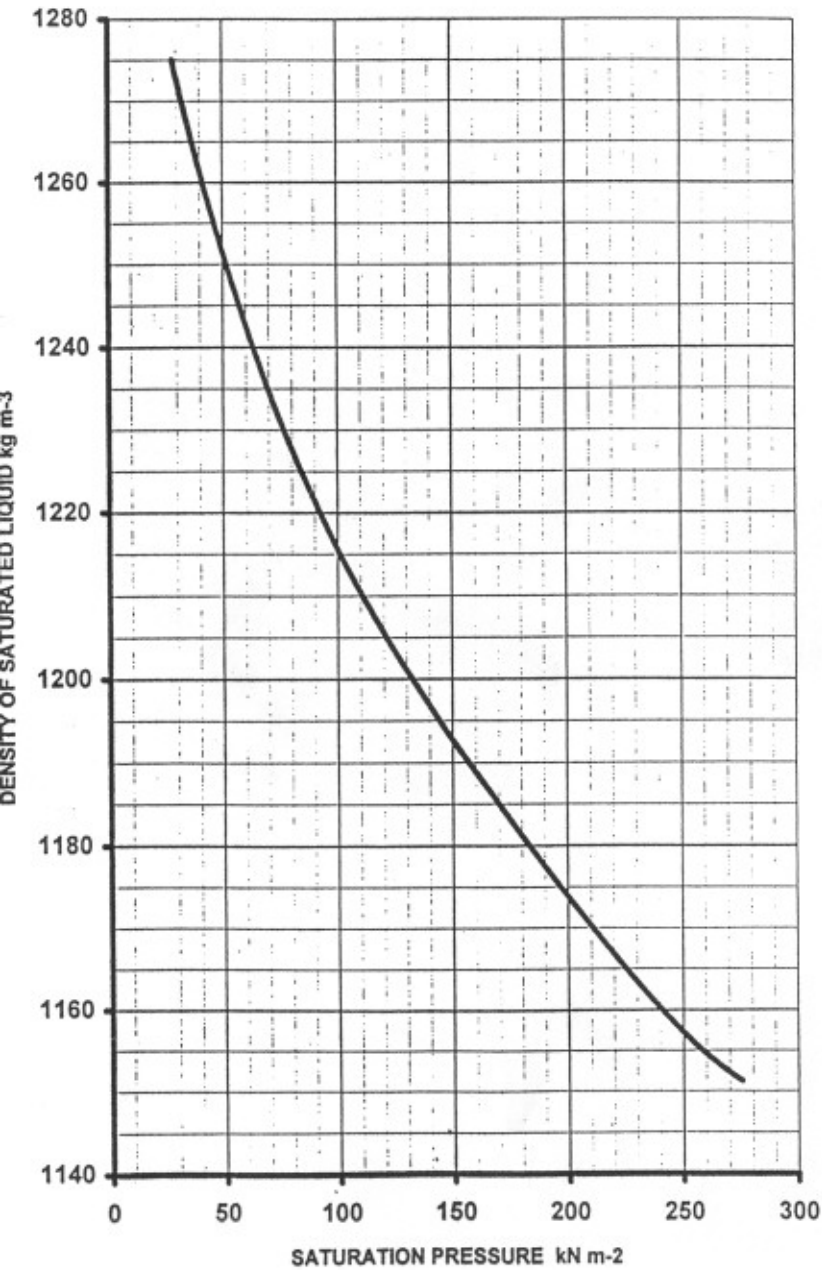


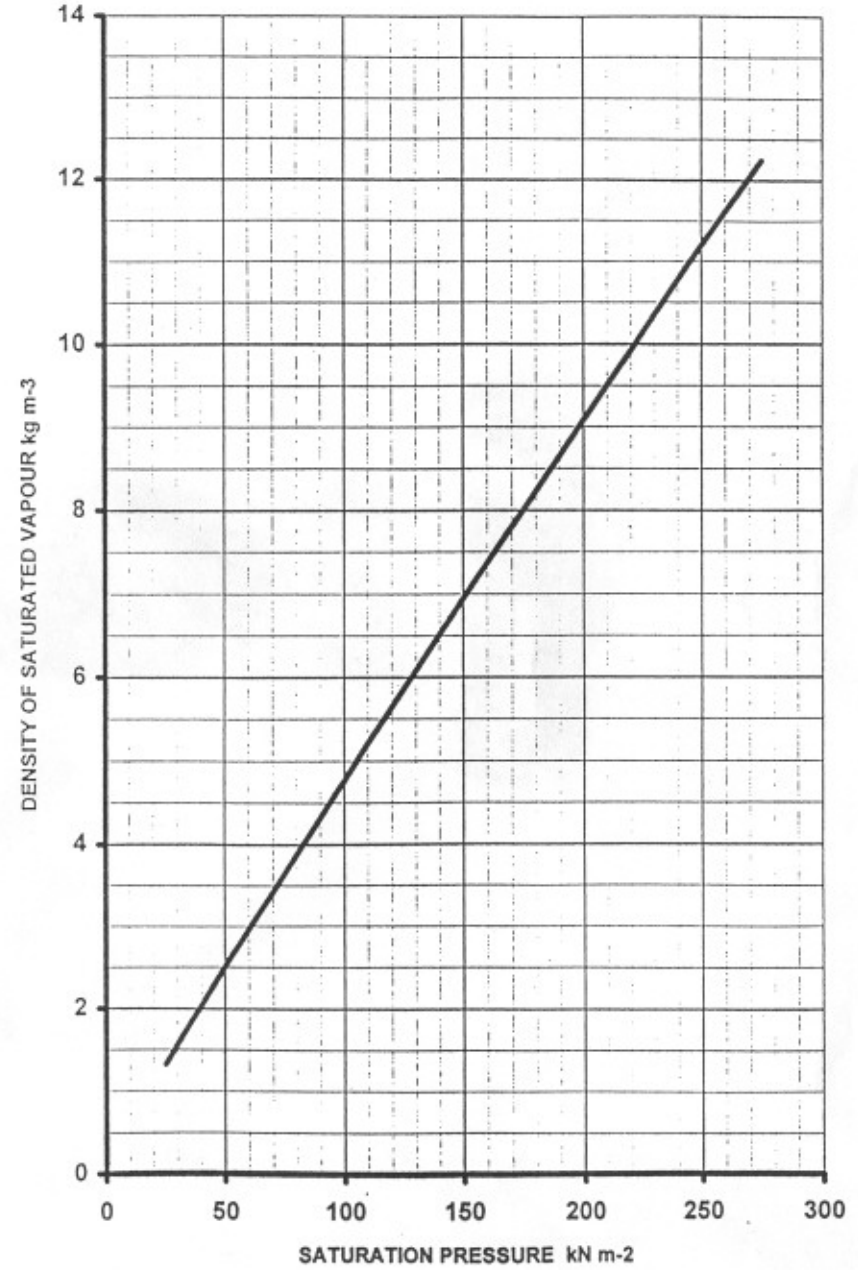
Refrigerant 141b (1,1-dichloro-1-fluoroethane) Properties of Saturated Liquid and Saturated Vapor

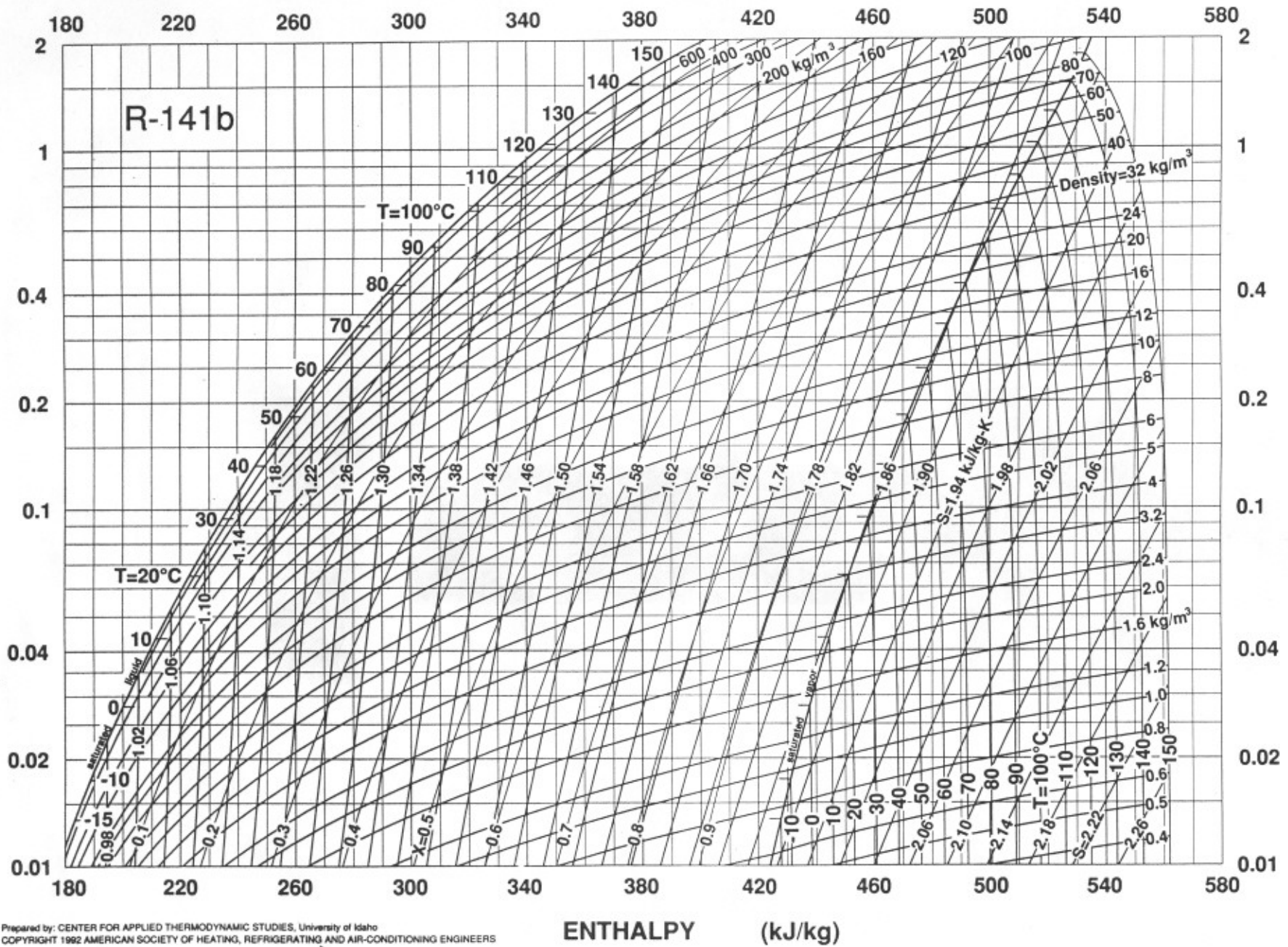
Temp,* °C	Pressure, MPa	Density, kg/m ³ Liquid	Volume, m ³ /kg Vapor	Enthalpy, kJ/kg		Entropy, kJ/(kg·K)		Specific Heat c_p , kJ/(kg·K)			Velocity of Sound, m/s		Viscosity, μ Pa·s		Thermal Cond, mW/(m·K)		Surface Tension, mN/m	Temp, °C
				Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor		
-20.00	0.01036	1312.4	1.7237	178.25	424.39	0.9174	1.8898	—	0.689	1.120	—	141.	731.0	—	108.7	—	—	-20.00
-18.00	0.01155	1308.8	1.5586	180.22	425.72	0.9252	1.8874	—	0.692	1.120	—	141.	709.8	—	107.9	—	—	-18.00
-16.00	0.01284	1305.1	1.4118	182.26	427.05	0.9331	1.8851	—	0.696	1.119	—	142.	689.6	—	107.1	—	—	-16.00
-14.00	0.01425	1301.5	1.2811	184.36	428.38	0.9413	1.8829	—	0.700	1.119	—	142.	670.4	—	106.3	—	—	-14.00
-12.00	0.01578	1297.8	1.1646	186.51	429.72	0.9495	1.8808	—	0.703	1.119	—	143.	652.1	—	105.5	—	—	-12.00
-10.00	0.01745	1294.2	1.0604	188.70	431.06	0.9579	1.8789	—	0.707	1.119	—	143.	634.6	—	104.7	—	—	-10.00
-8.00	0.01926	1290.5	0.96724	190.92	432.40	0.9663	1.8770	—	0.711	1.119	—	144.	617.9	—	103.9	—	—	-8.00
-6.00	0.02122	1286.9	0.88369	193.16	433.75	0.9747	1.8753	—	0.714	1.119	—	144.	602.0	—	103.1	—	—	-6.00
-4.00	0.02334	1283.2	0.80866	195.43	435.10	0.9832	1.8736	—	0.718	1.119	—	144.	586.7	—	102.3	—	—	-4.00
-2.00	0.02564	1279.5	0.74116	197.71	436.45	0.9916	1.8720	—	0.722	1.119	—	145.	572.1	—	101.5	—	—	-2.00
0.00	0.02811	1275.8	0.68033	200.00	437.80	1.0000	1.8706	—	0.726	1.119	—	145.	558.2	—	100.7	—	21.34	0.00
2.00	0.03076	1272.1	0.62543	202.30	439.15	1.0084	1.8692	—	0.729	1.119	—	145.	544.8	—	100.0	—	21.08	2.00
4.00	0.03362	1268.4	0.57579	204.60	440.51	1.0167	1.8679	—	0.733	1.119	—	146.	531.9	—	99.2	—	20.82	4.00
6.00	0.03669	1264.7	0.53085	206.90	441.87	1.0250	1.8667	—	0.737	1.119	—	146.	519.5	—	98.4	—	20.57	6.00
8.00	0.03998	1261.0	0.49008	209.21	443.22	1.0332	1.8655	—	0.741	1.119	—	147.	507.6	—	97.6	—	20.31	8.00
10.00	0.04350	1257.3	0.45305	211.51	444.58	1.0414	1.8645	—	0.745	1.119	—	147.	496.2	—	96.9	—	20.06	10.00
12.00	0.04726	1253.5	0.41936	213.82	445.94	1.0494	1.8635	—	0.749	1.119	—	147.	485.1	—	96.1	—	19.80	12.00
14.00	0.05128	1249.8	0.38867	216.12	447.31	1.0575	1.8626	—	0.753	1.119	—	148.	474.5	—	95.4	—	19.55	14.00
16.00	0.05557	1246.0	0.36067	218.42	448.67	1.0655	1.8618	—	0.757	1.120	—	148.	464.2	—	94.6	—	19.29	16.00
18.00	0.06014	1242.2	0.33508	220.72	450.03	1.0734	1.8610	—	0.761	1.120	—	148.	454.3	—	93.8	—	19.04	18.00
20.00	0.06500	1238.4	0.31167	223.02	451.40	1.0812	1.8603	—	0.765	1.120	—	148.	444.7	—	93.1	—	18.79	20.00
22.00	0.07016	1234.6	0.29022	225.32	452.76	1.0890	1.8596	—	0.769	1.121	—	149.	435.4	—	92.3	—	18.54	22.00
24.00	0.07565	1230.8	0.27055	227.61	454.12	1.0968	1.8590	—	0.773	1.121	—	149.	426.3	—	91.6	—	18.29	24.00
26.00	0.08147	1226.9	0.25248	229.91	455.49	1.1045	1.8585	—	0.777	1.121	—	149.	417.6	—	90.9	—	18.04	26.00
28.00	0.08764	1223.1	0.23586	232.21	456.85	1.1121	1.8580	—	0.782	1.122	—	150.	409.1	—	90.1	—	17.79	28.00
30.00	0.09417	1219.2	0.22055	234.51	458.22	1.1197	1.8576	—	0.786	1.122	—	150.	400.8	—	89.4	—	17.54	30.00
32.00	0.10108	1215.3	0.20644	236.82	459.58	1.1273	1.8573	—	0.790	1.123	—	150.	392.7	—	88.7	—	17.29	32.00
32.07b	0.10132	1215.2	0.20598	236.90	459.63	1.1275	1.8573	—	0.790	1.123	—	150.	392.5	—	88.6	—	17.28	32.07
34.00	0.10838	1211.5	0.19342	239.13	460.94	1.1348	1.8570	—	0.795	1.124	—	150.	384.9	—	87.9	—	17.04	34.00
36.00	0.11608	1207.5	0.18139	241.44	462.31	1.1423	1.8567	—	0.799	1.124	—	150.	377.2	—	87.2	—	16.79	36.00
38.00	0.12421	1203.6	0.17026	243.76	463.67	1.1497	1.8565	—	0.803	1.125	—	151.	369.7	—	86.5	—	16.55	38.00
40.00	0.13277	1199.7	0.15996	246.09	465.03	1.1572	1.8563	—	0.808	1.126	—	151.	362.4	—	85.8	—	16.30	40.00
42.00	0.14179	1195.7	0.15041	248.42	466.39	1.1646	1.8562	—	0.812	1.126	—	151.	355.3	—	85.0	—	16.06	42.00
44.00	0.15127	1191.7	0.14155	250.76	467.75	1.1719	1.8561	—	0.817	1.127	—	151.	348.2	—	84.3	—	15.81	44.00
46.00	0.16124	1187.7	0.13332	253.11	469.10	1.1793	1.8561	—	0.822	1.128	—	151.	341.4	—	83.6	—	15.57	46.00
48.00	0.17171	1183.7	0.12567	255.47	470.46	1.1866	1.8561	—	0.826	1.129	—	151.	334.6	—	82.9	—	15.33	48.00
50.00	0.18270	1179.6	0.11855	257.83	471.81	1.1940	1.8561	—	0.831	1.130	—	152.	328.0	—	82.2	—	15.09	50.00
52.00	0.19422	1175.6	0.11192	260.21	473.17	1.2012	1.8562	—	0.836	1.131	—	152.	321.4	—	81.5	—	14.85	52.00
54.00	0.20630	1171.5	0.10573	262.59	474.52	1.2085	1.8563	—	0.841	1.132	—	152.	315.0	—	80.8	—	14.60	54.00
56.00	0.21893	1167.4	0.09996	264.99	475.87	1.2158	1.8565	—	0.846	1.133	—	152.	308.7	—	80.1	—	14.36	56.00
58.00	0.23216	1163.2	0.09458	267.39	477.21	1.2230	1.8566	—	0.851	1.134	—	152.	302.4	—	79.4	—	14.13	58.00
60.00	0.24598	1159.1	0.08954	269.80	478.56	1.2303	1.8569	—	0.856	1.135	—	152.	296.3	—	78.7	—	13.89	60.00
62.00	0.26043	1154.9	0.08483	272.23	479.90	1.2375	1.8571	—	0.861	1.136	—	152.	290.2	—	78.0	—	13.65	62.00
64.00	0.27551	1150.7	0.08042	274.66	481.24	1.2447	1.8574	—	0.866	1.138	—	152.	284.2	—	77.3	—	13.41	64.00
66.00	0.29124	1146.5	0.07629	277.10	482.58	1.2518	1.8577	—	0.872	1.139	—	152.	278.2	—	76.6	—	13.18	66.00
68.00	0.30765	1142.2	0.07241	279.55	483.91	1.2590	1.8580	—	0.877	1.140	—	152.	272.3	—	76.0	—	12.94	68.00
70.00	0.32475	1137.9	0.06877	282.01	485.24	1.2662	1.8584	—	0.883	1.142	—	152.	266.5	—	75.3	—	12.71	70.00
72.00	0.34255	1133.6	0.06536	284.48	486.57	1.2733	1.8588	—	0.888	1.143	—	152.	260.7	—	74.6	—	12.48	72.00
74.00	0.36108	1129.2	0.06215	286.95	487.90	1.2804	1.8592	—	0.894	1.145	—	152.	255.0	—	74.0	—	12.24	74.00
76.00	0.38035	1124.8	0.05912	289.44	489.22	1.2875	1.8597	—	0.900	1.147	—	152.	249.3	—	73.3	—	—	76.00
78.00	0.40038	1120.4	0.05628	291.93	490.54	1.2946	1.8601	—	0.906	1.148	—	152.	243.7	—	72.6	—	—	78.00
80.00	0.42120	1116.0	0.05360	294.43	491.86	1.3016	1.8606	—	0.911	1.150	—	152.	238.1	—	72.0	—	—	80.00
82.00	0.44282	1111.5	0.05108	296.94	493.17	1.3086	1.8611	—	0.918	1.152	—	152.	—	—	71.3	—	—	82.00
84.00	0.46525	1107.0	0.04869	299.46	494.48	1.3156	1.8617	—	0.924	1.154	—	152.	—	—	70.6	—	—	84.00
86.00	0.48853	1102.5	0.04644	301.98	495.78	1.3226	1.8622	—	0.930	1.156	—	151.	—	—	70.0	—	—	86.00
88.00	0.51266	1097.9	0.04432	304.51	497.08	1.3296	1.8628	—	0.936	1.158	—	151.	—	—	69.3	—	—	88.00
90.00	0.53767	1093.2	0.04231	307.05	498.38	1.3365	1.8634	—	0.943	1.160	—	151.	—	—	68.7	—	—	90.00
92.00	0.56358	1088.6	0.04041	309.60	499.67	1.3435	1.8640	—	0.950	1.162	—	151.	—	—	68.1	—	—	92.00
94.00	0.59041	1083.9	0.03861	312.15	500.95	1.3504	1.8646	—	0.956	1.165	—	151.	—	—	67.4	—	—	94.00
96.00	0.61818	1079.1	0.03690	314.71	502.24	1.3573	1.8653	—	0.963	1.167	—	150.	—	—	66.8	—	—	96.00
98.00	0.64690	1074.3	0.03528	317.28	503.51	1.3641	1.8659	—	0.970	1.170	—	150.	—	—	66.1	—	—	98.00
100.00	0.67661	1069.5	0.03375	319.86	504.78	1.3710	1.8666	—	0.978	1.172	—	150.	—	—	65.5	—	—	100.00
105.00	0.75532	1057.2	0.03024	326.35	507.94	1.3881	1.8682	—	0.997	1.180	—	149.	—	—	63.9	—	—	105.00
110.00	0.84065	1044.5	0.02715	332.91	511.04	1.4051	1.8700	—	1.017	1.188	—	148.	—	—	62.4	—	—	110.00
115.00	0.93295	1031.5	0.02441	339.56	514.10	1.4221	1.8718	—	1.038	1.197	—	147.	—	—	60.9	—	—	115.00

DENSITY OF SATURATED LIQUID v. SATURATION PRESSURE
FOR R141b



DENSITY OF SATURATED VAPOUR v. SATURATION PRESSURE
FOR R141b

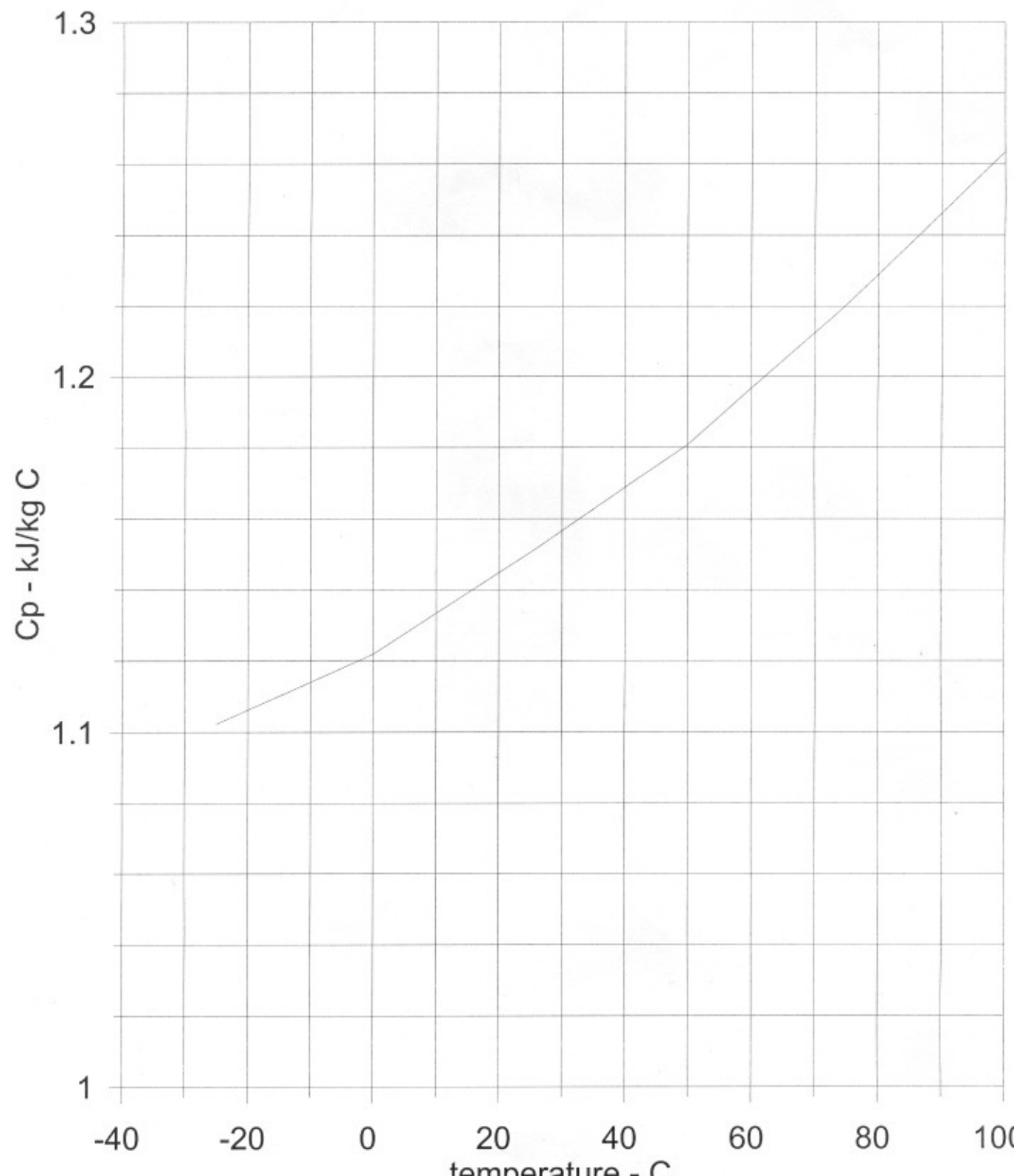




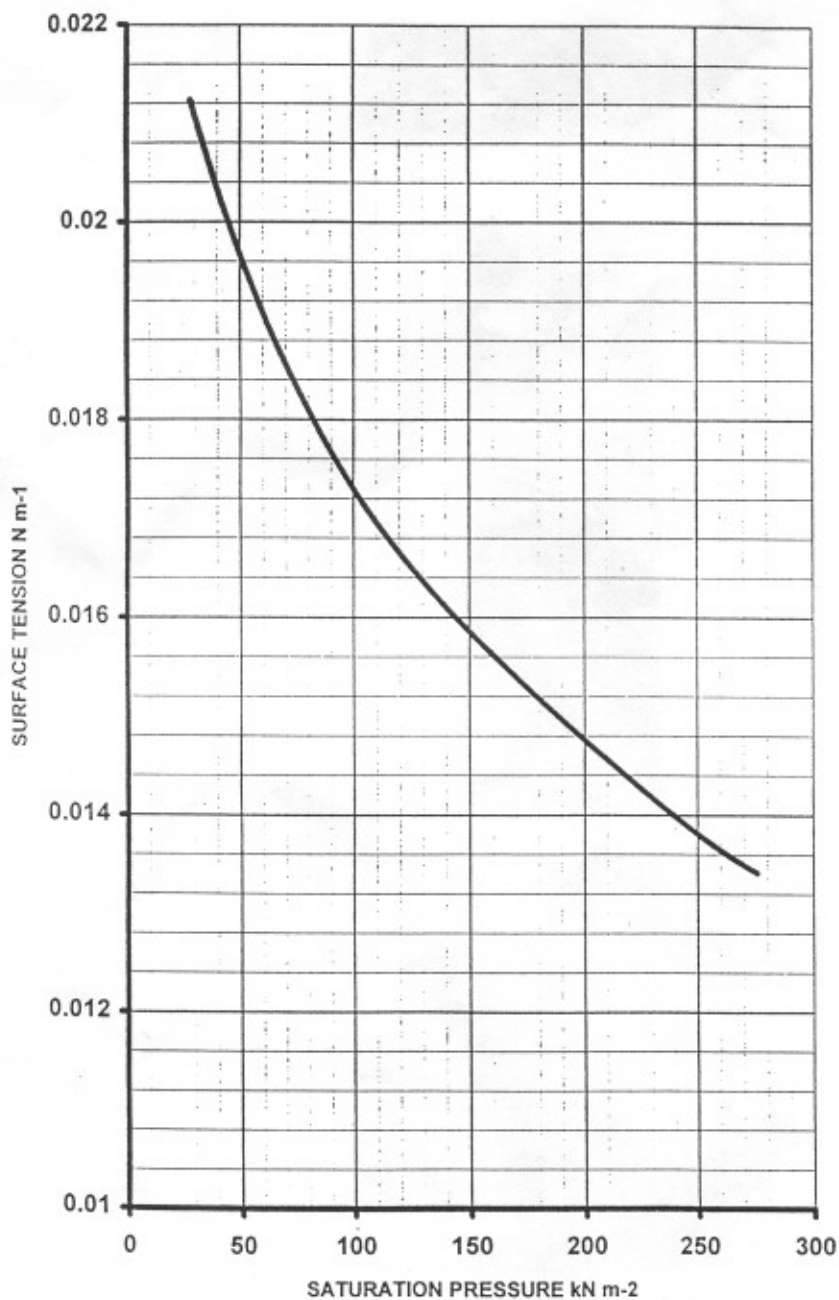
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Fig. 15 Pressure-Enthalpy Diagram for Refrigerant 141b

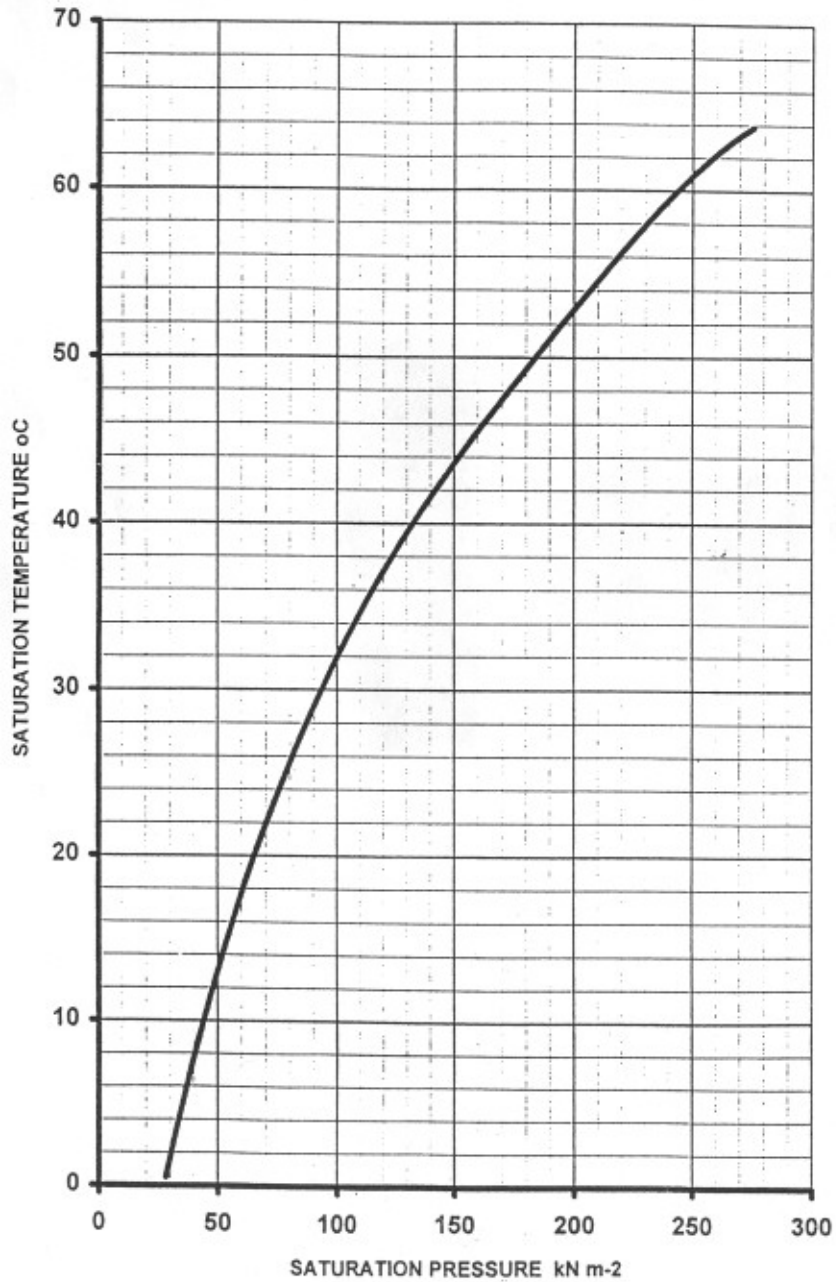
Liquid Cp for R141b
estimated using the Missenard method



SURFACE TENSION v. SATURATION PRESSURE FOR R141b



SATURATION TEMPERATURE v. SATURATION PRESSURE FOR R141b



LATENT HEAT OF EVAPORATION v. SATURATION PRESSURE FOR R141b

