

Creard Refrigerant R-407H



New, cost-effective,
lower GWP refrigerant
for commercial
refrigeration systems.

Overview

Daikin Creard R-407H is a new, cost-effective, high efficiency, lower GWP refrigerant gas for refrigeration contractors and distributors. Relying on proven traditional chemistry, it is built as a replacement for R-404A, R-507A, R-407A/F, R-22 and other high GWP refrigerant blends in medium temperature and low temperature refrigeration applications.

Applicable to new systems and retrofits, and to all refrigeration applications such as commercial refrigeration racks, cold storage warehouses, walk-ins and standalones. Compared to R-404A, R-407H provides more cooling capacity, 6%-12% better energy efficiency, 62% reduction in GWP.

High GWP and ozone depleting refrigerants, such as R-404A and R-22, are being phased out. Creard R-407H complies with global regulations while allowing for simple and economical retrofits. R-407H provides regulatory assurance for the lifetime of the system.

Comparison of Creard R-407H to R-404A

	R-407H	R-404A
Composition	R-32/R-125/R-134a (32.5/15.0/52.5 mass%)	R-125/R-143a/R-134a (44.0/52.0/4.0 mass%)
Boiling Point (at 1atm)	-48.5°F	-51.2°F
Critical Temperature	187.8°F	161.6°F
Critical Pressure	703 psi	541 psi
Saturated Vapor Pressure (at 77°F)	180 psi	181 psi
COP vs. R-404A (LT)*	110.2%	100%
COP vs. R-404A (MT)**	107.3%	100%
Temperature Glide (Evaporation)	7.9°F (LT) 8.6°F (MT)	1.2°F (LT) 0.9°F (MT)
Ozone Depletion Potential (ODP)	0	0
GWP ***	1495 / 1380	3920 / 3940
ASHRAE Classification Refrigerant Type	Class A1 Zeotropic Blend	Class A1 Zeotropic Blend
Appearance	Colorless	Colorless
Flammability Limits	Nonflammable	Nonflammable

*Conditions LT: Cond. Temp. 105°F, Evap. Temp. -25°F, SC 5°F, SH 55°F, Comp. Eff 0.7

**Conditions MT: Cond. Temp. 105°F, Evap. Temp. 20°F, SC 5°F, SH 30°F, Comp. Eff 0.7

***IPCC fourth Assessment Report / fifth assessment report

Pressure Temperature Chart

Temp (°F)	R-404A			R-407H		
	Bubble Pressure (psig)	Dew Pressure (psig)	Average Pressure (psig)	Bubble Pressure (psig)	Dew Pressure (psig)	Average Pressure (psig)
-40	4.9	4.3	4.6	3.6	-1.7	0.9
-35	7.5	6.8	7.2	6.0	0.3	3.1
-30	10.3	9.6	10.0	8.7	2.4	5.6
-25	13.4	12.7	13.1	11.7	4.8	8.3
-20	16.8	16.0	16.4	15.0	7.4	11.2
-15	20.5	19.7	20.1	18.6	10.4	14.5
-10	24.6	23.6	24.1	22.5	13.6	18.0
-5	28.9	27.9	28.4	26.8	17.1	21.9
0	33.7	32.6	33.1	31.4	20.9	26.2
5	38.8	37.7	38.2	36.4	25.2	30.8
10	44.3	43.1	43.7	41.9	29.7	35.8
15	50.2	49.0	49.6	47.7	34.7	41.2
20	56.6	55.3	55.9	54.0	40.1	47.1
25	63.4	62.1	62.7	60.8	46.0	53.4
30	70.7	69.3	70.0	68.1	52.3	60.2
35	78.6	77.1	77.8	75.9	59.1	67.5
40	86.9	85.4	86.1	84.2	66.4	75.3
45	95.8	94.2	95.0	93.1	74.3	83.7
50	105.3	103.6	104.4	102.6	82.7	92.6
55	115.3	113.6	114.5	112.7	91.7	102.2
60	126.0	124.2	125.1	123.4	101.4	112.4
65	137.3	135.5	136.4	134.8	111.7	123.2
70	149.3	147.4	148.4	146.9	122.6	134.8
75	162.0	160.1	161.0	159.7	134.3	147.0
80	175.4	173.4	174.4	173.2	146.7	160.0
85	189.5	187.5	188.5	187.5	159.9	173.7
90	204.5	202.4	203.4	202.6	173.9	188.2
95	220.2	218.1	219.1	218.5	188.8	203.6
100	236.8	234.6	235.7	235.2	204.5	219.8
105	254.2	252.1	253.1	252.8	221.1	236.9
110	272.5	270.4	271.4	271.4	238.6	255.0
115	291.8	289.6	290.7	290.8	257.2	274.0
120	312.1	309.9	311.0	311.2	276.7	294.0
125	333.3	331.2	332.2	332.6	297.4	315.0
130	355.6	353.5	354.6	355.0	319.1	337.1
135	379.1	377.0	378.1	378.5	342.1	360.3
140	403.7	401.7	402.7	403.1	366.3	384.7
145	429.6	427.7	428.6	428.8	391.7	410.2
150	456.8	455.1	455.9	455.6	418.6	437.1

Handling Method and Safety Information

R-407H is a liquefied high-pressure gas. Please refer to the Safety Data Sheet (SDS) before use.

Packaging Specifications

Please contact Daikin America for a list of distributors near you. Creard R-407H is available in 25lb disposable and 100lb returnable containers.

Compatibility Information

R-407H is compatible with most existing R-404A, R-507A, R-407A/F system components and materials. Specifically, existing polyol ester Lubricants (POE), filters, dryers, gaskets, elastomers, and plastics. Please contact the component manufacturers or Daikin America for specific recommendations. Refer to the retrofit guide for specific component recommendations.

Compressor selection and approvals

Please contact Daikin America or your compressor manufacturer for approval and use recommendations.

Additional Information

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