



VIN-FP-179/007

# climalife®

## FREON® MO89

### GUARANTEED COMMERCIAL SPECIFICATIONS

STANDARD SPECIFICATIONS	LIMIT VALUE
Composition	
R-125	86% (-1.5% +1.5%)
R-218	9 % (-1.0% +1.0%)
R-290	5 % (-0.5% +0.5%)
Guaranteed purity	≥ 99 % weight
Water content	≤ 10 ppm weight
Acidity	≤ 1 ppm weight
Non-condensable content (gas phase)	≤ 1.5 % volume
High boiling residues	≤ 0.01 % volume

### MAIN APPLICATIONS

FREON® MO89 is a HFC type zeotropic mixture, intended for "drop-in" replacement of R-13B1, used in very low temperatures direct expansion setups.

It can also be used in new setups.

### OILS

Use an alkylbenzene (AB) or polyol ester (POE) oil.

Check with Climalife regarding the viscosity of the oil selected for your application, and the miscibility with the fluid under consideration.

### PRECAUTIONS OF USE

Refer to the Safety Data Sheet\*.

### REGULATION

In Europe, FREON® MO89 recovery is mandatory as per regulation n° 517/2014.

The recovery of FREON® MO89 is mandatory under EU Regulation 517/2014.

(Refer to regulations enforced in each country.)

\* Find the Safety Data Sheet (SDS) directly on our website [www.climalife.dehon.com](http://www.climalife.dehon.com)



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## PHYSICO-CHEMICAL PROPERTIES OF FREON® MO89

Molar mass	g/mol	113.9
Melting point	°C	N/A
Boiling point (under 1.013 bar)	°C	-53.4
Temperature drift under 1.013 bar	K	3.06
Saturated fluid density at 25°C	kg/m <sup>3</sup>	1082
Saturated vapour density at boiling point	kg/m <sup>3</sup>	6.507
Vapour tension at : 25°C 50°C	bar	15,28 27,52
Critical temperature	°C	64,21
Critical pressure	bar	37,36
Critical density	kg/m <sup>3</sup>	534
Latent heat of vaporisation at boiling point	kJ/kg	170.42
Thermal conductivity at 25°C Liquid Vapour under 1.013 bar	W/(m.K)	0.059 0,015
Surface tension at 25°C	10 <sup>-3</sup> N/m	3,73
Water solubility in the fluid at 25°C	% weight	
Viscosity at 25°C Liquid Vapour under 1.013 bar	10 <sup>-3</sup> Pa.s	0,122 0.013
Specific heat at 25°C Liquid Vapour under 1.013 bar	kJ/(kg.K)	1.501 0.840
Ratio Cp/Cv at 25°C under 1.013 bar		1.103
Flammability in air		Non-flammable
Flashing point		None
NF-EN 378 Classification ASHRAE		L1 A1
Ozone Depletion Potential	(R-11=1)	0
GWP 4th Assessment/ 5th Assessment	(CO <sub>2</sub> =1)	3805/3527

Please contact your distributor or our **Climalife** sales department for more information. In addition, if the refrigeration system you want to install, or are working on, does not appear to be a typical installation, please do not hesitate to contact us for advice and information.

The information contained in this product sheet is the result of our studies and experience. It is provided in good faith, but should not, under any circumstance, be taken to constitute a guarantee on our part or an assumption of our responsibility. This is particularly the case when third party rights are at stake or in situations where a user of one of our products fails to observe applicable regulations.

For more information, please visit our website:



[http://www.climalife.dehon.com/contact\\_us](http://www.climalife.dehon.com/contact_us)