R-407A pressure–temperature chart

R-407A (R-32/125/134a) — a zeotropic blend of R-32, R-125 and R-134a, 20 / 40 / 40 % by mass. Also written R407A. Bubble and dew pressures from −70 to 76 °C, every 2 K, in kPa gauge and bar gauge, computed with CoolProp.

SAFETY CLASS	GWP, 100-YEAR	ODP
A1 Lower toxicity, no flame propagation	**2,107** (AR4) · **2,262** (AR6) IPCC, summed from its composition	**0** Montreal Protocol

BUBBLE POINT	DEW POINT	GLIDE
−45.01 °C At 101.325 kPa	**−38.59** °C At 101.325 kPa	**6.41** K Dew less bubble, at 101.325 kPa

	BUBBLE · LIQUID		DEW · VAPOUR	
T (°C)	kPa g	bar g	kPa g	bar g
−70	−76.0	−0.76	−85.4	−0.85
−68	−72.7	−0.73	−83.0	−0.83
−66	−68.9	−0.69	−80.3	−0.80
−64	−64.8	−0.65	−77.4	−0.77
−62	−60.2	−0.60	−74.1	−0.74
−60	−55.2	−0.55	−70.4	−0.70
−58	−49.7	−0.50	−66.4	−0.66
−56	−43.7	−0.44	−61.9	−0.62
−54	−37.2	−0.37	−57.0	−0.57
−52	−30.0	−0.30	−51.5	−0.52
−50	−22.3	−0.22	−45.6	−0.46
−48	−13.9	−0.14	−39.1	−0.39
−46	−4.8	−0.05	−32.0	−0.32
−44	5.0	0.05	−24.3	−0.24
−42	15.7	0.16	−15.9	−0.16
−40	27.1	0.27	−6.8	−0.07
−38	39.4	0.39	3.0	0.03
−36	52.6	0.53	13.6	0.14
−34	66.7	0.67	25.1	0.25
−32	81.8	0.82	37.5	0.37
−30	98.0	0.98	50.8	0.51
−28	115.2	1.15	65.1	0.65
−26	133.6	1.34	80.4	0.80
−24	153.2	1.53	96.8	0.97
−22	174.0	1.74	114.3	1.14
−20	196.1	1.96	133.0	1.33
−18	219.5	2.20	152.9	1.53
−16	244.4	2.44	174.1	1.74
−14	270.6	2.71	196.7	1.97
−12	298.4	2.98	220.6	2.21
−10	327.7	3.28	246.0	2.46
−8	358.6	3.59	273.0	2.73
−6	391.1	3.91	301.5	3.01
−4	425.4	4.25	331.6	3.32
−2	461.5	4.61	363.4	3.63
0	499.3	4.99	397.0	3.97
2	539.1	5.39	432.4	4.32
4	580.8	5.81	469.7	4.70
6	624.5	6.25	508.9	5.09
8	670.3	6.70	550.2	5.50
10	718.3	7.18	593.5	5.94
12	768.4	7.68	639.0	6.39
14	820.7	8.21	686.7	6.87
16	875.4	8.75	736.7	7.37
18	932.4	9.32	789.1	7.89
20	991.9	9.92	843.9	8.44
22	1,053.9	10.54	901.2	9.01
24	1,118.5	11.18	961.1	9.61
26	1,185.7	11.86	1,023.7	10.24
28	1,255.6	12.56	1,089.1	10.89
30	1,328.2	13.28	1,157.2	11.57
32	1,403.8	14.04	1,228.3	12.28
34	1,482.2	14.82	1,302.5	13.02
36	1,563.6	15.64	1,379.7	13.80
38	1,648.1	16.48	1,460.1	14.60
40	1,735.6	17.36	1,543.7	15.44
42	1,826.4	18.26	1,630.8	16.31
44	1,920.5	19.20	1,721.4	17.21
46	2,017.9	20.18	1,815.5	18.16
48	2,118.7	21.19	1,913.4	19.13
50	2,223.1	22.23	2,015.1	20.15
52	2,331.0	23.31	2,120.8	21.21
54	2,442.6	24.43	2,230.6	22.31
56	2,558.0	25.58	2,344.6	23.45
58	2,677.2	26.77	2,463.0	24.63
60	2,800.4	28.00	2,585.9	25.86
62	2,927.6	29.28	2,713.7	27.14
64	3,058.9	30.59	2,846.4	28.46
66	3,194.4	31.94	2,984.3	29.84
68	3,334.1	33.34	3,127.8	31.28
70	3,478.3	34.78	3,277.1	32.77
72	3,626.8	36.27	3,432.7	34.33
74	3,779.6	37.80	3,595.2	35.95
76	3,936.7	39.37	3,765.5	37.65

NOTES

Gauge pressure is absolute pressure less a standard atmosphere, 101.325 kPa; below it, gauge pressure is negative.
Bubble: saturated liquid — read subcooling from it. Dew: saturated vapour — read superheat from it.
CoolProp could not solve the dew line at 78–80 °C. Those rows are left out, not interpolated.

SOURCES

Computed with CoolProp 7.2.1dev (HEOS backend, MIT licence), from published equations of state.
Cite: Bell, I.H., Wronski, J., Quoilin, S., Lemort, V. (2014). Pure and pseudo-pure fluid thermophysical property evaluation and the open-source thermophysical property library CoolProp. Ind. Eng. Chem. Res. 53(6), 2498-2508.
GWP, ODP, safety class and composition: UNEP RTOC 2018, DCCEEW (Australian Government), IPCC AR4 (2007), IPCC AR6 (2021), Montreal Protocol, ASHRAE refrigerant designations, GHG Protocol (2024).

ONLINE

kelvin.engineering/refrigerants/r-407a — this table in kPa absolute, and the P–h diagram
kelvin.engineering/tools/superheat-subcooling?r=r-407a — superheat and subcooling calculator

VERIFY

These figures must be verified by a qualified professional before they're relied on.