



RS-44 (R424A)

THERMODYNAMIC TABLES

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Sat -60 C [0.20394]				Sat -50 C [0.37834]				Sat -40 C [0.65685]				Sat -30 C [1.0785]			
Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy
[C]	[litre/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[litre/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[litre/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[litre/kg]	[kJ/kg]	[kJ/K-kg]
-60	794.12	333.74	1.6938	-50	444.85	340.11	1.6762	-40	265.06	346.47	1.6627	-30	166.19	352.79	1.6524
-58	801.97	335.13	1.7003	-48	449.17	341.55	1.6827	-38	267.62	347.97	1.6691	-28	167.80	354.35	1.6588
-56	809.81	336.53	1.7068	-46	453.48	343.00	1.6891	-36	270.16	349.48	1.6755	-26	169.40	355.92	1.6652
-54	817.63	337.93	1.7132	-44	457.77	344.45	1.6954	-34	272.70	350.99	1.6818	-24	171.00	357.49	1.6715
-52	825.44	339.34	1.7196	-42	462.06	345.91	1.7018	-32	275.23	352.50	1.6881	-22	172.59	359.06	1.6778
-50	833.24	340.75	1.7260	-40	466.33	347.38	1.7081	-30	277.75	354.02	1.6944	-20	174.17	360.63	1.6840
-48	841.02	342.17	1.7323	-38	470.60	348.85	1.7144	-28	280.26	355.54	1.7006	-18	175.74	362.21	1.6903
-46	848.80	343.60	1.7386	-36	474.86	350.33	1.7206	-26	282.77	357.07	1.7068	-16	177.31	363.80	1.6964
-44	856.57	345.04	1.7449	-34	479.12	351.81	1.7269	-24	285.27	358.60	1.7130	-14	178.88	365.39	1.7026
-42	864.33	346.48	1.7512	-32	483.36	353.30	1.7331	-22	287.76	360.14	1.7192	-12	180.43	366.98	1.7087
-40	872.08	347.93	1.7574	-30	487.60	354.79	1.7392	-20	290.25	361.69	1.7253	-10	181.99	368.58	1.7148
-38	879.83	349.38	1.7636	-28	491.84	356.30	1.7454	-18	292.74	363.24	1.7314	-8	183.54	370.18	1.7209
-36	887.56	350.84	1.7698	-26	496.06	357.80	1.7515	-16	295.22	364.80	1.7375	-6	185.09	371.79	1.7269
-34	895.29	352.31	1.7760	-24	500.29	359.32	1.7576	-14	297.69	366.36	1.7435	-4	186.63	373.40	1.7330
-32	903.01	353.79	1.7821	-22	504.50	360.84	1.7637	-12	300.17	367.93	1.7496	-2	188.17	375.02	1.7389
-30	910.73	355.27	1.7882	-20	508.71	362.37	1.7697	-10	302.63	369.50	1.7556	0	189.70	376.65	1.7449
-28	918.44	356.76	1.7943	-18	512.92	363.90	1.7758	-8	305.10	371.08	1.7616	2	191.23	378.28	1.7509
-26	926.14	358.25	1.8004	-16	517.12	365.44	1.7818	-6	307.55	372.67	1.7675	4	192.76	379.92	1.7568
-24	933.84	359.76	1.8065	-14	521.32	366.99	1.7878	-4	310.01	374.27	1.7735	6	194.29	381.56	1.7627
-22	941.54	361.27	1.8125	-12	525.51	368.54	1.7938	-2	312.46	375.86	1.7794	8	195.81	383.21	1.7686
-20	949.23	362.78	1.8185	-10	529.70	370.10	1.7997	0	314.91	377.47	1.7853	10	197.33	384.86	1.7744
-18	956.91	364.31	1.8245	-8	533.89	371.67	1.8056	2	317.36	379.08	1.7912	12	198.85	386.52	1.7803
-16	964.59	365.84	1.8305	-6	538.07	373.24	1.8116	4	319.80	380.70	1.7970	14	200.36	388.18	1.7861
-14	972.27	367.38	1.8365	-4	542.25	374.82	1.8175	6	322.24	382.33	1.8029	16	201.87	389.85	1.7919
-12	979.94	368.92	1.8424	-2	546.43	376.41	1.8233	8	324.67	383.96	1.8087	18	203.38	391.53	1.7977
-10	987.61	370.47	1.8483	0	550.60	378.00	1.8292	10	327.11	385.59	1.8145	20	204.89	393.22	1.8034
-8	995.27	372.03	1.8542	2	554.77	379.60	1.8350	12	329.54	387.24	1.8203	22	206.40	394.90	1.8092
-6	1002.90	373.60	1.8601	4	558.93	381.21	1.8408	14	331.97	388.89	1.8261	24	207.90	396.60	1.8149
-4	1010.60	375.17	1.8660	6	563.10	382.82	1.8466	16	334.39	390.55	1.8318	26	209.40	398.30	1.8206
-2	1018.20	376.75	1.8718	8	567.26	384.45	1.8524	18	336.82	392.21	1.8375	28	210.90	400.01	1.8263
0	1025.90	378.33	1.8776	10	571.42	386.07	1.8582	20	339.24	393.88	1.8433	30	212.39	401.72	1.8320
2	1033.50	379.93	1.8834	12	575.57	387.71	1.8639	22	341.66	395.55	1.8490	32	213.89	403.44	1.8376
4	1041.20	381.53	1.8892	14	579.72	389.35	1.8697	24	344.08	397.24	1.8546	34	215.38	405.17	1.8433
6	1048.80	383.13	1.8950	16	583.87	391.00	1.8754	26	346.49	398.93	1.8603	36	216.87	406.90	1.8489
8	1056.50	384.75	1.9008	18	588.02	392.65	1.8811	28	348.91	400.62	1.8659	38	218.36	408.64	1.8545
10	1064.10	386.37	1.9065	20	592.17	394.31	1.8868	30	351.32	402.32	1.8716	40	219.85	410.39	1.8601
12	1071.70	388.00	1.9123	22	596.31	395.98	1.8925	32	353.73	404.03	1.8772	42	221.34	412.14	1.8657
14	1079.40	389.63	1.9180	24	600.46	397.65	1.8981	34	356.14	405.75	1.8828	44	222.83	413.89	1.8712



Sat -60 C [0.20394]				Sat -50 C [0.37834]				Sat -40 C [0.65685]				Sat -30 C [1.0785]			
Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]
16	1087.00	391.27	1.9237	26	604.60	399.33	1.9037	36	358.55	407.47	1.8884	46	224.31	415.66	1.8768
18	1094.60	392.92	1.9293	28	608.74	401.02	1.9094	38	360.95	409.20	1.8940	48	225.79	417.43	1.8823
20	1102.30	394.58	1.9350	30	612.87	402.72	1.9150	40	363.36	410.93	1.8995	50	227.27	419.20	1.8878
22	1109.90	396.24	1.9407	32	617.01	404.42	1.9206	42	365.76	412.67	1.9051	52	228.75	420.99	1.8933
24	1117.50	397.91	1.9463	34	621.14	406.13	1.9262	44	368.16	414.42	1.9106	54	230.23	422.77	1.8988
26	1125.10	399.59	1.9519	36	625.27	407.84	1.9317	46	370.56	416.18	1.9161	56	231.71	424.57	1.9043
28	1132.70	401.27	1.9575	38	629.40	409.56	1.9373	48	372.96	417.94	1.9216	58	233.19	426.37	1.9097
30	1140.40	402.96	1.9631	40	633.53	411.29	1.9428	50	375.35	419.71	1.9271	60	234.66	428.18	1.9152
32	1148.00	404.66	1.9687	42	637.66	413.03	1.9483	52	377.75	421.48	1.9326	62	236.14	429.99	1.9206
34	1155.60	406.36	1.9743	44	641.79	414.77	1.9538	54	380.14	423.26	1.9380	64	237.61	431.81	1.9260
36	1163.20	408.07	1.9798	46	645.91	416.52	1.9593	56	382.54	425.05	1.9435	66	239.08	433.64	1.9314
38	1170.80	409.79	1.9854	48	650.03	418.27	1.9648	58	384.93	426.84	1.9489	68	240.55	435.47	1.9368
40	1178.40	411.52	1.9909	50	654.16	420.03	1.9703	60	387.32	428.64	1.9543	70	242.02	437.31	1.9422
42	1186.00	413.25	1.9964	52	658.28	421.80	1.9757	62	389.71	430.45	1.9597	72	243.49	439.15	1.9475
44	1193.60	414.98	2.0019	54	662.40	423.58	1.9812	64	392.10	432.26	1.9651	74	244.96	441.01	1.9529
46	1201.20	416.73	2.0074	56	666.51	425.36	1.9866	66	394.49	434.08	1.9705	76	246.43	442.86	1.9582
48	1208.80	418.48	2.0129	58	670.63	427.15	1.9920	68	396.88	435.90	1.9759	78	247.90	444.73	1.9635
50	1216.40	420.24	2.0183	60	674.75	428.94	1.9974	70	399.26	437.74	1.9812	80	249.36	446.60	1.9688
52	1224.00	422.00	2.0238	62	678.86	430.74	2.0028	72	401.65	439.57	1.9866	82	250.83	448.48	1.9741
54	1231.60	423.78	2.0292	64	682.98	432.55	2.0082	74	404.03	441.42	1.9919	84	252.29	450.36	1.9794
56	1239.20	425.55	2.0346	66	687.09	434.37	2.0136	76	406.42	443.27	1.9972	86	253.76	452.25	1.9847
58	1246.80	427.34	2.0400	68	691.20	436.19	2.0189	78	408.80	445.13	2.0025	88	255.22	454.15	1.9900
60	1254.40	429.13	2.0454	70	695.32	438.02	2.0243	80	411.18	446.99	2.0078	90	256.68	456.04	1.9952
62	1262.00	430.93	2.0508	72	699.43	439.85	2.0296	82	413.56	448.87	2.0131	92	258.14	457.95	2.0005
64	1269.60	432.74	2.0562	74	703.54	441.69	2.0349	84	415.94	450.74	2.0184	94	259.60	459.86	2.0057
66	1277.20	434.55	2.0615	76	707.64	443.54	2.0402	86	418.32	452.63	2.0236	96	261.06	461.78	2.0109
68	1284.80	436.37	2.0669	78	711.75	445.39	2.0455	88	420.70	454.52	2.0289	98	262.52	463.71	2.0161
70	1292.40	438.19	2.0722	80	715.86	447.25	2.0508	90	423.08	456.41	2.0341	100	263.98	465.64	2.0213
72	1300.00	440.02	2.0775	82	719.97	449.12	2.0561	92	425.46	458.31	2.0393	102	265.44	467.58	2.0265
74	1307.60	441.86	2.0828	84	724.07	450.99	2.0613	94	427.84	460.22	2.0445	104	266.90	469.53	2.0316
76	1315.20	443.71	2.0881	86	728.18	452.87	2.0666	96	430.21	462.14	2.0497	106	268.36	471.48	2.0368
78	1322.80	445.56	2.0934	88	732.29	454.76	2.0718	98	432.59	464.06	2.0549	108	269.81	473.44	2.0420
80	1330.30	447.42	2.0987	90	736.39	456.65	2.0770	100	434.96	465.99	2.0601	110	271.27	475.40	2.0471
82	1337.90	449.29	2.1040	92	740.49	458.55	2.0823	102	437.34	467.92	2.0653	112	272.73	477.37	2.0522
84	1345.50	451.15	2.1092	94	744.59	460.46	2.0875	104	439.71	469.86	2.0705	114	274.18	479.35	2.0573
86	1353.10	453.03	2.1145	96	748.69	462.37	2.0927	106	442.08	471.81	2.0756	116	275.63	481.33	2.0624
88	1360.70	454.92	2.1197	98	752.79	464.29	2.0978	108	444.46	473.76	2.0807	118	277.09	483.32	2.0675
90	1368.30	456.80	2.1249	100	756.89	466.21	2.1030	110	446.83	475.72	2.0859	120	278.54	485.31	2.0726



Sat -20 C [1.6889]				Sat -10 C [2.5396]				Sat 0 C [3.6877]				Sat 10 C [5.1954]			
Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]
-20	108.70	359.02	1.6447	-10	73.640	365.11	1.6390	0	51.359	371.02	1.6349	10	36.684	376.68	1.6318
-18	109.77	360.65	1.6511	-8	74.390	366.82	1.6455	2	51.908	372.81	1.6414	12	37.101	378.56	1.6384
-16	110.84	362.28	1.6575	-6	75.133	368.52	1.6519	4	52.450	374.59	1.6479	14	37.514	380.44	1.6450
-14	111.90	363.91	1.6638	-4	75.870	370.22	1.6582	6	52.988	376.37	1.6543	16	37.921	382.31	1.6515
-12	112.95	365.55	1.6701	-2	76.603	371.93	1.6645	8	53.520	378.15	1.6606	18	38.324	384.17	1.6579
-10	113.99	367.18	1.6764	0	77.330	373.63	1.6708	10	54.048	379.93	1.6669	20	38.723	386.03	1.6643
-8	115.04	368.82	1.6826	2	78.053	375.34	1.6770	12	54.572	381.71	1.6732	22	39.117	387.90	1.6706
-6	116.07	370.47	1.6887	4	78.772	377.05	1.6832	14	55.091	383.49	1.6794	24	39.508	389.75	1.6769
-4	117.11	372.12	1.6949	6	79.486	378.76	1.6894	16	55.608	385.27	1.6856	26	39.896	391.61	1.6831
-2	118.13	373.77	1.7010	8	80.197	380.47	1.6955	18	56.120	387.05	1.6917	28	40.280	393.47	1.6893
0	119.16	375.42	1.7071	10	80.905	382.19	1.7016	20	56.630	388.84	1.6978	30	40.662	395.33	1.6954
2	120.18	377.08	1.7131	12	81.609	383.91	1.7076	22	57.137	390.62	1.7039	32	41.040	397.19	1.7015
4	121.20	378.75	1.7192	14	82.309	385.63	1.7137	24	57.640	392.41	1.7099	34	41.416	399.05	1.7076
6	122.21	380.42	1.7252	16	83.007	387.36	1.7197	26	58.141	394.20	1.7159	36	41.789	400.91	1.7137
8	123.22	382.09	1.7311	18	83.702	389.09	1.7256	28	58.639	396.00	1.7219	38	42.160	402.77	1.7197
10	124.23	383.77	1.7371	20	84.394	390.83	1.7316	30	59.135	397.79	1.7279	40	42.529	404.63	1.7256
12	125.23	385.45	1.7430	22	85.084	392.57	1.7375	32	59.628	399.59	1.7338	42	42.895	406.50	1.7316
14	126.23	387.14	1.7489	24	85.771	394.31	1.7434	34	60.120	401.40	1.7397	44	43.259	408.37	1.7375
16	127.23	388.83	1.7548	26	86.456	396.06	1.7492	36	60.609	403.21	1.7455	46	43.622	410.24	1.7434
18	128.23	390.53	1.7607	28	87.138	397.81	1.7551	38	61.095	405.02	1.7514	48	43.982	412.11	1.7492
20	129.22	392.24	1.7665	30	87.818	399.57	1.7609	40	61.580	406.83	1.7572	50	44.340	413.99	1.7550
22	130.21	393.95	1.7723	32	88.496	401.33	1.7667	42	62.064	408.65	1.7630	52	44.697	415.87	1.7608
24	131.20	395.66	1.7781	34	89.173	403.10	1.7725	44	62.545	410.47	1.7688	54	45.052	417.75	1.7666
26	132.19	397.38	1.7839	36	89.847	404.87	1.7782	46	63.024	412.30	1.7745	56	45.406	419.64	1.7724
28	133.17	399.11	1.7896	38	90.519	406.65	1.7839	48	63.502	414.13	1.7802	58	45.758	421.52	1.7781
30	134.16	400.84	1.7953	40	91.190	408.43	1.7896	50	63.978	415.97	1.7859	60	46.108	423.42	1.7838
32	135.14	402.57	1.8010	42	91.859	410.22	1.7953	52	64.453	417.81	1.7916	62	46.458	425.31	1.7895
34	136.12	404.32	1.8067	44	92.526	412.01	1.8010	54	64.926	419.65	1.7973	64	46.805	427.22	1.7951
36	137.09	406.07	1.8124	46	93.192	413.81	1.8067	56	65.398	421.50	1.8029	66	47.152	429.12	1.8007
38	138.07	407.82	1.8181	48	93.856	415.61	1.8123	58	65.869	423.36	1.8085	68	47.497	431.03	1.8064
40	139.04	409.58	1.8237	50	94.518	417.42	1.8179	60	66.338	425.22	1.8141	70	47.841	432.94	1.8119
42	140.01	411.35	1.8293	52	95.180	419.23	1.8235	62	66.806	427.08	1.8197	72	48.184	434.86	1.8175
44	140.99	413.12	1.8349	54	95.840	421.05	1.8291	64	67.272	428.95	1.8252	74	48.526	436.78	1.8231
46	141.95	414.89	1.8405	56	96.498	422.88	1.8346	66	67.738	430.82	1.8308	76	48.866	438.71	1.8286
48	142.92	416.68	1.8461	58	97.156	424.71	1.8402	68	68.202	432.70	1.8363	78	49.206	440.64	1.8341
50	143.89	418.47	1.8516	60	97.812	426.54	1.8457	70	68.665	434.59	1.8418	80	49.544	442.57	1.8396
52	144.85	420.26	1.8572	62	98.467	428.38	1.8512	72	69.127	436.47	1.8473	82	49.882	444.52	1.8451
54	145.82	422.06	1.8627	64	99.121	430.23	1.8567	74	69.589	438.37	1.8528	84	50.219	446.46	1.8505



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56	146.78	423.87	1.8682	66	99.773	432.08	1.8622	76	70.049	440.27	1.8582	86	50.554	448.4	1.8560
58	147.74	425.68	1.8737	68	100.42	433.94	1.8676	78	70.508	442.17	1.8637	88	50.889	450.36	1.8614
60	148.70	427.50	1.8792	70	101.08	435.80	1.8731	80	70.966	444.08	1.8691	90	51.223	452.32	1.8668
62	149.66	429.33	1.8846	72	101.73	437.67	1.8785	82	71.423	446.00	1.8745	92	51.557	454.28	1.8722
64	150.62	431.16	1.8901	74	102.37	439.54	1.8839	84	71.880	447.92	1.8799	94	51.889	456.25	1.8776
66	151.58	432.99	1.8955	76	103.02	441.42	1.8893	86	72.336	449.84	1.8853	96	52.221	458.22	1.8829
68	152.53	434.84	1.9009	78	103.67	443.31	1.8947	88	72.791	451.78	1.8907	98	52.552	460.2	1.8883
70	153.49	436.68	1.9063	80	104.31	445.20	1.9001	90	73.245	453.71	1.8960	100	52.882	462.18	1.8936
72	154.44	438.54	1.9117	82	104.96	447.10	1.9055	92	73.698	455.65	1.9013	102	53.211	464.17	1.8989
74	155.39	440.40	1.9171	84	105.60	449.00	1.9108	94	74.150	457.6	1.9066	104	53.540	466.16	1.9042
76	156.35	442.27	1.9225	86	106.25	450.91	1.9161	96	74.602	459.55	1.9119	106	53.868	468.16	1.9095
78	157.30	444.14	1.9278	88	106.89	452.83	1.9214	98	75.053	461.51	1.9172	108	54.196	470.16	1.9148
80	158.25	446.02	1.9331	90	107.53	454.75	1.9267	100	75.504	463.47	1.9225	110	54.523	472.17	1.9200
82	159.20	447.91	1.9385	92	108.17	456.67	1.9320	102	75.954	465.44	1.9278	112	54.849	474.18	1.9253
84	160.15	449.80	1.9438	94	108.81	458.61	1.9373	104	76.403	467.42	1.9330	114	55.175	476.2	1.9305
86	161.10	451.69	1.9491	96	109.45	460.54	1.9426	106	76.851	469.4	1.9382	116	55.500	478.23	1.9357
88	162.05	453.60	1.9544	98	110.09	462.49	1.9478	108	77.299	471.38	1.9435	118	55.825	480.26	1.9409
90	162.99	455.51	1.9596	100	110.73	464.44	1.9531	110	77.746	473.37	1.9487	120	56.149	482.29	1.9461
92	163.94	457.42	1.9649	102	111.37	466.39	1.9583	112	78.193	475.37	1.9539	122	56.472	484.33	1.9513
94	164.88	459.34	1.9701	104	112.01	468.35	1.9635	114	78.639	477.37	1.9591	124	56.795	486.37	1.9564
96	165.83	461.27	1.9754	106	112.64	470.32	1.9687	116	79.085	479.38	1.9642	126	57.118	488.42	1.9616
98	166.77	463.20	1.9806	108	113.28	472.29	1.9739	118	79.530	481.39	1.9694	128	57.440	490.48	1.9667
100	167.71	465.14	1.9858	110	113.91	474.27	1.9791	120	79.975	483.41	1.9745	130	57.761	492.54	1.9719
102	168.66	467.09	1.9910	112	114.55	476.26	1.9842	122	80.419	485.44	1.9797	132	58.083	494.61	1.9770
104	169.60	469.04	1.9962	114	115.18	478.25	1.9894	124	80.863	487.47	1.9848	134	58.403	496.68	1.9821
106	170.54	471.00	2.0014	116	115.82	480.24	1.9945	126	81.306	489.5	1.9899	136	58.724	498.76	1.9872
108	171.48	472.96	2.0065	118	116.45	482.25	1.9997	128	81.749	491.54	1.9950	138	59.044	500.84	1.9922
110	172.42	474.93	2.0117	120	117.08	484.25	2.0048	130	82.191	493.59	2.0001	140	59.363	502.93	1.9973
112	173.36	476.91	2.0168	122	117.72	486.27	2.0099	132	82.633	495.64	2.0052	142	59.682	505.02	2.0023
114	174.30	478.89	2.0220	124	118.35	488.29	2.0150	134	83.074	497.7	2.0103	144	60.001	507.12	2.0074
116	175.24	480.88	2.0271	126	118.98	490.31	2.0201	136	83.515	499.77	2.0153	146	60.319	509.22	2.0124
118	176.18	482.87	2.0322	128	119.61	492.35	2.0252	138	83.956	501.84	2.0204	148	60.637	511.33	2.0174
120	177.12	484.87	2.0373	130	120.24	494.38	2.0302	140	84.396	503.91	2.0254	150	60.955	513.44	2.0224
122	178.05	486.88	2.0424	132	120.87	496.43	2.0353	142	84.836	505.99	2.0304	152	61.272	515.56	2.0274
124	178.99	488.89	2.0475	134	121.50	498.47	2.0403	144	85.276	508.08	2.0354	154	61.589	517.69	2.0324
126	179.93	490.91	2.0525	136	122.13	500.53	2.0454	146	85.715	510.17	2.0404	156	61.905	519.82	2.0374
128	180.86	492.93	2.0576	138	122.76	502.59	2.0504	148	86.153	512.27	2.0454	158	62.222	521.96	2.0424
130	181.80	494.96	2.0627	140	123.39	504.66	2.0554	150	86.592	514.37	2.0504	160	62.537	524.10	2.0473



Sat 20 C [7.1303				Sat 30 C [9.5658				Sat 40 C [12.583				Sat 50 C [16.272			
Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]
20	26.703	382.02	1.6294	30	19.718	386.94	1.6272	40	14.696	391.26	1.6246	50	10.998	394.83	1.6211
22	27.034	384.01	1.6362	32	19.991	389.06	1.6342	42	14.933	393.58	1.6320	52	11.210	397.36	1.6289
24	27.360	385.99	1.6428	34	20.259	391.17	1.6411	44	15.162	395.85	1.6391	54	11.415	399.84	1.6365
26	27.681	387.96	1.6495	36	20.521	393.26	1.6478	46	15.385	398.09	1.6462	56	11.613	402.28	1.6439
28	27.997	389.93	1.6560	38	20.779	395.34	1.6546	48	15.604	400.31	1.6531	58	11.805	404.69	1.6512
30	28.310	391.89	1.6625	40	21.033	397.41	1.6612	50	15.817	402.51	1.6600	60	11.992	407.06	1.6584
32	28.618	393.84	1.6689	42	21.283	399.47	1.6677	52	16.027	404.70	1.6667	62	12.174	409.41	1.6654
34	28.923	395.79	1.6753	44	21.529	401.52	1.6742	54	16.232	406.88	1.6734	64	12.352	411.74	1.6723
36	29.225	397.73	1.6816	46	21.772	403.57	1.6807	56	16.434	409.04	1.6800	66	12.525	414.04	1.6791
38	29.524	399.67	1.6878	48	22.012	405.60	1.6870	58	16.633	411.19	1.6865	68	12.695	416.33	1.6859
40	29.819	401.61	1.6941	50	22.249	407.64	1.6933	60	16.829	413.33	1.6929	70	12.862	418.60	1.6925
42	30.112	403.55	1.7002	52	22.483	409.67	1.6996	62	17.022	415.46	1.6993	72	13.026	420.86	1.6991
44	30.403	405.49	1.7064	54	22.715	411.69	1.7058	64	17.212	417.59	1.7056	74	13.187	423.11	1.7056
46	30.690	407.43	1.7124	56	22.944	413.71	1.7120	66	17.400	419.71	1.7119	76	13.346	425.34	1.7120
48	30.976	409.36	1.7185	58	23.171	415.74	1.7181	68	17.586	421.83	1.7181	78	13.502	427.57	1.7183
50	31.259	411.30	1.7245	60	23.395	417.75	1.7242	70	17.769	423.94	1.7243	80	13.656	429.79	1.7246
52	31.541	413.24	1.7305	62	23.618	419.77	1.7302	72	17.951	426.04	1.7304	82	13.807	432.00	1.731
54	31.820	415.18	1.7364	64	23.839	421.79	1.7362	74	18.130	428.15	1.7365	84	13.958	434.20	1.7371
56	32.097	417.12	1.7423	66	24.058	423.80	1.7422	76	18.308	430.25	1.7425	86	14.106	436.40	1.7432
58	32.373	419.06	1.7482	68	24.275	425.82	1.7481	78	18.484	432.35	1.7485	88	14.252	438.59	1.7493
60	32.647	421.00	1.7541	70	24.491	427.84	1.7540	80	18.658	434.45	1.7545	90	14.397	440.78	1.7553
62	32.919	422.95	1.7599	72	24.705	429.85	1.7598	82	18.831	436.55	1.7604	92	14.540	442.97	1.7613
64	33.190	424.89	1.7657	74	24.917	431.87	1.7657	84	19.003	438.64	1.7663	94	14.681	445.15	1.7673
66	33.459	426.84	1.7714	76	25.128	433.89	1.7715	86	19.172	440.73	1.7721	96	14.822	447.33	1.7732
68	33.727	428.79	1.7772	78	25.338	435.91	1.7772	88	19.341	442.82	1.7780	98	14.960	449.50	1.7791
70	33.993	430.75	1.7829	80	25.546	437.93	1.7830	90	19.508	444.92	1.7837	100	15.098	451.68	1.7849
72	34.258	432.71	1.7886	82	25.753	439.96	1.7887	92	19.674	447.01	1.7895	102	15.234	453.85	1.7907
74	34.522	434.67	1.7942	84	25.959	441.98	1.7944	94	19.839	449.11	1.7952	104	15.370	456.02	1.7965
76	34.785	436.63	1.7999	86	26.164	444.00	1.8000	96	20.003	451.21	1.8009	106	15.504	458.20	1.8023
78	35.046	438.60	1.8055	88	26.367	446.04	1.8057	98	20.166	453.30	1.8066	108	15.637	460.37	1.8080
80	35.306	440.57	1.8111	90	26.570	448.07	1.8113	100	20.328	455.40	1.8122	110	15.769	462.54	1.8137
82	35.565	442.55	1.8167	92	26.772	450.10	1.8169	102	20.488	457.50	1.8178	112	15.900	464.71	1.8193
84	35.824	444.52	1.8222	94	26.972	452.14	1.8224	104	20.648	459.60	1.8234	114	16.030	466.88	1.8249
86	36.081	446.50	1.8278	96	27.172	454.18	1.8280	106	20.807	461.71	1.8290	116	16.160	469.06	1.8305
88	36.337	448.49	1.8333	98	27.371	456.22	1.8335	108	20.965	463.81	1.8345	118	16.288	471.23	1.8361
90	36.592	450.48	1.8388	100	27.568	458.27	1.8390	110	21.122	465.92	1.8400	120	16.416	473.40	1.8417
92	36.847	452.47	1.8442	102	27.765	460.32	1.8445	112	21.279	468.03	1.8455	122	16.543	475.58	1.8472
94	37.100	454.47	1.8497	104	27.962	462.37	1.8499	114	21.434	470.15	1.8510	124	16.669	477.76	1.8527



Sat 20 C [7.1303				Sat 30 C [9.5658				Sat 40 C [12.583				Sat 50 C [16.272			
Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]
96	37.353	456.47	1.8551	106	28.157	464.43	1.8554	116	21.589	472.26	1.8564	126	16.794	479.94	1.8581
98	37.604	458.47	1.8605	108	28.352	466.49	1.8608	118	21.743	474.38	1.8619	128	16.919	482.12	1.8636
100	37.856	460.48	1.8659	110	28.545	468.55	1.8662	120	21.897	476.5	1.8673	130	17.043	484.30	1.8690
102	38.106	462.49	1.8713	112	28.739	470.62	1.8716	122	22.049	478.62	1.8727	132	17.166	486.49	1.8744
104	38.355	464.51	1.8767	114	28.931	472.69	1.8769	124	22.201	480.75	1.8780	134	17.289	488.67	1.8798
106	38.604	466.54	1.8820	116	29.123	474.76	1.8823	126	22.353	482.88	1.8834	136	17.411	490.86	1.8852
108	38.852	468.56	1.8874	118	29.314	476.84	1.8876	128	22.504	485.02	1.8887	138	17.533	493.06	1.8905
110	39.100	470.59	1.8927	120	29.505	478.93	1.8929	130	22.654	487.15	1.8940	140	17.654	495.25	1.8959
112	39.347	472.63	1.8980	122	29.695	481.01	1.8982	132	22.804	489.3	1.8993	142	17.774	497.45	1.9012
114	39.593	474.67	1.9033	124	29.884	483.11	1.9035	134	22.953	491.44	1.9046	144	17.894	499.65	1.9065
116	39.839	476.72	1.9085	126	30.073	485.20	1.9088	136	23.101	493.59	1.9099	146	18.014	501.85	1.9117
118	40.084	478.77	1.9138	128	30.261	487.30	1.9140	138	23.250	495.74	1.9151	148	18.133	504.06	1.9170
120	40.328	480.82	1.9190	130	30.449	489.40	1.9192	140	23.397	497.89	1.9204	150	18.251	506.27	1.9222
122	40.572	482.88	1.9243	132	30.636	491.51	1.9244	142	23.544	500.05	1.9256	152	18.369	508.48	1.9274
124	40.815	484.95	1.9295	134	30.823	493.62	1.9296	144	23.691	502.22	1.9308	154	18.487	510.70	1.9326
126	41.058	487.02	1.9347	136	31.009	495.74	1.9348	146	23.837	504.38	1.9360	156	18.604	512.92	1.9378
128	41.301	489.09	1.9399	138	31.195	497.86	1.9400	148	23.983	506.56	1.9411	158	18.721	515.14	1.9430
130	41.542	491.17	1.9450	140	31.380	499.99	1.9452	150	24.128	508.73	1.9463	160	18.837	517.37	1.9481
132	41.784	493.25	1.9502	142	31.565	502.12	1.9503	152	24.273	510.91	1.9514	162	18.953	519.60	1.9533
134	42.025	495.34	1.9553	144	31.749	504.26	1.9554	154	24.417	513.09	1.9565	164	19.069	521.83	1.9584
136	42.265	497.44	1.9605	146	31.933	506.39	1.9606	156	24.561	515.28	1.9616	166	19.184	524.07	1.9635
138	42.505	499.54	1.9656	148	32.117	508.54	1.9657	158	24.705	517.47	1.9667	168	19.298	526.31	1.9686
140	42.745	501.64	1.9707	150	32.300	510.69	1.9708	160	24.848	519.67	1.9718	170	19.413	528.56	1.9737
142	42.984	503.75	1.9758	152	32.483	512.84	1.9758	162	24.991	521.87	1.9769	172	19.527	530.81	1.9787
144	43.223	505.86	1.9809	154	32.665	515.00	1.9809	164	25.134	524.07	1.9819	174	19.641	533.06	1.9838
146	43.461	507.98	1.9859	156	32.847	517.16	1.9859	166	25.276	526.28	1.9870	176	19.754	535.32	1.9888
148	43.699	510.11	1.9910	158	33.029	519.33	1.9910	168	25.418	528.5	1.9920	178	19.867	537.58	1.9938
150	43.936	512.24	1.9960	160	33.210	521.50	1.9960	170	25.560	530.71	1.9970	180	19.980	539.84	1.9989
152	44.174	514.37	2.0011	162	33.391	523.68	2.0010	172	25.701	532.94	2.0020	182	20.092	542.11	2.0038
154	44.411	516.51	2.0061	164	33.572	525.86	2.0060	174	25.842	535.16	2.0070	184	20.205	544.39	2.0088
156	44.647	518.65	2.0111	166	33.752	528.05	2.0110	176	25.983	537.39	2.0120	186	20.317	546.66	2.0138
158	44.883	520.80	2.0161	168	33.932	530.24	2.0160	178	26.123	539.63	2.0170	188	20.428	548.94	2.0188
160	45.119	522.96	2.0211	170	34.112	532.44	2.0210	180	26.263	541.87	2.0219	190	20.540	551.23	2.0237
162	45.355	525.12	2.0260	172	34.291	534.64	2.0259	182	26.403	544.11	2.0269	192	20.651	553.52	2.0286
164	45.590	527.28	2.0310	174	34.470	536.85	2.0309	184	26.542	546.36	2.0318	194	20.762	555.81	2.0336
166	45.825	529.45	2.0360	176	34.649	539.06	2.0358	186	26.681	548.62	2.0367	196	20.872	558.11	2.0385
168	46.059	531.63	2.0409	178	34.828	541.28	2.0407	188	26.820	550.88	2.0416	198	20.982	560.42	2.0434
170	46.294	533.81	2.0458	180	35.006	543.50	2.0456	190	26.959	553.14	2.0465	200	21.093	562.72	2.0483



Sat 60 C [20.743				Sat 70 C [26.141				Sat 80 C [32.706			
Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]
60	8.193	397.17	1.6153	70	5.985	397.47	1.6050	80	4.114	393.30	1.5836
62	8.397	400.07	1.6240	72	6.204	401.06	1.6154	82	4.374	398.33	1.5978
64	8.591	402.87	1.6323	74	6.402	404.41	1.6251	84	4.634	403.35	1.6119
66	8.775	405.60	1.6404	76	6.585	407.60	1.6343	86	4.836	407.43	1.6233
68	8.952	408.26	1.6482	78	6.757	410.65	1.6430	88	5.009	411.07	1.6334
70	9.122	410.86	1.6558	80	6.920	413.61	1.6514	90	5.181	414.71	1.6435
72	9.287	413.43	1.6633	82	7.072	416.44	1.6594	92	5.334	418.06	1.6527
74	9.446	415.95	1.6705	84	7.223	419.27	1.6673	94	5.478	421.28	1.6615
76	9.600	418.44	1.6777	86	7.365	422.01	1.6750	96	5.614	424.38	1.6699
78	9.751	420.90	1.6847	88	7.503	424.70	1.6825	98	5.744	427.40	1.6781
80	9.897	423.34	1.6916	90	7.636	427.35	1.6898	100	5.868	430.33	1.6860
82	10.039	425.74	1.6984	92	7.765	429.96	1.6969	102	5.987	433.21	1.6936
84	10.181	428.14	1.7052	94	7.890	432.53	1.7040	104	6.102	436.03	1.7011
86	10.318	430.51	1.7118	96	8.012	435.08	1.7109	106	6.213	438.80	1.7085
88	10.453	432.87	1.7183	98	8.132	437.60	1.7177	108	6.321	441.53	1.7157
90	10.586	435.22	1.7248	100	8.249	440.10	1.7244	110	6.426	444.23	1.7227
92	10.716	437.55	1.7312	102	8.363	442.58	1.7310	112	6.528	446.89	1.7296
94	10.844	439.87	1.7376	104	8.475	445.04	1.7376	114	6.628	449.53	1.7365
96	10.970	442.18	1.7438	106	8.585	447.49	1.7440	116	6.726	452.14	1.7432
98	11.095	444.48	1.7500	108	8.693	449.91	1.7504	118	6.821	454.72	1.7498
100	11.218	446.77	1.7562	110	8.799	452.33	1.7568	120	6.915	457.29	1.7564
102	11.339	449.06	1.7623	112	8.904	454.74	1.7630	122	7.007	459.83	1.7628
104	11.458	451.34	1.7684	114	9.007	457.13	1.7692	124	7.097	462.37	1.7692
106	11.577	453.61	1.7744	116	9.108	459.52	1.7754	126	7.185	464.88	1.7755
108	11.693	455.88	1.7804	118	9.209	461.89	1.7815	128	7.273	467.38	1.7818
110	11.809	458.15	1.7863	120	9.308	464.26	1.7875	130	7.358	469.87	1.7880
112	11.923	460.41	1.7922	122	9.405	466.62	1.7935	132	7.443	472.35	1.7941
114	12.037	462.67	1.7980	124	9.502	468.98	1.7994	134	7.526	474.82	1.8002
116	12.149	464.93	1.8038	126	9.597	471.33	1.8053	136	7.609	477.28	1.8062
118	12.260	467.18	1.8096	128	9.691	473.68	1.8112	138	7.690	479.74	1.8122
120	12.370	469.43	1.8154	130	9.785	476.02	1.8170	140	7.770	482.18	1.8181
122	12.479	471.68	1.8211	132	9.877	478.36	1.8228	142	7.849	484.62	1.8240
124	12.587	473.93	1.8268	134	9.969	480.69	1.8286	144	7.928	487.05	1.8299
126	12.695	476.18	1.8324	136	10.059	483.02	1.8343	146	8.005	489.48	1.8357
128	12.801	478.43	1.8380	138	10.149	485.35	1.8400	148	8.082	491.90	1.8414
130	12.907	480.68	1.8436	140	10.238	487.68	1.8456	150	8.158	494.32	1.8472
132	13.012	482.92	1.8492	142	10.326	490.01	1.8512	152	8.233	496.73	1.8528
134	13.116	485.17	1.8547	144	10.414	492.33	1.8568	154	8.307	499.14	1.8585



Sat 60 C [20.743				Sat 70 C [26.141				Sat 80 C [32.706			
Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]	Temp [C]	Volume [litre/kg]	Enthalpy [kJ/kg]	Entropy [kJ/K-kg]
136	13.220	487.42	1.8602	146	10.501	494.66	1.8624	156	8.381	501.55	1.8641
138	13.323	489.67	1.8657	148	10.587	496.98	1.8679	158	8.454	503.96	1.8697
140	13.425	491.92	1.8712	150	10.673	499.30	1.8734	160	8.527	506.36	1.8753
142	13.526	494.17	1.8766	152	10.758	501.63	1.8789	162	8.599	508.76	1.8808
144	13.627	496.42	1.8820	154	10.842	503.95	1.8843	164	8.670	511.16	1.8863
146	13.728	498.68	1.8874	156	10.926	506.27	1.8897	166	8.741	513.56	1.8918
148	13.828	500.93	1.8928	158	11.009	508.59	1.8951	168	8.811	515.96	1.8972
150	13.927	503.19	1.8981	160	11.092	510.92	1.9005	170	8.881	518.36	1.9027
152	14.026	505.45	1.9034	162	11.174	513.24	1.9059	172	8.950	520.76	1.9081
154	14.124	507.71	1.9087	164	11.256	515.57	1.9112	174	9.019	523.15	1.9134
156	14.222	509.97	1.9140	166	11.337	517.90	1.9165	176	9.087	525.55	1.9188
158	14.319	512.24	1.9193	168	11.418	520.23	1.9218	178	9.155	527.95	1.9241
160	14.416	514.50	1.9245	170	11.498	522.56	1.9271	180	9.223	530.35	1.9294
162	14.512	516.78	1.9298	172	11.578	524.89	1.9323	182	9.290	532.75	1.9347
164	14.608	519.05	1.9350	174	11.658	527.22	1.9376	184	9.357	535.15	1.9400
166	14.704	521.32	1.9402	176	11.737	529.56	1.9428	186	9.423	537.55	1.9452
168	14.799	523.60	1.9454	178	11.816	531.90	1.9480	188	9.489	539.95	1.9504
170	14.894	525.88	1.9505	180	11.894	534.24	1.9531	190	9.554	542.35	1.9556
172	14.988	528.17	1.9557	182	11.972	536.58	1.9583	192	9.620	544.76	1.9608
174	15.082	530.46	1.9608	184	12.050	538.92	1.9634	194	9.684	547.16	1.9660
176	15.176	532.75	1.9659	186	12.127	541.27	1.9686	196	9.749	549.57	1.9711
178	15.269	535.04	1.9710	188	12.204	543.62	1.9737	198	9.813	551.98	1.9762
180	15.362	537.34	1.9761	190	12.281	545.97	1.9788	200	9.877	554.39	1.9813
182	15.455	539.64	1.9811	192	12.357	548.33	1.9838	202	9.941	556.80	1.9864
184	15.547	541.94	1.9862	194	12.433	550.68	1.9889	204	10.004	559.22	1.9915
186	15.639	544.25	1.9912	196	12.509	553.04	1.9939	206	10.067	561.64	1.9966
188	15.731	546.56	1.9962	198	12.585	555.41	1.9990	208	10.130	564.06	2.0016
190	15.823	548.88	2.0013	200	12.660	557.77	2.0040	210	10.192	566.48	2.0066
192	15.914	551.19	2.0062	202	12.735	560.14	2.0090	212	10.255	568.91	2.0116
194	16.005	553.51	2.0112	204	12.810	562.52	2.0140	214	10.317	571.33	2.0166
196	16.095	555.84	2.0162	206	12.884	564.89	2.0189	216	10.378	573.76	2.0216
198	16.185	558.17	2.0211	208	12.958	567.27	2.0239	218	10.440	576.20	2.0266
200	16.276	560.50	2.0261	210	13.032	569.66	2.0288	220	10.501	578.63	2.0315
202	16.365	562.84	2.0310	212	13.106	572.04	2.0338	222	10.562	581.07	2.0365
204	16.455	565.18	2.0359	214	13.179	574.43	2.0387	224	10.623	583.51	2.0414
206	16.544	567.52	2.0408	216	13.252	576.82	2.0436	226	10.684	585.96	2.0463
208	16.633	569.87	2.0457	218	13.325	579.22	2.0485	228	10.744	588.40	2.0512
210	16.722	572.23	2.0506	220	13.398	581.62	2.0533	230	10.804	590.86	2.0561



Temp [C]	Pressure (L) [bara] bubble	Pressure (V) [bara] dew	Density (L) [kg/m ³] bubble	Density (V) [kg/m ³] dew	Volume (L) [litre/kg] bubble	Volume (V) [litre/kg] dew	Enthalpy (L) [kJ/kg] bubble	Enthalpy (V) [kJ/kg] dew	Entropy (L) [kJ/K-kg] bubble	Entropy (V) [kJ/K-kg] dew
-60	0.3355	0.2039	1460.2	1.259	0.685	794.14	125.28	333.74	0.6931	1.6938
-58	0.3763	0.2321	1454.3	1.422	0.688	703.31	127.65	335.01	0.7041	1.6899
-56	0.4209	0.2634	1448.4	1.601	0.690	624.67	130.02	336.28	0.7151	1.6862
-54	0.4698	0.2981	1442.5	1.797	0.693	556.37	132.40	337.56	0.7260	1.6827
-52	0.5231	0.3363	1436.6	2.013	0.696	496.86	134.79	338.83	0.7369	1.6794
-50	0.5811	0.3783	1430.6	2.248	0.699	444.85	137.19	340.11	0.7476	1.6762
-48	0.6441	0.4246	1424.6	2.505	0.702	399.26	139.59	341.38	0.7583	1.6732
-46	0.7125	0.4752	1418.6	2.784	0.705	359.20	142.00	342.66	0.7690	1.6704
-44	0.7866	0.5306	1412.5	3.087	0.708	323.89	144.42	343.93	0.7795	1.6677
-42	0.8666	0.5910	1406.4	3.417	0.711	292.70	146.85	345.20	0.7901	1.6651
-40	0.9529	0.6569	1400.3	3.773	0.714	265.06	149.28	346.47	0.8005	1.6627
-38	1.0459	0.7284	1394.1	4.158	0.717	240.53	151.73	347.74	0.8109	1.6604
-36	1.1459	0.8059	1387.9	4.573	0.721	218.69	154.18	349.01	0.8213	1.6583
-34	1.2532	0.8899	1381.6	5.020	0.724	199.21	156.64	350.27	0.8316	1.6562
-32	1.3682	0.9806	1375.3	5.501	0.727	181.79	159.11	351.54	0.8418	1.6543
-30	1.4913	1.0785	1369.0	6.017	0.730	166.19	161.59	352.79	0.8520	1.6524
-28	1.6229	1.1839	1362.6	6.571	0.734	152.19	164.08	354.05	0.8622	1.6507
-26	1.7633	1.2973	1356.2	7.164	0.737	139.59	166.57	355.30	0.8723	1.6491
-24	1.9129	1.4189	1349.7	7.798	0.741	128.23	169.08	356.54	0.8824	1.6476
-22	2.0722	1.5493	1343.2	8.476	0.745	117.98	171.60	357.79	0.8924	1.6461
-20	2.2416	1.6889	1336.6	9.200	0.748	108.70	174.12	359.02	0.9023	1.6447
-18	2.4213	1.8381	1330.0	9.971	0.752	100.30	176.66	360.25	0.9123	1.6435
-16	2.6120	1.9973	1323.3	10.792	0.756	92.67	179.21	361.48	0.9222	1.6423
-14	2.8140	2.1669	1316.5	11.665	0.760	85.73	181.77	362.70	0.9320	1.6411
-12	3.0277	2.3476	1309.7	12.593	0.764	79.41	184.34	363.91	0.9418	1.6401
-10	3.2536	2.5396	1302.9	13.579	0.768	73.64	186.92	365.11	0.9516	1.6390
-8	3.4921	2.7435	1295.9	14.625	0.772	68.37	189.51	366.31	0.9613	1.6381
-6	3.7436	2.9598	1288.9	15.735	0.776	63.55	192.11	367.50	0.9711	1.6372
-4	4.0087	3.1889	1281.8	16.910	0.780	59.14	194.73	368.68	0.9807	1.6364
-2	4.2877	3.4313	1274.7	18.154	0.784	55.09	197.36	369.86	0.9904	1.6356
0	4.5812	3.6877	1267.5	19.470	0.789	51.36	200.00	371.02	1.0000	1.6349
2	4.8896	3.9583	1260.2	20.862	0.794	47.93	202.65	372.17	1.0096	1.6342
4	5.2134	4.2439	1252.8	22.333	0.798	44.78	205.32	373.32	1.0192	1.6335
6	5.5530	4.5449	1245.3	23.887	0.803	41.86	208.01	374.45	1.0287	1.6329
8	5.9090	4.8619	1237.7	25.528	0.808	39.17	210.70	375.57	1.0382	1.6324
10	6.2819	5.1954	1230.1	27.260	0.813	36.68	213.41	376.68	1.0477	1.6318
12	6.6721	5.5460	1222.3	29.087	0.818	34.38	216.14	377.78	1.0572	1.6313



Temp [C]	Pressure (L) [bara] bubble	Pressure (V) [bara] dew	Density (L) [kg/m ³] bubble	Density (V) [kg/m ³] dew	Volume (L) [litre/kg] bubble	Volume (V) [litre/kg] dew	Enthalpy (L) [kJ/kg] bubble	Enthalpy (V) [kJ/kg] dew	Entropy (L) [kJ/K-kg] bubble	Entropy (V) [kJ/K-kg] dew
14	7.0801	5.9141	1214.4	31.015	0.823	32.24	218.88	378.86	1.0667	1.6308
16	7.5065	6.3006	1206.4	33.048	0.829	30.26	221.64	379.93	1.0761	1.6303
18	7.9518	6.7058	1198.3	35.191	0.834	28.42	224.42	380.98	1.0856	1.6298
20	8.4165	7.1303	1190.1	37.450	0.840	26.70	227.21	382.02	1.0950	1.6294
22	8.9011	7.5749	1181.8	39.831	0.846	25.11	230.02	383.04	1.1044	1.6289
24	9.4062	8.0401	1173.3	42.341	0.852	23.62	232.85	384.05	1.1138	1.6285
26	9.9322	8.5266	1164.6	44.986	0.859	22.23	235.70	385.03	1.1232	1.6281
28	10.480	9.0349	1155.8	47.775	0.865	20.93	238.57	385.99	1.1326	1.6276
30	11.050	9.5658	1146.9	50.716	0.872	19.72	241.46	386.94	1.1420	1.6272
32	11.642	10.120	1137.8	53.817	0.879	18.58	244.37	387.86	1.1515	1.6267
34	12.257	10.698	1128.5	57.088	0.886	17.52	247.31	388.76	1.1609	1.6263
36	12.897	11.301	1119.0	60.539	0.894	16.52	250.27	389.63	1.1703	1.6258
38	13.561	11.929	1109.3	64.184	0.901	15.58	253.25	390.47	1.1797	1.6252
40	14.250	12.583	1099.3	68.033	0.910	14.70	256.27	391.28	1.1892	1.6247
42	14.964	13.264	1089.2	72.103	0.918	13.87	259.31	392.07	1.1986	1.6241
44	15.705	13.972	1078.8	76.408	0.927	13.09	262.38	392.82	1.2081	1.6234
46	16.472	14.709	1068.1	80.967	0.936	12.35	265.48	393.53	1.2177	1.6227
48	17.268	15.475	1057.1	85.799	0.946	11.66	268.61	394.20	1.2272	1.6219
50	18.091	16.272	1045.9	90.927	0.956	11.00	271.79	394.83	1.2368	1.6211
52	18.943	17.100	1034.2	96.377	0.967	10.38	275.00	395.41	1.2465	1.6202
54	19.825	17.960	1022.2	102.18	0.978	9.79	278.25	395.94	1.2562	1.6191
56	20.737	18.853	1009.8	108.37	0.990	9.23	281.54	396.42	1.2659	1.6180
58	21.680	19.780	996.9	114.98	1.003	8.70	284.89	396.83	1.2758	1.6167
60	22.655	20.743	983.5	122.06	1.017	8.19	288.29	397.17	1.2857	1.6153
62	23.663	21.743	969.5	129.68	1.031	7.71	291.75	397.44	1.2958	1.6137
64	24.704	22.781	954.9	137.89	1.047	7.25	295.27	397.62	1.3059	1.6119
66	25.778	23.859	939.5	146.79	1.064	6.81	298.87	397.69	1.3163	1.6099
68	26.888	24.978	923.2	156.46	1.083	6.39	302.56	397.66	1.3267	1.6076
70	28.034	26.141	906.0	167.06	1.104	5.99	306.35	397.49	1.3374	1.6050
72	29.216	27.349	887.4	178.75	1.127	5.59	310.26	397.15	1.3484	1.6021
74	30.436	28.606	867.4	191.77	1.153	5.22	314.31	396.63	1.3597	1.5986
76	31.694	29.914	845.3	206.45	1.183	4.84	318.54	395.87	1.3715	1.5945
78	32.990	31.279	820.8	223.29	1.218	4.48	323.02	394.80	1.3838	1.5896
80	34.324	32.706	792.5	243.10	1.262	4.11	327.82	393.30	1.3970	1.5836
82	35.708	34.249	753.7	271.06	1.331	3.73	333.61	390.68	1.4128	1.5746
84	37.092	35.792	714.9	299.01	1.399	3.34	339.40	388.05	1.4285	1.5656
86	39.522	37.516	709.8	348.15	1.409	2.87	342.36	382.58	1.4358	1.5488