Refrigerants RS Series

R-434A (RS45)

REFRIGERANT SOLUTIONS LTD
RS SERIES
ZERO ODP
DROP-IN
REFRIGERANT

R-434A: DIRECT SUBSTITUTE FOR R-22 SPECIAL FOR FLOODED SYSTEMS.

RS-45 is an HFC (Hydrofluorocarbon) refrigerant gas, a direct replacement for R-22 with no ozone depletion potential due to its zero ozone depletion potential.

It is characterized by being a direct and highly efficient substitute, the discharge temperatures it generates are lower than those produced by R22, helping to extend the life of the equipment.

Thanks to its low glide, it is the best direct substitute for R22 for flooded systems.

Commercial brand:	ASHRAE Code:
RS-45	R-434A

Technical specifications:

0	3245	A1	Mineral, alquil-benccenic and POE
ODP	GWP	Safety classification	Compatible lubricants

Temperature Range: High, medium and low to -35ºC.

Very low Glide: 1.5ºC

Replacement: R-22.

Type of replacement: Direct Drop-in

Applications:

- A/C
- Commercial refrigeration
- Industrial refrigeration
- Refrigerated transports
- Flooded systems

Packaging sizes for R-434A (RS45):

- Cylinders
- Roll drums
- Isotanks

Normative:

GRIT (Gases Research Innovation & Technology) is committed to the continuous improvement of our inbuilt Quality Control, Environment and Major Accident Prevention Systems as well as close collaboration with our product and service providers. The scope of the system includes the packaging, commercialisation, storage and innovation of technical gases and the management of residual fluorinated gas and halogenated solvents.

All this work is reflected in our certificates ISO 9001 & ISO 14001. GRIT also meets AHRI 700 standard for new and recycled refrigerants.

Thermodinamic properties chart:

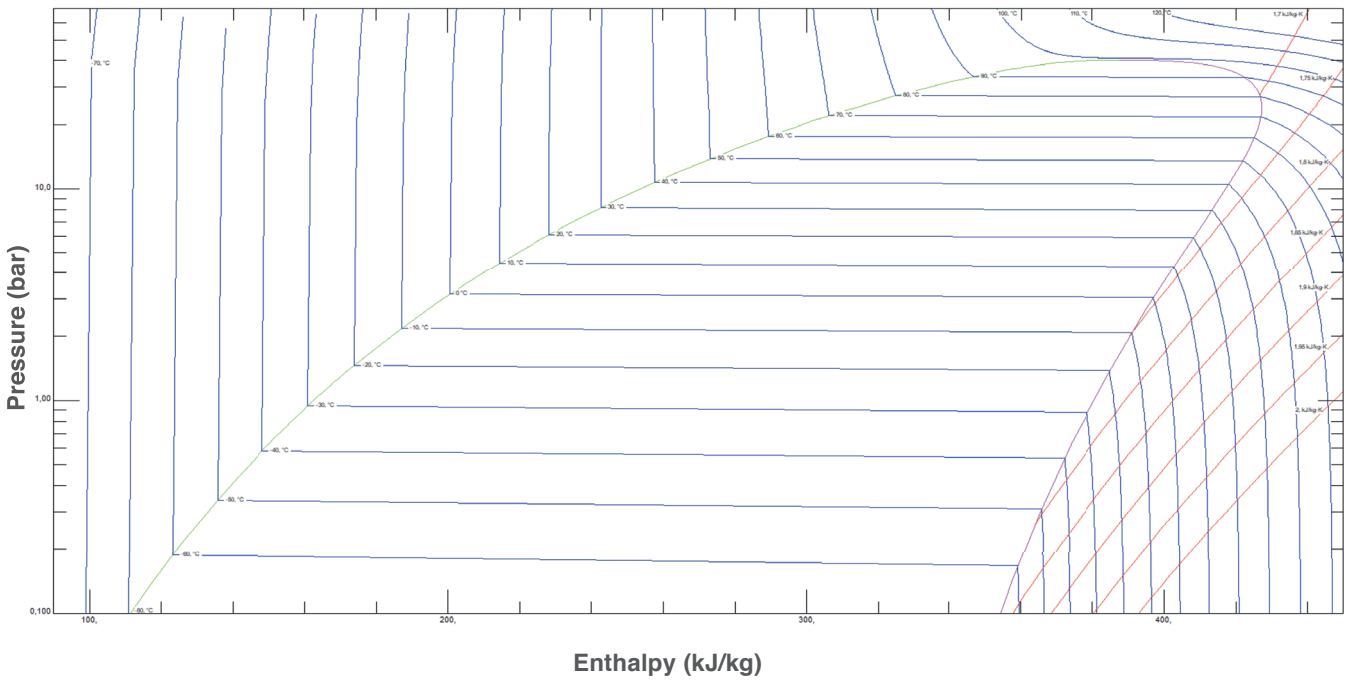
Bubble point

Temperature (ºC)	Absolute pressure (bar)	Liquid density (kg/l)	Gas density (kg/l)	Liquid enthalpy (kJ/kg)	Gas enthalpy (kJ/kg)
-50	0,34005	1,4143	0,0018881	135,7	364,28
-45	0,4474	1,4002	0,0024433	141,98	367,48
-40	0,58066	1,386	0,0031217	148,3	370,68
-35	0,74413	1,3716	0,0039423	154,66	373,88
-30	0,94246	1,357	0,0049253	161,07	377,08
-25	1,1806	1,3422	0,0060931	167,53	380,26
-20	1,464	1,3271	0,0074696	174,04	383,42
-15	1,7981	1,3118	0,0090811	180,6	386,55
-10	2,189	1,2963	0,010956	187,23	389,65
-5	2,6429	1,2804	0,013125	193,92	392,7
0	3,1662	1,2642	0,015624	200,67	395,71
5	3,7657	1,2476	0,018488	207,5	398,66
10	4,4483	1,2306	0,021762	214,4	401,54
15	5,2215	1,2131	0,025492	221,38	404,36
20	6,0926	1,1951	0,029733	228,45	407,09
25	7,0693	1,1766	0,034545	235,62	409,73
30	8,1598	1,1574	0,040002	242,89	412,26
35	9,3722	1,1374	0,046186	250,27	414,68
40	10,715	1,1166	0,0532	257,78	416,95
45	12,198	1,0949	0,061167	265,42	419,07
50	13,829	1,072	0,070237	273,22	421,01

Dew point

Temperature (°C)	Absolute pressure (bar)	Liquid density (kg/l)	Gas density (kg/l)	Liquid enthalpy (kJ/kg)	Gas enthalpy (kJ/kg)
-50	0,30914	1,4285	0,0017246	134,69	365,63
-45	0,41011	1,4135	0,0022472	140,93	368,86
-40	0,53624	1,3984	0,0028892	147,21	372,08
-35	0,69182	1,3831	0,0036694	153,54	375,29
-30	0,88152	1,3677	0,004608	159,93	378,48
-25	1,1104	1,352	0,0057271	166,37	381,65
-20	1,3837	1,3362	0,0070508	172,87	384,8
-15	1,7071	1,3202	0,008605	179,43	387,92
-10	2,0867	1,3039	0,010418	186,05	391
-5	2,5288	1,2874	0,012521	192,75	394,03
0	3,0398	1,2706	0,014949	199,51	397,01
5	3,6267	1,2534	0,017738	206,35	399,94
10	4,2964	1,2359	0,020931	213,27	402,8
15	5,0564	1,2179	0,024575	220,28	405,59
20	5,9143	1,1995	0,028724	227,38	408,3
25	6,8778	1,1805	0,033438	234,57	410,91
30	7,9552	1,1609	0,038789	241,87	413,42
35	9,1549	1,1407	0,044862	249,29	415,81
40	10,486	1,1196	0,051755	256,84	418,07
45	11,956	1,0976	0,059591	264,53	420,16
50	13,577	1,0746	0,068521	272,37	422,07

Pressure diagram chart:



Instructions:

Use the liquid phase of the system for the charge. Oil change is not required. For making the conversion an adjustment on the expansion valve could be required. Some applications may require a change of the expansion valve. In case an electronic valve is used Antoine coeficients can be used to adjust the system. On the trials carried with capillary tube systems, the expansion conditions were not modified.

More information:

If you want more information about our products, contact us.

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