REFRIGERANT FACT SHEET
R32

CHARACTERISTICS

R32 is a synthetic HFC refrigerant designed primarily for use in low charge HVAC systems.

R32 is seen as a suitable alternative to R410A in air conditioning systems designed for R32.

R32 is an A2L refrigerant with a low level of flammability.

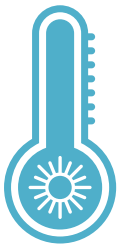
PERFORMANCE

- Superior energy efficiency when compared with R410A
- High refrigeration capacity and thermal conductivity
- Low-pressure drop and smaller tubes by comparison with R410A
- Due to the flammability and higher operating pressures of R32, equipment compatibility must be checked (eg: recovery units and vac pumps must be intrinsically safe). Standard R410A manifold gauges can be used
- Lower density than R410A requires a smaller charge
- The total climate impact from R32 is significantly improved in comparison to R410A
- Not suitable for use in retrofit applications and should only be used in systems specifically designed for R32

APPLICATIONS

High-temperature applications including:

- Air conditioning



PHYSICAL ATTRIBUTES

ODP: 0

GWP: 650

Class/Type: Single component (A2L)

Refrigerant Kind: HFC

Oil Type: Polyolester Oil (POE)

Glide: N/A

FEATURES

- Low GWP alternative for use in low charge air conditioning applications – 32% the GWP of R410A
- Higher pressure gas compared to R410A so requires a higher pressure cylinder (6.2MPa)

THERMODYNAMIC PERFORMANCE

- Higher pressure than R410A
- Higher critical temperature, yielding a higher COP
- Heat needed to evaporate R32 is greater than R410A
- Required mass flow rate per unit cooling capacity is smaller
- R32 pressure ratio is higher than R410A
- Significantly higher volumetric cooling capacity than R410A may help reduce the system pipe size and increase system efficiency

PRODUCT PART NUMBERS

- **H320009** 9kg Cylinder

For safety, handling and storage information please refer to the MSDS (available on Chemwatch)

R32 PRESSURE TEMPERATURE CHART

C°	R32 (kPa)
-44	46
-42	60
-40	76
-38	72
-36	110
-34	129
-32	150
-30	172
-28	195
-26	220
-24	246
-22	274
-20	304
-18	336
-16	369
-14	404
-12	442
-10	481
-8	523
-6	566
-4	613
-2	661
0	712
2	765
4	821
6	880
8	942
10	1006
12	1073
14	1144
16	1217
18	1294
20	1374
22	1457
24	1544
26	1635
28	1729
30	1827
32	1929
34	2035
36	2145
38	2259
40	2377
42	2500
44	2628
46	2760
48	2897
50	3040

PHYSICAL PROPERTIES

Class/ Type	Single Component
Formula	100% R32
Kind	HFC
Appearance	Colourless
ODP	0
GWP	650
ASHRAE Std. 34 Safety Class	A2L

Units	Physical Properties
Molecular Weight	52g/mol
Boiling Point	– 56.65°C
Critical Temperature	78.4°C
Critical Pressure	57.8 bar
Critical Density	424 kg/m^3

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