R-23 pressure–temperature chart

Trifluoromethane — a single-component HFC. Also written R23. Saturation pressure from −70 to 24 °C, every 2 K, in kPa gauge and bar gauge, computed with CoolProp.

SAFETY CLASS
A1
Lower toxicity, no flame propagation

GWP, 100-YEAR
14,800 (AR4) · 14,600 (AR6)
IPCC assessment reports

ODP
0
Montreal Protocol

CRITICAL POINT
26.14 °C · 4,831.8 kPa abs
CoolProp, from its equation of state

NORMAL BOILING POINT
−82.02 °C
At 101.325 kPa

	SATURATION PRESSURE			SATURATION PRESSURE			SATURATION PRESSURE	
T (°C)	kPa g	bar g	T (°C)	kPa g	bar g	T (°C)	kPa g	bar g
−70	92.4	0.92	−38	659.1	6.59	−6	2,012.4	20.12
−68	112.6	1.13	−36	716.0	7.16	−4	2,134.1	21.34
−66	134.5	1.34	−34	776.1	7.76	−2	2,261.0	22.61
−64	158.0	1.58	−32	839.4	8.39	0	2,393.4	23.93
−62	183.4	1.83	−30	906.1	9.06	2	2,531.3	25.31
−60	210.6	2.11	−28	976.2	9.76	4	2,674.9	26.75
−58	239.7	2.40	−26	1,050.0	10.50	6	2,824.5	28.25
−56	270.9	2.71	−24	1,127.4	11.27	8	2,980.3	29.80
−54	304.2	3.04	−22	1,208.7	12.09	10	3,142.5	31.43
−52	339.7	3.40	−20	1,294.0	12.94	12	3,311.4	33.11
−50	377.6	3.78	−18	1,383.3	13.83	14	3,487.1	34.87
−48	417.9	4.18	−16	1,476.8	14.77	16	3,670.2	36.70
−46	460.7	4.61	−14	1,574.7	15.75	18	3,860.9	38.61
−44	506.1	5.06	−12	1,677.1	16.77	20	4,059.7	40.60
−42	554.2	5.54	−10	1,784.0	17.84	22	4,267.3	42.67
−40	605.2	6.05	−8	1,895.8	18.96	24	4,484.5	44.85

NOTES Gauge pressure is absolute pressure less a standard atmosphere, 101.325 kPa; below it, gauge pressure is negative.

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 and safety class: UNEP RTOC 2018, DCCEEW (Australian Government), IPCC AR4 (2007), IPCC AR6 (2021), Montreal Protocol, GHG Protocol (2024).

ONLINE kelvin.engineering/refrigerants/r-23 — this table in kPa absolute, and the P–h diagram
kelvin.engineering/tools/superheat-subcooling?r=r-23 — superheat and subcooling calculator

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