# **Rhodes Flow Indicators**

#### Installation and Maintenance instructions

# 1. INSTALLATION:

Prior to installation, please ensure that the Flow Indicator is suitable for your operating conditions. Details of the permitted maximum operating pressure, the maximum and minimum temperatures will be found in, or attached to, our official acknowledgement of your Purchase Order.

The maximum allowable hydrostatic test pressure for this unit is 1.43 x PS (max operating pressure).

The surface temperature of this equipment will be comparable with the temperature of the fluid flowing through the system; this must be taken into consideration during system design where fluid temperatures are deemed hazardous. This unit is not designed to resist external fire.

If your application involves an alkaline solution, including steam condensate, please ensure that you have specified Borosilicate Glass or Mica Discs for glass protection.

Care should be taken when designing your pipe-work system to ensure that the liquid contained within the Flow Indicator will not be subject to hydraulic lock or rapid temperature changes that could cause thermal shock on the glass disc or dome. The harmful effects of water hammer that may occur during operation and testing are not considered within the design. Unless otherwise advised this unit is not designed for use with abrasive or unstable fluids.

The pipeline must be adequately supported such that the sight glass is not subject to external loadings and provision should be made for adequate draining or venting of the system.

If you have any doubts regarding the suitability of the Flow Indicator for your application, please consult our Technical Sales Department prior to installation.

Mounting in your pipeline: -

If the Flow Indicator is suitable for only one direction of flow, an arrow will be found on the body clearly indicating the correct direction of flow. In the absence of an arrow, it can be assumed that the Flow Indicator will operate with flow from either direction. When a spinner or flap type Flow Indicator is being installed in a new pipeline, please ensure that the pipeline is flushed through prior to installation of the Flow Indicator.

Extreme care should be exercised particularly when installing Cast Iron bodied Flow Indicators, as undue stress and pressure applied to threads etc could result in a fracture and this might not be evident until the

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pipeline containing any damaged Flow Indicator is filled with liquid. The installation of a Flow Indicator in a position where accidental damage is likely, particularly to the glass discs or dome, should be avoided.

## 2 INSPECTION AND MAINTENANCE:

In the interests of safety all Flow Indicators should be inspected regularly (at least every 12 months) particular attention should be given to the following: - internal /external corrosion (3mm max for carbon steel and cast iron bodies), erosion to the inner face of glass discs or domes and that they remain free of scratches or suchlike to the outer face. Where there is any doubt, inspection may be completed by removing the cover and glass, having ensured the system is depressurised and purged. Should you require any further assistance then please do not hesitate to consult our Technical Sales Office.

In certain instances, particularly where the pipeline does not receive regular washing, the periodic removal of the glass discs or domes for cleaning might be necessary. Care should be taken to ensure that the glass disc or dome are not damaged or scratched during this operation.

It is critical that replacement component parts are identical in specification to the original components. This is particularly so in the case of glass discs, glass domes and joint washers. Ensure that the edges of replacement glass discs are covered with adhesive tape or suchlike before installation to avoid direct contact with internal bores of the cover rings.

## 3. SPARES:

We recommend that a limited number of glass discs or domes, together with suitable joint washers, be held for replacements during regular maintenance or the repair of any accidental damage. Our Technical Sates Department will provide a spare parts recommendation upon request.

### 4. STORAGE:

Flow Indicators should be stored carefully in a clean dry area at a temperature preferably above freezing point.