FEATURES

• Exceptional Performance & Value - Accuracy and reliability normally only found in expensive full bore devices in a cost-effective insertion style design.

• Excellent Long Term Reliability - Low maintenance, no-moving-parts flow sensing technology works well in difficult flow measurement applications such as open loop condenser water flow.

• Highly Accurate Over a Wide Flow Range - Highly efficient sensor design a continuous auto-zero function improve accuracy and sensitivity, particularly at low flow rates.

• Simplified Hot-Tap Insertion Design - Standard on every insertion flow meter, this feature allows for insertion and removal by hand, without a system shutdown.

• Ideal Solution for Retrofits - The innovative hot-tap adapter design allows for wet tapping pipes without a interrupting flow.

DESCRIPTION

ONICON Incorporated’s F-3500 series insertion electromagnetic flow meters are suitable for measuring electrically conductive liquids in a wide variety of applications. Each F-3500 provides a single analog output for flow rate, a high resolution frequency output to drive peripheral devices, a scalable pulse output for totalization, and an empty pipe alarm signal.

Two versions of the F-3500 are now available. The standard configuration F-3500 is suitable for pipe sizes ranging from 3” to 72” in diameter. The new small pipe configuration F-3500 is suitable for pipes ranging in size from 1¼”- 2½” in diameter.

Optional remote displays and Btu measurement systems are also available for both versions.

APPLICATIONS

• Accurate, reliable flow measurement for HVAC applications
• Ideal for monitoring open loop condenser water flow
• Hot-tap design simplifies domestic water retrofit installations
• Cost-effective way to monitor flow in larger pipe sizes
• Suitable for use in water and water/glycol systems

CALIBRATION

Every ONICON flow meter is wet calibrated in a flow laboratory against standards that are directly traceable to N.I.S.T. A certificate of calibration accompanies every meter.
GENERAL SPECIFICATIONS

ACCURACY
± 1.0% of reading from 2 to 20 ft/sec
± 0.02 ft/sec below 2 ft/sec

FLOW RANGE
0.1 ft/s to 20 ft/s (200:1 turndown)

SENSING METHOD
Electromagnetic sensing (no moving parts)

PIPE SIZE RANGE
Standard Configuration: 3” - 72” nominal diameter
Small Pipe Configuration: 1¼” - 2½” nominal diameter

INPUT POWER
20 – 28 VDC, 250 mA @ 24 VDC
20 – 28 VAC 60 Hz, 6 VA

LIQUID TEMPERATURE RANGE
15° to 250° F

AMBIENT TEMPERATURE RANGE
-20° to 150° F

OPERATING PRESSURE
400 PSI maximum

PRESSURE DROP
Standard Configuration: 0.1 psi at 12 ft/s velocity in 3”
pipe, decreasing as line size increases
Small Pipe Configuration: 0.33 psi at 8 ft/s in 1.25” pipe,
decreasing as the line size increases

OUTPUT SIGNALS PROVIDED
Analog Output (Isolated)
Selectable: 4-20 mA, 0-10 V or 0-5 V
Frequency Output
0 – 15 V peak pulse, 0 – 500 Hz
Scalable Pulse Output
Isolated solid state dry contact
Contact rating: 50 VDC, 100 mA maximum
Pulse Duration: 0.5, 1, 2 or 6 seconds

MATERIAL
Wetted metal components: 316 stainless steel
Sensor head: Xarec
Optional: NSF/ANSI 61/372 version*

TYPICAL METER INSTALLATION
(New construction or scheduled shutdown)

Electromagnetic Insertion Flow Meter

NOTE: Specifications are subject to change without notice.

* Standard configuration meters certified NSF/ANSI 61 & 372 through UL.
Small pipe configuration meters conform to NSF/ANSI 61 & 372
(certification pending)

ELECTRONICS ENCLOSURE
Weathertight NEMA 4 aluminum enclosure

ELECTRICAL CONNECTIONS
10’ of PVC jacketed cable with ½” NPT conduit connection
Dedicated earth wire required
4-wire minimum for power and analog output
Additional wires required for pulse, frequency and alarm outputs

<table>
<thead>
<tr>
<th>Pipe Size (inches)</th>
<th>Flow Rate (GPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ¼</td>
<td>0.4 - 95</td>
</tr>
<tr>
<td>1 ½</td>
<td>0.6 - 130</td>
</tr>
<tr>
<td>2</td>
<td>1.0 - 200</td>
</tr>
<tr>
<td>2 ¼</td>
<td>1.1 - 230</td>
</tr>
<tr>
<td>3</td>
<td>2.4 - 460</td>
</tr>
<tr>
<td>4</td>
<td>4 - 800</td>
</tr>
<tr>
<td>6</td>
<td>9 - 1,800</td>
</tr>
<tr>
<td>8</td>
<td>16 - 3,100</td>
</tr>
<tr>
<td>10</td>
<td>24 - 4,900</td>
</tr>
<tr>
<td>12</td>
<td>35 - 7,050</td>
</tr>
<tr>
<td>14</td>
<td>42 - 8,600</td>
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<tr>
<td>16</td>
<td>55 - 11,400</td>
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<tr>
<td>18</td>
<td>70 - 14,600</td>
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<tr>
<td>20</td>
<td>86 - 18,100</td>
</tr>
<tr>
<td>24</td>
<td>125 - 26,500</td>
</tr>
<tr>
<td>30</td>
<td>223 - 41,900</td>
</tr>
<tr>
<td>36</td>
<td>304 - 60,900</td>
</tr>
</tbody>
</table>

NOTE: Installation kits vary based on pipe material
and application. For installations in pressurized (live) systems, use “Hot tap” 1¼” installation kit
and drill hole using a 1” wet tap drill.

1 Insertion depth gage provided with standard configuration meters only.