

The low GWP alternative to R-410A in Air Conditioning systems

KrioNext® 32 is an HFC refrigerant used so far as component in blends of R-410A ed R-407C. Thanks to its energy and environmental efficiency, KrioNext® 32 has been already used by major manufacturers of household airconditioners systems.

KrioNext® 32 has a GWP - Global Warming Potential - considerably lower than R-410A. The product is used in low coolant temperature systems. KrioNext® 32 is a mildly flammable gas.

KrioNext® 32 needs the use of Polyol Ester Oil (POE), with a viscosity specific for R-32.



Physical Properties	UM	Kryon® 32
Chemical Formula	-	CH ₂ F ₂
Environmental Classification	-	HFC
Molecular Weight	gr/grmole	52,02
Saturated Vapour Temperature @ 1,013 bar	°C	-51,65
Density of Liquid @ 25°C	kg/m ³	961
Density of Saturated Vapour @ 1,013 bar	kg/m ³	2,987
Pressure of Saturation (Saturated Liquid) @ 25°C	bar_rel	16,90
Pressure of Saturation (Saturated Liquid) @ 50°C	bar_rel	31,40
Critical Temperature	°C	78,11
Critical Pressure	bar_rel	57,82
Critical Density	kg/m ³	424,00
Heat of Evaporation @ 1,013 bar	kJ/Kg	381,00
Specific Entropy of Liquid @ 25°C	kJ/Kg*°C	1,94
Specific Entropy of Vapour @ 25°C	kJ/Kg*°C	0,848
CP/CV Ratio @ 25°C - 1,013 bar_ass		1,252
ODP	(R11 = 1)	0,00
Atmosferic Life Time	Anni	4,90
GWP - IPCC rev. 4 (IPCC rev. 5)	(CO ₂ = 1)	675 (677)
ASHRAE Standard 34 Safety Rating		A2L
Lower Flammability Limit	%	Mildly Flammable
Classification according to Directive 97/23/CE PED	Group	1

Applications

KrioNext® 32 is used in residential and commercial air conditioning systems.

Performance

- ✓ KrioNext® 32 has performance and efficiency similar to R-410A.
- ✓ KrioNext® 32 has a GWP (Global Warming Potential) considerably lower than R-410A.
- ✓ No equipment/lubricant/seal changes required (superheat adjustment may be required).

Recommended Lubricants

KrioNext® 32 needs the use of Polyol Ester Oil (POE), with a viscosity specific for R-32.

TEMPERATURE RANGE



675 (677)
IPCC AR4 (AR5)

Thermodynamic Properties

Temperature °C	Vapour Pressure bar_rel	Density		Enthalpy		Entropy	
		Saturated Liquid kg/m³	Saturated Vapour kg/m³	Saturated Liquid KJ/kg	Saturated Vapour KJ/kg	Saturated Liquid KJ/kg*K	Saturated Vapour KJ/kg*K
-50	0,09	1.208,40	3,23	117,22	497,27	0,668	2,371
-48	0,20	1.202,80	3,55	120,40	498,26	0,682	2,361
-46	0,33	1.197,20	3,89	123,60	499,23	0,697	2,350
-44	0,46	1.191,50	4,25	126,80	500,17	0,711	2,340
-42	0,61	1.185,90	4,65	130,01	501,11	0,724	2,330
-40	0,76	1.180,20	5,07	133,23	502,02	0,738	2,320
-38	0,93	1.174,40	5,51	136,45	502,91	0,752	2,310
-36	1,11	1.168,60	6,00	139,69	503,78	0,766	2,301
-34	1,30	1.162,80	6,51	142,93	504,63	0,779	2,292
-32	1,50	1.156,90	7,06	146,18	505,47	0,793	2,282
-30	1,72	1.151,00	7,64	149,45	506,27	0,806	2,274
-28	1,95	1.145,00	8,26	152,72	507,06	0,819	2,265
-26	2,20	1.138,90	8,92	156,01	507,83	0,833	2,256
-24	2,47	1.132,90	9,62	159,31	508,57	0,846	2,248
-22	2,75	1.126,70	10,37	162,62	509,28	0,859	2,239
-20	3,04	1.120,60	11,16	165,94	509,97	0,872	2,231
-18	3,36	1.114,30	12,00	169,28	510,64	0,885	2,223
-16	3,69	1.108,00	12,88	172,63	511,28	0,898	2,215
-14	4,05	1.101,70	13,82	175,99	511,89	0,911	2,207
-12	4,42	1.095,20	14,82	179,37	512,47	0,924	2,199
-10	4,81	1.088,80	15,87	182,76	513,02	0,937	2,192
-8	5,23	1.082,20	16,98	186,18	513,54	0,949	2,184
-6	5,67	1.075,60	18,16	189,60	514,03	0,962	2,176
-4	6,13	1.068,90	19,40	193,05	514,49	0,975	2,169
-2	6,61	1.062,10	20,71	196,52	514,91	0,987	2,162
0	7,12	1.055,30	22,09	200,00	515,30	1,000	2,154
2	7,65	1.048,30	23,55	203,50	515,65	1,013	2,147
4	8,21	1.041,30	25,09	207,03	515,96	1,025	2,140
6	8,80	1.034,20	26,71	210,58	516,24	1,038	2,133
8	9,41	1.027,00	28,43	214,15	516,47	1,050	2,126
10	10,06	1.019,70	30,23	217,74	516,66	1,063	2,119
12	10,73	1.012,20	32,14	221,36	516,80	1,075	2,111
14	11,43	1.004,70	34,15	225,01	516,90	1,088	2,104
16	12,17	997,06	36,26	228,68	516,95	1,100	2,097
18	12,93	989,28	38,50	232,39	516,95	1,113	2,090
20	13,73	981,38	40,86	236,12	516,90	1,125	2,083
22	14,57	973,34	43,34	239,89	516,79	1,138	2,076
24	15,44	965,16	45,97	243,69	516,62	1,150	2,069
26	16,34	956,82	48,75	247,53	516,39	1,163	2,062
28	17,28	948,31	51,68	251,40	516,09	1,176	2,054
30	18,26	939,62	54,78	255,32	515,72	1,188	2,047
32	19,28	930,75	58,06	259,28	515,29	1,201	2,040
34	20,34	921,67	61,53	263,28	514,77	1,213	2,032
36	21,44	912,37	65,21	267,34	514,17	1,226	2,025
38	22,58	902,83	69,12	271,45	513,49	1,239	2,017
40	23,77	893,04	73,27	275,61	512,71	1,252	2,009
42	25,00	882,96	77,68	279,84	511,82	1,265	2,001
44	26,28	872,58	82,39	284,13	510,83	1,278	1,993
46	27,60	861,86	87,41	288,50	509,72	1,291	1,985
48	28,98	850,77	92,79	292,95	508,48	1,305	1,976
50	30,40	839,26	98,55	297,49	507,10	1,318	1,967
52	31,87	827,28	104,75	302,12	505,57	1,332	1,958
54	33,40	814,78	111,44	306,87	503,86	1,346	1,948
56	34,98	801,68	118,69	311,74	501,95	1,360	1,938
58	36,62	787,90	126,58	316,75	499,82	1,375	1,928
60	38,32	773,31	135,21	321,93	497,44	1,390	1,917
62	40,08	757,78	144,73	327,30	494,76	1,405	1,905
64	41,90	741,10	155,32	332,90	491,73	1,421	1,892
66	43,78	723,02	167,23	338,78	488,26	1,438	1,879
68	45,73	703,16	180,83	345,02	484,25	1,455	1,863
70	47,76	680,93	196,69	351,73	479,52	1,474	1,846