



# Freon™ 22

Refrigerant (R-22)

## Thermodynamic Properties (SI Units)

### Technical Information

Tables of the thermodynamic properties of Freon™ 22 (R-22) have been developed and are presented here. This information is based on values calculated using the NIST REFPROP Database (McLinden, M.O., Klein, S.A., Lemmon, E.W., and Peskin, A.P., NIST Standard Reference Database 23, NIST thermodynamic and transport properties of refrigerants and refrigerant mixtures – REFPROP version 6.01, Standard Reference Data Program, National Institute of Standards and Technology, 1998).

#### Physical Properties

Chemical Formula.....	CHClF <sub>2</sub>
Molecular mass.....	86.47
Boiling Point at one atmosphere.....	-40.81°C
Critical Temperature.....	96.15°C
Critical Pressure.....	4990 kPa
Critical Density.....	523.8 kg/m <sup>3</sup>
Critical Volume.....	0.0019 m <sup>3</sup> /kg

#### Units and Factors

P = Pressure in kPa. Absolute

T = Temperature in Celcius

V<sub>f</sub> = Fluid (liquid) specific volume in cubic meters per kilogram

V<sub>g</sub> = Vapor (gas) specific volume in cubic meters per kilogram

d<sub>f</sub> and d<sub>g</sub> = Fluid and Vapor (respectively) densities in kilograms per cubic meter

h = Enthalpy (kJ/kg)

s = Entropy (kJ/kg·K)



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Table 1 Freon™ 22 Saturation Properties — Temperature Table

Temp °C	Pressure [kPa]	Volume [m <sup>3</sup> /kg]		Density [kg/m <sup>3</sup> ]		Enthalpy [kJ/kg]			Entropy [kJ/K·kg]		Temp °C
		Liquid v <sub>l</sub>	Vapour v <sub>g</sub>	Liquid d <sub>l</sub>	Vapour d <sub>g</sub>	Liquid H <sub>l</sub>	Latent H <sub>fg</sub>	Vapour H <sub>g</sub>	Liquid S <sub>l</sub>	Vapour S <sub>g</sub>	
-100	2.0	0.0006	8.2660	1571.0	0.121	90.7	268.3	359.0	0.505	2.054	-100
-99	2.2	0.0006	7.5770	1569.0	0.132	91.8	267.7	359.5	0.511	2.048	-99
-98	2.4	0.0006	6.9540	1566.0	0.144	92.8	267.1	359.9	0.517	2.042	-98
-97	2.6	0.0006	6.3900	1563.0	0.157	93.9	266.5	360.4	0.523	2.036	-97
-96	2.9	0.0006	5.8780	1561.0	0.170	95.0	266.0	360.9	0.529	2.031	-96
-95	3.2	0.0006	5.4130	1558.0	0.185	96.0	265.4	361.4	0.535	2.025	-95
-94	3.4	0.0006	4.9910	1555.0	0.200	97.1	264.8	361.9	0.541	2.019	-94
-93	3.7	0.0006	4.6060	1553.0	0.217	98.1	264.3	362.4	0.547	2.014	-93
-92	4.1	0.0007	4.2560	1550.0	0.235	99.2	263.7	362.9	0.553	2.009	-92
-91	4.4	0.0007	3.9370	1548.0	0.254	100.3	263.1	363.4	0.559	2.003	-91
-90	4.8	0.0007	3.6450	1545.0	0.274	101.3	262.6	363.9	0.565	1.998	-90
-89	5.2	0.0007	3.3780	1542.0	0.296	102.4	261.9	364.3	0.570	1.993	-89
-88	5.7	0.0007	3.1340	1540.0	0.319	103.4	261.4	364.8	0.576	1.988	-88
-87	6.1	0.0007	2.9100	1537.0	0.344	104.5	260.8	365.3	0.582	1.983	-87
-86	6.6	0.0007	2.7050	1534.0	0.370	105.6	260.2	365.8	0.588	1.978	-86
-85	7.2	0.0007	2.5170	1532.0	0.397	106.6	259.7	366.3	0.593	1.973	-85
-84	7.7	0.0007	2.3440	1529.0	0.427	107.7	259.1	366.8	0.599	1.969	-84
-83	8.3	0.0007	2.1840	1526.0	0.458	108.7	258.6	367.3	0.604	1.964	-83
-82	9.0	0.0007	2.0380	1524.0	0.491	109.8	258.0	367.8	0.610	1.960	-82
-81	9.6	0.0007	1.9030	1521.0	0.526	110.9	257.4	368.3	0.616	1.955	-81
-80	10.4	0.0007	1.7780	1518.0	0.562	111.9	256.9	368.8	0.621	1.951	-80
-79	11.1	0.0007	1.6630	1516.0	0.601	113.0	256.3	369.3	0.627	1.946	-79
-78	12.0	0.0007	1.5570	1513.0	0.642	114.1	255.7	369.8	0.632	1.942	-78
-77	12.8	0.0007	1.4580	1510.0	0.686	115.1	255.2	370.3	0.637	1.938	-77
-76	13.8	0.0007	1.3670	1507.0	0.731	116.2	254.5	370.7	0.643	1.934	-76
-75	14.7	0.0007	1.2830	1505.0	0.780	117.3	253.9	371.2	0.648	1.930	-75
-74	15.8	0.0007	1.2050	1502.0	0.830	118.3	253.4	371.7	0.654	1.926	-74
-73	16.8	0.0007	1.1320	1499.0	0.883	119.4	252.8	372.2	0.659	1.922	-73
-72	18.0	0.0007	1.0650	1497.0	0.939	120.4	252.3	372.7	0.664	1.918	-72
-71	19.2	0.0007	1.0020	1494.0	0.998	121.5	251.7	373.2	0.670	1.915	-71
-70	20.5	0.0007	0.9434	1491.0	1.060	122.6	251.1	373.7	0.675	1.911	-70
-69	21.8	0.0007	0.8891	1488.0	1.125	123.6	250.6	374.2	0.680	1.907	-69
-68	23.2	0.0007	0.8384	1486.0	1.193	124.7	250.0	374.7	0.685	1.904	-68
-67	24.7	0.0007	0.7912	1483.0	1.264	125.8	249.4	375.2	0.690	1.900	-67
-66	26.3	0.0007	0.7471	1480.0	1.338	126.8	248.9	375.7	0.696	1.897	-66
-65	27.9	0.0007	0.7060	1477.0	1.416	127.9	248.3	376.2	0.701	1.893	-65
-64	29.7	0.0007	0.6675	1475.0	1.498	129.0	247.6	376.6	0.706	1.890	-64
-63	31.5	0.0007	0.6315	1472.0	1.583	130.1	247.0	377.1	0.711	1.887	-63
-62	33.4	0.0007	0.5979	1469.0	1.673	131.1	246.5	377.6	0.716	1.883	-62
-61	35.4	0.0007	0.5664	1466.0	1.766	132.2	245.9	378.1	0.721	1.880	-61
-60	37.5	0.0007	0.5368	1464.0	1.863	133.3	245.3	378.6	0.726	1.877	-60
-59	39.7	0.0007	0.5091	1461.0	1.964	134.3	244.8	379.1	0.731	1.874	-59
-58	42.0	0.0007	0.4831	1458.0	2.070	135.4	244.2	379.6	0.736	1.871	-58
-57	44.4	0.0007	0.4587	1455.0	2.180	136.5	243.5	380.0	0.741	1.868	-57
-56	46.9	0.0007	0.4357	1453.0	2.295	137.6	242.9	380.5	0.746	1.865	-56
-55	49.6	0.0007	0.4142	1450.0	2.414	138.6	242.4	381.0	0.751	1.862	-55
-54	52.3	0.0007	0.3939	1447.0	2.539	139.7	241.8	381.5	0.756	1.859	-54
-53	55.2	0.0007	0.3748	1444.0	2.668	140.8	241.2	382.0	0.761	1.856	-53
-52	58.2	0.0007	0.3568	1441.0	2.803	141.9	240.6	382.5	0.766	1.853	-52
-51	61.3	0.0007	0.3398	1438.0	2.943	142.9	240.0	382.9	0.770	1.851	-51
-50	64.5	0.0007	0.3238	1436.0	3.088	144.0	239.4	383.4	0.775	1.848	-50
-49	67.9	0.0007	0.3088	1433.0	3.239	145.1	238.8	383.9	0.780	1.845	-49
-48	71.5	0.0007	0.2945	1430.0	3.395	146.2	238.2	384.4	0.785	1.843	-48
-47	75.1	0.0007	0.2811	1427.0	3.558	147.3	237.5	384.8	0.790	1.840	-47

Table 1 (continued) Freon™ 22 Saturation Properties — Temperature Table

Temp °C	Pressure [kPa]	Volume [m <sup>3</sup> /kg]		Density [kg/m <sup>3</sup> ]		Enthalpy [kJ/kg]			Entropy [kJ/K·kg]		Temp °C
		Liquid v <sub>l</sub>	Vapour v <sub>g</sub>	Liquid d <sub>l</sub>	Vapour d <sub>g</sub>	Liquid H <sub>l</sub>	Latent H <sub>lg</sub>	Vapour H <sub>g</sub>	Liquid S <sub>l</sub>	Vapour S <sub>g</sub>	
-46	78.9	0.0007	0.2684	1424.0	3.726	148.4	236.9	385.3	0.794	1.838	-46
-45	82.9	0.0007	0.2563	1421.0	3.901	149.4	236.4	385.8	0.799	1.835	-45
-44	87.1	0.0007	0.2450	1418.0	4.082	150.5	235.8	386.3	0.804	1.833	-44
-43	91.3	0.0007	0.2342	1416.0	4.270	151.6	235.1	386.7	0.809	1.830	-43
-42	95.8	0.0007	0.2240	1413.0	4.464	152.7	234.5	387.2	0.813	1.828	-42
-41	100.4	0.0007	0.2144	1410.0	4.665	153.8	233.9	387.7	0.818	1.825	-41
-40	105.2	0.0007	0.2052	1407.0	4.873	154.9	233.2	388.1	0.823	1.823	-40
-39	110.2	0.0007	0.1965	1404.0	5.088	156.0	232.6	388.6	0.827	1.821	-39
-38	115.4	0.0007	0.1883	1401.0	5.311	157.1	232.0	389.1	0.832	1.819	-38
-37	120.7	0.0007	0.1805	1398.0	5.541	158.2	231.3	389.5	0.837	1.816	-37
-36	126.3	0.0007	0.1730	1395.0	5.779	159.3	230.7	390.0	0.841	1.814	-36
-35	132.0	0.0007	0.1660	1392.0	6.025	160.4	230.0	390.4	0.846	1.812	-35
-34	138.0	0.0007	0.1593	1389.0	6.279	161.5	229.4	390.9	0.851	1.810	-34
-33	144.1	0.0007	0.1529	1386.0	6.541	162.6	228.7	391.3	0.855	1.808	-33
-32	150.5	0.0007	0.1468	1383.0	6.811	163.7	228.1	391.8	0.860	1.806	-32
-31	157.1	0.0007	0.1410	1380.0	7.090	164.8	227.4	392.2	0.864	1.804	-31
-30	163.9	0.0007	0.1355	1377.0	7.379	165.9	226.8	392.7	0.869	1.802	-30
-29	170.9	0.0007	0.1303	1374.0	7.676	167.0	226.1	393.1	0.873	1.800	-29
-28	178.2	0.0007	0.1253	1371.0	7.982	168.1	225.5	393.6	0.878	1.798	-28
-27	185.7	0.0007	0.1205	1368.0	8.298	169.2	224.8	394.0	0.882	1.796	-27
-26	193.4	0.0007	0.1160	1365.0	8.623	170.3	224.2	394.5	0.887	1.794	-26
-25	201.4	0.0007	0.1116	1362.0	8.958	171.4	223.5	394.9	0.891	1.792	-25
-24	209.7	0.0007	0.1075	1359.0	9.304	172.6	222.7	395.3	0.896	1.790	-24
-23	218.2	0.0007	0.1035	1356.0	9.659	173.7	222.1	395.8	0.900	1.788	-23
-22	227.0	0.0007	0.0998	1353.0	10.030	174.8	221.4	396.2	0.905	1.786	-22
-21	236.0	0.0007	0.0961	1350.0	10.400	175.9	220.7	396.6	0.909	1.784	-21
-20	245.3	0.0007	0.0927	1347.0	10.790	177.0	220.1	397.1	0.914	1.783	-20
-19	254.9	0.0007	0.0894	1343.0	11.190	178.2	219.3	397.5	0.918	1.781	-19
-18	264.8	0.0008	0.0862	1340.0	11.600	179.3	218.6	397.9	0.922	1.779	-18
-17	275.0	0.0008	0.0832	1337.0	12.020	180.4	217.9	398.3	0.927	1.777	-17
-16	285.4	0.0008	0.0803	1334.0	12.450	181.6	217.1	398.7	0.931	1.776	-16
-15	296.2	0.0008	0.0775	1331.0	12.900	182.7	216.5	399.2	0.935	1.774	-15
-14	307.3	0.0008	0.0749	1328.0	13.360	183.8	215.8	399.6	0.940	1.772	-14
-13	318.7	0.0008	0.0723	1324.0	13.830	185.0	215.0	400.0	0.944	1.771	-13
-12	330.4	0.0008	0.0699	1321.0	14.310	186.1	214.3	400.4	0.949	1.769	-12
-11	342.4	0.0008	0.0675	1318.0	14.810	187.3	213.5	400.8	0.953	1.767	-11
-10	354.8	0.0008	0.0653	1315.0	15.320	188.4	212.8	401.2	0.957	1.766	-10
-9	367.5	0.0008	0.0631	1311.0	15.850	189.6	212.0	401.6	0.962	1.764	-9
-8	380.5	0.0008	0.0610	1308.0	16.380	190.7	211.3	402.0	0.966	1.763	-8
-7	393.9	0.0008	0.0590	1305.0	16.940	191.9	210.5	402.4	0.970	1.761	-7
-6	407.7	0.0008	0.0571	1302.0	17.500	193.0	209.8	402.8	0.974	1.760	-6
-5	421.8	0.0008	0.0553	1298.0	18.090	194.2	209.0	403.2	0.979	1.758	-5
-4	436.3	0.0008	0.0535	1295.0	18.680	195.3	208.2	403.5	0.983	1.757	-4
-3	451.1	0.0008	0.0518	1292.0	19.300	196.5	207.4	403.9	0.987	1.755	-3
-2	466.4	0.0008	0.0502	1288.0	19.920	197.7	206.6	404.3	0.992	1.754	-2
-1	482.0	0.0008	0.0486	1285.0	20.570	198.8	205.9	404.7	0.996	1.752	-1
0	498.0	0.0008	0.0471	1282.0	21.230	200.0	205.0	405.0	1.000	1.751	0
1	514.4	0.0008	0.0457	1278.0	21.910	201.2	204.2	405.4	1.004	1.749	1
2	531.2	0.0008	0.0442	1275.0	22.600	202.4	203.4	405.8	1.008	1.748	2
3	548.4	0.0008	0.0429	1271.0	23.310	203.5	202.6	406.1	1.013	1.746	3
4	566.1	0.0008	0.0416	1268.0	24.040	204.7	201.8	406.5	1.017	1.745	4
5	584.1	0.0008	0.0403	1264.0	24.790	205.9	200.9	406.8	1.021	1.744	5
6	602.6	0.0008	0.0391	1261.0	25.560	207.1	200.1	407.2	1.025	1.742	6
7	621.5	0.0008	0.0380	1257.0	26.340	208.3	199.2	407.5	1.030	1.741	7

Table 1 (continued) Freon™ 22 Saturation Properties — Temperature Table

Temp °C	Pressure [kPa]	Volume [m <sup>3</sup> /kg]		Density [kg/m <sup>3</sup> ]		Enthalpy [kJ/kg]			Entropy [kJ/K·kg]		Temp °C
		Liquid v <sub>f</sub>	Vapour v <sub>g</sub>	Liquid d <sub>f</sub>	Vapour d <sub>g</sub>	Liquid H <sub>f</sub>	Latent H <sub>fg</sub>	Vapour H <sub>g</sub>	Liquid S <sub>f</sub>	Vapour S <sub>g</sub>	
8	640.9	0.0008	0.0368	1254.0	27.150	209.5	198.4	407.9	1.034	1.739	8
9	660.7	0.0008	0.0358	1250.0	27.970	210.7	197.5	408.2	1.038	1.738	9
10	680.9	0.0008	0.0347	1247.0	28.820	211.9	196.7	408.6	1.042	1.737	10
11	701.7	0.0008	0.0337	1243.0	29.690	213.1	195.8	408.9	1.046	1.735	11
12	722.9	0.0008	0.0327	1239.0	30.570	214.3	194.9	409.2	1.051	1.734	12
13	744.5	0.0008	0.0318	1236.0	31.480	215.5	194.0	409.5	1.055	1.733	13
14	766.7	0.0008	0.0309	1232.0	32.410	216.7	193.2	409.9	1.059	1.732	14
15	789.3	0.0008	0.0300	1229.0	33.360	217.9	192.3	410.2	1.063	1.730	15
16	812.4	0.0008	0.0291	1225.0	34.340	219.1	191.4	410.5	1.067	1.729	16
17	836.1	0.0008	0.0283	1221.0	35.340	220.4	190.4	410.8	1.071	1.728	17
18	860.2	0.0008	0.0275	1217.0	36.360	221.6	189.5	411.1	1.076	1.726	18
19	884.8	0.0008	0.0267	1214.0	37.410	222.8	188.6	411.4	1.080	1.725	19
20	910.0	0.0008	0.0260	1210.0	38.480	224.1	187.6	411.7	1.084	1.724	20
21	935.7	0.0008	0.0253	1206.0	39.570	225.3	186.6	411.9	1.088	1.722	21
22	961.9	0.0008	0.0246	1202.0	40.700	226.5	185.7	412.2	1.092	1.721	22
23	988.7	0.0008	0.0239	1198.0	41.850	227.8	184.7	412.5	1.096	1.720	23
24	1016.0	0.0008	0.0232	1195.0	43.030	229.0	183.8	412.8	1.100	1.719	24
25	1044.0	0.0008	0.0226	1191.0	44.230	230.3	182.7	413.0	1.105	1.717	25
26	1072.0	0.0008	0.0220	1187.0	45.470	231.5	181.8	413.3	1.109	1.716	26
27	1101.0	0.0009	0.0214	1183.0	46.730	232.8	180.7	413.5	1.113	1.715	27
28	1131.0	0.0009	0.0208	1179.0	48.020	234.1	179.7	413.8	1.117	1.714	28
29	1161.0	0.0009	0.0203	1175.0	49.350	235.3	178.7	414.0	1.121	1.712	29
30	1192.0	0.0009	0.0197	1171.0	50.700	236.6	177.7	414.3	1.125	1.711	30
31	1223.0	0.0009	0.0192	1167.0	52.090	237.9	176.6	414.5	1.129	1.710	31
32	1255.0	0.0009	0.0187	1163.0	53.520	239.2	175.5	414.7	1.133	1.709	32
33	1288.0	0.0009	0.0182	1158.0	54.970	240.5	174.4	414.9	1.138	1.707	33
34	1321.0	0.0009	0.0177	1154.0	56.460	241.8	173.3	415.1	1.142	1.706	34
35	1355.0	0.0009	0.0172	1150.0	57.990	243.1	172.2	415.3	1.146	1.705	35
36	1389.0	0.0009	0.0168	1146.0	59.550	244.4	171.1	415.5	1.150	1.704	36
37	1424.0	0.0009	0.0164	1142.0	61.150	245.7	170.0	415.7	1.154	1.702	37
38	1460.0	0.0009	0.0159	1137.0	62.790	247.0	168.9	415.9	1.158	1.701	38
39	1497.0	0.0009	0.0155	1133.0	64.470	248.3	167.8	416.1	1.162	1.700	39
40	1534.0	0.0009	0.0151	1129.0	66.190	249.6	166.6	416.2	1.166	1.698	40
41	1571.0	0.0009	0.0147	1124.0	67.960	251.0	165.4	416.4	1.171	1.697	41
42	1610.0	0.0009	0.0143	1120.0	69.760	252.3	164.3	416.6	1.175	1.696	42
43	1649.0	0.0009	0.0140	1115.0	71.610	253.7	163.0	416.7	1.179	1.695	43
44	1689.0	0.0009	0.0136	1111.0	73.510	255.0	161.8	416.8	1.183	1.693	44
45	1729.0	0.0009	0.0133	1106.0	75.460	256.4	160.6	417.0	1.187	1.692	45
46	1770.0	0.0009	0.0129	1101.0	77.450	257.7	159.4	417.1	1.191	1.691	46
47	1812.0	0.0009	0.0126	1097.0	79.500	259.1	158.1	417.2	1.196	1.689	47
48	1855.0	0.0009	0.0123	1092.0	81.590	260.5	156.8	417.3	1.200	1.688	48
49	1899.0	0.0009	0.0119	1087.0	83.740	261.9	155.5	417.4	1.204	1.687	49
50	1943.0	0.0009	0.0116	1082.0	85.950	263.2	154.2	417.4	1.208	1.685	50
51	1988.0	0.0009	0.0113	1077.0	88.220	264.6	152.9	417.5	1.212	1.684	51
52	2033.0	0.0009	0.0110	1072.0	90.540	266.0	151.6	417.6	1.216	1.682	52
53	2080.0	0.0009	0.0108	1067.0	92.930	267.5	150.1	417.6	1.221	1.681	53
54	2127.0	0.0009	0.0105	1062.0	95.380	268.9	148.7	417.6	1.225	1.680	54
55	2175.0	0.0010	0.0102	1057.0	97.900	270.3	147.4	417.7	1.229	1.678	55
56	2224.0	0.0010	0.0100	1052.0	100.500	271.8	145.9	417.7	1.233	1.677	56
57	2274.0	0.0010	0.0097	1047.0	103.100	273.2	144.5	417.7	1.238	1.675	57
58	2324.0	0.0010	0.0094	1041.0	105.900	274.7	142.9	417.6	1.242	1.674	58
59	2375.0	0.0010	0.0092	1036.0	108.700	276.1	141.5	417.6	1.246	1.672	59
60	2427.0	0.0010	0.0090	1030.0	111.600	277.6	139.9	417.5	1.250	1.670	60
61	2480.0	0.0010	0.0087	1025.0	114.600	279.1	138.4	417.5	1.255	1.669	61

Table 1 (continued) Freon™ 22 Saturation Properties — Temperature Table

Temp °C	Pressure [kPa]	Volume [m <sup>3</sup> /kg]		Density [kg/m <sup>3</sup> ]		Enthalpy [kJ/kg]			Entropy [kJ/K-kg]		Temp °C
		Liquid v <sub>f</sub>	Vapour v <sub>g</sub>	Liquid d <sub>f</sub>	Vapour d <sub>g</sub>	Liquid H <sub>f</sub>	Latent H <sub>fg</sub>	Vapour H <sub>g</sub>	Liquid S <sub>f</sub>	Vapour S <sub>g</sub>	
62	2534.0	0.0010	0.0085	1019.0	117.600	280.6	136.8	417.4	1.259	1.667	
63	2589.0	0.0010	0.0083	1013.0	120.800	282.1	135.2	417.3	1.263	1.666	
64	2645.0	0.0010	0.0081	1007.0	124.100	283.6	133.6	417.2	1.268	1.664	
65	2701.0	0.0010	0.0079	1001.0	127.400	285.2	131.9	417.1	1.272	1.662	
66	2759.0	0.0010	0.0076	995.3	130.900	286.7	130.2	416.9	1.277	1.660	
67	2817.0	0.0010	0.0074	989.1	134.500	288.3	128.4	416.7	1.281	1.659	
68	2876.0	0.0010	0.0072	982.8	138.200	289.9	126.6	416.5	1.285	1.657	
69	2936.0	0.0010	0.0070	976.3	142.000	291.5	124.8	416.3	1.290	1.655	
70	2997.0	0.0010	0.0069	969.7	146.000	293.1	123.0	416.1	1.295	1.653	
71	3059.0	0.0010	0.0067	963.0	150.100	294.7	121.1	415.8	1.299	1.651	
72	3123.0	0.0011	0.0065	956.1	154.400	296.4	119.1	415.5	1.304	1.649	
73	3187.0	0.0011	0.0063	949.0	158.800	298.0	117.2	415.2	1.308	1.647	
74	3252.0	0.0011	0.0061	941.8	163.400	299.7	115.2	414.9	1.313	1.645	
75	3318.0	0.0011	0.0060	934.4	168.200	301.5	113.0	414.5	1.318	1.642	
76	3385.0	0.0011	0.0058	926.7	173.100	303.2	110.9	414.1	1.323	1.640	
77	3453.0	0.0011	0.0056	918.9	178.300	305.0	108.6	413.6	1.327	1.638	
78	3522.0	0.0011	0.0054	910.8	183.800	306.8	106.3	413.1	1.332	1.635	
79	3592.0	0.0011	0.0053	902.4	189.400	308.6	104.0	412.6	1.337	1.633	
80	3664.0	0.0011	0.0051	893.7	195.400	310.4	101.6	412.0	1.342	1.630	
81	3736.0	0.0011	0.0050	884.8	201.700	312.3	99.1	411.4	1.347	1.627	
82	3810.0	0.0011	0.0048	875.4	208.300	314.3	96.4	410.7	1.353	1.624	
83	3885.0	0.0012	0.0047	865.7	215.300	316.3	93.6	409.9	1.358	1.621	
84	3961.0	0.0012	0.0045	855.5	222.700	318.3	90.8	409.1	1.363	1.618	
85	4038.0	0.0012	0.0043	844.8	230.600	320.4	87.8	408.2	1.369	1.614	
86	4116.0	0.0012	0.0042	833.5	239.000	322.5	84.7	407.2	1.375	1.610	
87	4196.0	0.0012	0.0040	821.6	248.100	324.8	81.3	406.1	1.381	1.606	
88	4277.0	0.0012	0.0039	808.8	257.900	327.1	77.7	404.8	1.387	1.602	
89	4359.0	0.0013	0.0037	795.1	268.700	329.5	73.9	403.4	1.393	1.597	
90	4442.0	0.0013	0.0036	780.1	280.600	332.1	69.8	401.9	1.400	1.592	
91	4527.0	0.0013	0.0034	763.6	294.000	334.8	65.3	400.1	1.407	1.586	
92	4614.0	0.0013	0.0032	745.1	309.300	337.8	60.1	397.9	1.415	1.580	
93	4702.0	0.0014	0.0031	723.7	327.500	341.0	54.3	395.3	1.424	1.572	
94	4791.0	0.0014	0.0029	697.8	350.200	344.8	47.2	392.0	1.434	1.562	
95	4882.0	0.0015	0.0026	662.9	382.000	349.6	37.7	387.3	1.446	1.549	

Table 2 Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m<sup>3</sup>/kg      H = Enthalpy in kJ/kg      S = Entropy in kJ/kg·K      Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	10			20			30			40			
	(-80.51°C)			(-70.36°C)			(-63.82°C)			(-58.87°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.8400)	(368.5)	(1.953)	(0.9640)	(373.5)	(1.912)	(0.6608)	(376.7)	(1.889)	(0.5056)	(379.1)	(1.873)	
-80	1.8450	368.8	1.954	-	-	-	-	-	-	-	-	-	-80
-75	1.8940	371.4	1.968	-	-	-	-	-	-	-	-	-	-75
-70	1.9430	374.1	1.981	0.9658	373.7	1.913	-	-	-	-	-	-	-70
-65	1.9910	376.8	1.994	0.9905	376.5	1.926	-	-	-	-	-	-	-65
-60	2.0400	379.6	2.007	1.0150	379.2	1.940	0.6736	378.9	1.899	-	-	-	-60
-55	2.0890	382.3	2.020	1.0400	382.0	1.952	0.6902	381.7	1.912	0.5153	381.3	1.884	-55
-50	2.1370	385.1	2.033	1.0640	384.8	1.965	0.7067	384.5	1.925	0.5279	384.2	1.897	-50
-45	2.1860	388.0	2.045	1.0890	387.7	1.978	0.7232	387.4	1.938	0.5404	387.1	1.909	-45
-40	2.2340	390.8	2.058	1.1130	390.5	1.990	0.7397	390.3	1.950	0.5528	390.0	1.922	-40
-35	2.2830	393.7	2.070	1.1380	393.4	2.003	0.7561	393.2	1.963	0.5653	392.9	1.934	-35
-30	2.3310	396.6	2.082	1.1620	396.4	2.015	0.7725	396.1	1.975	0.5777	395.9	1.947	-30
-25	2.3800	399.5	2.094	1.1870	399.3	2.027	0.7889	399.1	1.987	0.5900	398.9	1.959	-25
-20	2.4280	402.5	2.106	1.2110	402.3	2.039	0.8053	402.1	1.999	0.6024	401.9	1.971	-20
-15	2.4760	405.5	2.118	1.2350	405.3	2.051	0.8216	405.1	2.011	0.6147	404.9	1.983	-15
-10	2.5250	408.6	2.129	1.2600	408.4	2.062	0.8379	408.2	2.023	0.6270	408.0	1.994	-10
-5	2.5730	411.6	2.141	1.2840	411.4	2.074	0.8542	411.3	2.034	0.6393	411.1	2.006	-5
0	2.6210	414.7	2.152	1.3080	414.5	2.085	0.8704	414.4	2.046	0.6515	414.2	2.018	0
5	2.6700	417.8	2.164	1.3320	417.7	2.097	0.8867	417.5	2.057	0.6638	417.3	2.029	5
10	2.7180	421.0	2.175	1.3570	420.8	2.108	0.9029	420.7	2.068	0.6760	420.5	2.040	10
15	2.7660	424.2	2.186	1.3810	424.0	2.119	0.9191	423.9	2.080	0.6882	423.7	2.052	15
20	2.8150	427.4	2.197	1.4050	427.2	2.130	0.9353	427.1	2.091	0.7004	426.9	2.063	20
25	2.8630	430.6	2.208	1.4290	430.5	2.141	0.9515	430.3	2.102	0.7126	430.2	2.074	25
30	2.9110	433.9	2.219	1.4540	433.8	2.152	0.9677	433.6	2.113	0.7248	433.5	2.085	30
35	2.9590	437.2	2.230	1.4780	437.1	2.163	0.9839	436.9	2.123	0.7370	436.8	2.095	35
40	3.0080	440.5	2.240	1.5020	440.4	2.173	1.0000	440.3	2.134	0.7491	440.1	2.106	40
45	3.0560	443.9	2.251	1.5260	443.7	2.184	1.0160	443.6	2.145	0.7613	443.5	2.117	45
50	3.1040	447.2	2.262	1.5500	447.1	2.195	1.0320	447.0	2.155	0.7734	446.9	2.128	50
55	3.1520	450.7	2.272	1.5740	450.6	2.205	1.0490	450.4	2.166	0.7856	450.3	2.138	55
60	3.2000	454.1	2.282	1.5990	454.0	2.216	1.0650	453.9	2.176	0.7977	453.8	2.148	60
65	3.2490	457.6	2.293	1.6230	457.5	2.226	1.0810	457.4	2.187	0.8099	457.3	2.159	65
70	3.2970	461.1	2.303	1.6470	461.0	2.236	1.0970	460.9	2.197	0.8220	460.8	2.169	70

Temp °C	Absolute Pressure kPa												Temp °C
	50			60			70			80			
	(-54.83°C)			(-51.40°C)			(-48.41°C)			(-45.73°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.4107)	(381.1)	(1.861)	(0.3466)	(382.7)	(1.852)	(0.3002)	(384.2)	(1.844)	(0.2651)	(385.4)	(1.837)	
-50	0.4205	383.9	1.874	0.3490	383.6	1.856	-	-	-	0.2660	385.9	1.839	-50
-45	0.4307	386.8	1.887	0.3575	386.5	1.868	0.3052	386.2	1.853	0.2725	388.9	1.852	-45
-40	0.4407	389.7	1.900	0.3660	389.4	1.881	0.3126	389.1	1.866	0.2789	391.9	1.865	-40
-35	0.4508	392.7	1.912	0.3744	392.4	1.894	0.3198	392.1	1.878	0.2853	394.9	1.877	-35
-30	0.4607	395.6	1.924	0.3828	395.4	1.906	0.3271	395.1	1.891	0.2917	397.9	1.889	-30
-25	0.4707	398.6	1.937	0.3912	398.4	1.918	0.3343	398.2	1.903	0.2980	401.0	1.902	-25
-20	0.4807	401.7	1.949	0.3995	401.4	1.931	0.3415	401.2	1.915	0.3044	404.1	1.914	-20
-15	0.4906	404.7	1.961	0.4078	404.5	1.943	0.3487	404.3	1.927	0.3107	407.2	1.926	-15
-10	0.5005	407.8	1.972	0.4161	407.6	1.954	0.3559	407.4	1.939	0.3169	410.3	1.937	-10
-5	0.5103	410.9	1.984	0.4244	410.7	1.966	0.3630	410.5	1.951	0.3222	413.5	1.949	-5
0	0.5202	414.0	1.996	0.4326	413.8	1.978	0.3701	413.6	1.962	0.3294	416.6	1.961	0
5	0.5300	417.2	2.007	0.4409	417.0	1.989	0.3772	416.8	1.974	0.3356	419.9	1.972	5
10	0.5399	420.3	2.019	0.4491	420.2	2.001	0.3843	420.0	1.985	0.3419	423.1	1.983	10
15	0.5497	423.6	2.030	0.4573	423.4	2.012	0.3913	423.2	1.997	0.3481	426.3	1.995	15
20	0.5595	426.8	2.041	0.4655	426.6	2.023	0.3984	426.5	2.008	0.3542	429.6	2.006	20
25	0.5693	430.1	2.052	0.4737	429.9	2.034	0.4054	429.8	2.019	0.3604	432.9	2.017	25
30	0.5790	433.3	2.063	0.4819	433.2	2.045	0.4125	433.1	2.030	0.3666	436.3	2.028	30
35	0.5888	436.7	2.074	0.4900	436.5	2.056	0.4195	436.4	2.041	0.3727	439.6	2.038	35
40	0.5986	440.0	2.085	0.4982	439.9	2.067	0.4265	439.8	2.052	0.3789	443.0	2.049	40
45	0.6083	443.4	2.095	0.5064	443.3	2.077	0.4335	443.1	2.062	0.3850	446.4	2.060	45
50	0.6181	446.8	2.106	0.5145	446.7	2.088	0.4405	446.6	2.073	0.3912	449.9	2.070	50
55	0.6278	450.2	2.116	0.5226	450.1	2.099	0.4475	450.0	2.083	0.3973	453.4	2.081	55
60	0.6376	453.7	2.127	0.5308	453.6	2.109	0.4545	453.5	2.094	0.4034	456.8	2.091	60
65	0.6473	457.2	2.137	0.5389	457.1	2.119	0.4615	456.9	2.104	0.4095	460.4	2.102	65
70	0.6570	460.7	2.147	0.5470	460.6	2.130	0.4684	460.5	2.115	0.4156	463.9	2.112	70
75	0.6667	464.2	2.158	0.5551	464.1	2.140	0.4754	464.0	2.125	0.4217	467.5	2.122	75
80	0.6764	467.8	2.168	0.5632	467.7	2.150	0.4824	467.6	2.135	0.4278	471.1	2.132	80
85	0.6861	471.4	2.178	0.5713	471.3	2.160	0.4893	471.2	2.145	0.4339	474.7	2.142	85
90	0.6958	475.0	2.188	0.5794	474.9	2.170	0.4963	474.8	2.155	0.4400	478.4	2.152	90
95	0.7055	478.7	2.198	0.5875	478.6	2.180	0.5033	478.5	2.165	0.4461	482.0	2.162	95
100	0.7152	482.3	2.208	0.5956	482.2	2.190	0.5102	482.1	2.175				100

Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m<sup>3</sup>/kg      H = Enthalpy in kJ/kg      S = Entropy in kJ/kg·K      Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	90			100			101.325			110			
	(-43.31°C)			(-41.09°C)			(-40.81°C)			(-39.04°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.2375)	(386.6)	(1.831)	(0.2152)	(387.6)	(1.826)	(0.2126)	(387.8)	(1.825)	(0.1969)	(388.6)	(1.821)		
-40	0.2413	388.6	1.840	0.2164	388.3	1.829	0.2134	388.2	1.827	-	-	-	-40
-35	0.2471	391.6	1.852	0.2216	391.3	1.841	0.2186	391.3	1.840	0.2008	391.0	1.831	-35
-30	0.2528	394.6	1.865	0.2268	394.4	1.854	0.2238	394.3	1.853	0.2056	394.1	1.844	-30
-25	0.2585	397.7	1.877	0.2320	397.4	1.867	0.2289	397.4	1.865	0.2103	397.2	1.857	-25
-20	0.2642	400.8	1.890	0.2372	400.5	1.879	0.2340	400.5	1.878	0.2150	400.3	1.869	-20
-15	0.2699	403.9	1.902	0.2423	403.6	1.891	0.2390	403.6	1.890	0.2197	403.4	1.881	-15
-10	0.2755	407.0	1.914	0.2474	406.8	1.903	0.2441	406.7	1.902	0.2244	406.6	1.893	-10
-5	0.2811	410.1	1.926	0.2524	409.9	1.915	0.2491	409.9	1.914	0.2290	409.7	1.905	-5
0	0.2867	413.3	1.937	0.2575	413.1	1.927	0.2541	413.1	1.925	0.2336	412.9	1.917	0
5	0.2923	416.5	1.949	0.2625	416.3	1.938	0.2590	416.3	1.937	0.2382	416.1	1.929	5
10	0.2978	419.7	1.960	0.2676	419.5	1.950	0.2640	419.5	1.948	0.2428	419.4	1.940	10
15	0.3034	422.9	1.972	0.2726	422.8	1.961	0.2689	422.8	1.960	0.2474	422.6	1.952	15
20	0.3089	426.2	1.983	0.2776	426.0	1.972	0.2739	426.0	1.971	0.2519	425.9	1.963	20
25	0.3144	429.5	1.994	0.2826	429.3	1.984	0.2788	429.3	1.982	0.2565	429.2	1.974	25
30	0.3199	432.8	2.005	0.2875	432.7	1.995	0.2837	432.6	1.993	0.2610	432.5	1.985	30
35	0.3254	436.1	2.016	0.2925	436.0	2.006	0.2886	436.0	2.004	0.2655	435.9	1.996	35
40	0.3309	439.5	2.027	0.2974	439.4	2.016	0.2935	439.4	2.015	0.2701	439.3	2.007	40
45	0.3364	442.9	2.038	0.3024	442.8	2.027	0.2984	442.8	2.026	0.2746	442.7	2.018	45
50	0.3419	446.3	2.048	0.3073	446.2	2.038	0.3033	446.2	2.037	0.2791	446.1	2.028	50
55	0.3473	449.8	2.059	0.3123	449.7	2.048	0.3081	449.6	2.047	0.2836	449.5	2.039	55
60	0.3528	453.2	2.069	0.3172	453.1	2.059	0.3130	453.1	2.058	0.2881	453.0	2.050	60
65	0.3582	456.7	2.080	0.3221	456.6	2.069	0.3179	456.6	2.068	0.2925	456.5	2.060	65
70	0.3637	460.3	2.090	0.3270	460.2	2.080	0.3227	460.2	2.078	0.2970	460.1	2.070	70
75	0.3691	463.8	2.100	0.3319	463.7	2.090	0.3276	463.7	2.089	0.3015	463.6	2.081	75
80	0.3746	467.4	2.111	0.3368	467.3	2.100	0.3324	467.3	2.099	0.3060	467.2	2.091	80
85	0.3800	471.0	2.121	0.3417	470.9	2.110	0.3372	470.9	2.109	0.3104	470.8	2.101	85
90	0.3854	474.6	2.131	0.3466	474.5	2.120	0.3421	474.5	2.119	0.3149	474.4	2.111	90
95	0.3909	478.3	2.141	0.3515	478.2	2.130	0.3470	478.2	2.129	0.3194	478.1	2.121	95
100	0.3963	482.0	2.151	0.3564	481.9	2.140	0.3517	481.9	2.139	0.3238	481.8	2.131	100
105	0.4017	485.7	2.161	0.3613	485.6	2.150	0.3565	485.6	2.149	0.3282	485.5	2.141	105
110	0.4071	489.4	2.170	0.3662	489.3	2.160	0.3614	489.3	2.159	0.3327	489.2	2.151	110

Temp °C	Absolute Pressure kPa												Temp °C
	120			130			140			150			
	(-37.13°C)			(-35.35°C)			(-33.67°C)			(-32.08°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.1815)	(389.5)	(1.817)	(0.1684)	(390.3)	(1.813)	(0.1571)	(391.0)	(1.809)	(0.1473)	(391.8)	(1.806)		
-35	0.1834	390.8	1.822	0.1687	390.5	1.814	-	-	-	-	-	-	-35
-30	0.1878	393.9	1.835	0.1728	393.6	1.827	0.1599	393.3	1.819	0.1488	393.1	1.811	-30
-25	0.1922	397.0	1.848	0.1769	396.7	1.839	0.1637	396.5	1.831	0.1524	396.2	1.824	-25
-20	0.1965	400.1	1.860	0.1809	399.8	1.852	0.1675	399.6	1.844	0.1559	399.4	1.837	-20
-15	0.2009	403.2	1.872	0.1849	403.0	1.864	0.1713	402.8	1.856	0.1595	402.6	1.849	-15
-10	0.2052	406.4	1.884	0.1889	406.2	1.876	0.1750	406.0	1.869	0.1630	405.7	1.861	-10
-5	0.2094	409.5	1.896	0.1929	409.3	1.888	0.1787	409.2	1.881	0.1664	409.0	1.873	-5
0	0.2137	412.7	1.908	0.1969	412.6	1.900	0.1824	412.4	1.892	0.1699	412.2	1.885	0
5	0.2179	416.0	1.920	0.2008	415.8	1.912	0.1861	415.6	1.904	0.1733	415.4	1.897	5
10	0.2222	419.2	1.931	0.2047	419.0	1.923	0.1897	418.9	1.916	0.1768	418.7	1.909	10
15	0.2264	422.5	1.943	0.2086	422.3	1.935	0.1934	422.1	1.927	0.1802	422.0	1.920	15
20	0.2306	425.7	1.954	0.2125	425.6	1.946	0.1970	425.4	1.939	0.1836	425.3	1.932	20
25	0.2348	429.1	1.965	0.2164	428.9	1.957	0.2006	428.8	1.950	0.1870	428.6	1.943	25
30	0.2389	432.4	1.976	0.2202	432.2	1.968	0.2042	432.1	1.961	0.1903	432.0	1.954	30
35	0.2431	435.7	1.987	0.2241	435.6	1.979	0.2078	435.5	1.972	0.1937	435.3	1.965	35
40	0.2473	439.1	1.998	0.2279	439.0	1.990	0.2114	438.9	1.983	0.1971	438.7	1.976	40
45	0.2514	442.5	2.009	0.2318	442.4	2.001	0.2150	442.3	1.994	0.2004	442.2	1.987	45
50	0.2555	446.0	2.020	0.2356	445.9	2.012	0.2185	445.7	2.004	0.2037	445.6	1.998	50
55	0.2597	449.4	2.030	0.2394	449.3	2.023	0.2221	449.2	2.015	0.2071	449.1	2.008	55
60	0.2638	452.9	2.041	0.2433	452.8	2.033	0.2257	452.7	2.026	0.2104	452.6	2.019	60
65	0.2679	456.4	2.051	0.2471	456.3	2.044	0.2292	456.2	2.036	0.2137	456.1	2.029	65
70	0.2720	460.0	2.062	0.2509	459.9	2.054	0.2327	459.8	2.047	0.2170	459.7	2.040	70
75	0.2761	463.5	2.072	0.2547	463.4	2.064	0.2363	463.3	2.057	0.2203	463.2	2.050	75
80	0.2802	467.1	2.082	0.2585	467.0	2.074	0.2398	466.9	2.067	0.2236	466.8	2.060	80
85	0.2843	470.7	2.093	0.2623	470.6	2.085	0.2433	470.5	2.077	0.2269	470.4	2.071	85
90	0.2884	474.4	2.103	0.2660	474.3	2.095	0.2469	474.2	2.087	0.2302	474.1	2.081	90
95	0.2925	478.1	2.113	0.2698	478.0	2.105	0.2504	477.9	2.097	0.2335	477.8	2.091	95
100	0.2966	481.7	2.123	0.2736	481.6	2.115	0.2539	481.5	2.107	0.2368	481.5	2.101	100
105	0.3007	485.4	2.132	0.2774	485.3	2.125	0.2574	485.3	2.117	0.2401	485.2	2.111	105
110	0.3048	489.2	2.142	0.2812	489.1	2.134	0.2609	489.0	2.127	0.2434	488.9	2.120	110
115	0.3089	492.9	2.152	0.2849	492.8	2.144	0.2644	492.8	2.137	0.2466	492.7	2.130	115

Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m<sup>3</sup>/kg      H = Enthalpy in kJ/kg      S = Entropy in kJ/kg-K      Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	160			170			180			190			
	(-30.57°C)			(-29.13°C)			(-27.76°C)			(-26.44°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.1386)	(392.4)	(1.803)	(0.1309)	(393.1)	(1.800)	(0.1241)	(393.7)	(1.797)	(0.1179)	(394.3)	(1.795)	
-30	0.1390	392.8	1.804	-	-	-	-	-	-	-	-	-	-30
-25	0.1424	396.0	1.817	0.1336	395.7	1.810	0.1258	395.5	1.804	0.1188	395.2	1.798	-25
-20	0.1458	399.1	1.830	0.1368	398.9	1.823	0.1288	398.7	1.817	0.1217	398.4	1.811	-20
-15	0.1491	402.3	1.842	0.1400	402.1	1.836	0.1318	401.9	1.830	0.1245	401.7	1.824	-15
-10	0.1524	405.5	1.855	0.1431	405.3	1.848	0.1348	405.1	1.842	0.1274	404.9	1.836	-10
-5	0.1557	408.8	1.867	0.1462	408.6	1.860	0.1378	408.4	1.854	0.1302	408.2	1.848	-5
0	0.1589	412.0	1.879	0.1493	411.8	1.872	0.1407	411.6	1.866	0.1330	411.4	1.861	0
5	0.1622	415.3	1.890	0.1523	415.1	1.884	0.1436	414.9	1.878	0.1358	414.7	1.872	5
10	0.1654	418.5	1.902	0.1554	418.4	1.896	0.1465	418.2	1.890	0.1385	418.0	1.884	10
15	0.1686	421.8	1.914	0.1584	421.7	1.907	0.1494	421.5	1.901	0.1413	421.3	1.896	15
20	0.1718	425.1	1.925	0.1615	425.0	1.919	0.1522	424.8	1.913	0.1440	424.7	1.907	20
25	0.1750	428.5	1.936	0.1645	428.3	1.930	0.1551	428.2	1.924	0.1467	428.0	1.919	25
30	0.1782	431.8	1.947	0.1675	431.7	1.941	0.1579	431.6	1.935	0.1494	431.4	1.930	30
35	0.1813	435.2	1.959	0.1705	435.1	1.952	0.1608	434.9	1.947	0.1521	434.8	1.941	35
40	0.1845	438.6	1.970	0.1734	438.5	1.963	0.1636	438.4	1.958	0.1548	438.2	1.952	40
45	0.1877	442.0	1.980	0.1764	441.9	1.974	0.1664	441.8	1.968	0.1575	441.7	1.963	45
50	0.1908	445.5	1.991	0.1794	445.4	1.985	0.1692	445.3	1.979	0.1601	445.1	1.974	50
55	0.1939	449.0	2.002	0.1823	448.9	1.996	0.1720	448.8	1.990	0.1628	448.6	1.985	55
60	0.1970	452.5	2.012	0.1853	452.4	2.006	0.1748	452.3	2.001	0.1654	452.2	1.995	60
65	0.2002	456.0	2.023	0.1882	455.9	2.017	0.1776	455.8	2.011	0.1681	455.7	2.006	65
70	0.2033	459.6	2.033	0.1911	459.5	2.027	0.1804	459.4	2.022	0.1707	459.3	2.016	70
75	0.2064	463.1	2.044	0.1941	463.0	2.038	0.1831	462.9	2.032	0.1733	462.8	2.027	75
80	0.2095	466.7	2.054	0.1970	466.6	2.048	0.1859	466.5	2.042	0.1760	466.4	2.037	80
85	0.2126	470.4	2.064	0.1999	470.3	2.058	0.1887	470.2	2.052	0.1786	470.1	2.047	85
90	0.2157	474.0	2.074	0.2028	473.9	2.068	0.1914	473.8	2.063	0.1812	473.7	2.057	90
95	0.2188	477.7	2.084	0.2058	477.6	2.078	0.1941	477.5	2.073	0.1838	477.4	2.067	95
100	0.2219	481.4	2.094	0.2087	481.3	2.088	0.1969	481.2	2.083	0.1864	481.1	2.077	100
105	0.2249	485.1	2.104	0.2116	485.0	2.098	0.1997	484.9	2.093	0.1891	484.9	2.087	105
110	0.2280	488.8	2.114	0.2145	488.8	2.108	0.2024	488.7	2.102	0.1917	488.6	2.097	110
115	0.2311	492.6	2.124	0.2174	492.5	2.118	0.2052	492.5	2.112	0.1943	492.4	2.107	115
120	0.2342	496.4	2.133	0.2203	496.3	2.128	0.2079	496.3	2.122	0.1969	496.2	2.117	120

Temp °C	Absolute Pressure kPa												Temp °C
	200			210			220			230			
	(-25.18°C)			(-23.96°C)			(-22.79°C)			(-21.66°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.1124)	(394.8)	(1.792)	(0.1073)	(395.4)	(1.790)	(0.1027)	(395.9)	(1.788)	(0.0985)	(396.4)	(1.786)	
-25	0.1125	394.9	1.793	-	-	-	-	-	-	-	-	-	-25
-20	0.1153	398.2	1.806	0.1094	397.9	1.800	0.1042	397.7	1.795	0.0993	397.4	1.790	-20
-15	0.1180	401.4	1.818	0.1121	401.2	1.813	0.1067	401.0	1.808	0.1018	400.7	1.803	-15
-10	0.1207	404.7	1.831	0.1147	404.5	1.825	0.1092	404.3	1.820	0.1042	404.0	1.815	-10
-5	0.1234	408.0	1.843	0.1172	407.8	1.838	0.1117	407.6	1.833	0.1065	407.3	1.828	-5
0	0.1261	411.2	1.855	0.1198	411.0	1.850	0.1141	410.9	1.845	0.1089	410.7	1.840	0
5	0.1287	414.5	1.867	0.1223	414.4	1.862	0.1165	414.2	1.857	0.1112	414.0	1.852	5
10	0.1313	417.8	1.879	0.1249	417.7	1.874	0.1190	417.5	1.869	0.1136	417.3	1.864	10
15	0.1340	421.2	1.891	0.1274	421.0	1.885	0.1214	420.8	1.881	0.1159	420.7	1.876	15
20	0.1366	424.5	1.902	0.1298	424.4	1.897	0.1237	424.2	1.892	0.1182	424.0	1.887	20
25	0.1392	427.9	1.913	0.1323	427.7	1.908	0.1261	427.6	1.904	0.1204	427.4	1.899	25
30	0.1417	431.3	1.925	0.1348	431.1	1.920	0.1285	431.0	1.915	0.1227	430.8	1.910	30
35	0.1443	434.7	1.936	0.1372	434.5	1.931	0.1308	434.4	1.926	0.1250	434.3	1.921	35
40	0.1468	438.1	1.947	0.1397	438.0	1.942	0.1332	437.8	1.937	0.1272	437.7	1.933	40
45	0.1494	441.6	1.958	0.1421	441.4	1.953	0.1355	441.3	1.948	0.1294	441.2	1.944	45
50	0.1519	445.0	1.969	0.1445	444.9	1.964	0.1378	444.8	1.959	0.1317	444.7	1.954	50
55	0.1545	448.5	1.979	0.1470	448.4	1.974	0.1401	448.3	1.970	0.1339	448.2	1.965	55
60	0.1570	452.0	1.990	0.1494	451.9	1.985	0.1424	451.8	1.980	0.1361	451.7	1.976	60
65	0.1595	455.6	2.001	0.1518	455.5	1.996	0.1447	455.4	1.991	0.1383	455.3	1.986	65
70	0.1620	459.1	2.011	0.1542	459.0	2.006	0.1470	458.9	2.001	0.1405	458.8	1.997	70
75	0.1645	462.7	2.021	0.1566	462.6	2.017	0.1493	462.5	2.012	0.1427	462.4	2.007	75
80	0.1670	466.4	2.032	0.1589	466.3	2.027	0.1516	466.2	2.022	0.1449	466.1	2.018	80
85	0.1695	470.0	2.042	0.1613	469.9	2.037	0.1539	469.8	2.032	0.1471	469.7	2.028	85
90	0.1720	473.6	2.052	0.1637	473.6	2.047	0.1561	473.5	2.043	0.1492	473.4	2.038	90
95	0.1745	477.3	2.062	0.1661	477.2	2.057	0.1584	477.2	2.053	0.1514	477.1	2.048	95
100	0.1770	481.0	2.072	0.1685	481.0	2.067	0.1607	480.9	2.063	0.1536	480.8	2.058	100
105	0.1795	484.8	2.082	0.1708	484.7	2.077	0.1630	484.6	2.073	0.1558	484.5	2.068	105
110	0.1820	488.5	2.092	0.1732	488.4	2.087	0.1652	488.4	2.083	0.1579	488.3	2.078	110
115	0.1844	492.3	2.102	0.1755	492.2	2.097	0.1675	492.2	2.092	0.1601	492.1	2.088	115
120	0.1869	496.1	2.111	0.1779	496.0	2.107	0.1697	496.0	2.102	0.1623	495.9	2.098	120
125	0.1894	499.9	2.121	0.1803	499.9	2.116	0.1720	499.8	2.112	0.1644	499.7	2.107	125



Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m<sup>3</sup>/kg      H = Enthalpy in kJ/kg      S = Entropy in kJ/kg·K      Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	240			250			260			270			
	(-20.57°C)			(-19.51°C)			(-18.48°C)			(-17.48°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0946)	(396.8)	(1.784)	(0.0910)	(397.3)	(1.782)	(0.0877)	(397.7)	(1.780)	(0.0846)	(398.1)	(1.778)	
-20	0.0949	397.2	1.785	-	-	-	-	-	-	-	-	-	-20
-15	0.0972	400.5	1.798	0.0931	400.3	1.793	0.0893	400.0	1.789	0.0857	399.8	1.785	-15
-10	0.0996	403.8	1.811	0.0953	403.6	1.806	0.0914	403.4	1.802	0.0878	403.2	1.798	-10
-5	0.1019	407.1	1.823	0.0976	406.9	1.819	0.0936	406.7	1.814	0.0899	406.5	1.810	-5
0	0.1041	410.5	1.836	0.0998	410.3	1.831	0.0957	410.1	1.827	0.0919	409.9	1.823	0
5	0.1064	413.8	1.848	0.1019	413.6	1.843	0.0978	413.4	1.839	0.0940	413.2	1.835	5
10	0.1086	417.2	1.860	0.1041	417.0	1.855	0.0999	416.8	1.851	0.0960	416.6	1.847	10
15	0.1108	420.5	1.871	0.1062	420.3	1.867	0.1019	420.2	1.863	0.0980	420.0	1.859	15
20	0.1130	423.9	1.883	0.1083	423.7	1.879	0.1040	423.6	1.875	0.1000	423.4	1.870	20
25	0.1152	427.3	1.894	0.1105	427.1	1.890	0.1060	427.0	1.886	0.1019	426.8	1.882	25
30	0.1174	430.7	1.906	0.1126	430.6	1.902	0.1081	430.4	1.897	0.1039	430.3	1.893	30
35	0.1196	434.1	1.917	0.1146	434.0	1.913	0.1101	433.9	1.909	0.1059	433.7	1.905	35
40	0.1217	437.6	1.928	0.1167	437.5	1.924	0.1121	437.3	1.920	0.1078	437.2	1.916	40
45	0.1239	441.1	1.939	0.1188	440.9	1.935	0.1141	440.8	1.931	0.1097	440.7	1.927	45
50	0.1260	444.5	1.950	0.1208	444.4	1.946	0.1161	444.3	1.942	0.1116	444.2	1.938	50
55	0.1282	448.1	1.961	0.1229	447.9	1.957	0.1180	447.8	1.953	0.1135	447.7	1.949	55
60	0.1303	451.6	1.972	0.1249	451.5	1.967	0.1200	451.4	1.963	0.1154	451.3	1.959	60
65	0.1324	455.2	1.982	0.1270	455.0	1.978	0.1220	454.9	1.974	0.1173	454.8	1.970	65
70	0.1345	458.7	1.993	0.1290	458.6	1.989	0.1239	458.5	1.985	0.1192	458.4	1.981	70
75	0.1366	462.3	2.003	0.1310	462.2	1.999	0.1259	462.1	1.995	0.1211	462.0	1.991	75
80	0.1387	466.0	2.013	0.1331	465.9	2.009	0.1278	465.8	2.005	0.1230	465.7	2.002	80
85	0.1408	469.6	2.024	0.1351	469.5	2.020	0.1298	469.4	2.016	0.1249	469.3	2.012	85
90	0.1429	473.3	2.034	0.1371	473.2	2.030	0.1317	473.1	2.026	0.1267	473.0	2.022	90
95	0.1450	477.0	2.044	0.1391	476.9	2.040	0.1337	476.8	2.036	0.1286	476.7	2.032	95
100	0.1471	480.7	2.054	0.1411	480.6	2.050	0.1356	480.5	2.046	0.1305	480.5	2.042	100
105	0.1492	484.4	2.064	0.1431	484.4	2.060	0.1375	484.3	2.056	0.1323	484.2	2.052	105
110	0.1513	488.2	2.074	0.1451	488.1	2.070	0.1394	488.1	2.066	0.1342	488.0	2.062	110
115	0.1533	492.0	2.084	0.1471	491.9	2.080	0.1414	491.8	2.076	0.1360	491.8	2.072	115
120	0.1554	495.8	2.093	0.1491	495.7	2.089	0.1433	495.7	2.085	0.1379	495.6	2.082	120
125	0.1575	499.6	2.103	0.1511	499.6	2.099	0.1452	499.5	2.095	0.1397	499.4	2.091	125
130	0.1595	503.5	2.113	0.1531	503.4	2.109	0.1471	503.4	2.105	0.1416	503.3	2.101	130

Temp °C	Absolute Pressure kPa												Temp °C
	280			290			300			310			
	(-16.51°C)			(-15.57°C)			(-14.65°C)			(-13.76°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0818)	(398.5)	(1.777)	(0.0791)	(398.9)	(1.775)	(0.0766)	(399.3)	(1.773)	(0.0742)	(399.7)	(1.772)	
-15	0.0824	399.6	1.781	0.0793	399.3	1.776	-	-	-	-	-	-	-15
-10	0.0844	402.9	1.793	0.0813	402.7	1.789	0.0784	402.5	1.786	0.0757	402.2	1.782	-10
-5	0.0865	406.3	1.806	0.0833	406.1	1.802	0.0803	405.9	1.798	0.0775	405.7	1.795	-5
0	0.0885	409.7	1.819	0.0852	409.5	1.815	0.0822	409.3	1.811	0.0793	409.1	1.807	0
5	0.0904	413.1	1.831	0.0871	412.9	1.827	0.0840	412.7	1.823	0.0812	412.5	1.820	5
10	0.0924	416.4	1.843	0.0890	416.3	1.839	0.0859	416.1	1.835	0.0830	415.9	1.832	10
15	0.0943	419.8	1.855	0.0909	419.7	1.851	0.0877	419.5	1.847	0.0847	419.3	1.844	15
20	0.0962	423.3	1.867	0.0928	423.1	1.863	0.0895	422.9	1.859	0.0865	422.8	1.856	20
25	0.0982	426.7	1.878	0.0946	426.5	1.874	0.0913	426.4	1.871	0.0882	426.2	1.867	25
30	0.1000	430.1	1.890	0.0965	430.0	1.886	0.0931	429.8	1.882	0.0900	429.7	1.879	30
35	0.1019	433.6	1.901	0.0983	433.4	1.897	0.0949	433.3	1.894	0.0917	433.2	1.890	35
40	0.1038	437.1	1.912	0.1001	436.9	1.908	0.0966	436.8	1.905	0.0934	436.7	1.901	40
45	0.1057	440.6	1.923	0.1019	440.4	1.920	0.0984	440.3	1.916	0.0951	440.2	1.913	45
50	0.1075	444.1	1.934	0.1037	443.9	1.931	0.1001	443.8	1.927	0.0968	443.7	1.924	50
55	0.1094	447.6	1.945	0.1055	447.5	1.941	0.1018	447.4	1.938	0.0985	447.2	1.934	55
60	0.1112	451.2	1.956	0.1073	451.0	1.952	0.1036	450.9	1.949	0.1001	450.8	1.945	60
65	0.1130	454.7	1.966	0.1090	454.6	1.963	0.1053	454.5	1.959	0.1018	454.4	1.956	65
70	0.1149	458.3	1.977	0.1108	458.2	1.973	0.1070	458.1	1.970	0.1035	458.0	1.967	70
75	0.1167	461.9	1.987	0.1126	461.8	1.984	0.1087	461.7	1.980	0.1051	461.6	1.977	75
80	0.1185	465.6	1.998	0.1143	465.5	1.994	0.1104	465.4	1.991	0.1068	465.3	1.987	80
85	0.1203	469.2	2.008	0.1161	469.2	2.005	0.1121	469.1	2.001	0.1084	469.0	1.998	85
90	0.1221	472.9	2.018	0.1178	472.8	2.015	0.1138	472.7	2.011	0.1101	472.7	2.008	90
95	0.1239	476.6	2.028	0.1196	476.5	2.025	0.1155	476.5	2.021	0.1117	476.4	2.018	95
100	0.1257	480.4	2.039	0.1213	480.3	2.035	0.1172	480.2	2.032	0.1133	480.1	2.028	100
105	0.1275	484.1	2.049	0.1230	484.0	2.045	0.1189	484.0	2.042	0.1150	483.9	2.038	105
110	0.1293	487.9	2.058	0.1248	487.8	2.055	0.1205	487.7	2.052	0.1166	487.7	2.048	110
115	0.1311	491.7	2.068	0.1265	491.6	2.065	0.1222	491.5	2.061	0.1182	491.5	2.058	115
120	0.1329	495.5	2.078	0.1282	495.4	2.075	0.1239	495.4	2.071	0.1198	495.3	2.068	120
125	0.1347	499.4	2.088	0.1300	499.3	2.084	0.1256	499.2	2.081	0.1214	499.1	2.078	125
130	0.1365	503.2	2.097	0.1317	503.1	2.094	0.1272	503.1	2.091	0.1231	503.0	2.087	130
135	0.1382	507.1	2.107	0.1334	507.0	2.104	0.1289	507.0	2.100	0.1247	506.9	2.097	135

Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m<sup>3</sup>/kg      H = Enthalpy in kJ/kg      S = Entropy in kJ/kg·K      Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	320			330			340			350			
	(-12.88°C)			(-12.03°C)			(-11.20°C)			(-10.38°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0720)	(400.0)	(1.770)	(0.0699)	(400.4)	(1.769)	(0.0680)	(400.7)	(1.768)	(0.0661)	(401.0)	(1.766)	
-10	0.0731	402.0	1.778	0.0707	401.8	1.774	0.0684	401.5	1.771	0.0663	401.3	1.767	-10
-5	0.0749	405.4	1.791	0.0724	405.2	1.787	0.0701	405.0	1.784	0.0679	404.8	1.781	-5
0	0.0767	408.9	1.804	0.0742	408.7	1.800	0.0718	408.5	1.797	0.0696	408.3	1.793	0
5	0.0785	412.3	1.816	0.0759	412.1	1.813	0.0735	411.9	1.809	0.0713	411.7	1.806	5
10	0.0802	415.7	1.828	0.0776	415.6	1.825	0.0752	415.4	1.822	0.0729	415.2	1.818	10
15	0.0819	419.2	1.840	0.0793	419.0	1.837	0.0768	418.8	1.834	0.0745	418.7	1.830	15
20	0.0836	422.6	1.852	0.0810	422.5	1.849	0.0784	422.3	1.846	0.0761	422.1	1.842	20
25	0.0853	426.1	1.864	0.0826	425.9	1.861	0.0800	425.8	1.857	0.0776	425.6	1.854	25
30	0.0870	429.5	1.875	0.0842	429.4	1.872	0.0816	429.2	1.869	0.0792	429.1	1.866	30
35	0.0887	433.0	1.887	0.0859	432.9	1.884	0.0832	432.7	1.880	0.0807	432.6	1.877	35
40	0.0903	436.5	1.898	0.0875	436.4	1.895	0.0848	436.3	1.892	0.0823	436.1	1.889	40
45	0.0920	440.0	1.909	0.0891	439.9	1.906	0.0864	439.8	1.903	0.0838	439.7	1.900	45
50	0.0936	443.6	1.920	0.0907	443.5	1.917	0.0879	443.3	1.914	0.0853	443.2	1.911	50
55	0.0953	447.1	1.931	0.0923	447.0	1.928	0.0895	446.9	1.925	0.0868	446.8	1.922	55
60	0.0969	450.7	1.942	0.0939	450.6	1.939	0.0910	450.5	1.936	0.0883	450.4	1.933	60
65	0.0985	454.3	1.953	0.0954	454.2	1.949	0.0925	454.1	1.946	0.0898	454.0	1.943	65
70	0.1001	457.9	1.963	0.0970	457.8	1.960	0.0941	457.7	1.957	0.0913	457.6	1.954	70
75	0.1017	461.5	1.974	0.0986	461.4	1.971	0.0956	461.3	1.968	0.0928	461.2	1.965	75
80	0.1033	465.2	1.984	0.1001	465.1	1.981	0.0971	465.0	1.978	0.0942	464.9	1.975	80
85	0.1049	468.9	1.995	0.1017	468.8	1.991	0.0986	468.7	1.988	0.0957	468.6	1.985	85
90	0.1065	472.6	2.005	0.1032	472.5	2.002	0.1001	472.4	1.999	0.0972	472.3	1.996	90
95	0.1081	476.3	2.015	0.1048	476.2	2.012	0.1016	476.1	2.009	0.0986	476.0	2.006	95
100	0.1097	480.0	2.025	0.1063	479.9	2.022	0.1031	479.9	2.019	0.1001	479.8	2.016	100
105	0.1113	483.8	2.035	0.1078	483.7	2.032	0.1046	483.6	2.029	0.1015	483.5	2.026	105
110	0.1129	487.6	2.045	0.1094	487.5	2.042	0.1061	487.4	2.039	0.1030	487.3	2.036	110
115	0.1144	491.4	2.055	0.1109	491.3	2.052	0.1076	491.2	2.049	0.1044	491.1	2.046	115
120	0.1160	495.2	2.065	0.1124	495.1	2.062	0.1091	495.1	2.059	0.1059	495.0	2.056	120
125	0.1176	499.1	2.074	0.1140	499.0	2.071	0.1105	498.9	2.068	0.1073	498.8	2.065	125
130	0.1192	502.9	2.084	0.1155	502.9	2.081	0.1120	502.8	2.078	0.1088	502.7	2.075	130
135	0.1207	506.8	2.094	0.1170	506.8	2.091	0.1135	506.7	2.088	0.1102	506.6	2.085	135
140	0.1223	510.7	2.103	0.1185	510.7	2.100	0.1150	510.6	2.097	0.1116	510.5	2.094	140

Temp °C	Absolute Pressure kPa												Temp °C
	360			370			380			390			
	(-9.59°C)			(-8.81°C)			(-8.04°C)			(-7.29°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0644)	(401.4)	(1.765)	(0.0627)	(401.7)	(1.764)	(0.0611)	(402.0)	(1.763)	(0.0596)	(402.3)	(1.762)	
-5	0.0659	404.6	1.777	0.0639	404.3	1.774	0.0621	404.1	1.771	0.0603	403.9	1.768	-5
0	0.0675	408.1	1.790	0.0655	407.8	1.787	0.0637	407.6	1.784	0.0619	407.4	1.781	0
5	0.0691	411.5	1.803	0.0671	411.3	1.800	0.0652	411.1	1.796	0.0634	410.9	1.793	5
10	0.0707	415.0	1.815	0.0687	414.8	1.812	0.0667	414.6	1.809	0.0649	414.4	1.806	10
15	0.0723	418.5	1.827	0.0702	418.3	1.824	0.0682	418.1	1.821	0.0663	418.0	1.818	15
20	0.0738	422.0	1.839	0.0717	421.8	1.836	0.0697	421.6	1.833	0.0678	421.5	1.830	20
25	0.0754	425.5	1.851	0.0732	425.3	1.848	0.0711	425.1	1.845	0.0692	425.0	1.842	25
30	0.0769	429.0	1.863	0.0747	428.8	1.860	0.0726	428.7	1.857	0.0706	428.5	1.854	30
35	0.0784	432.5	1.874	0.0761	432.3	1.871	0.0740	432.2	1.868	0.0720	432.0	1.865	35
40	0.0799	436.0	1.886	0.0776	435.9	1.883	0.0755	435.7	1.880	0.0734	435.6	1.877	40
45	0.0814	439.5	1.897	0.0791	439.4	1.894	0.0769	439.3	1.891	0.0748	439.1	1.888	45
50	0.0828	443.1	1.908	0.0805	443.0	1.905	0.0783	442.8	1.902	0.0762	442.7	1.899	50
55	0.0843	446.7	1.919	0.0819	446.5	1.916	0.0797	446.4	1.913	0.0776	446.3	1.910	55
60	0.0858	450.2	1.930	0.0834	450.1	1.927	0.0811	450.0	1.924	0.0789	449.9	1.921	60
65	0.0872	453.9	1.940	0.0848	453.7	1.938	0.0825	453.6	1.935	0.0803	453.5	1.932	65
70	0.0887	457.5	1.951	0.0862	457.4	1.948	0.0838	457.3	1.945	0.0816	457.2	1.943	70
75	0.0901	461.1	1.962	0.0876	461.0	1.959	0.0852	460.9	1.956	0.0830	460.8	1.953	75
80	0.0915	464.8	1.972	0.0890	464.7	1.969	0.0866	464.6	1.966	0.0843	464.5	1.964	80
85	0.0930	468.5	1.982	0.0904	468.4	1.980	0.0879	468.3	1.977	0.0856	468.2	1.974	85
90	0.0944	472.2	1.993	0.0918	472.1	1.990	0.0893	472.0	1.987	0.0869	471.9	1.984	90
95	0.0958	475.9	2.003	0.0932	475.8	2.000	0.0907	475.8	1.997	0.0883	475.7	1.995	95
100	0.0973	479.7	2.013	0.0946	479.6	2.010	0.0920	479.5	2.008	0.0896	479.4	2.005	100
105	0.0987	483.5	2.023	0.0959	483.4	2.020	0.0933	483.3	2.018	0.0909	483.2	2.015	105
110	0.1001	487.3	2.033	0.0973	487.2	2.030	0.0947	487.1	2.028	0.0922	487.0	2.025	110
115	0.1015	491.1	2.043	0.0987	491.0	2.040	0.0960	490.9	2.037	0.0935	490.8	2.035	115
120	0.1029	494.9	2.053	0.1000	494.8	2.050	0.0974	494.8	2.047	0.0948	494.7	2.045	120
125	0.1043	498.8	2.063	0.1014	498.7	2.060	0.0987	498.6	2.057	0.0961	498.6	2.054	125
130	0.1057	502.7	2.072	0.1028	502.6	2.069	0.1000	502.5	2.067	0.0974	502.4	2.064	130
135	0.1071	506.6	2.082	0.1041	506.5	2.079	0.1013	506.4	2.076	0.0987	506.3	2.074	135
140	0.1085	510.5	2.091	0.1055	510.4	2.089	0.1027	510.3	2.086	0.1000	510.3	2.083	140
145	0.1099	514.4	2.101	0.1069	514.4	2.098	0.1040	514.3	2.095	0.1013	514.2	2.093	145

Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m<sup>3</sup>/kg      H = Enthalpy in kJ/kg      S = Entropy in kJ/kg-K      Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	400			425			450			475			
	(-6.56°C)			(-4.78°C)			(-3.08°C)			(-1.44°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.0582)	(402.6)	(1.760)	(0.0549)	(403.2)	(1.758)	(0.0520)	(403.9)	(1.755)	(0.0493)	(404.5)	(1.753)		
-5	0.0587	403.7	1.765	-	-	-	-	-	-	-	-	-	-5
0	0.0602	407.2	1.778	0.0563	406.7	1.770	0.0528	406.1	1.763	0.0497	405.6	1.757	0
5	0.0616	410.7	1.790	0.0577	410.2	1.783	0.0542	409.7	1.776	0.0510	409.2	1.770	5
10	0.0631	414.3	1.803	0.0591	413.8	1.796	0.0555	413.3	1.789	0.0523	412.8	1.783	10
15	0.0645	417.8	1.815	0.0604	417.3	1.808	0.0568	416.9	1.802	0.0535	416.4	1.795	15
20	0.0660	421.3	1.827	0.0618	420.9	1.821	0.0581	420.5	1.814	0.0548	420.0	1.808	20
25	0.0674	424.8	1.839	0.0631	424.4	1.833	0.0594	424.0	1.826	0.0560	423.6	1.820	25
30	0.0688	428.4	1.851	0.0644	428.0	1.844	0.0606	427.6	1.838	0.0572	427.2	1.832	30
35	0.0701	431.9	1.863	0.0658	431.5	1.856	0.0619	431.2	1.850	0.0584	430.8	1.844	35
40	0.0715	435.4	1.874	0.0671	435.1	1.868	0.0631	434.8	1.861	0.0596	434.4	1.855	40
45	0.0728	439.0	1.885	0.0683	438.7	1.879	0.0643	438.4	1.873	0.0607	438.0	1.867	45
50	0.0742	442.6	1.897	0.0696	442.3	1.890	0.0655	442.0	1.884	0.0619	441.6	1.878	50
55	0.0755	446.2	1.908	0.0709	445.9	1.901	0.0667	445.6	1.895	0.0630	445.3	1.889	55
60	0.0769	449.8	1.919	0.0721	449.5	1.912	0.0679	449.2	1.906	0.0642	448.9	1.900	60
65	0.0782	453.4	1.929	0.0734	453.1	1.923	0.0691	452.9	1.917	0.0653	452.6	1.911	65
70	0.0795	457.1	1.940	0.0746	456.8	1.934	0.0703	456.5	1.928	0.0665	456.3	1.922	70
75	0.0808	460.7	1.951	0.0759	460.5	1.944	0.0715	460.2	1.938	0.0676	460.0	1.933	75
80	0.0821	464.4	1.961	0.0771	464.2	1.955	0.0727	463.9	1.949	0.0687	463.7	1.943	80
85	0.0834	468.1	1.972	0.0783	467.9	1.965	0.0738	467.6	1.959	0.0698	467.4	1.954	85
90	0.0847	471.8	1.982	0.0796	471.6	1.976	0.0750	471.4	1.970	0.0709	471.1	1.964	90
95	0.0860	475.6	1.992	0.0808	475.4	1.986	0.0762	475.1	1.980	0.0720	474.9	1.974	95
100	0.0873	479.3	2.002	0.0820	479.1	1.996	0.0773	478.9	1.990	0.0731	478.7	1.985	100
105	0.0886	483.1	2.012	0.0832	482.9	2.006	0.0785	482.7	2.000	0.0742	482.5	1.995	105
110	0.0898	486.9	2.022	0.0844	486.7	2.016	0.0796	486.5	2.010	0.0753	486.3	2.005	110
115	0.0911	490.8	2.032	0.0856	490.6	2.026	0.0807	490.4	2.020	0.0764	490.2	2.015	115
120	0.0924	494.6	2.042	0.0868	494.4	2.036	0.0819	494.2	2.030	0.0775	494.0	2.025	120
125	0.0937	498.5	2.052	0.0880	498.3	2.046	0.0830	498.1	2.040	0.0785	497.9	2.034	125
130	0.0949	502.4	2.062	0.0892	502.2	2.055	0.0842	502.0	2.050	0.0796	501.8	2.044	130
135	0.0962	506.3	2.071	0.0904	506.1	2.065	0.0853	505.9	2.059	0.0807	505.8	2.054	135
140	0.0975	510.2	2.081	0.0916	510.0	2.075	0.0864	509.9	2.069	0.0818	509.7	2.063	140
145	0.0987	514.2	2.090	0.0928	514.0	2.084	0.0875	513.8	2.078	0.0828	513.7	2.073	145

Temp °C	Absolute Pressure kPa												Temp °C
	500			525			550			575			
	(+0.12°C)			(+1.63°C)			(+3.09°C)			(+4.50°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.0469)	(405.1)	(1.750)	(0.0448)	(405.6)	(1.748)	(0.0428)	(406.2)	(1.746)	(0.0410)	(406.7)	(1.744)		
5	0.0482	408.7	1.764	0.0456	408.1	1.757	0.0432	407.6	1.751	0.0411	407.1	1.746	5
10	0.0494	412.3	1.777	0.0468	411.8	1.771	0.0444	411.3	1.765	0.0422	410.8	1.759	10
15	0.0506	416.0	1.789	0.0479	415.5	1.783	0.0455	415.0	1.778	0.0433	414.6	1.772	15
20	0.0518	419.6	1.802	0.0491	419.2	1.796	0.0466	418.7	1.790	0.0444	418.3	1.785	20
25	0.0530	423.2	1.814	0.0502	422.8	1.808	0.0477	422.4	1.803	0.0454	422.0	1.797	25
30	0.0541	426.8	1.826	0.0513	426.4	1.820	0.0488	426.0	1.815	0.0465	425.6	1.810	30
35	0.0553	430.4	1.838	0.0524	430.1	1.832	0.0498	429.7	1.827	0.0475	429.3	1.822	35
40	0.0564	434.1	1.849	0.0535	433.7	1.844	0.0509	433.4	1.839	0.0485	433.0	1.834	40
45	0.0575	437.7	1.861	0.0546	437.4	1.855	0.0519	437.0	1.850	0.0495	436.7	1.845	45
50	0.0586	441.3	1.872	0.0557	441.0	1.867	0.0530	440.7	1.862	0.0505	440.4	1.857	50
55	0.0597	445.0	1.884	0.0567	444.7	1.878	0.0540	444.4	1.873	0.0515	444.0	1.868	55
60	0.0608	448.6	1.895	0.0578	448.3	1.889	0.0550	448.0	1.884	0.0524	447.7	1.879	60
65	0.0619	452.3	1.906	0.0588	452.0	1.900	0.0560	451.7	1.895	0.0534	451.5	1.890	65
70	0.0630	456.0	1.916	0.0598	455.7	1.911	0.0570	455.5	1.906	0.0543	455.2	1.901	70
75	0.0640	459.7	1.927	0.0609	459.4	1.922	0.0579	459.2	1.917	0.0553	458.9	1.912	75
80	0.0651	463.4	1.938	0.0619	463.2	1.932	0.0589	462.9	1.927	0.0562	462.7	1.923	80
85	0.0662	467.2	1.948	0.0629	466.9	1.943	0.0599	466.7	1.938	0.0572	466.4	1.933	85
90	0.0672	470.9	1.959	0.0639	470.7	1.953	0.0609	470.5	1.949	0.0581	470.2	1.944	90
95	0.0683	474.7	1.969	0.0649	474.5	1.964	0.0618	474.2	1.959	0.0590	474.0	1.954	95
100	0.0693	478.5	1.979	0.0659	478.3	1.974	0.0628	478.0	1.969	0.0600	477.8	1.964	100
105	0.0704	482.3	1.989	0.0669	482.1	1.984	0.0638	481.9	1.979	0.0609	481.7	1.975	105
110	0.0714	486.1	1.999	0.0679	485.9	1.994	0.0647	485.7	1.989	0.0618	485.5	1.985	110
115	0.0724	490.0	2.009	0.0689	489.8	2.004	0.0657	489.6	1.999	0.0627	489.4	1.995	115
120	0.0735	493.8	2.019	0.0699	493.7	2.014	0.0666	493.5	2.009	0.0636	493.3	2.005	120
125	0.0745	497.7	2.029	0.0709	497.6	2.024	0.0675	497.4	2.019	0.0645	497.2	2.015	125
130	0.0755	501.7	2.039	0.0718	501.5	2.034	0.0685	501.3	2.029	0.0654	501.1	2.024	130
135	0.0766	505.6	2.049	0.0728	505.4	2.044	0.0694	505.2	2.039	0.0663	505.1	2.034	135
140	0.0776	509.5	2.058	0.0738	509.4	2.053	0.0704	509.2	2.048	0.0672	509.0	2.044	140
145	0.0786	513.5	2.068	0.0748	513.3	2.063	0.0713	513.2	2.058	0.0681	513.0	2.053	145
150	0.0796	517.5	2.077	0.0757	517.3	2.072	0.0722	517.2	2.068	0.0690	517.0	2.063	150
155	0.0806	521.5	2.087	0.0767	521.4	2.082	0.0731	521.2	2.077	0.0699	521.0	2.072	155

Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m<sup>3</sup>/kg      H = Enthalpy in kJ/kg      S = Entropy in kJ/kg·K      Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	600			625			650			675			
	(5.86°C)			(7.18°C)			(8.46°C)			(9.71°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.0393)	(407.2)	(1.742)	(0.0380)	(407.6)	(1.741)	(0.0363)	(408.0)	(1.739)	(0.0350)	(408.5)	(1.737)		
10	0.0402	410.3	1.754	0.0384	409.8	1.748	0.0366	409.2	1.743	0.0351	408.7	1.738	10
15	0.0413	414.1	1.767	0.0394	413.6	1.762	0.0377	413.1	1.757	0.0361	412.6	1.752	15
20	0.0423	417.8	1.780	0.0404	417.4	1.775	0.0387	416.9	1.770	0.0370	416.4	1.765	20
25	0.0433	421.5	1.792	0.0414	421.1	1.787	0.0396	420.7	1.782	0.0380	420.2	1.778	25
30	0.0443	425.2	1.805	0.0424	424.8	1.800	0.0406	424.4	1.795	0.0389	424.0	1.790	30
35	0.0453	428.9	1.817	0.0433	428.6	1.812	0.0415	428.2	1.807	0.0398	427.8	1.803	35
40	0.0463	432.6	1.829	0.0443	432.3	1.824	0.0424	431.9	1.819	0.0407	431.5	1.815	40
45	0.0473	436.3	1.840	0.0452	436.0	1.836	0.0433	435.6	1.831	0.0416	435.3	1.827	45
50	0.0482	440.0	1.852	0.0461	439.7	1.847	0.0442	439.4	1.843	0.0424	439.0	1.838	50
55	0.0492	443.7	1.863	0.0471	443.4	1.859	0.0451	443.1	1.854	0.0433	442.8	1.850	55
60	0.0501	447.5	1.874	0.0480	447.2	1.870	0.0460	446.8	1.865	0.0441	446.5	1.861	60
65	0.0510	451.2	1.886	0.0489	450.9	1.881	0.0468	450.6	1.877	0.0450	450.3	1.872	65
70	0.0520	454.9	1.897	0.0497	454.6	1.892	0.0477	454.4	1.888	0.0458	454.1	1.883	70
75	0.0529	458.7	1.907	0.0506	458.4	1.903	0.0486	458.1	1.899	0.0466	457.9	1.894	75
80	0.0538	462.4	1.918	0.0515	462.2	1.914	0.0494	461.9	1.909	0.0475	461.7	1.905	80
85	0.0547	466.2	1.929	0.0524	465.9	1.924	0.0503	465.7	1.920	0.0483	465.5	1.916	85
90	0.0556	470.0	1.939	0.0532	469.7	1.935	0.0511	469.5	1.931	0.0491	469.3	1.926	90
95	0.0565	473.8	1.950	0.0541	473.6	1.945	0.0519	473.3	1.941	0.0499	473.1	1.937	95
100	0.0574	477.6	1.960	0.0550	477.4	1.956	0.0527	477.2	1.951	0.0507	477.0	1.947	100
105	0.0582	481.5	1.970	0.0558	481.2	1.966	0.0536	481.0	1.962	0.0515	480.8	1.958	105
110	0.0591	485.3	1.980	0.0567	485.1	1.976	0.0544	484.9	1.972	0.0523	484.7	1.968	110
115	0.0600	489.2	1.990	0.0575	489.0	1.986	0.0552	488.8	1.982	0.0531	488.6	1.978	115
120	0.0609	493.1	2.000	0.0583	492.9	1.996	0.0560	492.7	1.992	0.0539	492.5	1.988	120
125	0.0617	497.0	2.010	0.0592	496.8	2.006	0.0568	496.6	2.002	0.0546	496.4	1.998	125
130	0.0626	500.9	2.020	0.0600	500.7	2.016	0.0576	500.6	2.012	0.0554	500.4	2.008	130
135	0.0635	504.9	2.030	0.0609	504.7	2.026	0.0584	504.5	2.021	0.0562	504.4	2.018	135
140	0.0643	508.9	2.039	0.0617	508.7	2.035	0.0592	508.5	2.031	0.0570	508.3	2.027	140
145	0.0652	512.8	2.049	0.0625	512.7	2.045	0.0600	512.5	2.041	0.0577	512.3	2.037	145
150	0.0661	516.9	2.059	0.0633	516.7	2.054	0.0608	516.5	2.050	0.0585	516.4	2.046	150
155	0.0669	520.9	2.068	0.0642	520.7	2.064	0.0616	520.6	2.060	0.0593	520.4	2.056	155
160	0.0678	524.9	2.077	0.0650	524.8	2.073	0.0624	524.6	2.069	0.0600	524.5	2.065	160

Temp °C	Absolute Pressure kPa												Temp °C
	700			725			750			775			
	(10.92°C)			(12.10°C)			(13.25°C)			(14.37°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.0338)	(408.9)	(1.736)	(0.0326)	(409.2)	(1.734)	(0.0315)	(409.6)	(1.732)	(0.0305)	(410.0)	(1.731)		
15	0.0346	412.1	1.747	0.0332	411.5	1.742	0.0319	411	1.737	0.0306	410.5	1.733	15
20	0.0355	415.9	1.760	0.0341	415.5	1.755	0.0328	415	1.751	0.0315	414.5	1.747	20
25	0.0364	419.8	1.773	0.0350	419.3	1.769	0.0337	418.9	1.764	0.0324	418.4	1.760	25
30	0.0373	423.6	1.786	0.0359	423.2	1.781	0.0345	422.7	1.777	0.0332	422.3	1.773	30
35	0.0382	427.4	1.798	0.0367	427.0	1.794	0.0354	426.6	1.790	0.0341	426.2	1.785	35
40	0.0391	431.2	1.810	0.0376	430.8	1.806	0.0362	430.4	1.802	0.0349	430.0	1.798	40
45	0.0399	434.9	1.822	0.0384	434.6	1.818	0.0370	434.2	1.814	0.0357	433.9	1.810	45
50	0.0408	438.7	1.834	0.0392	438.4	1.830	0.0378	438.0	1.826	0.0365	437.7	1.822	50
55	0.0416	442.5	1.846	0.0401	442.1	1.842	0.0386	441.8	1.838	0.0372	441.5	1.834	55
60	0.0424	446.2	1.857	0.0409	445.9	1.853	0.0394	445.6	1.849	0.0380	445.3	1.845	60
65	0.0433	450.0	1.868	0.0417	449.7	1.864	0.0402	449.4	1.860	0.0387	449.1	1.857	65
70	0.0441	453.8	1.879	0.0424	453.5	1.875	0.0409	453.2	1.872	0.0395	453.0	1.868	70
75	0.0449	457.6	1.890	0.0432	457.3	1.886	0.0417	457.1	1.883	0.0402	456.8	1.879	75
80	0.0457	461.4	1.901	0.0440	461.1	1.897	0.0424	460.9	1.893	0.0410	460.6	1.890	80
85	0.0465	465.2	1.912	0.0448	465.0	1.908	0.0432	464.7	1.904	0.0417	464.5	1.901	85
90	0.0472	469.0	1.923	0.0455	468.8	1.919	0.0439	468.6	1.915	0.0424	468.3	1.911	90
95	0.0480	472.9	1.933	0.0463	472.6	1.929	0.0446	472.4	1.925	0.0431	472.2	1.922	95
100	0.0488	476.7	1.943	0.0470	476.5	1.940	0.0454	476.3	1.936	0.0438	476.1	1.932	100
105	0.0496	480.6	1.954	0.0478	480.4	1.950	0.0461	480.2	1.946	0.0445	480.0	1.943	105
110	0.0503	484.5	1.964	0.0485	484.3	1.960	0.0468	484.1	1.957	0.0452	483.9	1.953	110
115	0.0511	488.4	1.974	0.0493	488.2	1.970	0.0475	488.0	1.967	0.0459	487.8	1.963	115
120	0.0519	492.3	1.984	0.0500	492.1	1.980	0.0483	491.9	1.977	0.0466	491.7	1.973	120
125	0.0526	496.2	1.994	0.0507	496.1	1.990	0.0490	495.9	1.987	0.0473	495.7	1.983	125
130	0.0534	500.2	2.004	0.0515	500.0	2.000	0.0497	499.8	1.997	0.0480	499.7	1.993	130
135	0.0541	504.2	2.014	0.0522	504.0	2.010	0.0504	503.8	2.006	0.0487	503.6	2.003	135
140	0.0549	508.2	2.023	0.0529	508.0	2.020	0.0511	507.8	2.016	0.0494	507.6	2.013	140
145	0.0556	512.2	2.033	0.0536	512.0	2.029	0.0518	511.8	2.026	0.0501	511.7	2.022	145
150	0.0564	516.2	2.043	0.0544	516.0	2.039	0.0525	515.9	2.035	0.0507	515.7	2.032	150
155	0.0571	520.3	2.052	0.0551	520.1	2.049	0.0532	519.9	2.045	0.0514	519.8	2.042	155
160	0.0578	524.3	2.062	0.0558	524.2	2.058	0.0539	524.0	2.054	0.0521	523.9	2.051	160
165	0.0586	528.4	2.071	0.0565	528.2	2.067	0.0546	528.1	2.064	0.0528	527.9	2.060	165

Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m3/kg H = Enthalpy in kJ/kg S = Entropy in kJ/kg-K Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	800			850			900			950			
	(15.46°C)			(17.58°C)			(19.60°C)			(21.55°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0296)	(410.3)	(1.730)	(0.0278)	(410.9)	(1.727)	(0.0263)	(411.5)	(1.724)	(0.0249)	(412.1)	(1.722)	
20	0.0304	414.0	1.742	0.0282	412.9	1.734	0.0264	411.9	1.725	-	-	-	20
25	0.0312	417.9	1.756	0.0291	417.0	1.747	0.0272	416.0	1.739	0.0254	415.0	1.732	25
30	0.0321	421.9	1.769	0.0299	421.0	1.761	0.0279	420.1	1.753	0.0262	419.1	1.745	30
35	0.0329	425.8	1.781	0.0307	424.9	1.774	0.0287	424.1	1.766	0.0269	423.2	1.759	35
40	0.0337	429.6	1.794	0.0314	428.9	1.786	0.0294	428.1	1.779	0.0276	427.3	1.772	40
45	0.0344	433.5	1.806	0.0322	432.8	1.799	0.0301	432.0	1.791	0.0283	431.2	1.784	45
50	0.0352	437.3	1.818	0.0329	436.6	1.811	0.0308	435.9	1.804	0.0290	435.2	1.797	50
55	0.0360	441.2	1.830	0.0336	440.5	1.823	0.0315	439.8	1.816	0.0297	439.2	1.809	55
60	0.0367	445.0	1.841	0.0343	444.4	1.834	0.0322	443.7	1.827	0.0303	443.1	1.821	60
65	0.0374	448.8	1.853	0.0350	448.2	1.846	0.0329	447.6	1.839	0.0310	447.0	1.832	65
70	0.0382	452.7	1.864	0.0357	452.1	1.857	0.0335	451.5	1.850	0.0316	450.9	1.844	70
75	0.0389	456.5	1.875	0.0364	456.0	1.868	0.0342	455.4	1.862	0.0322	454.8	1.855	75
80	0.0396	460.4	1.886	0.0371	459.8	1.879	0.0348	459.3	1.873	0.0329	458.8	1.866	80
85	0.0403	464.2	1.897	0.0377	463.7	1.890	0.0355	463.2	1.884	0.0335	462.7	1.877	85
90	0.0410	468.1	1.908	0.0384	467.6	1.901	0.0361	467.1	1.894	0.0341	466.6	1.888	90
95	0.0417	471.9	1.918	0.0391	471.5	1.912	0.0368	471.0	1.905	0.0347	470.5	1.899	95
100	0.0424	475.8	1.929	0.0397	475.4	1.922	0.0374	474.9	1.916	0.0353	474.5	1.910	100
105	0.0431	479.7	1.939	0.0404	479.3	1.933	0.0380	478.9	1.926	0.0359	478.4	1.920	105
110	0.0437	483.7	1.950	0.0410	483.2	1.943	0.0386	482.8	1.937	0.0365	482.4	1.931	110
115	0.0444	487.6	1.960	0.0417	487.2	1.953	0.0392	486.8	1.947	0.0370	486.4	1.941	115
120	0.0451	491.5	1.970	0.0423	491.1	1.963	0.0398	490.7	1.957	0.0376	490.3	1.951	120
125	0.0458	495.5	1.980	0.0430	495.1	1.973	0.0404	494.7	1.967	0.0382	494.3	1.961	125
130	0.0464	499.5	1.990	0.0436	499.1	1.983	0.0410	498.7	1.977	0.0388	498.4	1.971	130
135	0.0471	503.5	2.000	0.0442	503.1	1.993	0.0416	502.7	1.987	0.0393	502.4	1.981	135
140	0.0478	507.5	2.009	0.0448	507.1	2.003	0.0422	506.8	1.997	0.0399	506.4	1.991	140
145	0.0484	511.5	2.019	0.0455	511.2	2.013	0.0428	510.8	2.007	0.0405	510.5	2.001	145
150	0.0491	515.6	2.029	0.0461	515.2	2.022	0.0434	514.9	2.016	0.0410	514.6	2.010	150
155	0.0497	519.6	2.038	0.0467	519.3	2.032	0.0440	519.0	2.026	0.0416	518.7	2.020	155
160	0.0504	523.7	2.048	0.0473	523.4	2.041	0.0446	523.1	2.035	0.0422	522.8	2.030	160
165	0.0511	527.8	2.057	0.0480	527.5	2.051	0.0452	527.2	2.045	0.0427	526.9	2.039	165
170	0.0517	531.9	2.066	0.0486	531.6	2.060	0.0458	531.3	2.054	0.0433	531.0	2.048	170

Temp °C	Absolute Pressure kPa												Temp °C
	1000			1100			1200			1300			
	(23.42°C)			(26.95°C)			(30.26°C)			(33.37°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0236)	(412.6)	(1.719)	(0.0214)	(413.5)	(1.715)	(0.0196)	(414.3)	(1.711)	(0.0180)	(415.0)	(1.707)	
25	0.0239	414.0	1.724	-	-	-	-	-	-	-	-	-	25
30	0.0246	418.2	1.738	0.0219	416.2	1.724	-	-	-	-	-	-	30
35	0.0253	422.3	1.752	0.0225	420.5	1.738	0.0202	418.6	1.725	0.0182	416.5	1.712	35
40	0.0260	426.4	1.765	0.0232	424.7	1.751	0.0209	422.9	1.739	0.0188	421.1	1.726	40
45	0.0267	430.5	1.778	0.0238	428.9	1.765	0.0215	427.2	1.752	0.0194	425.5	1.740	45
50	0.0273	434.5	1.790	0.0245	433.0	1.777	0.0221	431.4	1.765	0.0200	429.8	1.754	50
55	0.0280	438.5	1.802	0.0251	437.1	1.790	0.0226	435.6	1.778	0.0206	434.1	1.767	55
60	0.0286	442.4	1.814	0.0257	441.1	1.802	0.0232	439.7	1.791	0.0211	438.3	1.780	60
65	0.0292	446.4	1.826	0.0263	445.1	1.814	0.0238	443.8	1.803	0.0216	442.5	1.792	65
70	0.0299	450.3	1.838	0.0268	449.1	1.826	0.0243	447.9	1.815	0.0222	446.6	1.804	70
75	0.0305	454.3	1.849	0.0274	453.1	1.838	0.0248	452.0	1.827	0.0227	450.8	1.816	75
80	0.0311	458.2	1.860	0.0279	457.1	1.849	0.0254	456.0	1.838	0.0232	454.9	1.828	80
85	0.0316	462.2	1.871	0.0285	461.1	1.860	0.0259	460.0	1.850	0.0236	459.0	1.840	85
90	0.0322	466.1	1.882	0.0290	465.1	1.871	0.0264	464.1	1.861	0.0241	463.0	1.851	90
95	0.0328	470.1	1.893	0.0296	469.1	1.882	0.0269	468.1	1.872	0.0246	467.1	1.862	95
100	0.0334	474.0	1.904	0.0301	473.1	1.893	0.0274	472.1	1.883	0.0251	471.2	1.873	100
105	0.0339	478.0	1.914	0.0306	477.1	1.904	0.0279	476.2	1.893	0.0255	475.3	1.884	105
110	0.0345	482.0	1.925	0.0312	481.1	1.914	0.0284	480.2	1.904	0.0260	479.3	1.895	110
115	0.0351	485.9	1.935	0.0317	485.1	1.924	0.0288	484.3	1.915	0.0264	483.4	1.905	115
120	0.0356	489.9	1.945	0.0322	489.1	1.935	0.0293	488.3	1.925	0.0269	487.5	1.916	120
125	0.0362	494.0	1.956	0.0327	493.2	1.945	0.0298	492.4	1.935	0.0273	491.6	1.926	125
130	0.0367	498.0	1.966	0.0332	497.2	1.955	0.0303	496.5	1.945	0.0278	495.7	1.936	130
135	0.0373	502.0	1.976	0.0337	501.3	1.965	0.0307	500.6	1.955	0.0282	499.8	1.946	135
140	0.0378	506.1	1.985	0.0342	505.4	1.975	0.0312	504.7	1.965	0.0286	503.9	1.956	140
145	0.0384	510.1	1.995	0.0347	509.5	1.985	0.0317	508.8	1.975	0.0291	508.1	1.966	145
150	0.0389	514.2	2.005	0.0352	513.6	1.995	0.0321	512.9	1.985	0.0295	512.2	1.976	150
155	0.0394	518.3	2.015	0.0357	517.7	2.004	0.0326	517.0	1.995	0.0299	516.4	1.986	155
160	0.0400	522.5	2.024	0.0362	521.8	2.014	0.0330	521.2	2.004	0.0304	520.5	1.996	160
165	0.0405	526.6	2.034	0.0367	526.0	2.023	0.0335	525.4	2.014	0.0308	524.7	2.005	165
170	0.0410	530.7	2.043	0.0372	530.1	2.033	0.0339	529.5	2.024	0.0312	528.9	2.015	170
175	0.0416	534.9	2.052	0.0377	534.3	2.042	0.0344	533.7	2.033	0.0316	533.1	2.024	175

Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m<sup>3</sup>/kg      H = Enthalpy in kJ/kg      S = Entropy in kJ/kg·K      Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	1400 (36.31°C)			1500 (39.10°C)			1600 (41.75°C)			1700 (44.28°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0167)	(415.6)	(1.703)	(0.0155)	(416.1)	(1.700)	(0.0144)	(416.5)	(1.696)	(0.0135)	(416.9)	(1.693)	
40	0.0171	419.1	1.714	0.0156	417.0	1.702	-	-	-	-	-	-	40
45	0.0177	423.7	1.729	0.0162	421.8	1.718	0.0148	419.8	1.706	0.0136	417.6	1.695	45
50	0.0183	428.2	1.743	0.0167	426.4	1.732	0.0153	424.6	1.721	0.0141	422.6	1.711	50
55	0.0188	432.5	1.756	0.0172	430.9	1.746	0.0159	429.2	1.736	0.0146	427.5	1.726	55
60	0.0193	436.9	1.769	0.0177	435.4	1.759	0.0164	433.8	1.750	0.0151	432.2	1.740	60
65	0.0198	441.1	1.782	0.0182	439.7	1.772	0.0168	438.3	1.763	0.0156	436.8	1.754	65
70	0.0203	445.3	1.795	0.0187	444.0	1.785	0.0173	442.7	1.776	0.0160	441.2	1.767	70
75	0.0208	449.5	1.807	0.0192	448.3	1.797	0.0177	447.0	1.788	0.0165	445.7	1.780	75
80	0.0213	453.7	1.819	0.0196	452.5	1.809	0.0182	451.3	1.801	0.0169	450.0	1.792	80
85	0.0217	457.8	1.830	0.0201	456.7	1.821	0.0186	455.6	1.813	0.0173	454.4	1.804	85
90	0.0222	462.0	1.842	0.0205	460.9	1.833	0.0190	459.8	1.824	0.0177	458.7	1.816	90
95	0.0226	466.1	1.853	0.0209	465.1	1.844	0.0194	464.0	1.836	0.0181	463.0	1.828	95
100	0.0231	470.2	1.864	0.0213	469.2	1.855	0.0198	468.2	1.847	0.0185	467.2	1.839	100
105	0.0235	474.3	1.875	0.0218	473.4	1.866	0.0202	472.4	1.858	0.0189	471.5	1.851	105
110	0.0239	478.4	1.886	0.0222	477.5	1.877	0.0206	476.6	1.869	0.0193	475.7	1.862	110
115	0.0244	482.6	1.896	0.0226	481.7	1.888	0.0210	480.8	1.880	0.0196	479.9	1.873	115
120	0.0248	486.7	1.907	0.0230	485.8	1.899	0.0214	485.0	1.891	0.0200	484.1	1.884	120
125	0.0252	490.8	1.917	0.0234	490.0	1.909	0.0218	489.2	1.902	0.0204	488.3	1.894	125
130	0.0256	494.9	1.928	0.0238	494.1	1.920	0.0222	493.4	1.912	0.0207	492.6	1.905	130
135	0.0260	499.1	1.938	0.0242	498.3	1.930	0.0225	497.5	1.922	0.0211	496.8	1.915	135
140	0.0265	503.2	1.948	0.0246	502.5	1.940	0.0229	501.7	1.933	0.0214	501.0	1.925	140
145	0.0269	507.4	1.958	0.0249	506.7	1.950	0.0233	505.9	1.943	0.0218	505.2	1.936	145
150	0.0273	511.5	1.968	0.0253	510.9	1.960	0.0236	510.2	1.953	0.0221	509.5	1.946	150
155	0.0277	515.7	1.978	0.0257	515.1	1.970	0.0240	514.4	1.963	0.0225	513.7	1.956	155
160	0.0281	519.9	1.987	0.0261	519.3	1.980	0.0243	518.6	1.972	0.0228	518.0	1.965	160
165	0.0285	524.1	1.997	0.0264	523.5	1.989	0.0247	522.9	1.982	0.0231	522.2	1.975	165
170	0.0289	528.3	2.007	0.0268	527.7	1.999	0.0250	527.1	1.992	0.0235	526.5	1.985	170
175	0.0292	532.6	2.016	0.0272	532.0	2.009	0.0254	531.4	2.001	0.0238	530.8	1.995	175
180	0.0296	536.8	2.026	0.0276	536.2	2.018	0.0257	535.6	2.011	0.0241	535.1	2.004	180
185	0.0300	541.1	2.035	0.0279	540.5	2.027	0.0261	539.9	2.020	0.0245	539.4	2.014	185
190	0.0304	545.3	2.044	0.0283	544.8	2.037	0.0264	544.2	2.030	0.0248	543.7	2.023	190

Temp °C	Absolute Pressure kPa												Temp °C
	1800 (46.71°C)			1900 (49.03°C)			2000 (51.27°C)			2100 (53.43°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0127)	(417.1)	(1.690)	(0.0119)	(417.4)	(1.687)	(0.0113)	(417.5)	(1.683)	(0.0106)	(417.6)	(1.680)	
50	0.0130	420.6	1.700	0.0120	418.4	1.690	-	-	-	-	-	-	50
55	0.0135	425.6	1.716	0.0126	423.7	1.706	0.0116	421.6	1.696	0.0108	419.4	1.686	55
60	0.0140	430.5	1.731	0.0130	428.7	1.721	0.0121	426.9	1.712	0.0113	424.9	1.702	60
65	0.0145	435.2	1.745	0.0135	433.6	1.736	0.0126	431.9	1.727	0.0118	430.1	1.718	65
70	0.0149	439.8	1.758	0.0139	438.3	1.750	0.0130	436.8	1.741	0.0122	435.1	1.733	70
75	0.0154	444.3	1.771	0.0143	442.9	1.763	0.0134	441.5	1.755	0.0126	440.0	1.747	75
80	0.0158	448.8	1.784	0.0147	447.5	1.776	0.0138	446.1	1.768	0.0130	444.7	1.760	80
85	0.0162	453.2	1.796	0.0151	451.9	1.788	0.0142	450.7	1.781	0.0134	449.4	1.773	85
90	0.0166	457.5	1.808	0.0155	456.4	1.801	0.0146	455.2	1.793	0.0137	454.0	1.786	90
95	0.0169	461.9	1.820	0.0159	460.8	1.813	0.0149	459.6	1.806	0.0141	458.5	1.798	95
100	0.0173	466.2	1.832	0.0162	465.1	1.825	0.0153	464.1	1.817	0.0144	463.0	1.811	100
105	0.0177	470.5	1.843	0.0166	469.5	1.836	0.0156	468.5	1.829	0.0148	467.4	1.822	105
110	0.0180	474.7	1.854	0.0170	473.8	1.847	0.0160	472.8	1.841	0.0151	471.8	1.834	110
115	0.0184	479.0	1.866	0.0173	478.1	1.859	0.0163	477.2	1.852	0.0154	476.2	1.845	115
120	0.0188	483.3	1.876	0.0176	482.4	1.870	0.0166	481.5	1.863	0.0157	480.6	1.857	120
125	0.0191	487.5	1.887	0.0180	486.7	1.880	0.0170	485.8	1.874	0.0160	484.9	1.868	125
130	0.0194	491.8	1.898	0.0183	490.9	1.891	0.0173	490.1	1.885	0.0163	489.3	1.878	130
135	0.0198	496.0	1.908	0.0186	495.2	1.902	0.0176	494.4	1.895	0.0166	493.6	1.889	135
140	0.0201	500.3	1.919	0.0190	499.5	1.912	0.0179	498.7	1.906	0.0169	498.0	1.900	140
145	0.0205	504.5	1.929	0.0193	503.8	1.922	0.0182	503.0	1.916	0.0172	502.3	1.910	145
150	0.0208	508.8	1.939	0.0196	508.1	1.932	0.0185	507.3	1.926	0.0175	506.6	1.920	150
155	0.0211	513.0	1.949	0.0199	512.3	1.943	0.0188	511.7	1.936	0.0178	511.0	1.931	155
160	0.0214	517.3	1.959	0.0202	516.6	1.953	0.0191	516.0	1.946	0.0181	515.3	1.941	160
165	0.0218	521.6	1.969	0.0205	520.9	1.962	0.0194	520.3	1.956	0.0184	519.6	1.951	165
170	0.0221	525.9	1.978	0.0208	525.2	1.972	0.0197	524.6	1.966	0.0187	524.0	1.960	170
175	0.0224	530.2	1.988	0.0211	529.6	1.982	0.0200	529.0	1.976	0.0190	528.3	1.970	175
180	0.0227	534.5	1.998	0.0214	533.9	1.991	0.0203	533.3	1.986	0.0192	532.7	1.980	180
185	0.0230	538.8	2.007	0.0217	538.2	2.001	0.0206	537.7	1.995	0.0195	537.1	1.989	185
190	0.0233	543.1	2.017	0.0220	542.6	2.010	0.0209	542.0	2.005	0.0198	541.5	1.999	190
195	0.0236	547.5	2.026	0.0223	546.9	2.020	0.0211	546.4	2.014	0.0201	545.8	2.008	195
200	0.0240	551.8	2.035	0.0226	551.3	2.029	0.0214	550.8	2.023	0.0203	550.2	2.018	200

Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m3/kg      H = Enthalpy in kJ/kg      S = Entropy in kJ/kg-K      Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	2200			2300			2400			2500			
	(55.51°C)			(57.53°C)			(59.47°C)			(61.36°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0101)	(417.7)	(1.677)	(0.0096)	(417.6)	(1.674)	(0.0091)	(417.6)	(1.671)	(0.0086)	(417.5)	(1.668)	
60	0.0105	422.8	1.693	0.0098	420.6	1.683	0.0091	418.2	1.673	-	-	-	60
65	0.0110	428.3	1.709	0.0103	426.3	1.700	0.0096	424.3	1.691	0.0090	422.1	1.682	65
70	0.0114	433.5	1.724	0.0107	431.7	1.716	0.0101	429.9	1.708	0.0095	428.0	1.699	70
75	0.0118	438.5	1.739	0.0111	436.9	1.731	0.0105	435.2	1.723	0.0099	433.5	1.715	75
80	0.0122	443.3	1.753	0.0115	441.9	1.745	0.0109	440.3	1.738	0.0102	438.8	1.730	80
85	0.0126	448.1	1.766	0.0119	446.7	1.759	0.0112	445.3	1.752	0.0106	443.9	1.745	85
90	0.0129	452.7	1.779	0.0122	451.5	1.772	0.0116	450.2	1.765	0.0110	448.8	1.758	90
95	0.0133	457.3	1.792	0.0126	456.1	1.785	0.0119	454.9	1.778	0.0113	453.7	1.772	95
100	0.0136	461.9	1.804	0.0129	460.7	1.797	0.0122	459.6	1.791	0.0116	458.4	1.784	100
105	0.0139	466.4	1.816	0.0132	465.3	1.809	0.0125	464.2	1.803	0.0119	463.1	1.797	105
110	0.0143	470.8	1.828	0.0135	469.8	1.821	0.0128	468.8	1.815	0.0122	467.7	1.809	110
115	0.0146	475.3	1.839	0.0138	474.3	1.833	0.0131	473.3	1.827	0.0125	472.3	1.821	115
120	0.0149	479.7	1.850	0.0141	478.8	1.844	0.0134	477.8	1.838	0.0128	476.9	1.833	120
125	0.0152	484.1	1.861	0.0144	483.2	1.855	0.0137	482.3	1.850	0.0131	481.4	1.844	125
130	0.0155	488.5	1.872	0.0147	487.6	1.867	0.0140	486.7	1.861	0.0134	485.9	1.855	130
135	0.0158	492.8	1.883	0.0150	492.0	1.877	0.0143	491.2	1.872	0.0136	490.4	1.866	135
140	0.0161	497.2	1.894	0.0153	496.4	1.888	0.0146	495.6	1.883	0.0139	494.8	1.877	140
145	0.0164	501.5	1.904	0.0156	500.8	1.899	0.0148	500.0	1.893	0.0142	499.3	1.888	145
150	0.0167	505.9	1.915	0.0158	505.2	1.909	0.0151	504.4	1.904	0.0144	503.7	1.898	150
155	0.0169	510.3	1.925	0.0161	509.6	1.919	0.0154	508.9	1.914	0.0147	508.1	1.909	155
160	0.0172	514.6	1.935	0.0164	513.9	1.930	0.0156	513.3	1.924	0.0149	512.6	1.919	160
165	0.0175	519.0	1.945	0.0167	518.3	1.940	0.0159	517.7	1.934	0.0152	517.0	1.929	165
170	0.0178	523.4	1.955	0.0169	522.7	1.950	0.0161	522.1	1.944	0.0154	521.4	1.939	170
175	0.0180	527.7	1.965	0.0172	527.1	1.959	0.0164	526.5	1.954	0.0157	525.9	1.949	175
180	0.0183	532.1	1.974	0.0174	531.5	1.969	0.0166	530.9	1.964	0.0159	530.3	1.959	180
185	0.0186	536.5	1.984	0.0177	535.9	1.979	0.0169	535.3	1.974	0.0162	534.7	1.969	185
190	0.0188	540.9	1.994	0.0179	540.3	1.988	0.0171	539.8	1.983	0.0164	539.2	1.979	190
195	0.0191	545.3	2.003	0.0182	544.7	1.998	0.0174	544.2	1.993	0.0166	543.6	1.988	195
200	0.0194	549.7	2.012	0.0185	549.2	2.007	0.0176	548.6	2.002	0.0169	548.1	1.998	200
205	0.0196	554.1	2.022	0.0187	553.6	2.017	0.0179	553.1	2.012	0.0171	552.6	2.007	205
210	0.0199	558.6	2.031	0.0190	558.1	2.026	0.0181	557.5	2.021	0.0173	557.0	2.016	210

Temp °C	Absolute Pressure kPa												Temp °C
	2600			2700			2800			2900			
	(63.20°C)			(64.98°C)			(66.71°C)			(68.40°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0082)	(417.3)	(1.665)	(0.0079)	(417.1)	(1.662)	(0.0075)	(416.8)	(1.659)	(0.0072)	(416.5)	(1.656)	
65	0.0084	419.7	1.672	0.0079	417.1	1.662	-	-	-	0.0073	-	-	65
70	0.0089	425.9	1.691	0.0083	423.7	1.682	0.0078	421.4	1.673	0.0073	418.8	1.663	70
75	0.0093	431.7	1.707	0.0088	429.8	1.699	0.0083	427.8	1.691	0.0078	425.6	1.683	75
80	0.0097	437.1	1.723	0.0092	435.4	1.715	0.0087	433.7	1.708	0.0082	431.8	1.700	80
85	0.0100	442.4	1.738	0.0095	440.8	1.731	0.0090	439.2	1.724	0.0086	437.6	1.716	85
90	0.0104	447.4	1.752	0.0099	446.0	1.745	0.0094	444.6	1.738	0.0089	443.1	1.732	90
95	0.0107	452.4	1.765	0.0102	451.1	1.759	0.0097	449.7	1.752	0.0092	448.3	1.746	95
100	0.0110	457.2	1.778	0.0105	456.0	1.772	0.0100	454.7	1.766	0.0095	453.5	1.760	100
105	0.0113	462.0	1.791	0.0108	460.8	1.785	0.0103	459.7	1.779	0.0098	458.5	1.773	105
110	0.0116	466.7	1.803	0.0111	465.6	1.797	0.0106	464.5	1.792	0.0101	463.4	1.786	110
115	0.0119	471.3	1.815	0.0114	470.3	1.810	0.0109	469.2	1.804	0.0104	468.2	1.799	115
120	0.0122	475.9	1.827	0.0117	474.9	1.822	0.0111	473.9	1.816	0.0107	472.9	1.811	120
125	0.0125	480.5	1.839	0.0119	479.5	1.833	0.0114	478.6	1.828	0.0109	477.6	1.823	125
130	0.0128	485.0	1.850	0.0122	484.1	1.845	0.0117	483.2	1.839	0.0112	482.3	1.834	130
135	0.0130	489.5	1.861	0.0124	488.7	1.856	0.0119	487.8	1.851	0.0114	486.9	1.846	135
140	0.0133	494.0	1.872	0.0127	493.2	1.867	0.0122	492.4	1.862	0.0117	491.5	1.857	140
145	0.0135	498.5	1.883	0.0130	497.7	1.878	0.0124	496.9	1.873	0.0119	496.1	1.868	145
150	0.0138	503.0	1.893	0.0132	502.2	1.888	0.0127	501.4	1.884	0.0122	500.7	1.879	150
155	0.0140	507.4	1.904	0.0134	506.7	1.899	0.0129	506.0	1.894	0.0124	505.2	1.889	155
160	0.0143	511.9	1.914	0.0137	511.2	1.909	0.0131	510.5	1.905	0.0126	509.8	1.900	160
165	0.0145	516.3	1.924	0.0139	515.7	1.920	0.0134	515.0	1.915	0.0128	514.3	1.910	165
170	0.0148	520.8	1.934	0.0142	520.1	1.930	0.0136	519.5	1.925	0.0131	518.8	1.921	170
175	0.0150	525.2	1.944	0.0144	524.6	1.940	0.0138	524.0	1.935	0.0133	523.3	1.931	175
180	0.0152	529.7	1.954	0.0146	529.1	1.950	0.0140	528.5	1.945	0.0135	527.8	1.941	180
185	0.0155	534.1	1.964	0.0148	533.6	1.960	0.0143	533.0	1.955	0.0137	532.4	1.951	185
190	0.0157	538.6	1.974	0.0151	538.0	1.969	0.0145	537.5	1.965	0.0139	536.9	1.961	190
195	0.0159	543.1	1.983	0.0153	542.5	1.979	0.0147	542.0	1.975	0.0141	541.4	1.970	195
200	0.0162	547.5	1.993	0.0155	547.0	1.988	0.0149	546.5	1.984	0.0144	545.9	1.980	200
205	0.0164	552.0	2.002	0.0157	551.5	1.998	0.0151	551.0	1.994	0.0146	550.4	1.989	205
210	0.0166	556.5	2.012	0.0160	556.0	2.007	0.0153	555.5	2.003	0.0148	555.0	1.999	210
215	0.0168	561.0	2.021	0.0162	560.5	2.017	0.0156	560.0	2.012	0.0150	559.5	2.008	215

Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m<sup>3</sup>/kg    H = Enthalpy in kJ/kg    S = Entropy in kJ/kg·K    Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	3000			3100			3200			3300			
	(70.04°C)			(71.64°C)			(73.21°C)			(74.73°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.0068)	(416.1)	(1.653)	(0.0065)	(415.6)	(1.650)	(0.0063)	(415.2)	(1.646)	(0.0060)	(414.6)	(1.643)		
75	0.0073	423.3	1.674	0.0069	420.9	1.665	0.0065	418.1	1.655	0.0060	415.1	1.644	75
80	0.0077	429.8	1.692	0.0073	427.8	1.684	0.0069	425.5	1.676	0.0065	423.1	1.667	80
85	0.0081	435.8	1.709	0.0077	434.0	1.702	0.0073	432.1	1.695	0.0069	430.1	1.687	85
90	0.0085	441.5	1.725	0.0081	439.9	1.718	0.0077	438.2	1.711	0.0073	436.4	1.705	90
95	0.0088	446.9	1.740	0.0084	445.4	1.733	0.0080	443.9	1.727	0.0076	442.3	1.721	95
100	0.0091	452.1	1.754	0.0087	450.8	1.748	0.0083	449.4	1.742	0.0079	448.0	1.736	100
105	0.0094	457.2	1.767	0.0090	456.0	1.762	0.0086	454.7	1.756	0.0082	453.4	1.750	105
110	0.0097	462.2	1.781	0.0093	461.0	1.775	0.0089	459.9	1.770	0.0085	458.6	1.764	110
115	0.0100	467.1	1.793	0.0095	466.0	1.788	0.0091	464.9	1.783	0.0088	463.8	1.777	115
120	0.0102	471.9	1.806	0.0098	470.9	1.800	0.0094	469.8	1.795	0.0090	468.8	1.790	120
125	0.0105	476.7	1.818	0.0101	475.7	1.813	0.0097	474.7	1.808	0.0093	473.7	1.803	125
130	0.0107	481.4	1.829	0.0103	480.5	1.824	0.0099	479.5	1.820	0.0095	478.6	1.815	130
135	0.0110	486.1	1.841	0.0105	485.2	1.836	0.0101	484.3	1.831	0.0098	483.4	1.827	135
140	0.0112	490.7	1.852	0.0108	489.9	1.847	0.0104	489.0	1.843	0.0100	488.1	1.838	140
145	0.0114	495.3	1.863	0.0110	494.5	1.859	0.0106	493.7	1.854	0.0102	492.9	1.850	145
150	0.0117	499.9	1.874	0.0112	499.1	1.870	0.0108	498.3	1.865	0.0104	497.6	1.861	150
155	0.0119	504.5	1.885	0.0115	503.7	1.880	0.0110	503.0	1.876	0.0106	502.2	1.872	155
160	0.0121	509.0	1.896	0.0117	508.3	1.891	0.0113	507.6	1.887	0.0109	506.9	1.883	160
165	0.0124	513.6	1.906	0.0119	512.9	1.902	0.0115	512.2	1.897	0.0111	511.5	1.893	165
170	0.0126	518.1	1.916	0.0121	517.5	1.912	0.0117	516.8	1.908	0.0113	516.1	1.904	170
175	0.0128	522.7	1.926	0.0123	522.0	1.922	0.0119	521.4	1.918	0.0115	520.7	1.914	175
180	0.0130	527.2	1.937	0.0125	526.6	1.932	0.0121	526.0	1.928	0.0117	525.3	1.924	180
185	0.0132	531.8	1.946	0.0127	531.1	1.942	0.0123	530.5	1.938	0.0119	529.9	1.934	185
190	0.0134	536.3	1.956	0.0129	535.7	1.952	0.0125	535.1	1.948	0.0121	534.5	1.944	190
195	0.0136	540.8	1.966	0.0131	540.2	1.962	0.0127	539.7	1.958	0.0123	539.1	1.954	195
200	0.0138	545.4	1.976	0.0133	544.8	1.972	0.0129	544.2	1.968	0.0124	543.7	1.964	200
205	0.0140	549.9	1.985	0.0135	549.4	1.981	0.0131	548.8	1.977	0.0126	548.3	1.973	205
210	0.0142	554.4	1.995	0.0137	553.9	1.991	0.0133	553.4	1.987	0.0128	552.9	1.983	210
215	0.0144	559.0	2.004	0.0139	558.5	2.000	0.0135	558.0	1.996	0.0130	557.5	1.993	215
220	0.0146	563.6	2.013	0.0141	563.1	2.009	0.0136	562.6	2.006	0.0132	562.1	2.002	220

Temp °C	Absolute Pressure kPa												Temp °C
	3400			3500			3600			3700			
	(76.22°C)			(77.68°C)			(79.11°C)			(80.50°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.0057)	(414.0)	(1.640)	(0.0055)	(413.3)	(1.636)	(0.0053)	(412.5)	(1.632)	(0.0050)	(411.7)	(1.628)		
80	0.0061	420.5	1.658	0.0058	417.7	1.648	0.0054	414.4	1.638	-	-	-	80
85	0.0066	428.0	1.679	0.0062	425.7	1.671	0.0059	423.2	1.662	0.0055	420.5	1.653	85
90	0.0069	434.6	1.697	0.0066	432.7	1.690	0.0063	430.6	1.683	0.0060	428.5	1.675	90
95	0.0073	440.7	1.714	0.0069	439.0	1.708	0.0066	437.3	1.701	0.0063	435.4	1.694	95
100	0.0076	446.5	1.730	0.0073	445.0	1.724	0.0070	443.4	1.718	0.0066	441.8	1.712	100
105	0.0079	452.0	1.745	0.0076	450.7	1.739	0.0072	449.2	1.733	0.0069	447.8	1.727	105
110	0.0082	457.4	1.759	0.0078	456.1	1.753	0.0075	454.8	1.748	0.0072	453.5	1.742	110
115	0.0084	462.6	1.772	0.0081	461.4	1.767	0.0078	460.2	1.762	0.0075	459.0	1.757	115
120	0.0087	467.7	1.785	0.0084	466.6	1.780	0.0080	465.5	1.775	0.0077	464.3	1.770	120
125	0.0089	472.7	1.798	0.0086	471.6	1.793	0.0083	470.6	1.788	0.0080	469.5	1.783	125
130	0.0092	477.6	1.810	0.0088	476.6	1.805	0.0085	475.6	1.801	0.0082	474.6	1.796	130
135	0.0094	482.5	1.822	0.0091	481.5	1.818	0.0087	480.6	1.813	0.0084	479.6	1.809	135
140	0.0096	487.3	1.834	0.0093	486.4	1.829	0.0090	485.5	1.825	0.0087	484.6	1.821	140
145	0.0098	492.0	1.845	0.0095	491.2	1.841	0.0092	490.3	1.837	0.0089	489.5	1.832	145
150	0.0101	496.8	1.856	0.0097	496.0	1.852	0.0094	495.1	1.848	0.0091	494.3	1.844	150
155	0.0103	501.5	1.868	0.0099	500.7	1.863	0.0096	499.9	1.859	0.0093	499.1	1.855	155
160	0.0105	506.1	1.878	0.0101	505.4	1.874	0.0098	504.7	1.870	0.0095	503.9	1.866	160
165	0.0107	510.8	1.889	0.0103	510.1	1.885	0.0100	509.4	1.881	0.0097	508.6	1.877	165
170	0.0109	515.4	1.900	0.0105	514.8	1.896	0.0102	514.1	1.892	0.0099	513.4	1.888	170
175	0.0111	520.1	1.910	0.0107	519.4	1.906	0.0104	518.7	1.902	0.0100	518.1	1.898	175
180	0.0113	524.7	1.920	0.0109	524.1	1.916	0.0106	523.4	1.913	0.0102	522.8	1.909	180
185	0.0115	529.3	1.930	0.0111	528.7	1.927	0.0108	528.1	1.923	0.0104	527.4	1.919	185
190	0.0117	533.9	1.940	0.0113	533.3	1.937	0.0109	532.7	1.933	0.0106	532.1	1.929	190
195	0.0119	538.5	1.950	0.0115	537.9	1.947	0.0111	537.4	1.943	0.0108	536.8	1.939	195
200	0.0120	543.1	1.960	0.0117	542.6	1.956	0.0113	542.0	1.953	0.0110	541.4	1.949	200
205	0.0122	547.7	1.970	0.0118	547.2	1.966	0.0115	546.6	1.963	0.0111	546.1	1.959	205
210	0.0124	552.3	1.979	0.0120	551.8	1.976	0.0117	551.3	1.972	0.0113	550.8	1.969	210
215	0.0126	557.0	1.989	0.0122	556.4	1.985	0.0118	555.9	1.982	0.0115	555.4	1.978	215
220	0.0128	561.6	1.998	0.0124	561.1	1.995	0.0120	560.6	1.991	0.0116	560.1	1.988	220



Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m<sup>3</sup>/kg      H = Enthalpy in kJ/kg      S = Entropy in kJ/kg·K      Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	3800			3900			4000			4100			
	(81.87°C)			(83.20°C)			(84.51°C)			(85.50°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0048)	(410.8)	(1.624)	(0.0046)	(409.8)	(1.620)	(0.0044)	(408.6)	(1.616)	(0.0042)	(407.4)	(1.611)	
85	0.0052	417.5	1.643	0.0048	414.1	1.632	0.0045	410.0	1.620	-	-	-	85
90	0.0056	426.1	1.667	0.0053	423.6	1.659	0.0050	420.9	1.650	0.0047	417.8	1.640	90
95	0.0060	433.5	1.687	0.0057	431.4	1.680	0.0055	429.3	1.673	0.0052	426.9	1.665	95
100	0.0064	440.1	1.705	0.0061	438.3	1.699	0.0058	436.5	1.692	0.0056	434.6	1.686	100
105	0.0067	446.3	1.722	0.0064	444.7	1.716	0.0061	443.1	1.710	0.0059	441.4	1.704	105
110	0.0069	452.1	1.737	0.0067	450.7	1.732	0.0064	449.3	1.726	0.0062	447.8	1.721	110
115	0.0072	457.7	1.752	0.0069	456.4	1.746	0.0067	455.1	1.741	0.0064	453.8	1.736	115
120	0.0075	463.1	1.765	0.0072	462.0	1.761	0.0069	460.7	1.756	0.0067	459.5	1.751	120
125	0.0077	468.4	1.779	0.0074	467.3	1.774	0.0072	466.2	1.769	0.0069	465.0	1.765	125
130	0.0079	473.6	1.792	0.0077	472.6	1.787	0.0074	471.5	1.783	0.0071	470.4	1.778	130
135	0.0081	478.7	1.804	0.0079	477.7	1.800	0.0076	476.7	1.796	0.0074	475.7	1.791	135
140	0.0084	483.7	1.816	0.0081	482.7	1.812	0.0078	481.8	1.808	0.0076	480.9	1.804	140
145	0.0086	488.6	1.828	0.0083	487.7	1.824	0.0080	486.8	1.820	0.0078	485.9	1.816	145
150	0.0088	493.5	1.840	0.0085	492.7	1.836	0.0082	491.8	1.832	0.0080	491.0	1.828	150
155	0.0090	498.3	1.851	0.0087	497.5	1.847	0.0084	496.7	1.843	0.0082	495.9	1.840	155
160	0.0092	503.1	1.862	0.0089	502.4	1.859	0.0086	501.6	1.855	0.0084	500.8	1.851	160
165	0.0094	507.9	1.873	0.0091	507.2	1.870	0.0088	506.5	1.866	0.0085	505.7	1.862	165
170	0.0096	512.7	1.884	0.0093	512.0	1.880	0.0090	511.3	1.877	0.0087	510.5	1.873	170
175	0.0097	517.4	1.895	0.0094	516.7	1.891	0.0092	516.0	1.888	0.0089	515.4	1.884	175
180	0.0099	522.1	1.905	0.0096	521.5	1.902	0.0093	520.8	1.898	0.0091	520.2	1.895	180
185	0.0101	526.8	1.916	0.0098	526.2	1.912	0.0095	525.6	1.909	0.0092	524.9	1.905	185
190	0.0103	531.5	1.926	0.0100	530.9	1.922	0.0097	530.3	1.919	0.0094	529.7	1.915	190
195	0.0105	536.2	1.936	0.0102	535.6	1.932	0.0099	535.0	1.929	0.0096	534.4	1.926	195
200	0.0106	540.9	1.946	0.0103	540.3	1.942	0.0100	539.7	1.939	0.0097	539.2	1.936	200
205	0.0108	545.5	1.956	0.0105	545.0	1.952	0.0102	544.4	1.949	0.0099	543.9	1.946	205
210	0.0110	550.2	1.965	0.0107	549.7	1.962	0.0104	549.1	1.959	0.0101	548.6	1.955	210
215	0.0111	554.9	1.975	0.0108	554.4	1.972	0.0105	553.8	1.968	0.0102	553.3	1.965	215
220	0.0113	559.6	1.984	0.0110	559.0	1.981	0.0107	558.5	1.978	0.0104	558.0	1.975	220

Temp °C	Absolute Pressure kPa												Temp °C
	4200			4300			4400			4500			
	(87.05°C)			(88.29°C)			(89.50°C)			(90.68°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0040)	(406.0)	(1.606)	(0.0038)	(404.5)	(1.601)	(0.0036)	(402.7)	(1.595)	(0.0035)	(400.7)	(1.588)	
90	0.0044	414.4	1.629	0.0041	410.2	1.617	0.0037	404.9	1.601	-	-	-	90
95	0.0049	424.4	1.657	0.0047	421.7	1.648	0.0044	418.7	1.639	0.0041	415.3	1.628	95
100	0.0053	432.5	1.679	0.0051	430.4	1.672	0.0048	428.1	1.664	0.0046	425.7	1.656	100
105	0.0056	439.7	1.698	0.0054	437.9	1.692	0.0052	436.0	1.685	0.0049	434.0	1.679	105
110	0.0059	446.2	1.715	0.0057	444.7	1.709	0.0055	443.0	1.704	0.0053	441.3	1.698	110
115	0.0062	452.4	1.731	0.0060	451.0	1.726	0.0058	449.5	1.720	0.0055	448.0	1.715	115
120	0.0064	458.2	1.746	0.0062	457.0	1.741	0.0060	455.6	1.736	0.0058	454.3	1.731	120
125	0.0067	463.9	1.760	0.0065	462.7	1.756	0.0062	461.5	1.751	0.0060	460.3	1.746	125
130	0.0069	469.4	1.774	0.0067	468.2	1.769	0.0065	467.1	1.765	0.0063	466.0	1.761	130
135	0.0071	474.7	1.787	0.0069	473.7	1.783	0.0067	472.6	1.779	0.0065	471.5	1.774	135
140	0.0073	479.9	1.800	0.0071	478.9	1.796	0.0069	478.0	1.792	0.0067	477.0	1.787	140
145	0.0075	485.0	1.812	0.0073	484.1	1.808	0.0071	483.2	1.804	0.0069	482.3	1.800	145
150	0.0077	490.1	1.824	0.0075	489.2	1.820	0.0073	488.4	1.816	0.0071	487.5	1.813	150
155	0.0079	495.1	1.836	0.0077	494.3	1.832	0.0075	493.4	1.828	0.0073	492.6	1.825	155
160	0.0081	500.1	1.847	0.0079	499.3	1.844	0.0077	498.5	1.840	0.0074	497.7	1.836	160
165	0.0083	505.0	1.859	0.0081	504.2	1.855	0.0078	503.5	1.851	0.0076	502.7	1.848	165
170	0.0085	509.8	1.870	0.0082	509.1	1.866	0.0080	508.4	1.863	0.0078	507.7	1.859	170
175	0.0086	514.7	1.881	0.0084	514.0	1.877	0.0082	513.3	1.874	0.0080	512.6	1.870	175
180	0.0088	519.5	1.891	0.0086	518.8	1.888	0.0083	518.2	1.884	0.0081	517.5	1.881	180
185	0.0090	524.3	1.902	0.0087	523.6	1.898	0.0085	523.0	1.895	0.0083	522.3	1.892	185
190	0.0092	529.1	1.912	0.0089	528.4	1.909	0.0087	527.8	1.906	0.0084	527.2	1.902	190
195	0.0093	533.8	1.922	0.0091	533.2	1.919	0.0088	532.6	1.916	0.0086	532.0	1.913	195
200	0.0095	538.6	1.932	0.0092	538.0	1.929	0.0090	537.4	1.926	0.0088	536.8	1.923	200
205	0.0096	543.3	1.942	0.0094	542.8	1.939	0.0091	542.2	1.936	0.0089	541.6	1.933	205
210	0.0098	548.1	1.952	0.0095	547.5	1.949	0.0093	547.0	1.946	0.0091	546.4	1.943	210
215	0.0100	552.8	1.962	0.0097	552.3	1.959	0.0095	551.7	1.956	0.0092	551.2	1.953	215
220	0.0101	557.5	1.972	0.0099	557.0	1.969	0.0096	556.5	1.966	0.0094	556.0	1.963	220

Table 2 (continued) Freon™ 22 Superheated Vapor — Constant Pressure Tables

V = Volume in m<sup>3</sup>/kg      H = Enthalpy in kJ/kg      S = Entropy in kJ/kg·K      Saturation Properties in ( )

Temp °C	Absolute Pressure kPa												Temp °C
	4600			4700			4800			4900			
	(91.84°C)			(92.98°C)			(94.1°C)			(95.19°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0033)	(398.3)	(1.581)	(0.0031)	(395.4)	(1.572)	(0.0028)	(391.6)	(1.561)	(0.0026)	(386.1)	(1.545)	
95	0.0038	411.3	1.616	0.0035	406.4	1.602	0.0032	399.4	1.582	-	-	-	95
100	0.0043	423.0	1.648	0.0041	420.1	1.639	0.0039	416.9	1.629	0.0036	413.2	1.619	100
105	0.0047	431.9	1.672	0.0045	429.7	1.665	0.0043	427.4	1.657	0.0041	424.8	1.650	105
110	0.0051	439.6	1.692	0.0049	437.7	1.686	0.0047	435.8	1.679	0.0045	433.8	1.673	110
115	0.0053	446.5	1.710	0.0051	444.9	1.704	0.0050	443.2	1.699	0.0048	441.5	1.693	115
120	0.0056	452.9	1.726	0.0054	451.5	1.721	0.0052	450.0	1.716	0.0050	448.5	1.711	120
125	0.0058	459.0	1.742	0.0056	457.7	1.737	0.0055	456.4	1.732	0.0053	455.1	1.728	125
130	0.0061	464.8	1.756	0.0059	463.7	1.752	0.0057	462.5	1.747	0.0055	461.2	1.743	130
135	0.0063	470.5	1.770	0.0061	469.4	1.766	0.0059	468.3	1.762	0.0057	467.1	1.758	135
140	0.0065	476.0	1.783	0.0063	474.9	1.779	0.0061	473.9	1.775	0.0059	472.9	1.771	140
145	0.0067	481.3	1.796	0.0065	480.4	1.793	0.0063	479.4	1.789	0.0061	478.4	1.785	145
150	0.0069	486.6	1.809	0.0067	485.7	1.805	0.0065	484.8	1.801	0.0063	483.9	1.798	150
155	0.0071	491.8	1.821	0.0069	490.9	1.817	0.0067	490.0	1.814	0.0065	489.2	1.810	155
160	0.0072	496.9	1.833	0.0070	496.1	1.829	0.0069	495.2	1.826	0.0067	494.4	1.822	160
165	0.0074	501.9	1.844	0.0072	501.1	1.841	0.0070	500.4	1.838	0.0068	499.6	1.834	165
170	0.0076	506.9	1.856	0.0074	506.2	1.852	0.0072	505.4	1.849	0.0070	504.7	1.846	170
175	0.0077	511.9	1.867	0.0075	511.2	1.864	0.0074	510.5	1.860	0.0072	509.7	1.857	175
180	0.0079	516.8	1.878	0.0077	516.1	1.875	0.0075	515.4	1.871	0.0073	514.8	1.868	180
185	0.0081	521.7	1.889	0.0079	521.0	1.885	0.0077	520.4	1.882	0.0075	519.7	1.879	185
190	0.0082	526.6	1.899	0.0080	525.9	1.896	0.0078	525.3	1.893	0.0076	524.7	1.890	190
195	0.0084	531.4	1.910	0.0082	530.8	1.907	0.0080	530.2	1.904	0.0078	529.6	1.901	195
200	0.0085	536.3	1.920	0.0083	535.7	1.917	0.0081	535.1	1.914	0.0079	534.5	1.911	200
205	0.0087	541.1	1.930	0.0085	540.5	1.927	0.0083	539.9	1.924	0.0081	539.4	1.921	205
210	0.0088	545.9	1.940	0.0086	545.3	1.937	0.0084	544.8	1.934	0.0082	544.2	1.931	210
215	0.0090	550.7	1.950	0.0088	550.1	1.947	0.0086	549.6	1.944	0.0084	549.1	1.941	215
220	0.0091	555.5	1.960	0.0089	555.0	1.957	0.0087	554.4	1.954	0.0085	553.9	1.951	220

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Replaces: K-05736  
C-10994 (9/16)