



RS-90

SATURATION TABLES

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Temp [C]	Pressure (L) [bara] bubble	Pressure (V) [bara] dew	Density (L) [kg/m ³] bubble	Density (V) [kg/m ³] dew	Volume (L) [m ³ /kg] bubble	Volume (V) [m ³ /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	0.35644	0.25033	1415.8	1.4863	0.00070629	0.67279000	123.14	338.04	0.68425	1.7068
-59	0.37726	0.26654	1412.9	1.5763	0.00070776	0.63438000	124.37	338.68	0.69000	1.7048
-58	0.39905	0.28359	1410.0	1.6707	0.00070923	0.59856000	125.60	339.31	0.69572	1.7029
-57	0.42186	0.30151	1407.0	1.7695	0.00071072	0.56514000	126.83	339.94	0.70142	1.7010
-56	0.44570	0.32035	1404.1	1.8729	0.00071221	0.53393000	128.06	340.58	0.70710	1.6991
-55	0.47061	0.34014	1401.1	1.9811	0.00071371	0.50477000	129.29	341.21	0.71276	1.6973
-54	0.49664	0.36090	1398.2	2.0943	0.00071522	0.47750000	130.53	341.84	0.71840	1.6956
-53	0.52381	0.38268	1395.2	2.2125	0.00071674	0.45197000	131.76	342.48	0.72402	1.6938
-52	0.55216	0.40551	1392.2	2.3360	0.00071826	0.42807000	133.00	343.11	0.72962	1.6922
-51	0.58173	0.42942	1389.3	2.4650	0.00071980	0.40568000	134.24	343.74	0.73520	1.6905
-50	0.61256	0.45446	1386.3	2.5996	0.00072135	0.38468000	135.48	344.38	0.74076	1.6889
-49	0.64467	0.48066	1383.3	2.7399	0.00072290	0.36497000	136.72	345.01	0.74630	1.6874
-48	0.67812	0.50805	1380.3	2.8862	0.00072447	0.34647000	137.96	345.64	0.75182	1.6858
-47	0.71294	0.53669	1377.3	3.0387	0.00072605	0.32909000	139.21	346.27	0.75732	1.6844
-46	0.74917	0.56661	1374.3	3.1974	0.00072763	0.31275000	140.45	346.90	0.76281	1.6829
-45	0.78685	0.59785	1371.3	3.3627	0.00072923	0.29738000	141.70	347.53	0.76827	1.6815
-44	0.82602	0.63045	1368.3	3.5346	0.00073084	0.28292000	142.95	348.17	0.77372	1.6801
-43	0.86672	0.66446	1365.3	3.7135	0.00073246	0.26929000	144.20	348.80	0.77916	1.6788
-42	0.90899	0.69991	1362.2	3.8994	0.00073409	0.25645000	145.45	349.43	0.78457	1.6775
-41	0.95288	0.73685	1359.2	4.0926	0.00073573	0.24434000	146.71	350.05	0.78997	1.6762
-40	0.99843	0.77532	1356.1	4.2933	0.00073739	0.23292000	147.96	350.68	0.79535	1.6749
-39	1.04570	0.81537	1353.1	4.5017	0.00073905	0.22214000	149.22	351.31	0.80072	1.6737
-38	1.09470	0.85704	1350.0	4.7180	0.00074073	0.21196000	150.48	351.94	0.80607	1.6726
-37	1.14550	0.90038	1346.9	4.9424	0.00074242	0.20233000	151.74	352.56	0.81141	1.6714
-36	1.19810	0.94544	1343.9	5.1751	0.00074412	0.19323000	153.00	353.19	0.81673	1.6703
-35	1.25260	0.99226	1340.8	5.4163	0.00074584	0.18463000	154.27	353.81	0.82203	1.6692
-34	1.30900	1.04090	1337.7	5.6664	0.00074757	0.17648000	155.53	354.44	0.82732	1.6681
-33	1.36740	1.09140	1334.6	5.9254	0.00074931	0.16876000	156.80	355.06	0.83260	1.6671
-32	1.42790	1.14380	1331.4	6.1937	0.00075107	0.16145000	158.07	355.68	0.83786	1.6661



Temp [C]	Pressure (L) [bara] bubble	Pressure (V) [bara] dew	Density (L) [kg/m ³] bubble	Density (V) [kg/m ³] dew	Volume (L) [m ³ /kg] bubble	Volume (V) [m ³ /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	1.49040	1.19810	1328.3	6.4715	0.00075284	0.15452000	159.35	356.30	0.84310	1.6651
-30	1.55500	1.25450	1325.2	6.7589	0.00075462	0.14795000	160.62	356.92	0.84834	1.6641
-29	1.62170	1.31290	1322.0	7.0563	0.00075642	0.14172000	161.90	357.54	0.85356	1.6632
-28	1.69070	1.37340	1318.9	7.3640	0.00075824	0.13580000	163.18	358.15	0.85876	1.6623
-27	1.76200	1.43610	1315.7	7.6820	0.00076006	0.13017000	164.46	358.77	0.86396	1.6614
-26	1.83550	1.50090	1312.5	8.0108	0.00076191	0.12483000	165.74	359.38	0.86914	1.6605
-25	1.91150	1.56810	1309.3	8.3505	0.00076377	0.11975000	167.03	359.99	0.87430	1.6597
-24	1.98980	1.63750	1306.1	8.7015	0.00076564	0.11492000	168.31	360.61	0.87946	1.6589
-23	2.07060	1.70940	1302.9	9.0640	0.00076754	0.11033000	169.60	361.22	0.88460	1.6581
-22	2.15390	1.78360	1299.6	9.4383	0.00076944	0.10595000	170.90	361.82	0.88973	1.6573
-21	2.23980	1.86040	1296.4	9.8246	0.00077137	0.10179000	172.19	362.43	0.89485	1.6565
-20	2.32830	1.93960	1293.1	10.2230	0.00077331	0.09781600	173.49	363.04	0.89996	1.6558
-19	2.41950	2.02150	1289.9	10.6350	0.00077527	0.09403300	174.79	363.64	0.90505	1.6551
-18	2.51350	2.10600	1286.6	11.0590	0.00077725	0.09042500	176.09	364.24	0.91014	1.6544
-17	2.61020	2.19320	1283.3	11.4960	0.00077925	0.08698400	177.40	364.84	0.91521	1.6537
-16	2.70970	2.28320	1280.0	11.9470	0.00078126	0.08370000	178.70	365.44	0.92028	1.6530
-15	2.81210	2.37600	1276.7	12.4120	0.00078330	0.08056500	180.01	366.03	0.92533	1.6524
-14	2.91750	2.47160	1273.3	12.8920	0.00078535	0.07757000	181.32	366.63	0.93037	1.6518
-13	3.02590	2.57020	1270.0	13.3850	0.00078743	0.07471000	182.64	367.22	0.93540	1.6512
-12	3.13730	2.67180	1266.6	13.8940	0.00078952	0.07197500	183.96	367.81	0.94043	1.6506
-11	3.25180	2.77640	1263.2	14.4170	0.00079164	0.06936100	185.28	368.40	0.94544	1.6500
-10	3.36950	2.88420	1259.8	14.9570	0.00079377	0.06686000	186.60	368.98	0.95044	1.6494
-9	3.49050	2.99510	1256.4	15.5120	0.00079593	0.06446700	187.93	369.57	0.95544	1.6489
-8	3.61470	3.10930	1253.0	16.0830	0.00079812	0.06217700	189.26	370.15	0.96042	1.6483
-7	3.74230	3.22670	1249.5	16.6710	0.00080032	0.05998400	190.59	370.73	0.96540	1.6478
-6	3.87320	3.34750	1246.0	17.2760	0.00080255	0.05788300	191.92	371.30	0.97036	1.6473
-5	4.00770	3.47180	1242.5	17.8990	0.00080480	0.05587000	193.26	371.88	0.97532	1.6468
-4	4.14560	3.59950	1239.0	18.5390	0.00080708	0.05394000	194.60	372.45	0.98027	1.6463
-3	4.28710	3.73080	1235.5	19.1980	0.00080938	0.05208900	195.95	373.02	0.98522	1.6459



Temp [C]	Pressure (L) [bara] bubble	Pressure (V) [bara] dew	Density (L) [kg/m ³] bubble	Density (V) [kg/m ³] dew	Volume (L) [m ³ /kg] bubble	Volume (V) [m ³ /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	4.43230	3.86560	1232.0	19.8750	0.00081170	0.05031500	197.30	373.58	0.99015	1.6454
-1	4.58120	4.00420	1228.4	20.5710	0.00081406	0.04861200	198.65	374.15	0.99508	1.6450
0	4.73380	4.14650	1224.8	21.2870	0.00081644	0.04697700	200.00	374.71	1.00000	1.6445
1	4.89020	4.29250	1221.2	22.0230	0.00081885	0.04540700	201.36	375.27	1.00490	1.6441
2	5.05060	4.44250	1217.6	22.7790	0.00082128	0.04390000	202.72	375.82	1.00980	1.6437
3	5.21480	4.59640	1214.0	23.5560	0.00082375	0.04245100	204.08	376.37	1.01470	1.6433
4	5.38310	4.75430	1210.3	24.3550	0.00082624	0.04105900	205.45	376.92	1.01960	1.6429
5	5.55550	4.91620	1206.6	25.1760	0.00082877	0.03972100	206.82	377.46	1.02450	1.6425
6	5.73190	5.08230	1202.9	26.0190	0.00083132	0.03843400	208.20	378.01	1.02940	1.6421
7	5.91260	5.25260	1199.2	26.8850	0.00083391	0.03719600	209.57	378.54	1.03430	1.6417
8	6.09750	5.42720	1195.4	27.7740	0.00083654	0.03600400	210.96	379.08	1.03910	1.6413
9	6.28680	5.60610	1191.6	28.6880	0.00083919	0.03485800	212.34	379.61	1.04400	1.6410
10	6.48040	5.78940	1187.8	29.6270	0.00084188	0.03375300	213.73	380.14	1.04890	1.6406
11	6.67850	5.97720	1184.0	30.5900	0.00084461	0.03269000	215.13	380.66	1.05370	1.6403
12	6.88110	6.16960	1180.1	31.5800	0.00084737	0.03166600	216.52	381.18	1.05860	1.6399
13	7.08840	6.36660	1176.2	32.5960	0.00085017	0.03067800	217.93	381.70	1.06340	1.6396
14	7.30020	6.56820	1172.3	33.6400	0.00085301	0.02972700	219.33	382.21	1.06820	1.6392
15	7.51680	6.77470	1168.4	34.7120	0.00085589	0.02880900	220.74	382.71	1.07310	1.6389
16	7.73810	6.98590	1164.4	35.8120	0.00085881	0.02792400	222.16	383.22	1.07790	1.6386
17	7.96440	7.20210	1160.4	36.9410	0.00086177	0.02707000	223.58	383.72	1.08280	1.6382
18	8.19550	7.42330	1156.4	38.1010	0.00086478	0.02624600	225.00	384.21	1.08760	1.6379
19	8.43160	7.64950	1152.3	39.2920	0.00086783	0.02545100	226.43	384.70	1.09240	1.6376
20	8.67280	7.88090	1148.2	40.5150	0.00087093	0.02468300	227.86	385.18	1.09720	1.6372
21	8.91910	8.11740	1144.1	41.7700	0.00087408	0.02394100	229.30	385.66	1.10210	1.6369
22	9.17070	8.35930	1139.9	43.0580	0.00087727	0.02322400	230.74	386.13	1.10690	1.6366
23	9.42740	8.60650	1135.7	44.3820	0.00088052	0.02253200	232.19	386.60	1.11170	1.6363
24	9.68960	8.85910	1131.5	45.7400	0.00088381	0.02186300	233.64	387.06	1.11650	1.6359
25	9.95710	9.11730	1127.2	47.1350	0.00088717	0.02121500	235.10	387.52	1.12130	1.6356
26	10.23000	9.38110	1122.9	48.5680	0.00089058	0.02059000	236.56	387.97	1.12610	1.6352



Temp [C]	Pressure (L) [bara] bubble	Pressure (V) [bara] dew	Density (L) [kg/m ³] bubble	Density (V) [kg/m ³] dew	Volume (L) [m ³ /kg] bubble	Volume (V) [m ³ /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	10.50900	9.65050	1118.5	50.0390	0.00089404	0.01998400	238.03	388.42	1.13100	1.6349
28	10.79300	9.92570	1114.1	51.5500	0.00089757	0.01939900	239.50	388.85	1.13580	1.6346
29	11.08300	10.20700	1109.7	53.1020	0.00090116	0.01883200	240.98	389.29	1.14060	1.6342
30	11.37900	10.49400	1105.2	54.6950	0.00090481	0.01828300	242.47	389.71	1.14540	1.6339
31	11.68000	10.78700	1100.7	56.3330	0.00090853	0.01775200	243.96	390.13	1.15020	1.6335
32	11.98800	11.08600	1096.1	58.0140	0.00091232	0.01723700	245.46	390.54	1.15510	1.6331
33	12.30100	11.39100	1091.5	59.7420	0.00091618	0.01673900	246.96	390.95	1.15990	1.6328
34	12.62100	11.70200	1086.8	61.5180	0.00092012	0.01625500	248.47	391.34	1.16470	1.6324
35	12.94700	12.02000	1082.1	63.3430	0.00092413	0.01578700	249.99	391.73	1.16950	1.6320
36	13.27900	12.34500	1077.3	65.2190	0.00092822	0.01533300	251.51	392.11	1.17440	1.6316
37	13.61700	12.67500	1072.5	67.1470	0.00093240	0.01489300	253.04	392.48	1.17920	1.6312
38	13.96200	13.01300	1067.6	69.1300	0.00093666	0.01446600	254.58	392.85	1.18410	1.6308
39	14.31300	13.35700	1062.7	71.1690	0.00094102	0.01405100	256.12	393.20	1.18890	1.6303
40	14.67100	13.70800	1057.7	73.2660	0.00094547	0.01364900	257.67	393.55	1.19380	1.6299
41	15.03500	14.06500	1052.6	75.4240	0.00095002	0.01325800	259.23	393.88	1.19860	1.6294
42	15.40600	14.43000	1047.5	77.6440	0.00095467	0.01287900	260.80	394.21	1.20350	1.6289
43	15.78400	14.80200	1042.3	79.9300	0.00095943	0.01251100	262.38	394.53	1.20840	1.6284
44	16.16900	15.18100	1037.0	82.2830	0.00096430	0.01215300	263.96	394.83	1.21330	1.6279
45	16.56100	15.56700	1031.7	84.7060	0.00096929	0.01180500	265.55	395.13	1.21820	1.6274
46	16.96000	15.96100	1026.3	87.2030	0.00097441	0.01146700	267.16	395.41	1.22310	1.6268
47	17.36600	16.36200	1020.8	89.7760	0.00097966	0.01113900	268.77	395.68	1.22800	1.6263
48	17.77900	16.77100	1015.2	92.4290	0.00098504	0.01081900	270.39	395.94	1.23290	1.6257
49	18.20000	17.18800	1009.5	95.1650	0.00099057	0.01050800	272.02	396.18	1.23790	1.6251
50	18.62800	17.61200	1003.8	97.9870	0.00099625	0.01020500	273.66	396.42	1.24280	1.6244
51	19.06400	18.04400	997.9	100.9000	0.00100210	0.00991070	275.31	396.63	1.24780	1.6238
52	19.50700	18.48400	992.0	103.9100	0.00100810	0.00962370	276.98	396.84	1.25280	1.6231
53	19.95800	18.93300	985.9	107.0200	0.00101430	0.00934420	278.65	397.03	1.25780	1.6223
54	20.41700	19.39000	979.7	110.2300	0.00102070	0.00907170	280.34	397.20	1.26280	1.6216
55	20.88400	19.85500	973.5	113.5600	0.00102730	0.00880610	282.04	397.35	1.26790	1.6208



Temp [C]	Pressure (L)		Density (L)		Volume (L)		Enthalpy (L)		Entropy (L)	
	[bara] bubble	[bara] dew	[kg/m ³] bubble	[kg/m ³] dew	[m ³ /kg] bubble	[m ³ /kg] dew	[kJ/kg] bubble	[kJ/kg] dew	[kJ/K-kg] bubble	[kJ/K-kg] dew
56	21.35900	20.32800	967.1	117.0000	0.00103410	0.00854710	283.76	397.49	1.27290	1.6199
57	21.84200	20.81100	960.5	120.5600	0.00104110	0.00829440	285.49	397.60	1.27800	1.6190
58	22.33300	21.30200	953.9	124.2600	0.00104840	0.00804780	287.23	397.70	1.28310	1.6181
59	22.83300	21.80200	947.1	128.0900	0.00105590	0.00780690	288.99	397.78	1.28830	1.6172
60	23.34100	22.31100	940.1	132.0700	0.00106370	0.00757170	290.77	397.83	1.29350	1.6161
61	23.85700	22.83000	932.9	136.2100	0.00107190	0.00734170	292.56	397.86	1.29870	1.6151
62	24.38300	23.35800	925.6	140.5100	0.00108030	0.00711680	294.37	397.86	1.30390	1.6139
63	24.91700	23.89500	918.1	144.9900	0.00108920	0.00689680	296.21	397.84	1.30920	1.6128
64	25.46000	24.44300	910.4	149.6700	0.00109840	0.00668140	298.06	397.79	1.31450	1.6115
65	26.01200	25.00000	902.5	154.5500	0.00110800	0.00647030	299.94	397.70	1.31990	1.6102
66	26.57300	25.56700	894.4	159.6600	0.00111810	0.00626330	301.84	397.59	1.32530	1.6087
67	27.14400	26.14500	886.0	165.0100	0.00112870	0.00606020	303.76	397.43	1.33080	1.6072
68	27.72400	26.73400	877.3	170.6300	0.00113990	0.00586070	305.72	397.24	1.33640	1.6056
69	28.31400	27.33300	868.2	176.5400	0.00115180	0.00566460	307.71	397.00	1.34200	1.6039
70	28.91400	27.94300	858.9	182.7600	0.00116430	0.00547150	309.73	396.71	1.34770	1.6021
71	29.52300	28.56500	849.2	189.3500	0.00117760	0.00528120	311.79	396.37	1.35350	1.6001
72	30.14200	29.19800	839.0	196.3400	0.00119190	0.00509330	313.89	395.97	1.35940	1.5980
73	30.77200	29.84400	828.4	203.7700	0.00120720	0.00490740	316.04	395.50	1.36540	1.5957
74	31.41200	30.50200	817.2	211.7200	0.00122370	0.00472320	318.24	394.96	1.37150	1.5933
75	32.06200	31.17300	805.4	220.2600	0.00124170	0.00454010	320.51	394.33	1.37780	1.5906
76	32.72400	31.85700	792.8	229.4900	0.00126140	0.00435760	322.84	393.60	1.38420	1.5876
77	33.39500	32.55500	779.3	239.5300	0.00128320	0.00417480	325.27	392.75	1.39090	1.5843
78	34.07800	33.26800	764.8	250.5700	0.00130750	0.00399100	327.79	391.76	1.39790	1.5807
79	34.77200	33.99700	748.9	262.8300	0.00133530	0.00380470	330.45	390.59	1.40520	1.5765
80	35.47600	34.74200	731.3	276.6900	0.00136750	0.00361410	333.28	389.20	1.41290	1.5718
	21.35900	20.32800	967.1	117.0000	0.00103410	0.00854710	283.76	397.49	1.27290	1.6199
	21.84200	20.81100	960.5	120.5600	0.00104110	0.00829440	285.49	397.60	1.27800	1.6190