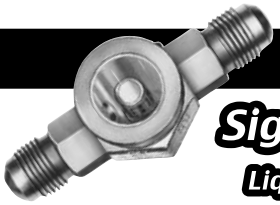
Installation Instructions



Parker | kmp

Sight Glass Moisture & Liquid Indicator

GENERAL – The Sight Glass moisture & liquid indicator may be installed anywhere in the liquid line. When located between the filter-drier and the expansion device, bubbles indicate a shortage of refrigerant or a restriction in the liquid line such as a plugged drier. **Change the drier when the color is in the caution or wet range.** When received, the indicator may not indicate dry. This in no way affects operation or calibration of the indicator. **The action of the indicator element is completely reversible and will change color whenever the moisture content of the system changes.**

The indicating element may change color rapidly on some installations, while others may take a much longer. In new systems, or systems where the drier has been replaced, the indicator will start changing color almost immediately. However, it is recommended that the equipment **operate for 12 hours,** to allow the system to reach equilibrium, before deciding if the drier should be changed.

The drying of the system should be continued until the indicating element stays **Medium Blue**.

The moisture change level of the refrigerant in Parts Per Million (PPM) for the various Sight Glass moisture indicator colors is shown below.

BRAZING INSTRUCTIONS

Sight Glass moisture & liquid indicators with 1/4" through 1-1/8" ODF connections are ready for brazing as received. Avoid overheating the body since extreme heat could damage the glass joint. If a wet rag is used it should be wrapped around the fittings and bottom of the body, but not around the top of the Sight Glass body. In this way, any moisture inside the Sight Glass will not condense on the cool glass surface and wash away the color indicator material.

The **indicator cartridge** must be removed from the PSG-11S, PSG-13S, PSG-17S (1-3/8", 1-5/8" and 2-1/8" line sizes) Sight Glass indicators before brazing into the liquid line. It is shipped hand tight.

All Sight Glass indicators with sweat fittings are suitable for use with the commonly used brazing alloys including silver solder, Sil-Fos, Phos-copper or Sta-Brite.

BRAZING TECHNIQUE

1. Fittings are clean and ready to braze as received. **Avoid excessive polishing with steel wool** since this may rub off the copper plating on models with plated steel fittings, making brazing more difficult.

MOISTURE CONTENT PPM

Sight Glass Shows	Refrigerant											
	11 & 12		123 & 22		134a		113, 114 & 502		404A & 507		4107C	410A
	Liquid Line Temperature (°F)											
	75°F	**100°F**	75°F	**100°F**	75°F	**100°F**	75°F	**100°F**	75°F	**100°F**	75°F	75°F
Blue DRY	Below 5	**Below 10**	Below 30	**Below 45**	Below 50	**Below 80**	Below 10	**Below 20**	Below 15	**Below 30**	Below 120	Below 75
Light Blue CAUTION	5-15	**10-30**	30-90	**45-130**	50-200	**80-225**	10-45	**20-65**	15-90	**30-140**	120-180	75-150
Pink WET	Above 15	**Above 30**	Above 90	**Above 130**	Above 200	**Above 225**	Above 45	**Above 65**	Above 90	**Above 140**	Above 280	Above 150

For use on Refrigeration and/or Air Conditioning Systems ONLY

2. During brazing, bleed an inert gas (dry nitrogen or CO^2) through the tubing and Sight Glass.
3. Use a torch that is large enough to rapidly heat the line size being used.
4. Direct the flame away from the Sight Glass body.
5. Perform brazing as rapidly as possible.

FLARING TECHNIQUE

1. Deburr tubing before flaring.
2. Use a drop of oil on the cone of the flaring tool.
3. Place drops of refrigerant oil on the front and back surface of the flare before drawing the nut tight. This allows flare and fitting to mate smoothly.
4. **It is especially important to use oil on joints where both the male and female fittings are plated steel. The oil will prevent galling.**

APPLICATION SUGGESTIONS

The Parker Sight Glass moisture & liquid indicator should not be used on systems containing methyl alcohol or similar liquid dehydrating agents unless an oversize filter-drier has been installed previously to remove these additives. Certain colored liquid leak detectors in a system may permanently discolor the moisture indicating element.

On systems containing an **excessive amount of water,** from a broken condenser or water chiller, do not install the Sight Glass indicator until the filter-drier or the replaceable cores are changed several times to reduce the initial high moisture content. Liquid water will dissolve and wash away the color indicator material resulting in a white color. This type of damage is permanent – the Sight Glass will no longer change color. If the indicator paper is damaged, it's preferable to change the Sight Glass.

When the Sight Glass is soldered in a difficult location, it may be desirable to change only the indicator. This can be done with the fused glass models. Parker kit K-PSG-1 consists of a new slotted cylinder and indicator assembly. These parts can be replaced by removing the plug opposite to the glass. See Figure A.

REMOVABLE CARTRIDGE

Types PSG-11S, PSG-13S, and PSG-17S have copper connections and feature a removable cartridge containing the moisture indicating element. The cartridge has a **knife edge joint** and is available as a separate unit for field replacement purposes if necessary. It is designed as PSG-10TS and fits all three sizes.

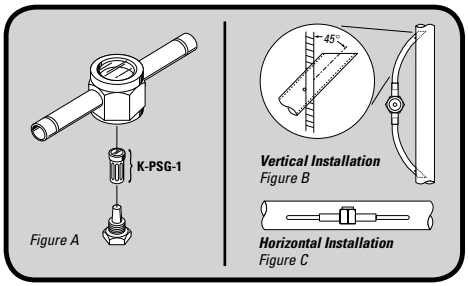
Do not use Sight Glass indicators at temperatures below –50°F.

BYPASS INSTALLATION

The Sight Glass moisture & liquid indicator may be installed in a bypass to the main liquid line – and must be installed in this manner on lines larger than 2-1/8" OD.

BYPASS INSTALLATION KITS

Are available from your Parker Wholesaler. While satisfactory liquid and moisture indication will generally be obtained in any position, preferred methods of installation are shown in Figures B and C.



All Parker Sight Glass indicators are suitable for use with the halocarbon refrigerants, including 11, 12, 22, 113, 114, 134a, 404A, 407C, 410A, 502 and 507. Listed by Underwriter's Laboratories, Inc. for a working pressure of 650 psig or 4482 kPa.

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