



# RS-51 (R470B)

## THERMODYNAMIC TABLES

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**Refrigerant Solutions Limited**  
**Saturation Properties**

**RS-51 (R407B)**



Temp [C]	Pressure (L) [bara] bubble	Pressure (V) [bara] dew	Density (L) [kg/m^3] bubble	Density (V) [kg/m^3] dew	Volume (L) [m3/kg] bubble	Volume (V) [m3/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	1.0977	0.20337	1406.6	1.0403	0.000711	0.96123	118.69	358.67	0.66705	1.8574
-59	1.1502	0.21704	1403.6	1.1056	0.000712	0.90446	120	359.35	0.67314	1.8546
-58	1.2047	0.23146	1400.7	1.1742	0.000714	0.85163	121.3	360.02	0.67921	1.8518
-57	1.2611	0.24666	1397.8	1.2462	0.000715	0.80244	122.61	360.69	0.68525	1.8491
-56	1.3195	0.26267	1394.9	1.3217	0.000717	0.7566	123.92	361.37	0.69126	1.8465
-55	1.3799	0.27952	1391.9	1.4008	0.000718	0.71385	125.23	362.04	0.69726	1.8439
-54	1.4425	0.29724	1389	1.4838	0.00072	0.67396	126.54	362.71	0.70323	1.8413
-53	1.5071	0.31587	1386.1	1.5706	0.000721	0.6367	127.85	363.39	0.70918	1.8388
-52	1.574	0.33545	1383.1	1.6615	0.000723	0.60188	129.16	364.06	0.71511	1.8364
-51	1.6431	0.35601	1380.1	1.7565	0.000725	0.56931	130.48	364.73	0.72102	1.834
-50	1.7145	0.37758	1377.2	1.8559	0.000726	0.53883	131.79	365.41	0.7269	1.8317
-49	1.7882	0.40021	1374.2	1.9597	0.000728	0.51029	133.11	366.08	0.73277	1.8294
-48	1.8643	0.42392	1371.2	2.0681	0.000729	0.48354	134.43	366.75	0.73861	1.8271
-47	1.9427	0.44877	1368.2	2.1812	0.000731	0.45846	135.75	367.42	0.74444	1.8249
-46	2.0237	0.47478	1365.2	2.2992	0.000732	0.43493	137.07	368.09	0.75024	1.8228
-45	2.1072	0.502	1362.2	2.4223	0.000734	0.41283	138.39	368.77	0.75603	1.8206
-44	2.1932	0.53047	1359.2	2.5506	0.000736	0.39207	139.72	369.44	0.76179	1.8186
-43	2.2819	0.56023	1356.2	2.6842	0.000737	0.37255	141.04	370.11	0.76754	1.8165
-42	2.3732	0.59132	1353.2	2.8234	0.000739	0.35419	142.37	370.78	0.77326	1.8145
-41	2.4672	0.62379	1350.1	2.9682	0.000741	0.33691	143.7	371.45	0.77897	1.8126
-40	2.564	0.65768	1347.1	3.1188	0.000742	0.32063	145.03	372.12	0.78466	1.8107
-39	2.6636	0.69303	1344	3.2755	0.000744	0.3053	146.36	372.78	0.79033	1.8088
-38	2.766	0.7299	1341	3.4384	0.000746	0.29084	147.7	373.45	0.79599	1.807
-37	2.8713	0.76832	1337.9	3.6076	0.000747	0.27719	149.04	374.12	0.80162	1.8052
-36	2.9796	0.80834	1334.8	3.7833	0.000749	0.26432	150.37	374.78	0.80724	1.8034
-35	3.0909	0.85002	1331.7	3.9658	0.000751	0.25216	151.71	375.45	0.81284	1.8017
-34	3.2053	0.8934	1328.6	4.1552	0.000753	0.24067	153.05	376.11	0.81843	1.8
-33	3.3227	0.93853	1325.5	4.3516	0.000754	0.2298	154.4	376.78	0.824	1.7983
-32	3.4433	0.98545	1322.4	4.5553	0.000756	0.21952	155.74	377.44	0.82955	1.7967

Refrigerant Solutions Limited  
Saturation Properties

RS-51 (R407B)



Temp [C]	Pressure (L) [bara] bubble	Pressure (V) [bara] dew	Density (L) [kg/m <sup>3</sup> ] bubble	Density (V) [kg/m <sup>3</sup> ] dew	Volume (L) [m <sup>3</sup> /kg] bubble	Volume (V) [m <sup>3</sup> /kg] dew	Enthalpy (L) [kJ/kg] bubble	Enthalpy (V) [kJ/kg] dew	Entropy (L) [kJ/K-kg] bubble	Entropy (V) [kJ/K-kg] dew
-31	3.5671	1.0342	1319.3	4.7665	0.000758	0.2098	157.09	378.1	0.83509	1.7951
-30	3.6941	1.0849	1316.1	4.9854	0.00075981	0.20059	158.44	378.76	0.84061	1.7935
-29	3.8244	1.1375	1313	5.2121	0.00076163	0.19186	159.79	379.42	0.84611	1.792
-28	3.9581	1.1922	1309.8	5.4468	0.00076347	0.18359	161.14	380.08	0.8516	1.7905
-27	4.0952	1.2489	1306.6	5.6899	0.00076532	0.17575	162.5	380.74	0.85707	1.789
-26	4.2357	1.3077	1303.5	5.9414	0.00076719	0.16831	163.86	381.39	0.86253	1.7876
-25	4.3797	1.3687	1300.3	6.2017	0.00076907	0.16125	165.21	382.05	0.86798	1.7862
-24	4.5273	1.432	1297.1	6.4708	0.00077097	0.15454	166.58	382.7	0.87341	1.7848
-23	4.6784	1.4975	1293.8	6.7491	0.00077289	0.14817	167.94	383.35	0.87882	1.7834
-22	4.8332	1.5653	1290.6	7.0367	0.00077483	0.14211	169.31	384	0.88423	1.7821
-21	4.9916	1.6356	1287.4	7.334	0.00077678	0.13635	170.67	384.65	0.88961	1.7808
-20	5.1539	1.7083	1284.1	7.641	0.00077875	0.13087	172.05	385.3	0.89499	1.7795
-19	5.3198	1.7835	1280.8	7.9581	0.00078073	0.12566	173.42	385.94	0.90035	1.7782
-18	5.4897	1.8614	1277.6	8.2855	0.00078274	0.12069	174.79	386.58	0.9057	1.777
-17	5.6634	1.9418	1274.3	8.6235	0.00078476	0.11596	176.17	387.23	0.91104	1.7758
-16	5.841	2.025	1271	8.9722	0.0007868	0.11146	177.55	387.87	0.91636	1.7746
-15	6.0227	2.1109	1267.7	9.332	0.00078886	0.10716	178.93	388.51	0.92167	1.7734
-14	6.2083	2.1997	1264.3	9.7031	0.00079094	0.10306	180.32	389.14	0.92697	1.7723
-13	6.3981	2.2914	1261	10.086	0.00079304	0.099149	181.71	389.78	0.93225	1.7712
-12	6.5919	2.386	1257.6	10.48	0.00079516	0.095417	183.1	390.41	0.93753	1.7701
-11	6.79	2.4837	1254.2	10.887	0.0007973	0.091852	184.49	391.04	0.94279	1.769
-10	6.9922	2.5845	1250.8	11.306	0.00079946	0.088448	185.89	391.67	0.94804	1.7679
-9	7.1987	2.6884	1247.4	11.738	0.00080165	0.085195	187.28	392.3	0.95329	1.7669
-8	7.4096	2.7955	1244	12.183	0.00080385	0.082084	188.68	392.92	0.95852	1.7659
-7	7.6248	2.906	1240.6	12.641	0.00080608	0.07911	190.09	393.54	0.96374	1.7648
-6	7.8444	3.0198	1237.1	13.112	0.00080833	0.076265	191.5	394.16	0.96895	1.7639
-5	8.0685	3.1371	1233.6	13.598	0.00081061	0.073542	192.91	394.78	0.97415	1.7629
-4	8.2971	3.2579	1230.2	14.097	0.00081291	0.070935	194.32	395.4	0.97933	1.7619
-3	8.5302	3.3822	1226.6	14.612	0.00081523	0.068439	195.73	396.01	0.98451	1.761

Refrigerant Solutions Limited  
Saturation Properties

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Temp [C]	Pressure (L) [bara] bubble	Pressure (V) [bara] dew	Density (L) [kg/m <sup>3</sup> ] bubble	Density (V) [kg/m <sup>3</sup> ] dew	Volume (L) [m <sup>3</sup> /kg] bubble	Volume (V) [m <sup>3</sup> /kg] dew	Enthalpy (L) [kJ/kg] bubble	Enthalpy (V) [kJ/kg] dew	Entropy (L) [kJ/K-kg] bubble	Entropy (V) [kJ/K-kg] dew
-2	8.7679	3.5102	1223.1	15.141	0.00081758	0.066047	197.15	396.62	0.98969	1.7601
-1	9.0103	3.642	1219.6	15.685	0.00081995	0.063755	198.57	397.23	0.99485	1.7591
0	9.2574	3.7776	1216	16.245	0.00082235	0.061558	200	397.83	1	1.7582
1	9.5091	3.917	1212.4	16.821	0.00082478	0.059451	201.43	398.43	1.0051	1.7574
2	9.7657	4.0604	1208.8	17.413	0.00082724	0.057429	202.86	399.03	1.0103	1.7565
3	10.027	4.2078	1205.2	18.021	0.00082972	0.05549	204.3	399.63	1.0154	1.7556
4	10.293	4.3594	1201.6	18.647	0.00083223	0.053628	205.73	400.22	1.0205	1.7548
5	10.565	4.5151	1197.9	19.29	0.00083477	0.05184	207.18	400.81	1.0256	1.754
6	10.841	4.6752	1194.3	19.951	0.00083734	0.050123	208.62	401.4	1.0307	1.7531
7	11.122	4.8395	1190.6	20.63	0.00083995	0.048473	210.07	401.98	1.0358	1.7523
8	11.408	5.0083	1186.8	21.328	0.00084258	0.046887	211.52	402.57	1.0409	1.7515
9	11.699	5.1817	1183.1	22.045	0.00084525	0.045362	212.98	403.14	1.046	1.7508
10	11.996	5.3596	1179.3	22.781	0.00084795	0.043896	214.44	403.72	1.0511	1.75
11	12.297	5.5422	1175.5	23.538	0.00085068	0.042485	215.9	404.29	1.0562	1.7492
12	12.604	5.7296	1171.7	24.314	0.00085345	0.041128	217.37	404.85	1.0612	1.7485
13	12.916	5.9218	1167.9	25.112	0.00085626	0.039822	218.84	405.42	1.0663	1.7477
14	13.233	6.119	1164	25.931	0.0008591	0.038564	220.32	405.98	1.0713	1.747
15	13.556	6.3212	1160.1	26.772	0.00086198	0.037352	221.8	406.53	1.0764	1.7462
16	13.884	6.5286	1156.2	27.635	0.0008649	0.036185	223.28	407.09	1.0814	1.7455
17	14.217	6.7412	1152.3	28.522	0.00086786	0.035061	224.77	407.63	1.0865	1.7448
18	14.556	6.959	1148.3	29.432	0.00087086	0.033977	226.26	408.18	1.0915	1.7441
19	14.901	7.1823	1144.3	30.366	0.00087391	0.032932	227.76	408.72	1.0965	1.7433
20	15.251	7.4111	1140.3	31.324	0.00087699	0.031924	229.26	409.25	1.1016	1.7426
21	15.606	7.6454	1136.2	32.308	0.00088013	0.030952	230.77	409.78	1.1066	1.7419
22	15.967	7.8854	1132.1	33.318	0.00088331	0.030014	232.28	410.31	1.1116	1.7412
23	16.334	8.1313	1128	34.355	0.00088653	0.029108	233.8	410.83	1.1166	1.7405
24	16.707	8.383	1123.8	35.419	0.00088981	0.028234	235.32	411.35	1.1216	1.7399
25	17.085	8.6407	1119.6	36.51	0.00089314	0.02739	236.84	411.86	1.1267	1.7392
26	17.469	8.9044	1115.4	37.63	0.00089652	0.026574	238.37	412.36	1.1317	1.7385

**Refrigerant Solutions Limited**  
**Saturation Properties**

**RS-51 (R407B)**



Temp [C]	Pressure (L) [bara] bubble	Pressure (V) [bara] dew	Density (L) [kg/m <sup>3</sup> ] bubble	Density (V) [kg/m <sup>3</sup> ] dew	Volume (L) [m <sup>3</sup> /kg] bubble	Volume (V) [m <sup>3</sup> /kg] dew	Enthalpy (L) [kJ/kg] bubble	Enthalpy (V) [kJ/kg] dew	Entropy (L) [kJ/K-kg] bubble	Entropy (V) [kJ/K-kg] dew
27	17.858	9.1744	1111.2	38.78	0.00089995	0.025786	239.91	412.87	1.1367	1.7378
28	18.254	9.4507	1106.9	39.96	0.00090344	0.025025	241.45	413.36	1.1417	1.7371
29	18.655	9.7334	1102.6	41.171	0.00090699	0.024289	243	413.85	1.1467	1.7364
30	19.063	10.023	1098.2	42.413	0.00091059	0.023578	244.55	414.34	1.1517	1.7357
31	19.476	10.318	1093.8	43.688	0.00091426	0.02289	246.11	414.82	1.1567	1.7351
32	19.895	10.621	1089.3	44.997	0.00091799	0.022224	247.67	415.29	1.1617	1.7344
33	20.32	10.93	1084.8	46.34	0.00092179	0.02158	249.24	415.76	1.1667	1.7337
34	20.751	11.247	1080.3	47.718	0.00092565	0.020956	250.81	416.22	1.1717	1.733
35	21.188	11.57	1075.7	49.133	0.00092959	0.020353	252.4	416.67	1.1767	1.7323
36	21.632	11.901	1071.1	50.585	0.00093359	0.019769	253.98	417.12	1.1817	1.7316
37	22.081	12.239	1066.5	52.076	0.00093768	0.019203	255.58	417.56	1.1867	1.7309
38	22.536	12.584	1061.8	53.606	0.00094184	0.018655	257.18	417.99	1.1918	1.7302
39	22.998	12.937	1057	55.177	0.00094608	0.018123	258.79	418.42	1.1968	1.7295
40	23.466	13.298	1052.2	56.791	0.00095041	0.017609	260.4	418.84	1.2018	1.7287
41	23.939	13.666	1047.3	58.447	0.00095482	0.017109	262.02	419.25	1.2068	1.728
42	24.419	14.043	1042.4	60.148	0.00095932	0.016626	263.65	419.65	1.2119	1.7273
43	24.906	14.427	1037.4	61.896	0.00096392	0.016156	265.29	420.05	1.2169	1.7265
44	25.398	14.82	1032.4	63.69	0.00096862	0.015701	266.93	420.44	1.2219	1.7258
45	25.897	15.221	1027.3	65.534	0.00097342	0.015259	268.58	420.82	1.227	1.725
46	26.402	15.631	1022.2	67.429	0.00097833	0.01483	270.24	421.18	1.232	1.7243
47	26.913	16.049	1016.9	69.376	0.00098335	0.014414	271.91	421.55	1.2371	1.7235
48	27.431	16.477	1011.7	71.378	0.00098848	0.01401	273.59	421.9	1.2422	1.7227
49	27.955	16.913	1006.3	73.436	0.00099374	0.013617	275.27	422.24	1.2472	1.7219
50	28.485	17.358	1000.9	75.551	0.00099912	0.013236	276.97	422.57	1.2523	1.721
51	29.021	17.813	995.38	77.728	0.0010046	0.012865	278.67	422.89	1.2574	1.7202
52	29.564	18.277	989.8	79.967	0.0010103	0.012505	280.39	423.2	1.2625	1.7193
53	30.113	18.751	984.15	82.27	0.0010161	0.012155	282.11	423.5	1.2677	1.7184
54	30.668	19.235	978.41	84.642	0.0010221	0.011814	283.85	423.78	1.2728	1.7175
55	31.229	19.729	972.58	87.083	0.0010282	0.011483	285.59	424.06	1.278	1.7166

**Refrigerant Solutions Limited**  
**Saturation Properties**

**RS-51 (R407B)**



Temp [C]	Pressure (L)		Density (L)		Volume (L)		Enthalpy (L)		Entropy (L)	
	[bara] bubble	[bara] dew	[kg/m <sup>3</sup> ] bubble	[kg/m <sup>3</sup> ] dew	[m <sup>3</sup> /kg] bubble	[m <sup>3</sup> /kg] dew	[kJ/kg] bubble	[kJ/kg] dew	[kJ/K-kg] bubble	[kJ/K-kg] dew
56	31.797	20.233	966.67	89.598	0.0010345	0.011161	287.35	424.32	1.2831	1.7157
57	32.37	20.748	960.66	92.189	0.001041	0.010847	289.12	424.57	1.2883	1.7147
58	32.95	21.273	954.55	94.86	0.0010476	0.010542	290.9	424.8	1.2935	1.7137
59	33.536	21.81	948.33	97.613	0.0010545	0.010245	292.7	425.02	1.2988	1.7127
60	34.128	22.357	942.01	100.45	0.0010616	0.0099549	294.5	425.23	1.304	1.7117
61	34.727	22.916	935.57	103.38	0.0010689	0.0096726	296.33	425.42	1.3093	1.7106
62	35.331	23.486	929.01	106.41	0.0010764	0.0093976	298.16	425.59	1.3146	1.7095
63	35.941	24.068	922.32	109.54	0.0010842	0.0091294	300.02	425.75	1.3199	1.7084
64	36.556	24.663	915.5	112.77	0.0010923	0.0088678	301.89	425.89	1.3252	1.7072
65	37.178	25.27	908.54	116.11	0.0011007	0.0086126	303.77	426.01	1.3306	1.706
66	37.805	25.89	901.43	119.57	0.0011094	0.0083635	305.68	426.11	1.3361	1.7047
67	38.437	26.522	894.16	123.15	0.0011184	0.0081202	307.6	426.19	1.3415	1.7034
68	39.075	27.169	886.72	126.86	0.0011278	0.0078826	309.54	426.24	1.347	1.702
69	39.718	27.829	879.1	130.71	0.0011375	0.0076505	311.51	426.28	1.3525	1.7006
70	40.366	28.503	871.29	134.71	0.0011477	0.0074234	313.5	426.28	1.3581	1.6992
71	41.019	29.192	863.28	138.86	0.0011584	0.0072014	315.51	426.27	1.3638	1.6977
72	41.676	29.896	855.04	143.18	0.0011695	0.0069841	317.55	426.22	1.3695	1.6961
73	42.338	30.616	846.58	147.68	0.0011812	0.0067712	319.62	426.14	1.3752	1.6944
74	43.004	31.352	837.86	152.38	0.0011935	0.0065627	321.72	426.03	1.3811	1.6927
75	43.673	32.104	828.87	157.28	0.0012065	0.0063582	323.85	425.89	1.3869	1.6909
76	44.345	32.874	819.58	162.4	0.0012201	0.0061575	326.02	425.71	1.3929	1.689
77	45.02	33.662	809.97	167.77	0.0012346	0.0059604	328.22	425.49	1.399	1.687
78	45.698	34.469	800.01	173.41	0.00125	0.0057666	330.47	425.22	1.4052	1.6849
79	46.376	35.296	789.67	179.34	0.0012664	0.0055759	332.76	424.91	1.4114	1.6827
80	47.056	36.144	778.91	185.6	0.0012839	0.005388	335.1	424.54	1.4178	1.6803



Sat -60 C [0.207773482 bar]				Sat -50 C [0.38550615 bar]				Sat -40 C [0.67113109 bar]			
Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy
[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]
-60	0.940617105	357.72	1.85308	-50	0.527524554	364.44	1.82737	-40	0.313987331	371.13	1.80637
-50	0.986428732	365.04	1.88662	-40	0.552582938	371.98	1.86044	-30	0.328668008	378.92	1.83908
-40	1.032025363	372.50	1.91935	-30	0.577467281	379.66	1.89269	-20	0.343204781	386.82	1.87094
-30	1.07745712	380.12	1.95133	-20	0.60221731	387.48	1.92420	-10	0.35762999	394.86	1.90206
-20	1.12275924	387.89	1.98264	-10	0.626860987	395.44	1.95505	0	0.371966411	403.02	1.93250
-10	1.167957779	395.80	2.01331	0	0.651419086	403.55	1.98527	10	0.386231007	411.32	1.96234
0	1.213072546	403.87	2.04340	10	0.675907498	411.80	2.01492	20	0.400436799	419.75	1.99162
10	1.258118865	412.09	2.07295	20	0.700338595	420.19	2.04405	30	0.414593964	428.33	2.02038
20	1.303108751	420.46	2.10198	30	0.724722136	428.72	2.07268	40	0.428710565	437.04	2.04865
30	1.34805172	428.97	2.13054	40	0.749065898	437.40	2.10086	50	0.442793055	445.89	2.07648
40	1.392955384	437.63	2.15864	50	0.773376134	446.23	2.12860	60	0.456846648	454.89	2.10389
50	1.437825876	446.44	2.18633	60	0.797657914	455.20	2.15593	70	0.47087559	464.02	2.13091
60	1.482668181	455.39	2.21362	70	0.821915381	464.31	2.18288	80	0.484883365	473.30	2.15755
70	1.527486378	464.49	2.24053	80	0.84615194	473.57	2.20947	90	0.498872852	482.72	2.18384
80	1.572283827	473.74	2.26708	90	0.870370414	482.97	2.23571	100	0.512846448	492.27	2.20980
90	1.617063314	483.12	2.29330	100	0.894573153	492.51	2.26163	110	0.526806156	501.97	2.23544
100	1.661827164	492.66	2.31919	110	0.918762131	502.19	2.28723	120	0.540753665	511.80	2.26077
110	1.706577328	502.33	2.34476	120	0.942939008	512.01	2.31253	130	0.554690405	521.77	2.28580
120	1.751315454	512.14	2.37004	130	0.967105196	521.96	2.33753	140	0.568617593	531.87	2.31056
130	1.796042939	522.09	2.39503	140	0.991261896	532.06	2.36226	150	0.582536271	542.10	2.33504
140	1.840760975	532.17	2.41974	150	1.015410136	542.28	2.38672	160	0.596447334	552.47	2.35925



Sat -30 C [1.10665292 bar]				Sat -20 C [1.74200145 bar]				Sat -10 C [2.63493813 bar]			
Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy
[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]
-30	0.196444182	377.75	1.78919	-20	0.128149652	384.24	1.77507	-10	0.086571416	390.56	1.76336
-20	0.20557607	385.80	1.82163	-10	0.134137766	392.57	1.80735	0	0.090686747	399.21	1.79560
-10	0.214586437	393.94	1.85319	0	0.140020984	400.98	1.83871	10	0.094709396	407.90	1.82686
0	0.223502304	402.20	1.88400	10	0.145822526	409.49	1.86928	20	0.098659952	416.66	1.85728
10	0.232342715	410.58	1.91412	20	0.151558756	418.09	1.89916	30	0.102552876	425.52	1.88698
20	0.241121861	419.08	1.94364	30	0.157241841	426.81	1.92841	40	0.106398881	434.47	1.91603
30	0.249850644	427.72	1.97259	40	0.162881121	435.65	1.95710	50	0.110206164	443.53	1.94451
40	0.258537604	436.48	2.00103	50	0.168483913	444.62	1.98527	60	0.113981143	452.71	1.97248
50	0.267189523	445.38	2.02900	60	0.174056035	453.71	2.01298	70	0.117728911	462.00	1.99996
60	0.275811846	454.41	2.05653	70	0.179602166	462.93	2.04024	80	0.121453568	471.42	2.02701
70	0.284408989	463.58	2.08364	80	0.185126105	472.28	2.06710	90	0.125158441	480.96	2.05364
80	0.292984558	472.89	2.11037	90	0.190630965	481.76	2.09358	100	0.128846262	490.62	2.07990
90	0.301541524	482.33	2.13674	100	0.196119317	491.38	2.11970	110	0.132519287	500.42	2.10580
100	0.310082352	491.91	2.16276	110	0.201593297	501.12	2.14548	120	0.136179397	510.34	2.13136
110	0.318609098	501.62	2.18845	120	0.207054696	511.00	2.17093	130	0.139828169	520.39	2.15660
120	0.327123493	511.48	2.21384	130	0.21250502	521.02	2.19608	140	0.143466935	530.56	2.18154
130	0.335626995	521.46	2.23892	140	0.217945549	531.16	2.22093	150	0.147096825	540.87	2.20618
140	0.344120848	531.58	2.26371	150	0.22337737	541.43	2.24550	160	0.150718804	551.30	2.23054
150	0.352606111	541.83	2.28822	160	0.228801418	551.83	2.26979	170	0.154333703	561.85	2.25463
160	0.361083694	552.21	2.31247	170	0.234218495	562.36	2.29382	180	0.157942238	572.53	2.27845
170	0.369554385	562.72	2.33646	180	0.239629296	573.01	2.31759	190	0.161545027	583.33	2.30203





Sat -0 C [3.85109128 bar]				Sat 10 C [5.46433667 bar]				Sat 20 C [7.5577793 bar]			
Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy
[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]
0	0.060207754	396.65	1.75350	10	0.042884662	402.44	1.74496	20	0.031137484	407.84	1.73726
10	0.063158142	405.64	1.78582	20	0.045083317	411.82	1.77753	30	0.032836299	417.67	1.77025
20	0.066024548	414.65	1.81708	30	0.047203691	421.17	1.80890	40	0.034459689	427.42	1.80188
30	0.068825866	423.70	1.84744	40	0.049263814	430.54	1.83930	50	0.036025749	437.14	1.83243
40	0.071575276	432.82	1.87704	50	0.051276149	439.95	1.86888	60	0.037546795	446.87	1.86209
50	0.074282487	442.02	1.90597	60	0.053249797	449.42	1.89775	70	0.039031669	456.63	1.89097
60	0.076954898	451.32	1.93430	70	0.05519163	458.97	1.92600	80	0.040486948	466.46	1.91920
70	0.079598271	460.72	1.96210	80	0.057106959	468.61	1.95369	90	0.041917659	476.36	1.94683
80	0.082217169	470.23	1.98941	90	0.058999966	478.35	1.98088	100	0.043327728	486.34	1.97395
90	0.084815254	479.85	2.01628	100	0.060873992	488.19	2.00760	110	0.044720269	496.41	2.00058
100	0.087395498	489.59	2.04273	110	0.062731741	498.14	2.03391	120	0.046097792	506.58	2.02678
110	0.089960337	499.44	2.06880	120	0.064575426	508.20	2.05983	130	0.04746234	516.85	2.05258
120	0.092511785	509.42	2.09452	130	0.066406872	518.37	2.08538	140	0.048815597	527.23	2.07800
130	0.09505152	519.53	2.11989	140	0.06822276	528.66	2.11059	150	0.050158961	537.71	2.10308
140	0.097580951	529.75	2.14494	150	0.070038887	539.06	2.13548	160	0.051493606	548.31	2.12782
150	0.100101269	540.10	2.16968	160	0.071841811	549.59	2.16005	170	0.05282052	559.01	2.15226
160	0.102613487	550.56	2.19413	170	0.07363729	560.23	2.18434	180	0.054140547	569.83	2.17639
170	0.10511847	561.15	2.21830	180	0.07542611	570.98	2.20834	190	0.055454405	580.76	2.20024
180	0.107616964	571.87	2.24221	190	0.077208946	581.85	2.23207	200	0.056762715	591.79	2.22382
190	0.110109612	582.70	2.26585	200	0.078986383	592.84	2.25554	210	0.058066013	602.94	2.24714
200	0.112596973	593.65	2.28923	210	0.080758931	603.94	2.27876	220	0.059364766	614.20	2.27020



Sat 30 C [10.22570776 bar]				Sat 40 C [13.57722913 bar]				Sat 50 C [17.74331228 bar]			
Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy
[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]
30	0.022943574	412.74	1.72987	40	0.017079106	417.00	1.72221	50	0.012777967	420.39	1.71356
40	0.024302573	423.11	1.76352	50	0.018204355	428.03	1.75689	60	0.013743574	432.28	1.74979
50	0.025586034	433.31	1.79560	60	0.019250592	438.77	1.78963	70	0.014622334	443.68	1.78352
60	0.026813314	443.43	1.82643	70	0.020240015	449.35	1.82092	80	0.01544161	454.80	1.81547
70	0.02799717	453.52	1.85627	80	0.021186488	459.84	1.85105	90	0.016217255	465.76	1.84607
80	0.029146515	463.61	1.88526	90	0.022099343	470.30	1.88025	100	0.016959449	476.63	1.87559
90	0.030267844	473.74	1.91353	100	0.022985207	480.75	1.90865	110	0.017675178	487.45	1.90421
100	0.031366048	483.91	1.94118	110	0.023848971	491.24	1.93637	120	0.018369472	498.27	1.93209
110	0.0324449	494.16	1.96826	120	0.02469435	501.76	1.96349	130	0.019046077	509.11	1.95931
120	0.033507369	504.48	1.99485	130	0.025524234	512.35	1.99008	140	0.019707866	519.98	1.98595
130	0.034555826	514.88	2.02098	140	0.026340911	523.00	2.01619	150	0.020357083	530.91	2.01209
140	0.035592196	525.38	2.04670	150	0.02714622	533.74	2.04186	160	0.020995519	541.90	2.03776
150	0.036618054	535.97	2.07203	160	0.027941661	544.56	2.06713	170	0.021624623	552.96	2.06300
160	0.037634707	546.66	2.09700	170	0.028728472	555.46	2.09203	180	0.02224558	564.10	2.08785
170	0.038643246	557.45	2.12163	180	0.029507682	566.46	2.11657	190	0.022859374	575.32	2.11234
180	0.039644591	568.35	2.14594	190	0.030280156	577.56	2.14079	200	0.023466826	586.62	2.13650
190	0.040639524	579.35	2.16995	200	0.031046626	588.75	2.16470	210	0.02406863	598.02	2.16033
200	0.041628711	590.45	2.19367	210	0.031807717	600.04	2.18831	220	0.024665376	609.50	2.18385
210	0.042612727	601.66	2.21712	220	0.032563966	611.43	2.21164	230	0.02525757	621.08	2.20709
220	0.043592068	612.98	2.24030	230	0.033315836	622.92	2.23470	240	0.025845648	632.74	2.23005
230	0.044567166	624.39	2.26322	240	0.034063731	634.50	2.25750	250	0.02642999	644.50	2.25274



Sat 60 C [22.89183027 bar]				Sat 70 C [29.26494108 bar]				Sat 80 C [37.30436378 bar]			
Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy	Temp	Volume	Enthalpy	Entropy
[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]	[C]	[m3/kg]	[kJ/kg]	[kJ/K-kg]
60	0.009542796	422.55	1.70284	70	0.007033424	422.79	1.68813	80	0.004983663	419.43	1.66478
70	0.010405098	435.62	1.74150	80	0.007842692	437.66	1.73086	90	0.005801963	437.58	1.71550
80	0.011165886	447.86	1.77668	90	0.008522837	451.05	1.76826	100	0.006432733	452.69	1.75656
90	0.011861851	459.65	1.80959	100	0.009128899	463.69	1.80258	110	0.006973551	466.48	1.79304
100	0.012512207	471.16	1.84086	110	0.009685773	475.87	1.83480	120	0.007459374	479.54	1.82668
110	0.013128543	482.50	1.87085	120	0.010207267	487.78	1.86548	130	0.007907498	492.15	1.85835
120	0.013718478	493.74	1.89982	130	0.010701972	499.51	1.89495	140	0.008327956	504.47	1.88855
130	0.014287325	504.94	1.92795	140	0.011175651	511.13	1.92344	150	0.008727169	516.61	1.91759
140	0.014838951	516.12	1.95534	150	0.011632382	522.70	1.95111	160	0.009109526	528.64	1.94567
150	0.015376265	527.31	1.98211	160	0.012075165	534.25	1.97808	170	0.009478174	540.59	1.97296
160	0.01590151	538.54	2.00832	170	0.012506274	545.80	2.00443	180	0.009835453	552.51	1.99956
170	0.016416455	549.80	2.03404	180	0.012927478	557.37	2.03025	190	0.010183152	564.43	2.02557
180	0.016922514	561.12	2.05930	190	0.013340176	568.97	2.05558	200	0.010522672	576.35	2.05104
190	0.01742084	572.51	2.08415	200	0.013745499	580.63	2.08047	210	0.01085513	588.30	2.07603
200	0.017912379	583.96	2.10862	210	0.014144367	592.33	2.10496	220	0.01118143	600.29	2.10059
210	0.018397921	595.49	2.13273	220	0.014537545	604.10	2.12907	230	0.011502315	612.32	2.12474
220	0.018878129	607.10	2.15651	230	0.014925669	615.94	2.15283	240	0.011818405	624.41	2.14853
230	0.019353565	618.79	2.17997	240	0.015309279	627.85	2.17626	250	0.012130216	636.55	2.17197
240	0.019824708	630.56	2.20314	250	0.015688833	639.83	2.19938	260	0.012438191	648.76	2.19508
250	0.020291973	642.42	2.22602	260	0.016064725	651.88	2.22221	270	0.012742705	661.03	2.21789
260	0.020755717	654.36	2.24863	270	0.016437295	664.02	2.24476	280	0.013044083	673.37	2.24040