Honeywell




TECHNICAL DATA SHEET

R-1234yf

Components

Chemical Name	Chemical Formula	%By weight	CAS No
2,3,3,3-Tetrafluoropropene (R-1234yf)	CH_2CFCF_3	%100	754-12-1

Physical and chemical properties

At normal temperature and pressure, R-1234yf is a colourless gas.

Physical state…….. Gas
Form…….Compressed liquefied gas
Molecular Weight (g/mol)…..……114.0
Boiling Point at 1 atm, (°C) ……-29.4
Melting Point (°C) ……N/A
Vapor pressure 21.1°C, (bar)……6.07
Density at 25°C, (kg/m^3) …… 1100
Solubility in water 24°C (mg/l) ……198.2
Lower Flammability Limit (kg/m^3)……0.289
Critical Temperature, °C……..94.7
Critical Pressure, bar……..33.81
Critical Density, (kg/m^3) ……..475.55
ODP……0
GWP……4*

Commercial Specifications (ISO9002)

Purity, %, min……99.5
Moisture content, ppm by weight. ……10
Acid Value, ppm by weight……0.1
Residue, mg.kg……100

*The regulation on fluorinated greenhouse gases of EU 517-2014 has been taken considered.

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Thermodynamic Properties

TEMP. (ºC)	ABSOLUTE PRESSURE (bar)		DENSITY (Kg/m3)		ENTHALPY (kJ/Kg)		ENTROPY (kJ/Kg.K)	
	LIQUID	VAPOUR	LIQUID	VAPOUR	LIQUID	VAPOUR	LIQUID	VAPOUR
-50	0,37	0,37	1318,4	2,35	139,6	329,9	0,757	1,610
-46	0,46	0,46	1307,9	2,87	144,2	332,5	0,777	1,607
-42	0,57	0,57	1297,2	3,46	148,8	335,2	0,797	1,604
-38	0,68	0,68	1286,5	4,15	153,4	337,9	0,817	1,602
-34	0,83	0,83	1275,6	4,95	158,1	340,6	0,837	1,600
-30	0,99	0,99	1264,5	5,86	162,8	343,3	0,857	1,599
-26	1,18	1,18	1253,4	6,89	167,6	346,0	0,876	1,598
-22	1,39	1,39	1242,0	8,07	172,4	348,7	0,895	1,597
-18	1,63	1,63	1230,5	9,39	177,3	351,4	0,915	1,597
-14	1,91	1,91	1218,8	10,89	182,3	354,1	0,934	1,597
-10	2,22	2,22	1207,0	12,56	187,3	356,7	0,953	1,597
-6	2,56	2,56	1194,9	14,43	192,3	359,4	0,972	1,597
-2	2,95	2,95	1182,5	16,52	197,4	362,0	0,991	1,598
2	3,38	3,38	1170,0	18,84	202,6	364,6	1,009	1,598
6	3,85	3,85	1157,2	21,41	207,8	367,2	1,028	1,599
10	4,38	4,38	1144,0	24,27	213,1	369,7	1,047	1,600
14	4,95	4,95	1130,6	27,43	218,5	372,2	1,065	1,601
18	5,58	5,58	1116,9	30,92	223,9	374,7	1,084	1,602
22	6,27	6,27	1102,8	34,77	229,3	377,1	1,102	1,603
26	7,02	7,02	1088,2	39,03	234,9	379,5	1,121	1,604
30	7,84	7,84	1073,3	43,73	240,5	381,8	1,139	1,605
34	8,72	8,72	1057,9	48,92	246,2	384,0	1,158	1,606
38	9,68	9,68	1042,0	54,66	252,0	386,1	1,176	1,607
42	10,71	10,71	1025,5	61,01	257,8	388,2	1,194	1,608
46	11,82	11,82	1008,3	68,05	263,8	390,1	1,213	1,609
50	13,02	13,02	990,4	75,88	269,9	392,0	1,231	1,609

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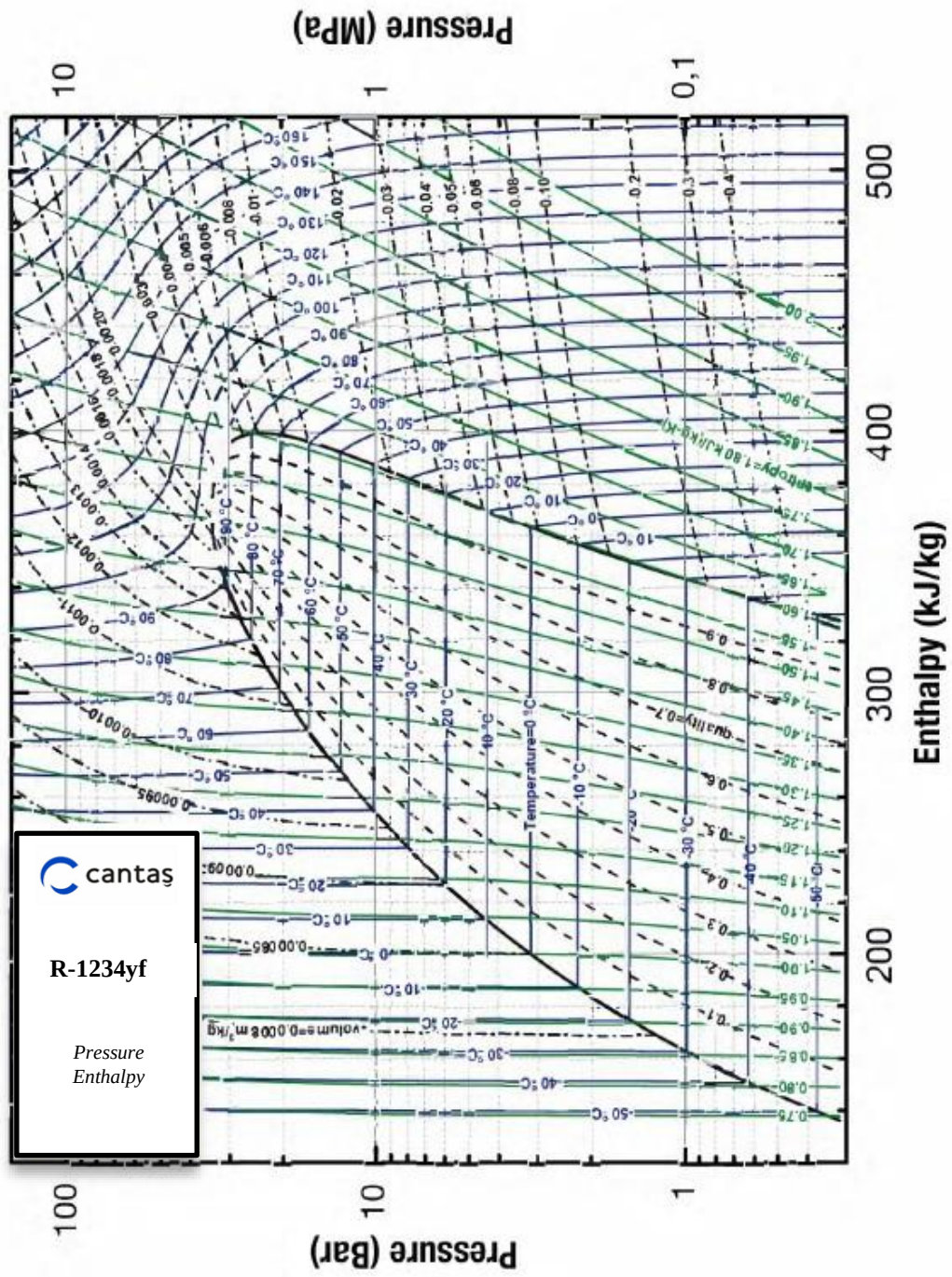
Mollier Diagram



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