

Refrigerant R-404A

Non-flammable,
non-ozone depleting
replacement for
R-22 and R-502.

Overview

Daikin R-404A is characterized by low toxicity, high capacity, low discharge temperatures and excellent thermal stability.

R-404A is mainly used as a refrigerant for low temperature and medium temperature commercial refrigeration, domestic refrigeration, food processing.

R-404A falls under US EPA SNAP and is currently scheduled as no longer acceptable for certain end uses in the U.S. for new and retrofit equipment; such as supermarket rack systems. R-404A is unrestricted for service and maintenance purposes. Please refer to US EPA SNAP for most up to date rulings and decisions (<https://www.epa.gov/snap>)

	R-404A	R-502
Composition	R-125/R-143a/R-134a (44.0/52.0/4.0 mass%)	R-22/R-15 (48.8/51.2 mass%)
Liquid Density (at 77°F)	65.2 lbm/ft ³	75.8 lbm/ft ³
Vapor Density (at 77°F)	4.1 lbm/ft ³	4.1 lbm/ft ³
Boiling Point (at 1atm)	-48.5°F	-49.5°F
Critical Temperature	161.8°F	178.7°F
Critical Pressure	541.7 psi	582.6 psi
Saturated Vapor Pressure (at 77°F)	180.0 psi	166.7 psi
Ozone Depletion Potential (ODP)*	0	0.33
Global Warming Potential (GWP)**	3920 / 3940	4660 / 4790
Temperature Glide (Evaporation)	<1.2°F	<0.3°F
ASHRAE Classification Refrigerant Type	Class A1 Zeotropic Blend	Class A1 Azeotropic Blend
Appearance	Colorless	Colorless
Flammability	Nonflammable	Nonflammable

* Montreal Protocol reporting values

** IPCC Fourth Assessment Report / Fifth Assessment Report

Pressure Temperature Chart

Temp (°F)	R-404A			R-502
	Bubble Pressure (psig)	Dew Pressure (psig)	Average Pressure (psig)	Bubble/Dew Pressure (psig)
-40	4.9	4.3	4.6	3.9
-35	7.5	6.8	7.2	6.3
-30	10.3	9.6	10.0	9.0
-25	13.4	12.7	13.1	11.8
-20	16.8	16.0	16.4	15.0
-15	20.5	19.7	20.1	18.4
-10	24.6	23.6	24.1	22.1
-5	28.9	27.9	28.4	26.2
0	33.7	32.6	33.1	30.5
5	38.8	37.7	38.2	35.2
10	44.3	43.1	43.7	40.3
15	50.2	49.0	49.6	45.7
20	56.6	55.3	55.9	51.6
25	63.4	62.1	62.7	57.8
30	70.7	69.3	70.0	64.5
35	78.6	77.1	77.8	71.6
40	86.9	85.4	86.1	79.2
45	95.8	94.2	95.0	87.3
50	105.3	103.6	104.4	95.9
55	115.3	113.6	114.5	105.0
60	126.0	124.2	125.1	114.7
65	137.3	135.5	136.4	124.9
70	149.3	147.4	148.4	135.7
75	162.0	160.1	161.0	147.2
80	175.4	173.4	174.4	159.2
85	189.5	187.5	188.5	171.9
90	204.5	202.4	203.4	185.3
95	220.2	218.1	219.1	199.3
100	236.8	234.6	235.7	214.1
105	254.2	252.1	253.1	229.7
110	272.5	270.4	271.4	246.0
115	291.8	289.6	290.7	263.1
120	312.1	309.9	311.0	281.0
125	333.3	331.2	332.2	299.7
130	355.6	353.5	354.6	319.4
135	379.1	377.0	378.1	340.0
140	403.7	401.7	402.7	361.6
145	429.6	427.7	428.6	384.1
150	456.8	455.1	455.9	407.7

Handling Method and Safety Information

R-404A is a liquefied high-pressure gas. Please refer to the Safety Data Sheet (SDS) before use.

Packaging Specifications

R-404A is available in 24lb disposable and 100lb returnable containers.

Compatibility Information

R-404A is compatible with most existing HFC system components. Specifically, existing polyol ester lubricants (POE), filter dryers, gaskets, elastomers, and plastics. Please contact the component manufacturers for specific recommendations.

Additional Information

Additional field trial, retrofit guides and technical data are available upon request and at www.daikin-america.com.