Lake Monitors
Basic In-line Liquid Flow Rate Monitors
FOR 1/4" – 2" PIPE SIZES

**STYLE B**

**CHOICE OF THREE MATERIALS OF CONSTRUCTION**
Select from aluminum, brass or stainless steel to meet system and media compatibility requirements.

**UNRESTRICTED MOUNTING**
Allows the designer to install the monitor in any orientation – horizontal, vertical or inverted.

**SUPERIOR EXTERIOR DESIGN**
Weather-tight for use outdoors and/or on systems where wash downs are required.

**GOOD VISCOSITY STABILITY**
A sharp-edged stainless steel orifice provides excellent measurement stability for viscosities from 0-500 SSU.

**RUGGED AND RELIABLE**
Designed as a hydraulic service tool, this monitor will provide years of maintenance-free performance.

**HIGH PRESSURE OPERATION**
The magnetically coupled follower and rigid pressure vessel design allows operation to 6000 PSIG and use with opaque liquids.

**24 DIFFERENT PORTS AVAILABLE**
Standard selection of NPT, SAE and BSP ports reduces the amount of adapters required for installation.

**LOW COST ACCURACY**
±2.5% of range accuracy in center third of scale; ±4% in upper and lower thirds.

**BI-DIRECTIONAL AND REVERSE FLOW OPTION OFFERED**
Basic in-line monitors are also available in bi-directional and reverse flow versions.

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**ENGINEERING SPECIFICATION**

**THE IN-LINE FLOW RATE MONITOR SHALL:**
- Use the variable annular orifice technique with compression spring recoil.
- Not require inlet or outlet straight plumbing, or require vertical pipe mounting.
- Have a measuring accuracy of ±2.5% of full scale in the center third of the measuring range, and ±4% in upper and lower third.
- Have a stainless steel sharp-edged orifice.
- Have a weather-tight external construction.
- Be Lake Monitors No. B _ _ _ – _ _ _

www.lakemonitors.com
Basic In-line Liquid Flow Rate Monitors

**MATERIALS OF CONSTRUCTION (WETTED COMPONENTS)**

<table>
<thead>
<tr>
<th></th>
<th>ALUMINUM</th>
<th>BRASS</th>
<th>STAINLESS STEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-pressure casing,</td>
<td>Aluminum</td>
<td>Brass</td>
<td>#303 Stainless Steel</td>
</tr>
<tr>
<td>end ports and tapered</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>shaft</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seals</td>
<td>Buna-N®, EPR, FKM or FFKM</td>
<td>Buna-N® (STD), EPR, FKM or FFKM</td>
<td>FKM with PTFE backup (STD), Buna-N®, EPR or FFKM</td>
</tr>
<tr>
<td>Transfer Magnet</td>
<td>PTFE coated Alnico</td>
<td>PTFE coated Alnico</td>
<td>PTFE coated Alnico</td>
</tr>
<tr>
<td>Floating Orifice Disk</td>
<td>Stainless Steel</td>
<td>Stainless Steel</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>All other internal parts</td>
<td>Stainless Steel</td>
<td>Stainless Steel</td>
<td>Stainless Steel</td>
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</table>

Buna-N is a registered trademark of Chemische Werke Huls

**MATERIALS OF CONSTRUCTION (NON-WETTED COMPONENTS)**

<table>
<thead>
<tr>
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<th>ALUMINUM</th>
<th>BRASS</th>
<th>STAINLESS STEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window Tube</td>
<td>Polycarbonate (STD)</td>
<td>Polycarbonate (STD)</td>
<td>Polycarbonate (STD)</td>
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<tr>
<td>Window Seals</td>
<td>Buna-N®, PTFE</td>
<td>Buna-N®, PTFE</td>
<td>Buna-N®, PTFE</td>
</tr>
</tbody>
</table>

**PERFORMANCE**

- Measuring accuracy*: ±2.5% of full-scale in the center third of the measuring range; ±4% in upper and lower thirds
- Repeatability: ±1% of full-scale
- Flow measuring range: 0.5-150 GPM (0.2-560 LPM)
- Pressure differential: See graphs on the right for typical pressure differentials. For specific differential information, refer to Lake data sheet PDDS-404.
- Maximum operating pressure: aluminum and brass monitors: 3500 PSIG (240 Bar) stainless steel monitors: 6000 PSIG (410 Bar)
- Maximum operating temperature: 240°F (116°C) Note: for operation to 600°F (316°C), see our High Temperature data sheet.
- Standard calibration fluids: Oil monitors: DTE 25® @ 110°F (43°C), 0.873 sg Water monitors: tap water @ 70°F (21°C), 1.0 sg
- Filtration requirements: 74 micron filter or 200 mesh screen minimum

*Accuracy is ±4% Full-scale across entire range for “BI” option.

**MECHANICAL SIZE CODE**

<table>
<thead>
<tr>
<th>DIM</th>
<th>SERIES 3</th>
<th>SERIES 4</th>
<th>SERIES 5</th>
<th>SERIES 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1-7/8&quot;</td>
<td>2-3/8&quot;</td>
<td>3-1/2&quot;</td>
<td>3-1/2&quot;</td>
</tr>
<tr>
<td></td>
<td>(48mm)</td>
<td>(60mm)</td>
<td>(90mm)</td>
<td>(90mm)</td>
</tr>
<tr>
<td>B</td>
<td>6-9/16&quot;</td>
<td>7-5/32&quot;</td>
<td>10-1/8&quot;</td>
<td>12-5/8&quot;</td>
</tr>
<tr>
<td></td>
<td>(167mm)</td>
<td>(182mm)</td>
<td>(258mm)</td>
<td>(322mm)</td>
</tr>
</tbody>
</table>

**Port Sizes**

- NPTF: 1/4", 3/8", 1/2" SAE: #6, #8, #10
- BSP: 3/8", 1/2"

Note: Consult factory for SAE brass monitor requirements.

*Typical Pressure Differentials*

For specific differential graphs, refer to Lake data sheet PDDS-404.

**SERIES 5 MONITORS**

1-1/4” - 2”

**SERIES 4 MONITORS**

3/4” - 1”

**SERIES 3 MONITORS**

1/4” - 1/2”

www.lakemonitors.com

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