Choice of Three Materials of Construction
Select from aluminum, brass or stainless steel to meet system requirements.

Unrestricted Mounting
Allows the designer to install the monitor in any orientation – horizontal, vertical or inverted.

Good Viscosity Stability
A sharp-edged stainless steel orifice provides excellent measurement stability for viscosities ranging 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 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
High temperature monitors are also available in bi-directional and reverse flow versions.
Contact Lake Monitors for more information.

Engineering Specification
The high temperature 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 thirds.
- Have a stainless steel sharp-edged orifice.
- Have a maximum temperature rating of: H-series 400°F (204°C) or J-series 600°F (315°C).
- Have a working pressure rating of 3500 PSIG.
- Be Lake Monitors No. H _ _ - _ _ _ - _ _ for 400°F (204°C) applications or J _ _ - _ _ _ - _ _ for 600°F (315°C) applications.

www.lakemonitors.com
High Temperature 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, end ports and tapered shaft</td>
<td>Aluminum</td>
<td>Brass</td>
<td>#303 Stainless Steel</td>
</tr>
<tr>
<td>Seals</td>
<td>H-Series (400°F)</td>
<td>FKM w/ PTFE backup</td>
<td>FKM w/ PTFE backup</td>
</tr>
<tr>
<td></td>
<td>J-Series (600°F)</td>
<td>FKM w/ PTFE backup</td>
<td>FKM w/ PTFE backup</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>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>ALUMINUM</th>
<th>BRASS</th>
<th>STAINLESS STEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window Tube</td>
<td>Pyrex®</td>
<td>Pyrex®</td>
<td>Pyrex®</td>
</tr>
<tr>
<td>Window Seals</td>
<td>PTFE</td>
<td>PTFE</td>
<td>PTFE</td>
</tr>
</tbody>
</table>

Pyrex® is a registered trademark of Corning Incorporated

**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:** 0.05-150 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**:
  - H-Series 400°F (204°C)
  - J-Series 600°F (315°C)
- **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
  - Air monitors: air @ 70°F (21°C), 1.0 sg and 100 PSIG (6.8 Bar)
- **Filtration requirements**: 74 micron filter or 200 mesh screen minimum

1 Note: Consult factory for Temperature/Pressure De-rating Chart

DTE 25® is a registered trademark of Exxon Mobil

**MECHANICAL SIZE CODE**

<table>
<thead>
<tr>
<th>DIM SERIES 3</th>
<th>SERIES 4</th>
<th>SERIES 5</th>
<th>SERIES 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 1-7/8” (48mm)</td>
<td>2-3/8” (60mm)</td>
<td>3-1/2” (90mm)</td>
<td>3-1/2” (90mm)</td>
</tr>
<tr>
<td>B 69/16” (167MM)</td>
<td>75/32” (182mm)</td>
<td>10-1/8” (258mm)</td>
<td>12-5/8” (322mm)</td>
</tr>
<tr>
<td>Port Sizes</td>
<td>NPTF: 1/4”, 3/8”, 1/2”</td>
<td>NPTF: 3/4”, 1”</td>
<td>NPTF: 1-1/4”, 1-1/2”</td>
</tr>
<tr>
<td></td>
<td>SAE: #6, #8, #10</td>
<td>SAE: #12, #16</td>
<td>SAE: #20, #24</td>
</tr>
<tr>
<td></td>
<td>BSP: 3/8”, 1/2”</td>
<td>BSP: 3/4”, 1”</td>
<td>BSP: 1-1/4”, 1-1/2”</td>
</tr>
</tbody>
</table>

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

AW-LAKE COMPANY INC.
A TASI Group Company
8809 Industrial Dr., Franksville, WI 53126
262.884.9800 / Fax: 262.884.9805
800.850.6110

HTDS-1006 Rev 5.12
© Lake Monitors Inc. 2006