RS Series Refrigerants

R-442A (RS-50)

REFRIGERANT SOLUTIONS LTD
RS SERIES
ZERO ODP
DROP-IN
REFRIGERANT

The RS-50 is a high energy-efficiency replacement for R-404A and R-507A that belongs to the group of fluorinated refrigerant gases.

RS-50 is an HFC (Hydrofluorocarbon) refrigerant gas, with zero ODP, not affecting the ozone layer. It has a high energy efficiency compared to other alternatives that together with its low GWP significantly reduces the environmental impact.

It is ideal for industrial refrigeration such as small installations or elements that require high energy efficiency at medium and low temperatures. Due to its high energy performance, it requires smaller compressors in new installations.

Components / Chemical Name:	ASHRAE Code:
R-152a, R-227ea, R-134a, R-125, R-32	R-442A

Technical specifications:

0	1888	A1	POE
ODP	GWP	Safety classification	Compatible lubricants

Temperature Range: Medium and Low

Replacement:
R-404A y R-507A

Type of replacement:
Direct Drop-in

Applications:

- Commercial Refrigeration
- Refrigerated Transport
- Industrial Refrigeration

Packaging sizes for R-442A (RS-50):

- Cylinders
- Roll Drums
- ISO Tanks

Instructions:

In its application as a drop-in for R404A or R507A it will only be necessary to adjust the expansion valve. If it is to be used as an indirect substitute for R22 or R502, it will be necessary to change the oil, adjust the expansion valve to the working parameters and check the parts of the installation set to the working pressure of R22.

Thermodinamic properties chart:

Bubble point

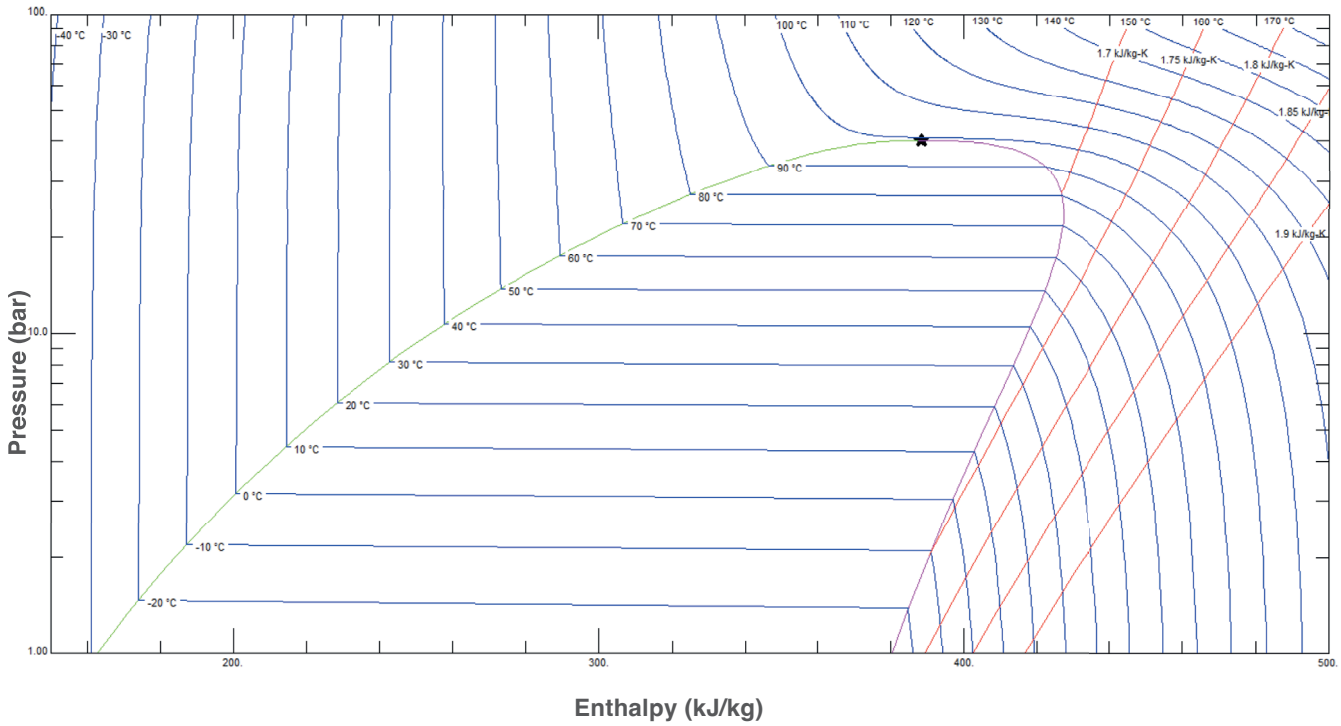
Temperature (ºC)	Absolute pressure (bar)	Liquid density (kg/l)	Gas density (kg/l)	Liquid enthalpy (kJ/kg)	Gas enthalpy (kJ/kg)
-50	0,34005	1,4143	0,0018881	135,7	364,28
-45	0,4474	1,4002	0,0024433	141,98	367,48
-40	0,58066	1,386	0,0031217	148,3	370,68
-35	0,74413	1,3716	0,0039423	154,66	373,88
-30	0,94246	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

Thermodinamic properties chart:

Dew point

Temperature (ºC)	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:



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.

More information:

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

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