



R-22 Technical Guidelines



Physical Properties of Refrigerants	R-22
Environmental Classification	HCFC
Molecular Weight	86.5
Boiling Point (1 atm, °F)	-41.5
Critical Pressure (psia)	723.7
Critical Temperature (°F)	205.1
Critical Density, (lb./ft ³)	32.7
Liquid Density (70 °F, lb./ft ³)	75.3
Vapor Density (bp, lb./ft ³)	0.294
Heat of Vaporization (bp, BTU/lb.)	100.5
Specific Heat Liquid (70 °F, BTU/lb. °F)	0.2967
Specific Heat Vapor (1 atm, 70 °F, BTU/lb. °F)	0.1573
Ozone Depletion Potential (CFC 11 = 1.0)	0.05
Global Warming Potential (CO ₂ = 1.0)	1810
ASHRAE Standard 34 Safety Rating	A1

Available in the following size
R-22
30 lb. Cylinder only

R-22

Applications: Medium and low temperature commercial and industrial refrigeration and air conditioning

Lubricant

Recommendation: Compatible with mineral, alkylbenzene and polyolester lubricant

Pressure-Temp Chart

Temp (°F)	R-22 psig
-40	0.5
-35	2.6
-30	4.9
-25	7.4
-20	10.1
-15	13.2
-10	16.5
-5	20.1
0	24.0
5	28.2
10	32.8
15	37.7
20	43.0
25	48.8
30	54.9
35	61.5
40	68.5
45	76.0
50	84.0
55	92.6
60	102
65	111
70	121
75	132
80	144
85	156
90	168
95	182
100	196
105	211
110	226
115	243
120	260
125	278
130	297
135	317
140	337
145	359
150	382



THERMODYNAMIC PROPERTIES OF R-22

Temp [°F]	Pressure Liquid [psia]	Density Liquid [lb/ft ³]	Density Vapor [lb/ft ³]	Enthalpy Liquid [Btu/lb]	Enthalpy Vapor [Btu/lb]	Entropy Liquid [Btu/R-lb]	Entropy Vapor [Btu/R-lb]
-60	8.8	89.82	0.1827	-5.189	98.09	-0.01264	0.2458
-55	10.2	89.33	0.2087	-3.897	98.66	-0.00943	0.2440
-50	11.7	88.83	0.2374	-2.602	99.22	-0.00626	0.2423
-45	13.4	88.33	0.2692	-1.303	99.79	-0.00311	0.2407
-40	15.3	87.82	0.3042	0.000	100.3	0.00000	0.2391
-35	17.3	87.32	0.3427	1.308	100.9	0.00309	0.2376
-30	19.6	86.80	0.3849	2.620	101.4	0.00615	0.2361
-25	22.1	86.29	0.4310	3.937	102.0	0.00918	0.2348
-20	24.9	85.76	0.4813	5.260	102.5	0.01220	0.2334
-15	27.9	85.24	0.5360	6.588	103.0	0.01519	0.2321
-10	31.2	84.71	0.5955	7.923	103.6	0.01815	0.2309
-5	34.8	84.17	0.6600	9.263	104.1	0.02110	0.2296
0	38.7	83.63	0.7299	10.61	104.6	0.02403	0.2285
5	43.0	83.08	0.8054	11.96	105.1	0.02694	0.2273
10	47.5	82.52	0.8868	13.33	105.6	0.02983	0.2263
15	52.5	81.96	0.9746	14.69	106.1	0.03270	0.2252
20	57.8	81.39	1.069	16.07	106.5	0.03556	0.2242
25	63.5	80.82	1.171	17.46	107.0	0.03841	0.2231
30	69.7	80.24	1.280	18.85	107.4	0.04124	0.2222
35	76.2	79.65	1.396	20.25	107.9	0.04406	0.2212
40	83.3	79.05	1.522	21.66	108.3	0.04686	0.2203
45	90.8	78.44	1.656	23.08	108.7	0.04966	0.2194
50	98.8	77.83	1.799	24.51	109.1	0.05244	0.2185
55	107.3	77.20	1.952	25.96	109.5	0.05522	0.2176
60	116.3	76.57	2.116	27.41	109.9	0.05798	0.2167
65	125.9	75.92	2.291	28.87	110.3	0.06074	0.2159
70	136.1	75.27	2.478	30.35	110.6	0.06350	0.2150
75	146.9	74.60	2.678	31.84	110.9	0.06625	0.2142
80	158.3	73.92	2.891	33.34	111.2	0.06899	0.2133
85	170.4	73.23	3.118	34.86	111.5	0.07173	0.2125
90	183.1	72.52	3.361	36.39	111.8	0.07447	0.2117
95	196.5	71.80	3.620	37.94	112.0	0.07721	0.2108
100	210.6	71.06	3.897	39.50	112.3	0.07996	0.2100
105	225.5	70.30	4.193	41.08	112.5	0.08270	0.2091
110	241.1	69.52	4.510	42.69	112.7	0.08545	0.2083
115	257.5	68.72	4.849	44.31	112.8	0.08821	0.2074
120	274.7	67.90	5.213	45.95	112.9	0.09098	0.2065
125	292.7	67.05	5.604	47.62	113.0	0.09376	0.2056
130	311.6	66.18	6.024	49.32	113.0	0.09656	0.2046
135	331.4	65.27	6.477	51.04	113.0	0.09937	0.2036
140	352.1	64.32	6.966	52.80	113.0	0.1022	0.2026
145	373.7	63.34	7.497	54.59	112.9	0.1051	0.2015
150	396.4	62.31	8.075	56.42	112.8	0.1080	0.2004
155	420.0	61.22	8.706	58.31	112.5	0.1110	0.1992
160	444.7	60.07	9.400	60.24	112.2	0.1140	0.1979