**Flow Switches**

### TDFS Advantages over Mechanical Flow Switches
- No paddles or vanes to break off into the flow
- No jams or material stopping the paddle movement
- No seals on movement assembly to wear or leak
- Low pressure drop, only needs to be 10% into the flow (e.g. 1/8" for 3/4˝ schedule pipe)
- The TDFS uses an impulse thermal dispersion measurement technique to measure the flow rate where the probe is heated above the process temperature and then is allowed to cool down to the process temperature. Empty pipe is not a problem with the TDFS unlike some competitor units that will overheat.

### Flow Switch Rate Chart

<table>
<thead>
<tr>
<th>Pipe Diameter (inch)</th>
<th>Blade Vane Length (mm)</th>
<th>Approximate Actuation and Deactuation Flow Rates for Water</th>
<th>Minimum Setting GPM (LPM)</th>
<th>Maximum Setting GPM (LPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Actuate</td>
<td>Deactuate</td>
<td>Actuate</td>
</tr>
<tr>
<td>1-1/2</td>
<td>0.34 (34)</td>
<td>1.34 (34)</td>
<td>0.34 (34)</td>
<td>1.34 (34)</td>
</tr>
<tr>
<td>1-1/4</td>
<td>0.54 (54)</td>
<td>2.24 (57)</td>
<td>0.54 (54)</td>
<td>2.24 (57)</td>
</tr>
<tr>
<td>1</td>
<td>0.54 (54)</td>
<td>2.24 (57)</td>
<td>0.54 (54)</td>
<td>2.24 (57)</td>
</tr>
<tr>
<td>2</td>
<td>0.24 (57)</td>
<td>4.24 (57)</td>
<td>0.24 (57)</td>
<td>4.24 (57)</td>
</tr>
<tr>
<td>2-1/2</td>
<td>0.46 (88)</td>
<td>3.46 (88)</td>
<td>0.46 (88)</td>
<td>3.46 (88)</td>
</tr>
<tr>
<td>3</td>
<td>0.46 (88)</td>
<td>3.46 (88)</td>
<td>0.46 (88)</td>
<td>3.46 (88)</td>
</tr>
<tr>
<td>4</td>
<td>0.67 (167)</td>
<td>6.57 (167)</td>
<td>0.67 (167)</td>
<td>6.57 (167)</td>
</tr>
<tr>
<td>5</td>
<td>0.67 (167)</td>
<td>6.57 (167)</td>
<td>0.67 (167)</td>
<td>6.57 (167)</td>
</tr>
<tr>
<td>6</td>
<td>0.67 (167)</td>
<td>6.57 (167)</td>
<td>0.67 (167)</td>
<td>6.57 (167)</td>
</tr>
<tr>
<td>8</td>
<td>0.67 (167)</td>
<td>6.57 (167)</td>
<td>0.67 (167)</td>
<td>6.57 (167)</td>
</tr>
</tbody>
</table>

**Series TDFS**

**Thermal Dispersion Flow Switch**

- Non-Mechanical, Low Pressure Drop
- The Series TDFS is a thermal flow switch that indicates whether the flow rate is above or below a user set flow rate with NO and NC NPN outputs. Setpoint is easily field set, just tap the included magnet on the setpoint target three times as the desired flow rate and it’s done. Incorporated into the unit are two LED status indicators on opposite sides of the unit providing visual switch indication, green when the flow is above set point, red when the flow is below set point.
- The TDFS uses an impulse thermal dispersion measurement technique to measure the flow rate where the probe is heated above the process temperature and then is allowed to cool down to the process temperature. Empty pipe is not a problem with the TDFS unlike some competitor units that will overheat. Thermal flow switches can offer better long term reliability and life expectation than mechanical flow switches.

**TDFS Advantages over Mechanical Flow Switches**
- No paddles or vanes to break off into the flow
- No jams or material stopping the paddle movement
- No seals on movement assembly to wear or leak
- Low pressure drop, only needs to be 10% into the flow (e.g. 1/8" for 3/4˝ schedule pipe)

**Specifications**

- **Service**: Compatible liquids.
- **Wetted Materials**: Bellow: Tin-bronze; Vane: SS; Body: Forged brass.
- **Temperature Limit**: 230°F (110°C).
- **Pressure Limit**: 145 psig (10 bar).
- **Switch Type**: SPDT snap switch.
- **Electrical Rating**: 10A res, 3A ind @ 250 VAC.

**Series FS-2**

- Paddle Flow Switch

**Options**

- BSPT Process Connection, to order add suffix -BSPT, Example: FS-2-BSPT
- Conduit Connection, 1” NPT female conduit connection with no wire leads. To order add suffix -CND, Example: FS-2-CND

**Specifications**

- **Service**: Compatible liquids.
- **Wetted Materials**: Bellow: Tin-bronze; Vane: SS; Body: Forged brass.
- **Temperature Limit**: 230°F (110°C).
- **Pressure Limit**: 145 psig (10 bar).
- **Switch Type**: SPDT snap switch.
- **Electrical Rating**: 10A res, 3A ind @ 250 VAC.

**Series FS-2**

- Paddle Flow Switch

**Options**

- BSPT Process Connection, to order add suffix -BSPT, Example: FS-2-BSPT
- Conduit Connection, 1” NPT female conduit connection with no wire leads. To order add suffix -CND, Example: FS-2-CND

**Specifications**

- **Service**: Compatible liquids.
- **Wetted Materials**: Bellow: Tin-bronze; Vane: SS; Body: Forged brass.
- **Temperature Limit**: 230°F (110°C).
- **Pressure Limit**: 145 psig (10 bar).
- **Switch Type**: SPDT snap switch.
- **Electrical Rating**: 10A res, 3A ind @ 250 VAC.

**Series FS-2**

- Paddle Flow Switch

**Options**

- BSPT Process Connection, to order add suffix -BSPT, Example: FS-2-BSPT
- Conduit Connection, 1” NPT female conduit connection with no wire leads. To order add suffix -CND, Example: FS-2-CND

**Specifications**

- **Service**: Compatible liquids.
- **Wetted Materials**: Bellow: Tin-bronze; Vane: SS; Body: Forged brass.
- **Temperature Limit**: 230°F (110°C).
- **Pressure Limit**: 145 psig (10 bar).
- **Switch Type**: SPDT snap switch.
- **Electrical Rating**: 10A res, 3A ind @ 250 VAC.

**Series FS-2**

- Paddle Flow Switch

**Options**

- BSPT Process Connection, to order add suffix -BSPT, Example: FS-2-BSPT
- Conduit Connection, 1” NPT female conduit connection with no wire leads. To order add suffix -CND, Example: FS-2-CND

**Specifications**

- **Service**: Compatible liquids.
- **Wetted Materials**: Bellow: Tin-bronze; Vane: SS; Body: Forged brass.
- **Temperature Limit**: 230°F (110°C).
- **Pressure Limit**: 145 psig (10 bar).
- **Switch Type**: SPDT snap switch.
- **Electrical Rating**: 10A res, 3A ind @ 250 VAC.

**Series FS-2**

- Paddle Flow Switch

**Options**

- BSPT Process Connection, to order add suffix -BSPT, Example: FS-2-BSPT
- Conduit Connection, 1” NPT female conduit connection with no wire leads. To order add suffix -CND, Example: FS-2-CND

**Specifications**

- **Service**: Compatible liquids.
- **Wetted Materials**: Bellow: Tin-bronze; Vane: SS; Body: Forged brass.
- **Temperature Limit**: 230°F (110°C).
- **Pressure Limit**: 145 psig (10 bar).
- **Switch Type**: SPDT snap switch.
- **Electrical Rating**: 10A res, 3A ind @ 250 VAC.

**Series FS-2**

- Paddle Flow Switch

**Options**

- BSPT Process Connection, to order add suffix -BSPT, Example: FS-2-BSPT
- Conduit Connection, 1” NPT female conduit connection with no wire leads. To order add suffix -CND, Example: FS-2-CND

**Specifications**

- **Service**: Compatible liquids.
- **Wetted Materials**: Bellow: Tin-bronze; Vane: SS; Body: Forged brass.
- **Temperature Limit**: 230°F (110°C).
- **Pressure Limit**: 145 psig (10 bar).
- **Switch Type**: SPDT snap switch.
- **Electrical Rating**: 10A res, 3A ind @ 250 VAC.

**Series FS-2**

- Paddle Flow Switch

**Options**

- BSPT Process Connection, to order add suffix -BSPT, Example: FS-2-BSPT
- Conduit Connection, 1” NPT female conduit connection with no wire leads. To order add suffix -CND, Example: FS-2-CND

**Specifications**

- **Service**: Compatible liquids.
- **Wetted Materials**: Bellow: Tin-bronze; Vane: SS; Body: Forged brass.
- **Temperature Limit**: 230°F (110°C).
- **Pressure Limit**: 145 psig (10 bar).
- **Switch Type**: SPDT snap switch.
- **Electrical Rating**: 10A res, 3A ind @ 250 VAC.