INSTRUCTION BULLETIN
FOR
MODEL 10A1227 ARMORED PURGE METER
Design Level B

SPECIFICATIONS

PERFORMANCE
Accuracy: ± 10% of maximum flow
Rangeability: 10 to 1

OPERATIONAL LIMITS
3600 psig (24818 kPa) at 100°F (37°C)
2390 psig (16476 kPa) at 500°F (260°C)
Maximum recommended temperature 500°F (260°C)

MATERIALS OF CONSTRUCTION
Orifice, float & fittings: 316 SST
Indicator scale: Borosilicate glass
"O" rings: Silicone rubber

MAXIMUM FLOW & PRESSURE DROP

<table>
<thead>
<tr>
<th>MAXIMUM FLOW</th>
<th>PRESSURE DROP</th>
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<tbody>
<tr>
<td>LIQUID @</td>
<td>GAS @ @</td>
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<tr>
<td>gph</td>
<td>L/hr</td>
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<tr>
<td>10</td>
<td>38</td>
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<tr>
<td>25</td>
<td>95</td>
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<tr>
<td>80</td>
<td>303</td>
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@ Water at 1.0 g/mL density, 1 cps viscosity
@ Air at 14.7 psia (101.3 kPa abs), 70°F (21°C)
@ Not recommended for service below 60 psig
(400 kPa gauge)

CONNECTIONS
Threaded, 1/2-inch NPT

INDICATOR SCALE
Type: Percentage of maximum flow rate in increments of 10%
Length: 1-1/2 inches (38 mm)

ACCESSORY
1/2-inch needle valve. High pressure stainless steel. (Not integral.)

INTRODUCTION
The Fischer & Porter Model 10A1227 Armored Purge Meter, shown in Figures 1 and 2, is constructed of 316 stainless steel with a glass indicator scale and silicone "O" ring seals. The Purge Meter is suited for low flow rate, high pressure, high temperature liquid or gas service.
As fluid enters the bottom of the Purge Meter, it passes through a fixed inlet orifice and lifts a tapered float to a height that is proportional to the flow rate. A magnet embedded in the float attracts the magnet follower. The magnet follower moves up or down along the inside surface of a glass indicator scale, and provides indication of the flow rate. Scale units are normally expressed as a percentage of maximum flow rate.

**INSTALLATION**

Outline dimensions and connection size are shown in Figure 1. The Purge Meter is normally mounted directly in the pipeline. Mount in a vertical position and in a location that is free of severe vibration.

**OPERATION**

When placing the Purge Meter in operation, start the flow slowly to avoid possible damage. The flow rate may be read from the indicator scale at a point corresponding to the position of a horizontal yellow line on the magnet follower.

If the magnetic bond between the float and magnet follower is lost, due to a fluid surge in the pipeline, the magnet follower will fall to rest below the zero line on the indicator scale. In this case, close the process fluid valve momentarily. When the float falls to an approximate 10% flow position, it will again pick up the magnet follower, thus restoring the magnetic bond.

**MAINTENANCE**

No routine maintenance is required. If dirt or deposits collect inside the meter tube or on the float, circulate a suitable solvent through the Purge Meter.

If the system cannot be flushed, the Purge Meter may be disassembled for cleaning by removing it from the pipeline. Before attempting to remove the Purge Meter from the pipeline, make certain to shut off the process fluid, reduce the pressure to zero and drain the line. Proceed as follows:

1) Unscrew both end fittings.
2) Push the indicator scale off of the meter tube.
   Inspect the “O” rings for nicks, cuts or distortion; replace as necessary.
3) Remove the magnet follower.

Re-assemble the Purge Meter by following a reverse procedure. However, when replacing the indicator scale, be certain to align zero scale reading on the tube with the horizontal yellow line on the magnet follower. This should be done when the float is in a zero or no flow position. If the end fittings are removed, an anti-seize compound (pipe dope) should be placed on the threads before the end fittings are threaded onto the meter tube.