



Pack Sizes

12KG cylinder

20KG cylinder

60KG cylinder

A-GAS®

ISCEON® MO99™ Properties and Applications

ISCEON® MO99™ or R438A is a zero ozone depletion (ODP) hydrofluorocarbon (HFC) refrigerant. It is used as a retrofit replacement for R22 in direct expansion (DX) air conditioning and refrigeration systems. However it is also important to note that R22 will still be available until 2030 and can be obtained as a recycled product (AHRI 700 standard) from A-Gas.

Physical Properties

- ✓ ASHRAE A1 safety classification
- ✓ Non Flammable & safe to use
- ✓ GWP of 1890 (IPCC assessment report 2)
- ✓ Critical pressure 43.05 bar absolute
- ✓ Molecular weight is 99.1
- ✓ Boiling point at 1 ATM is -42.3 °C
- ✓ Critical Temperature is 85.27 °C

Applications

The manufacturer of the refrigerant recommends the use of the product in the following applications:

- ✓ Commercial air conditioning, roof top units, indoor packaged units, DX chillers, split systems
- ✓ Residential Air Conditioning
- ✓ Refrigeration (low and medium Temperature)

Usage Instructions

- ✓ Compatible with mineral, alkylbenzene and POE lubricant
- ✓ R438A cannot be discharged to atmosphere. Always recover refrigerants into an A-Gas reclaim cylinder
- ✓ If retrofitting from R22 to R438A, it is not always necessary to replace the existing lubricant with POE
- ✓ Always read the retrofit guidelines before using the product. Contact A-Gas for technical advise.

PT Chart

Temp ° C	Pressure KPa
-38	23.9
-34	48.2
-30	75.9
-26	107.6
-22	143.5
-18	184
-14	229.5
-10	280.4
-6	337
-2	399.7
0	433.5
2	469.1
6	545.4
10	629.1
14	720.8
18	820.7
22	929.5
26	1047.5
30	1175.2
34	1313.2
38	1461.9

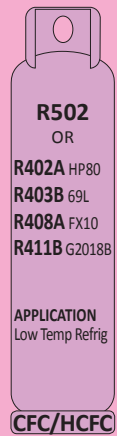
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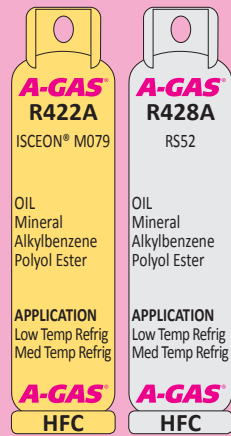
Convenient • Simple • Transparent

A-GAS® GUIDE TO REFRIGERANT REPLACEMENTS

PREVIOUS REFRIGERANT

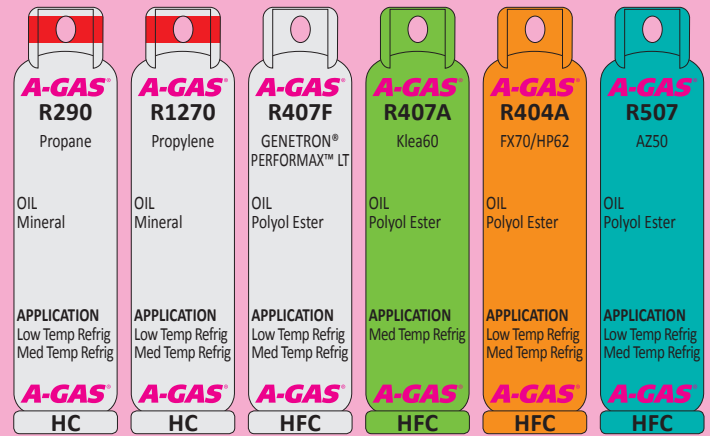


REFRIGERANT REPLACEMENT (ZERO ODP)

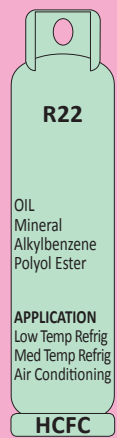


* Not suitable for systems with capillary tube, expansion valve only.

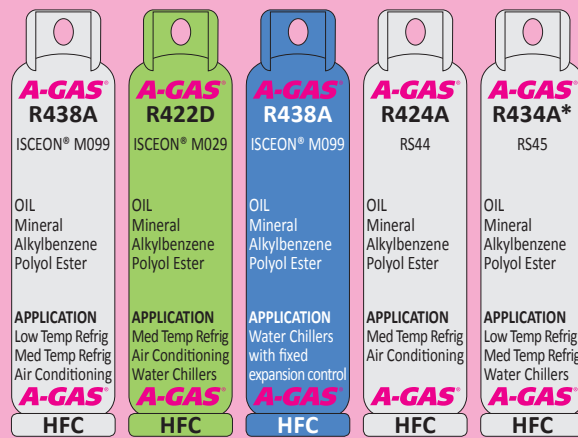
LONG-TERM REPLACEMENT



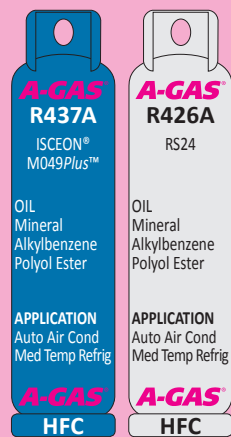
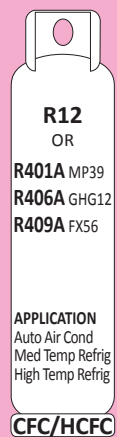
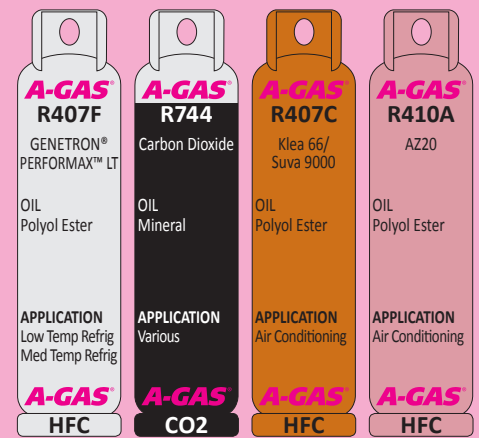
PREVIOUS



REFRIGERANT REPLACEMENT (ZERO ODP)



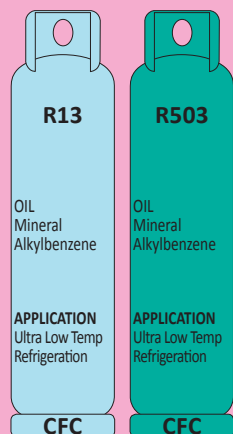
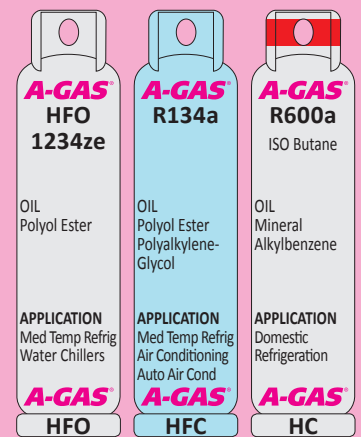
LONG-TERM REPLACEMENT



There is no single product that can replace R22 in all applications. If you need help on any particular application, please contact us.

Replacement refrigerants in most cases do not require a change of lubricant type, however manufacturers' guidance as well as good engineering practice should be followed.

All information supplied is for guide purposes only.



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