{ MPa}$					$p = 15.00 \text{ MPa}$				
T	ν	u	h	s	T	ν	u	h	s	T	ν	u	h	s
0	0.0009977	0.04	5.03	0.0001	0	0.0009952	0.09	10.04	0.0002	0	0.0009928	0.15	15.04	0.0004
20	0.0009995	83.65	88.65	0.2956	20	0.0009972	83.36	93.33	0.2945	20	0.0009950	83.06	97.99	0.2934
40	0.0010056	166.95	171.98	0.5705	40	0.0010034	166.35	176.38	0.5686	40	0.0010013	165.76	180.78	0.5666
60	0.0010149	250.23	255.30	0.8285	60	0.0010127	249.36	259.49	0.8258	60	0.0010105	248.51	263.67	0.8232
80	0.0010268	333.72	338.85	1.0720	80	0.0010245	332.59	342.84	1.0688	80	0.0010222	331.48	346.81	1.0656
100	0.0010576	417.52	422.81	1.3030	100	0.0010385	416.12	426.51	1.2992	100	0.0010361	414.74	430.28	1.2955
120	0.0010576	501.80	507.09	1.5233	120	0.0010549	500.08	510.63	1.5189	120	0.0010522	498.40	514.18	1.5145
140	0.0010768	586.76	592.14	1.7343	140	0.0010737	584.68	595.42	1.7292	140	0.0010707	582.66	598.72	1.7242
160	0.0010988	672.62	678.11	1.9375	160	0.0010953	670.13	681.08	1.9317	160	0.0010918	667.71	684.09	1.9260
180	0.0011240	759.63	765.25	2.1341	180	0.0011199	756.65	767.85	2.1275	180	0.0011159	753.76	770.50	2.1210
200	0.0011530	848.10	853.87	2.3255	200	0.0011480	844.50	855.98	2.3178	200	0.0011433	841.00	858.15	2.3104
220	0.0011866	938.40	944.33	2.5128	220	0.0011805	934.10	945.91	2.5039	220	0.0011748	929.90	947.52	2.4953
240	0.0012264	1031.40	1037.53	2.6979	240	0.0012187	1026.00	1038.19	2.6872	240	0.0012114	1020.80	1038.97	2.6771
260	0.0012749	1127.90	1134.27	2.8883	260	0.0012645	1121.10	1133.75	2.8699	260	0.0012550	1114.60	1133.43	2.8576
					280	0.0013216	1220.90	1234.12	3.0548	280	0.0013084	1212.50	1232.13	3.0393
					300	0.0039720	1328.40	1368.12	3.2469	300	0.0013770	1316.60	1337.26	3.2260
										320	0.0014724	1431.10	1453.19	3.4247
										340	0.0016311	1567.50	1591.97	3.6546
263.99	0.0012859	1147.80	1154.23	2.9202	311.06	0.0014524	1393.00	1407.52	3.3596	342.24	0.0016581	1585.10	1609.97	3.6848

Table A.1.4 (continued)

$p = 20.00 \text{ MPa}$					$p = 30.00 \text{ MPa}$					$p = 50.00 \text{ MPa}$				
T	ν	u	h	s	T	ν	u	h	s	T	ν	u	h	s
0	0.0009904	0.19	20.00	0.0004	0	0.0009856	0.25	29.82	0.0001	0	0.0009766	0.20	49.03	-0.0014
20	0.0009904	82.77	102.58	0.2923	20	0.0009886	82.17	111.83	0.2899	20	0.0009804	81.00	130.02	0.2848
40	0.0009992	165.17	185.15	0.5646	40	0.0009951	164.04	193.89	0.5607	40	0.0009872	161.86	211.22	0.5527
60	0.0010084	247.68	267.85	0.8206	60	0.0010042	246.06	276.19	0.8154	60	0.0009962	242.98	292.79	0.8052
80	0.0010199	330.40	350.80	1.0624	80	0.0010156	328.30	358.77	1.0561	80	0.0010073	324.34	374.71	1.0440
100	0.0010337	413.39	434.06	1.2917	100	0.0010290	410.78	441.65	1.2844	100	0.0010201	405.88	456.89	1.2703
120	0.0010496	496.76	517.75	1.5102	120	0.0010445	493.59	524.93	1.5018	120	0.0010348	487.65	539.39	1.4857
140	0.0010678	580.69	602.05	1.7193	140	0.0010621	576.88	608.74	1.7098	140	0.0010515	569.77	622.35	1.6915
160	0.0010885	665.35	687.12	1.9204	160	0.0010821	660.82	693.28	1.9096	160	0.0010703	652.41	705.93	1.8891
180	0.0011120	750.95	773.19	2.1147	180	0.0011047	745.59	778.73	2.1024	180	0.0010912	735.69	790.25	2.0794
200	0.0011388	837.70	860.48	2.3031	200	0.0011302	831.40	865.31	2.2893	200	0.0011146	819.70	875.43	2.2634
220	0.0011693	925.90	949.29	2.4870	220	0.0011590	918.30	953.07	2.4711	220	0.0011408	904.70	961.74	2.4419
240	0.0012046	1016.00	1040.09	0.6674	240	0.0011920	1006.90	1042.66	2.6490	240	0.0011702	990.70	1049.21	2.6158
260	0.0012462	1108.60	1133.52	0.8459	260	0.0012303	1097.40	1134.31	2.8243	260	0.0012034	1078.10	1138.27	2.7860
280	0.0012965	1204.70	1230.63	3.0248	280	0.0012755	1190.70	1228.97	2.9986	280	0.0012415	1167.20	1229.28	2.9537
300	0.0013596	1306.10	1333.29	3.2071	300	0.0013304	1287.90	1327.81	3.1741	300	0.0012860	1258.70	1323.00	3.1200
320	0.0014437	1415.70	1444.57	3.3979	320	0.0013997	1390.70	1432.69	3.3539	320	0.0013388	1353.30	1420.24	3.2868
340	0.0015684	1539.70	1571.07	3.6075	340	0.0014920	1501.70	1546.46	3.5426	340	0.0014032	1452.00	1522.16	3.4557
360	0.0018226	1702.80	1739.25	3.8772	360	0.0016265	1626.60	1675.40	3.7494	360	0.0014838	1556.00	1630.19	3.6291
365.81	0.0020360	1147.80	1158.00	2.9202										