R-454A pressure–temperature chart

Opteon XL40 (R-32/1234yf) — a zeotropic blend of R-32 and R-1234yf, 35 / 65 % by mass. Also written R454A. Bubble and dew pressures from −70 to 72 °C, every 2 K, in kPa gauge and bar gauge, computed with CoolProp.

SAFETY CLASS	GWP, 100-YEAR	ODP
A2L Lower toxicity, lower flammability	**236** (AR4) · **270** (AR6) IPCC, summed from its composition	**0** Montreal Protocol

BUBBLE POINT	DEW POINT	GLIDE
−47.84 °C At 101.325 kPa	**−42.16** °C At 101.325 kPa	**5.69** K Dew less bubble, at 101.325 kPa

	BUBBLE · LIQUID		DEW · VAPOUR	
T (°C)	kPa g	bar g	kPa g	bar g
−70	−71.2	−0.71	−80.2	−0.80
−68	−67.3	−0.67	−77.3	−0.77
−66	−63.0	−0.63	−74.0	−0.74
−64	−58.2	−0.58	−70.4	−0.70
−62	−53.0	−0.53	−66.5	−0.66
−60	−47.3	−0.47	−62.1	−0.62
−58	−41.1	−0.41	−57.3	−0.57
−56	−34.3	−0.34	−52.0	−0.52
−54	−26.9	−0.27	−46.2	−0.46
−52	−18.9	−0.19	−39.9	−0.40
−50	−10.2	−0.10	−33.1	−0.33
−48	−0.8	−0.01	−25.6	−0.26
−46	9.4	0.09	−17.5	−0.18
−44	20.4	0.20	−8.7	−0.09
−42	32.2	0.32	0.8	0.01
−40	44.8	0.45	11.0	0.11
−38	58.4	0.58	22.1	0.22
−36	73.0	0.73	34.0	0.34
−34	88.5	0.89	46.7	0.47
−32	105.1	1.05	60.4	0.60
−30	122.8	1.23	75.1	0.75
−28	141.7	1.42	90.7	0.91
−26	161.8	1.62	107.5	1.07
−24	183.1	1.83	125.3	1.25
−22	205.7	2.06	144.4	1.44
−20	229.7	2.30	164.6	1.65
−18	255.1	2.55	186.1	1.86
−16	281.9	2.82	208.9	2.09
−14	310.2	3.10	233.1	2.33
−12	340.1	3.40	258.7	2.59
−10	371.6	3.72	285.8	2.86
−8	404.7	4.05	314.4	3.14
−6	439.6	4.40	344.6	3.45
−4	476.3	4.76	376.5	3.76
−2	514.8	5.15	410.0	4.10
0	555.1	5.55	445.4	4.45
2	597.5	5.97	482.5	4.83
4	641.8	6.42	521.6	5.22
6	688.2	6.88	562.6	5.63
8	736.7	7.37	605.7	6.06
10	787.4	7.87	650.8	6.51
12	840.3	8.40	698.1	6.98
14	895.5	8.96	747.6	7.48
16	953.1	9.53	799.4	7.99
18	1,013.1	10.13	853.6	8.54
20	1,075.6	10.76	910.2	9.10
22	1,140.6	11.41	969.4	9.69
24	1,208.3	12.08	1,031.1	10.31
26	1,278.6	12.79	1,095.5	10.95
28	1,351.6	13.52	1,162.6	11.63
30	1,427.5	14.27	1,232.6	12.33
32	1,506.2	15.06	1,305.6	13.06
34	1,587.8	15.88	1,381.5	13.82
36	1,672.4	16.72	1,460.6	14.61
38	1,760.1	17.60	1,542.8	15.43
40	1,850.9	18.51	1,628.4	16.28
42	1,945.0	19.45	1,717.3	17.17
44	2,042.2	20.42	1,809.8	18.10
46	2,142.8	21.43	1,906.0	19.06
48	2,246.9	22.47	2,005.8	20.06
50	2,354.4	23.54	2,109.6	21.10
52	2,465.4	24.65	2,217.4	22.17
54	2,580.1	25.80	2,329.3	23.29
56	2,698.4	26.98	2,445.6	24.46
58	2,820.6	28.21	2,566.4	25.66
60	2,946.5	29.46	2,691.9	26.92
62	3,076.3	30.76	2,822.3	28.22
64	3,210.1	32.10	2,957.9	29.58
66	3,347.9	33.48	3,098.9	30.99
68	3,489.8	34.90	3,245.7	32.46
70	3,635.7	36.36	3,398.7	33.99
72	3,785.7	37.86	3,558.6	35.59

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 bubble line at 78 °C, or the dew line at 74–76 °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-454a — this table in kPa absolute, and the P–h diagram
kelvin.engineering/tools/superheat-subcooling?r=r-454a — superheat and subcooling calculator

VERIFY

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