

## Sight glasses with moisture indicators



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IGLOO sight glasses helps to formulate a proper diagnosis of the refrigerant system.

IGLOO sight glasses are equipped with a sensitive indicator that reflects a colour, depending on the moisture content of the refrigerant, changing from green (dry) to yellow (wet) and can be mounted inline to indicate:

- The moisture content in refrigerant
- Lack of sub-cooling
- Refrigerant deficiency
- In liquid line, the condition of refrigerant
- In return line from the oil separator, the flow of oil

### Features

- Broad range of temperature: from -30°C (-22°F) to +80 °C (176°F)
- Provides fast and easy indication of:
  - System high moisture content
  - Lack of subcooling or low system charge
- High purity tempered crystal
  - Easy viewing
  - Eliminates risk of explosion
- The same indicator can be used for all refrigerants
  - Suitable for HCFC, HFC and R744 (CO<sub>2</sub>) refrigerants
  - Big size, annular indicator ring
  - Proven dirt resistance
- Hermetic sealed design
  - Not dismountable
  - Explosion proof
- All the sight glasses are singly leak tested and pressure tested
  - Pressure test at 70bar
  - Leak test with helium in a high vacuum chambre according to EN 1779.B6
- Available in threaded (SAE flare 45°), solder and saddle versions

## Sight glasses and moisture indicators

### Approvals

CE (PED, RoHS, REACH), EAC

### Moisture levels

The moisture indicator of IGLOO sight glasses has been developed to operate with all the refrigerants.

Be aware that hermetic compressors only tolerate very low moisture content, while semi-hermetic and other compressors normally tolerate higher moisture contents in the refrigerant. Also, polyester oil for HFC refrigerants (R134a, R404A, R407C) reacts with water in a hydrolysis generating acid and alcohol. For this reason normally acceptable moisture concentration with HFC refrigerants is sensibly lower than with HCFC refrigerants (R22).

The colour on the indicator reflects the moisture content of the refrigerant: values under “green/dry” are to be considered as perfect condition meaning full protection against harmful effects from moisture or, in other words, the filter drier is working properly.

When the green colour starts to fade, the colour change has begun and the indicator should therefore be watched more carefully because when the colour changes to yellow it is a clear signal that the capacity of the filter drier is exceeded and should be replaced as soon as possible.

After about 24 hours from the replacing of the filter drier the sight glass should be controlled again to verify that green colour has been resetted, meaning that the replacing of the filter drier has been properly done.

		Moisture content into refrigerant (ppm)					
		R22	R134a	R404A	R407C	R410A	R507
<b>Safe</b>	Green / Dry	<60	<75	<30	<30	<30	<30
<b>Attention</b>	Chartreuse	60	75	30	30	30	30
<b>Danger</b>	Yellow / Wet	>60	>75	>30	>30	>30	>30

*Moisture values of other refrigerants are available upon request.*

### Technical data

Suitable for HCFC, HFC and R744 (CO<sub>2</sub>) refrigerants. Not suitable for ammonia.  
Guaranteed leakrate is less than 1 gram/year of refrigerant.

#### *Sight glasses, moisture and liquid indicators*

<b>MIF series</b>	external-internal threads (male-female threads) acc. to SAE J513 (Flare 45°)	-30 ÷ +80 °C -22 ÷ +176 °F	48bar 700psig
<b>MIM series</b>	external-external threads (male-male threads) acc. to SAE J513 (Flare 45°)		
<b>MIS series</b>	solder connections ODF/ODF mm and inch sizes		
<b>MIT series</b>	saddle type solder connection		

## Sight glasses and moisture indicators

### Standard supplies

Packaged into single carton boxes, with annex fitting instructions and CE certificate.

### Ordering

*MIF moisture indicators flare mount, male-female*



Part number	Threads ANSI/ASME B1.1		Flare Connections SAE J513	PED 2014/68/EU
	ext thread (male)	int thread (female)		Risk Category
MIF-4	7/16" - 20 UNF	7/16" - 20 UNF	1/4"	Art.4 Par.3
MIF-6	5/8" - 18 UNF	5/8" - 18 UNF	3/8"	
MIF-8	3/4" - 16 UNF	3/4" - 16 UNF	1/2"	
MIF-10	7/8" - 14 UNF	7/8" - 14 UNF	5/8"	
MIF-12	1.1/16" - 14 UNS	1.1/16" - 14 UNS	3/4"	

*MIM moisture indicators flare mount, male-male*



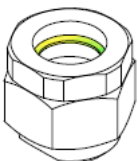
Part number	Threads ANSI/ASME B1.1		Flare Connections SAE J513	PED 2014/68/EU
	ext thread (male)	ext thread (male)		Risk Category
MIM-4	7/16" - 20 UNF	7/16" - 20 UNF	1/4"	Art.4 Par.3
MIM-6	5/8" - 18 UNF	5/8" - 18 UNF	3/8"	
MIM-8	3/4" - 16 UNF	3/4" - 16 UNF	1/2"	
MIM-10	7/8" - 14 UNF	7/8" - 14 UNF	5/8"	
MIM-12	1.1/16" - 14 UNS	1.1/16" - 14 UNS	3/4"	

*MIS moisture indicators solder mount, ODF/ODF*



Part number	ODF Connections (aka ODS)		PED 2014/68/EU
	mm	inch	Risk Category
MIS-M6	O.D. 6mm	-	Art.4 Par.3
MIS-4	-	O.D. 1/4"	
MIS-6	-	O.D. 3/8"	
MIS-M10	O.D. 10mm	-	
MIS-M12	O.D. 12mm	-	
MIS-8	-	O.D. 1/2"	
MIS-10	O.D. 16mm	O.D. 5/8"	
MIS-M18	O.D. 18mm	-	
MIS-12	O.D. 19mm	O.D. 3/4"	
MIS-14	O.D. 22mm	O.D. 7/8"	

*MIT moisture indicators, saddle type*



Part number	Saddle connections		PED 2014/68/EU
	mm	inch	Risk Category
MIT-10	16mm	5/8"	Art.4 Par.3
MIT-12	19mm	3/4"	
MIT-14	22mm	7/8"	
MIT-18	28mm	1.1/8"	
MIT-22	35mm	1.3/8"	
MIT-26	42mm	1.5/8"	
MIT-34	54mm	2.1/8"	

**Remark:** Sight glasses can be supplied also without moisture indicator.