

Refrigerants RS Series

R-470A (RS53)



R-470A: HIGH SECURITY SUBSTITUTE FOR R-410A WITH LOWER GWP.

RS-53 is a refrigerant gas blend of HFCs and HFOs designed to replace R-410A with the lowest GWP on the market, being a high safety A1 refrigerant (non-flammable and non-toxic) with a similar cooling capacity and energy efficiency to R-410A.

Commercial brand:

RS-53

ASHRAE Code:

R-470A

Technical specifications:



0

ODP



979

GWP



A1

Safety classification



POE

Compatible lubricants

Temperature Range: High and medium.



Replacement: R-410A.



Type of replacement: Direct Drop-in

Applications:



A/C



Industrial refrigeration



Commercial refrigeration

Packaging sizes for R-470A (RS53):

- 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.

Thermodynamic properties chart:

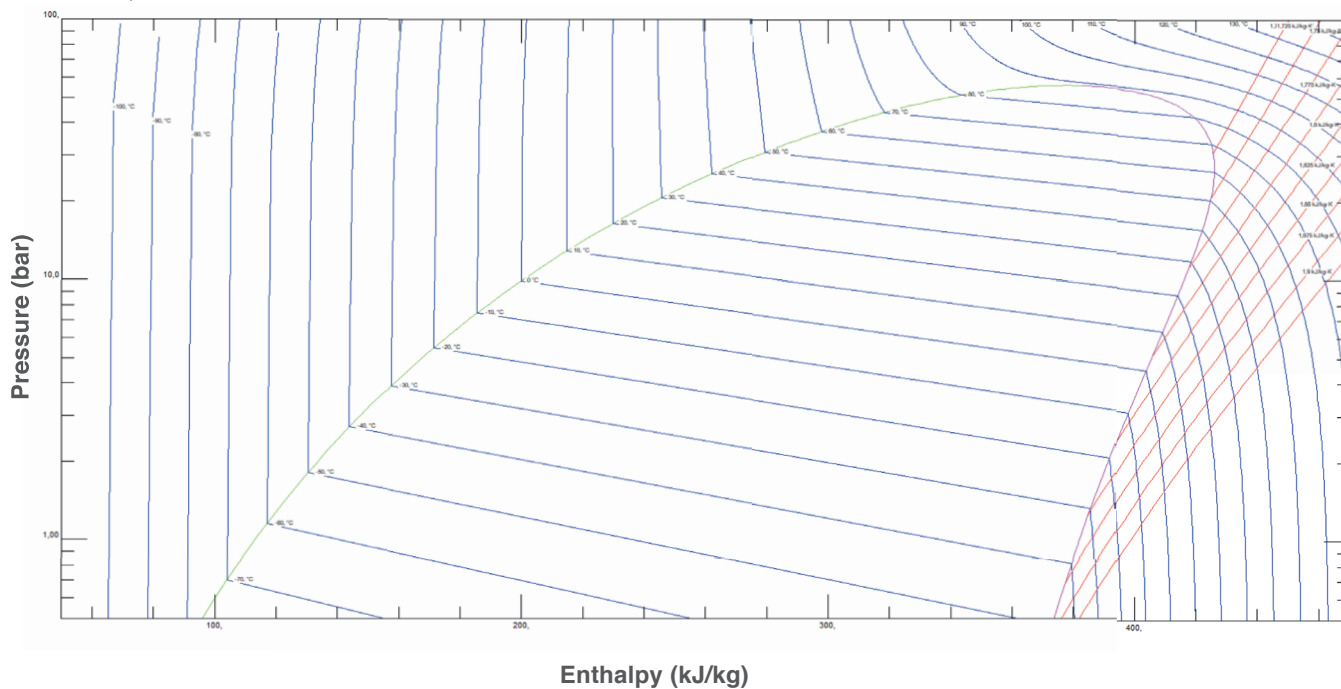
Bubble point

Temperature (°C)	Absolute pressure (bar)	Liquid density (kg/l)	Gas density (kg/l)	Liquid enthalpy (kJ/kg)	Gas enthalpy (kJ/kg)
-80	0,39908	1456,1	1,2959	90,937	404,82
-75	0,53229	1441,6	1,7085	97,485	406,81
-70	0,69851	1427,1	2,2189	104,05	408,74
-65	0,90303	1412,5	2,8423	110,63	410,61
-60	1,1515	1397,7	3,5955	117,24	412,44
-55	1,4498	1382,8	4,4963	123,88	414,21
-50	1,8042	1367,6	5,5641	130,55	415,92
-45	2,2211	1352,3	6,8196	137,26	417,58
-40	2,707	1336,8	8,285	144,01	419,18
-35	3,2688	1321,1	9,9846	150,8	420,71
-30	3,9132	1305,1	11,944	157,64	422,18
-25	4,6472	1288,8	14,192	164,54	423,57
-20	5,4778	1272,1	16,76	171,49	424,89
-15	6,412	1255,2	19,681	178,51	426,14
-10	7,4567	1237,8	22,994	185,59	427,29
-5	8,6188	1220	26,739	192,76	428,35
0	9,9053	1201,8	30,965	200	429,31
5	11,323	1183	35,724	207,33	430,16
10	12,878	1163,6	41,078	214,77	430,89
15	14,577	1143,5	47,097	222,31	431,49
20	16,426	1122,7	53,863	229,97	431,95
25	18,432	1101	61,473	237,76	432,24
30	20,599	1078,4	70,045	245,7	432,36
35	22,933	1054,6	79,721	253,81	432,27
40	25,438	1029,5	90,677	262,1	431,96
45	28,118	1002,8	103,14	270,61	431,38
50	30,975	974,17	117,4	279,37	430,48

Dew point

Temperature (°C)	Absolute pressure (bar)	Liquid density (kg/l)	Gas density (kg/l)	Liquid enthalpy (kJ/kg)	Gas enthalpy (kJ/kg)
-80	0,059369	1480,2	0,31346	99,087	353,27
-75	0,088428	1467,3	0,45576	105,08	356,53
-70	0,12857	1454,2	0,6475	111,1	359,8
-65	0,18284	1441	0,9007	117,14	363,08
-60	0,25481	1427,6	1,229	123,21	366,36
-55	0,34855	1414,1	1,6478	129,31	369,64
-50	0,46869	1400,4	2,1741	135,45	372,91
-45	0,62039	1386,6	2,8268	141,62	376,16
-40	0,80935	1372,4	3,6264	147,84	379,4
-35	1,0418	1358,1	4,5955	154,1	382,6
-30	1,3245	1343,5	5,7587	160,41	385,77
-25	1,6648	1328,6	7,1428	166,78	388,91
-20	2,0705	1313,4	8,7769	173,2	391,99
-15	2,5499	1297,8	10,693	179,69	395,03
-10	3,1118	1281,8	12,927	186,24	398
-5	3,7656	1265,5	15,516	192,87	400,91
0	4,5211	1248,7	18,505	199,57	403,74
5	5,389	1231,3	21,942	206,36	406,48
10	6,3802	1213,4	25,883	213,25	409,13
15	7,5064	1194,9	30,39	220,24	411,67
20	8,7802	1175,6	35,537	227,34	414,08
25	10,215	1155,6	41,41	234,57	416,36
30	11,824	1134,6	48,112	241,93	418,47
35	13,624	1112,5	55,765	249,46	420,41
40	15,631	1089,2	64,524	257,16	422,13
45	17,864	1064,3	74,581	265,07	423,61
50	20,344	1037,8	86,187	273,22	424,81

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 coefficients 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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