R-404A pressure–temperature chart

R-125/143a/134a (44/52/4) — a zeotropic blend of R-125, R-143a and R-134a, 44 / 52 / 4 % by mass. Also written R404A. Bubble and dew pressures from −70 to 70 °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	**3,922** (AR4) · **4,728** (AR6) IPCC, summed from its composition	**0** Montreal Protocol

CRITICAL POINT	BUBBLE POINT	DEW POINT	GLIDE
72.12 °C · **3,734.8** kPa abs CoolProp, from its equation of state	**−46.22** °C At 101.325 kPa	**−45.47** °C At 101.325 kPa	**0.75** K Dew less bubble, at 101.325 kPa

	BUBBLE · LIQUID		DEW · VAPOUR	
T (°C)	kPa g	bar g	kPa g	bar g
−70	−73.7	−0.74	−75.3	−0.75
−68	−70.1	−0.70	−71.8	−0.72
−66	−66.1	−0.66	−67.9	−0.68
−64	−61.7	−0.62	−63.7	−0.64
−62	−56.8	−0.57	−59.0	−0.59
−60	−51.6	−0.52	−53.9	−0.54
−58	−45.8	−0.46	−48.3	−0.48
−56	−39.5	−0.39	−42.1	−0.42
−54	−32.6	−0.33	−35.5	−0.35
−52	−25.2	−0.25	−28.2	−0.28
−50	−17.1	−0.17	−20.3	−0.20
−48	−8.4	−0.08	−11.8	−0.12
−46	1.1	0.01	−2.6	−0.03
−44	11.3	0.11	7.4	0.07
−42	22.2	0.22	18.1	0.18
−40	34.0	0.34	29.7	0.30
−38	46.6	0.47	42.0	0.42
−36	60.1	0.60	55.3	0.55
−34	74.6	0.75	69.5	0.70
−32	90.0	0.90	84.7	0.85
−30	106.5	1.06	100.9	1.01
−28	124.0	1.24	118.2	1.18
−26	142.6	1.43	136.6	1.37
−24	162.5	1.62	156.1	1.56
−22	183.5	1.83	176.9	1.77
−20	205.8	2.06	198.9	1.99
−18	229.4	2.29	222.2	2.22
−16	254.3	2.54	246.8	2.47
−14	280.7	2.81	272.9	2.73
−12	308.5	3.08	300.4	3.00
−10	337.8	3.38	329.4	3.29
−8	368.7	3.69	360.0	3.60
−6	401.2	4.01	392.2	3.92
−4	435.3	4.35	426.0	4.26
−2	471.2	4.71	461.6	4.62
0	508.9	5.09	498.9	4.99
2	548.3	5.48	538.1	5.38
4	589.7	5.90	579.2	5.79
6	633.0	6.33	622.2	6.22
8	678.4	6.78	667.3	6.67
10	725.8	7.26	714.4	7.14
12	775.3	7.75	763.6	7.64
14	827.0	8.27	815.0	8.15
16	880.9	8.81	868.7	8.69
18	937.2	9.37	924.7	9.25
20	995.8	9.96	983.1	9.83
22	1,056.9	10.57	1,043.9	10.44
24	1,120.5	11.20	1,107.3	11.07
26	1,186.7	11.87	1,173.2	11.73
28	1,255.5	12.55	1,241.8	12.42
30	1,327.0	13.27	1,313.2	13.13
32	1,401.4	14.01	1,387.3	13.87
34	1,478.6	14.79	1,464.4	14.64
36	1,558.7	15.59	1,544.4	15.44
38	1,641.9	16.42	1,627.4	16.27
40	1,728.2	17.28	1,713.6	17.14
42	1,817.7	18.18	1,803.0	18.03
44	1,910.5	19.10	1,895.8	18.96
46	2,006.7	20.07	1,991.9	19.92
48	2,106.3	21.06	2,091.6	20.92
50	2,209.5	22.10	2,194.8	21.95
52	2,316.5	23.16	2,301.8	23.02
54	2,427.2	24.27	2,412.7	24.13
56	2,541.9	25.42	2,527.5	25.28
58	2,660.7	26.61	2,646.6	26.47
60	2,783.7	27.84	2,769.9	27.70
62	2,911.1	29.11	2,897.8	28.98
64	3,043.2	30.43	3,030.4	30.30
66	3,180.2	31.80	3,168.3	31.68
68	3,322.6	33.23	3,311.8	33.12
70	3,470.8	34.71	3,462.0	34.62

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.

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-404a — this table in kPa absolute, and the P–h diagram
kelvin.engineering/tools/superheat-subcooling?r=r-404a — superheat and subcooling calculator

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