D SERIES PULSATION DAMPENERS

For optimum performance of ASM D Series Diaphragm Pumps a Pulsation Dampener should be fitted to both Suction & Discharge sides of the pump. The Pulsation Dampener helps reduce the variations in flow & pressure produced by the single acting diaphragm pump. It reduces water hammer, vibration and noise whilst maximising pump efficiency & service life.

**Discharge:**
The PD1D & PD2D are an air filled vessel installed in the discharge pipe work as close to the pump discharge port as possible. The air is separated from the fluid by a flexible diaphragm. The dampener stores up and discharges part of the stroke volume by compressing and expanding in sync with the pump. It absorbs a portion of the pump displacement stores it momentarily before discharging during the suction stroke.

**Suction**
The PD1S & PD2S are a vessel installed in the suction pipe work as close to the pump suction port as possible. During the suction stroke of the pump the diaphragm must overcome the inertia of the fluid in the suction pipework. At the end of the stroke the inertia must again be overcome to bring the fluid to rest. This constant acceleration and deceleration cycle causes pressure pulsations which may lead to water hammer, vibration and noise. During the suction stroke a vacuum is created behind the flexible diaphragm. This allows the dampener to absorb and store momentarily a portion of the suction line fluid during the discharge stroke of the pump.

**Selection Chart**

<table>
<thead>
<tr>
<th>Pump Size:</th>
<th>Suction:</th>
<th>Discharge:</th>
</tr>
</thead>
<tbody>
<tr>
<td>D25, D32</td>
<td>PD1S</td>
<td>PD1D</td>
</tr>
<tr>
<td>D38, D50 &amp; D76</td>
<td>PD2S</td>
<td>PD2D</td>
</tr>
</tbody>
</table>

**Materials of Construction**

- **Diaphragm:** Nitrile
- **Castings:** Aluminium

Options: EPDM & Viton, Bronze & Stainless

**Typical Installation**

DT50 with PD2S and PD2D shown