

INSTRUCTION BULLETIN

FOR

SERIES 10A2235 RATOSIGHT FLOW RATE INDICATORS

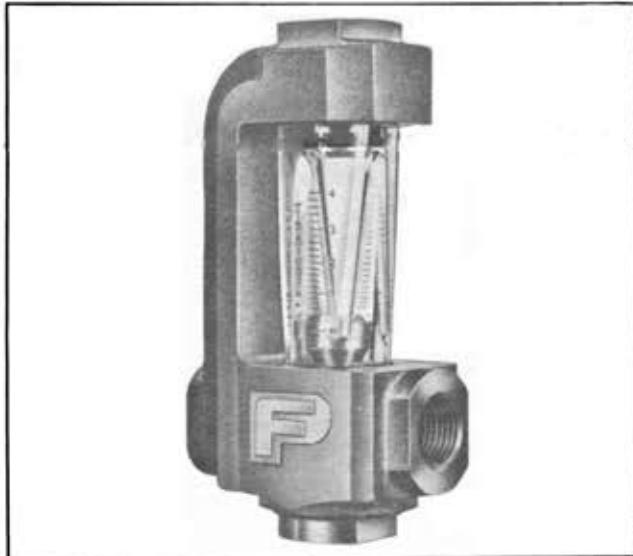


FIG. I TYPICAL SERIES 10A2235 RATOSIGHT FLOW RATE INDICATOR

DESCRIPTION

The Ratosight flow rate indicator operates on the variable area principle to indicate the flow rate of a liquid or a gas. The basic meter components are a tapered glass tube, a float, and a metal body. A scale is provided on the glass metering tube. The float is guided by flutes formed on the inside surface of the tube; the height of the float in the tube is proportional to the flow rate, so that the flow rate can be read from the scale at a point opposite the grooved horizontal line of the float. The scale on the meter tube is direct reading in GPM, water or SCFM, air. Special scales may be furnished, when specified.

In addition to providing a direct indication of flow rate, an alarm extension may be installed on the Ratosight to open or close alarm circuits at predetermined flow rates. A magnet, connected to the float by an extension, is moved by the float and actuates a switch at a pre-determined point, within the range of the Ratosight. Alarm extensions of explosion proof construction are available for hazardous operating conditions. For details of the alarm extension refer to the applicable Fischer & Porter Instruction Bulletin.

Meter Tube Size	Connection Size NPTI	Maximum Pressure Rating, In PSIG @ 250°F Max.	Maximum Test Pressure In PSIG
1/4"	1/2"	200	300
1/2"	1/2"	175	260
1"	1"	125	185
1 1/2"	1 1/2"	75	110
2"	2"	75	110

INSTALLATION

The Ratosight is normally furnished for horizontal connections. However, vertical connections or combination horizontal-vertical connections may be made by changing the locations of the pipe plugs. Thus an over alarm extension can be added to the Ratosight using a horizontal outlet. If the Ratosight has a vertical inlet, a nipple and union should be added to facilitate future removal of the float. The various piping arrangements are shown in Figure IV.

Refer to Fig. V for outline dimensions of the instrument. Install the Ratosight in the piping system so that the tube is vertical. The instrument should be as free as possible from piping strains. When installing large indicators, use brackets or piping supports to eliminate piping strains.

If the float is received separately from the instrument, insert it in the tube after removing the inlet fitting. If the Ratosight is equipped with an alarm extension, complete the wiring as outlined in the instructions for the alarm.

OPERATION

Start flow thru the instrument slowly to avoid excessive flow surges which might damage the float or tube. Flow rate is read from the scale at a point opposite the grooved horizontal line on the float. When millimeter or other special scales are fur-

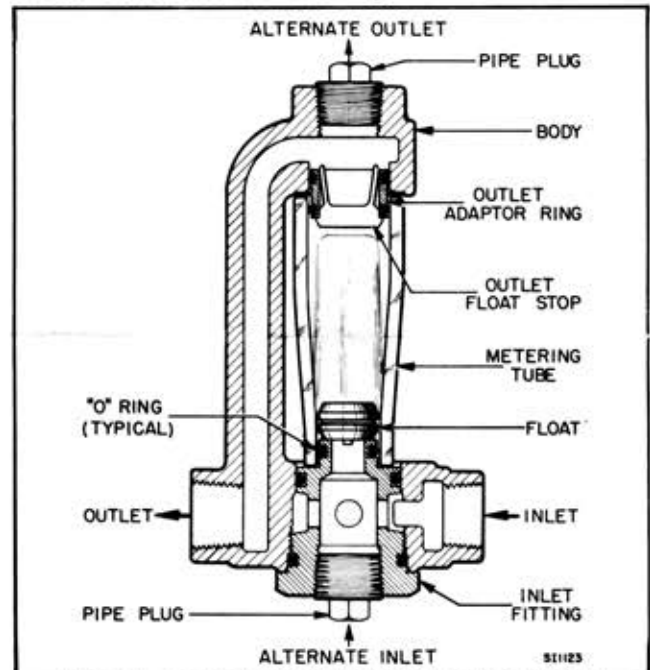


FIG. II CROSS SECTION OF RATOSIGHT FLOW RATE INDICATOR

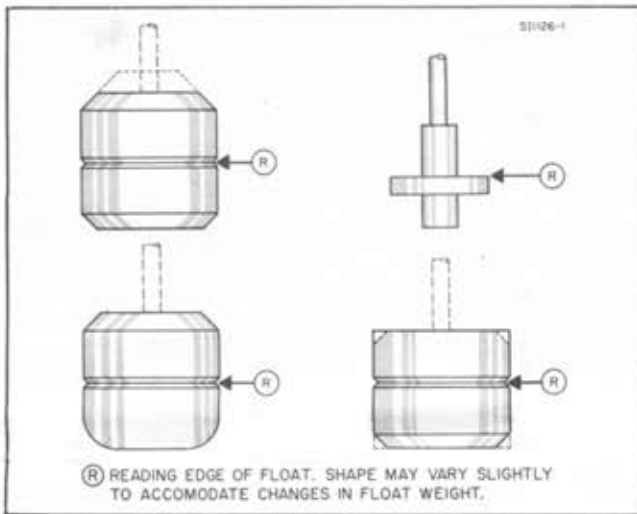


FIG. III FLOAT READING EDGES

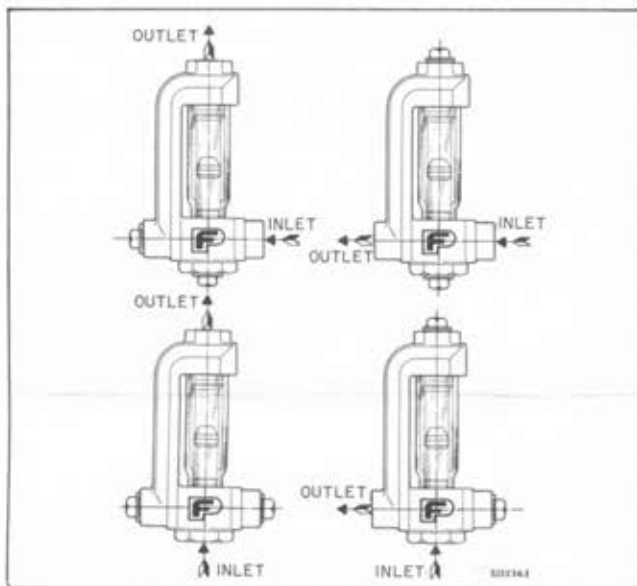


FIG. IV PIPING ARRANGEMENTS

WARNING

GLASS METERING TUBES HAVE BEEN DESIGNED TO OPERATE UP TO THE MAXIMUM DESIGN WORKING PRESSURES LISTED HEREIN. THIS IS NOT TO BE CONSTRUED AS A CERTIFICATION THAT THE TUBES WILL NOT BREAK AT ANY PRESSURE. INHERENT MATERIAL LIMITATIONS CAN RESULT IN TUBE BREAKAGE DUE TO CONDITIONS BEYOND OUR CONTROL. BECAUSE BREAKAGE AT HIGH OPERATING PRESSURES (PARTICULARLY WHEN METERING GASES OR LIQUIDS ABOVE THEIR NORMAL BOILING POINTS) REPRESENTS A GREATER HAZARD TO PERSONNEL, OPERATOR PROTECTION IS RECOMMENDED FOR PRESSURES ABOVE 50 PSIG. A 1/2" THICK ACRYLIC PLASTIC SHEET CAN BE USED AS A SHIELD OR, ALTERNATIVELY A MODEL 10A1790A SERIES METER WITH A SAFETY ENCLOSURE OR AN ALL METAL METER CAN BE SUBSTITUTED.

nished, a calibration curve may be supplied. By entering the indicated value on this curve, the actual flow rate can be obtained.

If the Ratosight contains an alarm extension refer to the appropriate Instruction Bulletin to set the alarm point.

MAINTENANCE

Normal maintenance consists of cleaning the float and tube to maintain good visibility.

If the meter inlet is connected vertically, the inlet piping must be separated to remove the float. Remove the float and tube by taking the inlet fitting from the bottom of the meter.

CAUTION

Exercise care when removing the inlet fitting as the float and tube are free to fall out of the meter body.

Clean the float and tube carefully with a suitable solvent (detergent and water are usually satisfactory), then replace the parts.

To disassemble the meter completely, remove the float as outlined above, then the outlet adaptor ring may be withdrawn from the meter body. During meter re-assembly it is preferable to use new "O" rings.

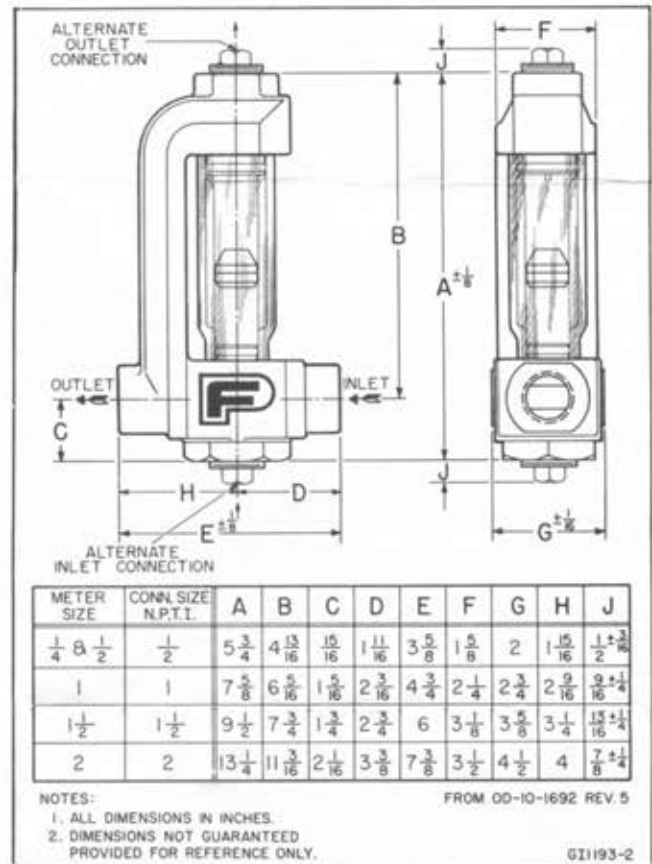


FIG. V OUTLINE DIMENSIONS



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