



A Member of The Linde Group

CARE 45 / R1270

Temperature (°C)	Pressure (bar)	Liquid Density (kg/m ³)	Vapor Density (kg/m ³)	Liquid Enthalpy (kJ/kg)	Vapor Enthalpy (kJ/kg)	Liquid Entropy (kJ/kg-K)	Vapor Entropy (kJ/kg-K)
-100	0.040388	670.83	0.11842	-19.587	471.73	0.010022	2.8475
-99	0.043869	669.69	0.12792	-17.559	472.82	0.021697	2.8375
-98	0.047598	668.55	0.13803	-15.529	473.91	0.033318	2.8277
-97	0.05159	667.41	0.14879	-13.496	475	0.044887	2.8181
-96	0.055858	666.26	0.16023	-11.461	476.1	0.056404	2.8086
-95	0.060417	665.12	0.17238	-9.4235	477.19	0.067869	2.7994
-94	0.065282	663.97	0.18527	-7.3836	478.29	0.079283	2.7903
-93	0.07047	662.83	0.19894	-5.3414	479.39	0.090647	2.7813
-92	0.075996	661.68	0.21342	-3.2967	480.49	0.10196	2.7726
-91	0.081878	660.53	0.22874	-1.2496	481.58	0.11323	2.764
-90	0.088133	659.38	0.24495	0.79999	482.68	0.12444	2.7555
-89	0.094779	658.23	0.26207	2.852	483.79	0.13561	2.7472
-88	0.10183	657.08	0.28016	4.9065	484.89	0.14673	2.7391
-87	0.10932	655.92	0.29924	6.9635	485.99	0.1578	2.7311
-86	0.11725	654.77	0.31935	9.023	487.09	0.16883	2.7233
-85	0.12565	653.61	0.34054	11.085	488.2	0.17981	2.7156
-84	0.13454	652.45	0.36285	13.15	489.3	0.19075	2.7081
-83	0.14393	651.29	0.38632	15.217	490.41	0.20164	2.7007
-82	0.15386	650.13	0.41099	17.287	491.51	0.21249	2.6934
-81	0.16435	648.97	0.4369	19.359	492.62	0.2233	2.6863
-80	0.17541	647.81	0.46411	21.434	493.72	0.23406	2.6793
-79	0.18707	646.64	0.49265	23.512	494.83	0.24478	2.6724
-78	0.19935	645.47	0.52258	25.593	495.94	0.25546	2.6656
-77	0.21229	644.31	0.55393	27.676	497.04	0.2661	2.659
-76	0.22589	643.14	0.58677	29.762	498.15	0.27669	2.6525
-75	0.2402	641.96	0.62113	31.851	499.26	0.28725	2.6461
-74	0.25523	640.79	0.65707	33.943	500.36	0.29777	2.6398
-73	0.27102	639.61	0.69463	36.038	501.47	0.30825	2.6337
-72	0.28758	638.43	0.73388	38.135	502.58	0.31869	2.6276
-71	0.30496	637.25	0.77485	40.236	503.69	0.3291	2.6217
-70	0.32316	636.07	0.81761	42.339	504.79	0.33946	2.6159
-69	0.34224	634.89	0.8622	44.446	505.9	0.34979	2.6102
-68	0.36221	633.7	0.90869	46.556	507.01	0.36009	2.6045
-67	0.3831	632.51	0.95713	48.669	508.11	0.37034	2.599
-66	0.40494	631.32	1.0076	50.785	509.22	0.38057	2.5936
-65	0.42777	630.13	1.0601	52.904	510.32	0.39076	2.5883
-64	0.45162	628.93	1.1147	55.027	511.43	0.40091	2.5831
-63	0.47652	627.73	1.1715	57.153	512.53	0.41103	2.5779
-62	0.5025	626.53	1.2305	59.282	513.63	0.42112	2.5729
-61	0.52959	625.33	1.2918	61.414	514.73	0.43117	2.568
-60	0.55783	624.13	1.3555	63.55	515.84	0.4412	2.5631
-59	0.58725	622.92	1.4216	65.69	516.94	0.45119	2.5583
-58	0.61789	621.71	1.4902	67.833	518.04	0.46115	2.5537
-57	0.64978	620.49	1.5614	69.979	519.13	0.47108	2.5491
-56	0.68296	619.28	1.6351	72.13	520.23	0.48098	2.5445
-55	0.71745	618.06	1.7115	74.283	521.33	0.49085	2.5401
-54	0.75331	616.84	1.7907	76.441	522.42	0.50069	2.5357
-53	0.79056	615.61	1.8726	78.602	523.52	0.51051	2.5315
-52	0.82924	614.38	1.9575	80.767	524.61	0.52029	2.5273
-51	0.8694	613.15	2.0452	82.936	525.7	0.53005	2.5231



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-50	0.91106	611.92	2.136	85.109	526.79	0.53977	2.5191
-49	0.95426	610.68	2.2299	87.286	527.88	0.54948	2.5151
-48	0.99905	609.44	2.3269	89.467	528.96	0.55915	2.5112
-47	1.0455	608.2	2.4272	91.652	530.05	0.5688	2.5073
-46	1.0935	606.95	2.5307	93.841	531.13	0.57842	2.5035
-45	1.1433	605.7	2.6376	96.034	532.21	0.58802	2.4998
-44	1.1949	604.44	2.748	98.232	533.29	0.5976	2.4962
-43	1.2482	603.19	2.8619	100.43	534.37	0.60714	2.4926
-42	1.3033	601.92	2.9793	102.64	535.45	0.61667	2.4891
-41	1.3603	600.66	3.1005	104.85	536.52	0.62617	2.4856
-40	1.4192	599.39	3.2254	107.06	537.59	0.63565	2.4822
-39	1.4801	598.12	3.3541	109.28	538.66	0.6451	2.4789
-38	1.5429	596.84	3.4868	111.51	539.73	0.65454	2.4756
-37	1.6078	595.56	3.6234	113.74	540.79	0.66395	2.4724
-36	1.6748	594.28	3.7642	115.97	541.85	0.67334	2.4692
-35	1.7439	592.99	3.909	118.21	542.91	0.6827	2.4661
-34	1.8152	591.69	4.0582	120.45	543.97	0.69205	2.463
-33	1.8886	590.4	4.2116	122.7	545.03	0.70138	2.46
-32	1.9644	589.1	4.3695	124.95	546.08	0.71068	2.457
-31	2.0424	587.79	4.5319	127.21	547.13	0.71997	2.4541
-30	2.1228	586.48	4.6988	129.47	548.17	0.72924	2.4512
-29	2.2056	585.16	4.8705	131.74	549.22	0.73849	2.4484
-28	2.2908	583.84	5.0469	134.01	550.26	0.74772	2.4456
-27	2.3785	582.52	5.2282	136.29	551.29	0.75693	2.4429
-26	2.4687	581.19	5.4145	138.57	552.33	0.76612	2.4402
-25	2.5615	579.86	5.6059	140.86	553.36	0.7753	2.4376
-24	2.6569	578.52	5.8024	143.15	554.38	0.78445	2.435
-23	2.755	577.17	6.0041	145.45	555.41	0.7936	2.4324
-22	2.8558	575.83	6.2113	147.76	556.43	0.80272	2.4299
-21	2.9593	574.47	6.4239	150.07	557.45	0.81183	2.4275
-20	3.0657	573.11	6.642	152.38	558.46	0.82092	2.425
-19	3.1749	571.75	6.8659	154.71	559.47	0.83	2.4226
-18	3.2871	570.38	7.0955	157.03	560.48	0.83906	2.4203
-17	3.4022	569	7.331	159.37	561.48	0.84811	2.4179
-16	3.5203	567.62	7.5726	161.71	562.48	0.85715	2.4157
-15	3.6414	566.23	7.8202	164.05	563.47	0.86617	2.4134
-14	3.7657	564.84	8.0741	166.4	564.46	0.87517	2.4112
-13	3.8931	563.44	8.3344	168.76	565.44	0.88416	2.409
-12	4.0237	562.03	8.6011	171.12	566.43	0.89314	2.4068
-11	4.1575	560.62	8.8744	173.49	567.4	0.90211	2.4047
-10	4.2947	559.2	9.1545	175.87	568.37	0.91106	2.4026
-9	4.4352	557.78	9.4414	178.25	569.34	0.92001	2.4006
-8	4.5791	556.34	9.7353	180.64	570.3	0.92894	2.3985
-7	4.7264	554.91	10.036	183.04	571.26	0.93786	2.3965
-6	4.8773	553.46	10.345	185.44	572.22	0.94676	2.3945
-5	5.0317	552.01	10.66	187.85	573.16	0.95566	2.3926
-4	5.1897	550.55	10.983	190.27	574.11	0.96455	2.3907
-3	5.3513	549.08	11.314	192.69	575.04	0.97343	2.3888
-2	5.5167	547.61	11.653	195.12	575.98	0.98229	2.3869
-1	5.6858	546.13	12	197.56	576.9	0.99115	2.385



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0	5.8588	544.64	12.354	200	577.82	1	2.3832
1	6.0356	543.14	12.718	202.45	578.74	1.0088	2.3814
2	6.2163	541.64	13.089	204.91	579.65	1.0177	2.3796
3	6.4009	540.13	13.469	207.38	580.55	1.0265	2.3778
4	6.5896	538.61	13.858	209.85	581.45	1.0353	2.3761
5	6.7824	537.08	14.256	212.33	582.34	1.0441	2.3744
6	6.9793	535.54	14.664	214.82	583.22	1.0529	2.3726
7	7.1803	534	15.08	217.32	584.1	1.0617	2.3709
8	7.3856	532.44	15.506	219.83	584.97	1.0705	2.3693
9	7.5952	530.88	15.942	222.34	585.84	1.0793	2.3676
10	7.8091	529.3	16.388	224.86	586.69	1.0881	2.366
11	8.0274	527.72	16.844	227.39	587.54	1.0968	2.3643
12	8.2502	526.13	17.31	229.93	588.39	1.1056	2.3627
13	8.4775	524.53	17.787	232.48	589.22	1.1144	2.3611
14	8.7093	522.92	18.274	235.03	590.05	1.1231	2.3595
15	8.9457	521.3	18.773	237.6	590.87	1.1319	2.3579
16	9.1868	519.66	19.283	240.17	591.68	1.1407	2.3563
17	9.4326	518.02	19.804	242.75	592.48	1.1494	2.3548
18	9.6832	516.37	20.337	245.34	593.28	1.1582	2.3532
19	9.9386	514.7	20.883	247.94	594.06	1.1669	2.3516
20	10.199	513.03	21.44	250.55	594.84	1.1756	2.3501
21	10.464	511.34	22.011	253.17	595.61	1.1844	2.3486
22	10.735	509.64	22.594	255.8	596.37	1.1931	2.347
23	11.01	507.93	23.19	258.44	597.12	1.2019	2.3455
24	11.29	506.2	23.8	261.09	597.86	1.2106	2.344
25	11.576	504.47	24.424	263.75	598.59	1.2194	2.3424
26	11.867	502.72	25.062	266.42	599.31	1.2281	2.3409
27	12.163	500.95	25.714	269.1	600.02	1.2369	2.3394
28	12.465	499.18	26.381	271.79	600.72	1.2456	2.3378
29	12.771	497.39	27.064	274.5	601.41	1.2544	2.3363
30	13.084	495.58	27.762	277.21	602.08	1.2631	2.3348
31	13.402	493.76	28.477	279.93	602.75	1.2719	2.3333
32	13.725	491.93	29.208	282.67	603.4	1.2807	2.3317
33	14.055	490.08	29.956	285.42	604.04	1.2894	2.3302
34	14.39	488.21	30.721	288.18	604.67	1.2982	2.3286
35	14.73	486.33	31.504	290.95	605.28	1.307	2.3271
36	15.077	484.43	32.306	293.74	605.88	1.3158	2.3255
37	15.429	482.52	33.127	296.53	606.47	1.3246	2.3239
38	15.788	480.59	33.967	299.35	607.05	1.3334	2.3223
39	16.152	478.63	34.827	302.17	607.61	1.3422	2.3207
40	16.523	476.66	35.708	305.01	608.15	1.351	2.3191
41	16.9	474.68	36.61	307.86	608.68	1.3599	2.3174
42	17.282	472.67	37.534	310.72	609.19	1.3687	2.3158
43	17.672	470.64	38.481	313.61	609.69	1.3776	2.3141
44	18.067	468.58	39.451	316.5	610.17	1.3865	2.3124
45	18.47	466.51	40.445	319.41	610.63	1.3954	2.3107
46	18.878	464.42	41.465	322.34	611.07	1.4043	2.309
47	19.293	462.3	42.51	325.28	611.5	1.4132	2.3072
48	19.715	460.15	43.582	328.24	611.9	1.4221	2.3054
49	20.144	457.99	44.682	331.22	612.29	1.4311	2.3036



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50	20.579	455.79	45.81	334.21	612.65	1.4401	2.3017
51	21.022	453.57	46.969	337.22	612.99	1.4491	2.2998
52	21.471	451.32	48.158	340.25	613.31	1.4581	2.2979
53	21.927	449.04	49.379	343.31	613.61	1.4672	2.296
54	22.39	446.73	50.634	346.38	613.88	1.4763	2.294
55	22.861	444.39	51.924	349.47	614.13	1.4854	2.2919
56	23.339	442.01	53.251	352.58	614.35	1.4945	2.2898
57	23.824	439.6	54.615	355.71	614.54	1.5037	2.2877
58	24.317	437.16	56.018	358.87	614.71	1.5129	2.2855
59	24.817	434.67	57.464	362.05	614.84	1.5222	2.2832
60	25.325	432.15	58.952	365.26	614.95	1.5315	2.2809
61	25.84	429.58	60.486	368.49	615.02	1.5408	2.2785
62	26.363	426.97	62.068	371.75	615.06	1.5502	2.2761
63	26.895	424.31	63.7	375.04	615.06	1.5596	2.2736
64	27.434	421.61	65.385	378.36	615.02	1.5691	2.271
65	27.981	418.85	67.126	381.71	614.94	1.5786	2.2683
66	28.536	416.03	68.927	385.1	614.82	1.5882	2.2656
67	29.1	413.15	70.79	388.52	614.66	1.5979	2.2627
68	29.672	410.21	72.719	391.98	614.44	1.6076	2.2597
69	30.253	407.21	74.719	395.47	614.18	1.6174	2.2567
70	30.842	404.12	76.796	399.01	613.87	1.6273	2.2535
71	31.44	400.96	78.953	402.6	613.49	1.6373	2.2501
72	32.047	397.72	81.197	406.23	613.06	1.6474	2.2467
73	32.663	394.38	83.535	409.91	612.55	1.6577	2.2431
74	33.288	390.94	85.975	413.66	611.98	1.668	2.2393
75	33.922	387.39	88.525	417.46	611.33	1.6785	2.2353
76	34.566	383.72	91.196	421.33	610.59	1.6891	2.2311
77	35.219	379.91	94	425.28	609.76	1.6999	2.2267
78	35.882	375.95	96.95	429.31	608.83	1.7109	2.2221
79	36.555	371.82	100.06	433.43	607.78	1.7221	2.2172
80	37.238	367.5	103.36	437.66	606.61	1.7335	2.212
81	37.931	362.96	106.86	442	605.29	1.7453	2.2064
82	38.635	358.16	110.6	446.48	603.8	1.7574	2.2003
83	39.349	353.06	114.62	451.13	602.13	1.7699	2.1939
84	40.074	347.6	118.96	455.96	600.23	1.7828	2.1868
85	40.81	341.7	123.7	461.03	598.06	1.7964	2.179
86	41.558	335.25	128.91	466.38	595.56	1.8107	2.1704
87	42.317	328.09	134.74	472.12	592.64	1.826	2.1607
88	43.088	319.98	141.38	478.35	589.18	1.8427	2.1495
89	43.872	310.49	149.16	485.32	584.95	1.8613	2.1363
90	44.668	298.86	158.72	493.45	579.55	1.8829	2.12