APT10-4.5 Automatic Pump Trap

The Spirax Sarco Automatic Pump Trap is a non-electric combination pump and trap which transfers high temperature condensate from a low-point, low pressure or vacuum space to an area of higher pressure or elevation. This self contained unit uses steam as the pumping force to remove condensate from process equipment under all operating conditions. Recommended for use with motive steam only.

Optional Extra
The APT10-4.5 is available with the body and cover coated with electroless nickel plate (ENP). This option, when required, will be denoted as APT10-4.5 ENP.

Limiting Operating Conditions
Max. Operating Pressure (PMO) 65 psig (4.5 barg)
Max. Back Pressure 58 psig (4 barg)
Max. Operating Temperature (TMO) 311°F (155°C)

Specific Gravity
0.9 to 1.0

Filling Head Requirements
(from base) 7.8” (.2m)
Filling Head Recommended
(from base) 11.8” (.3m)

Pressure Shell Design Conditions
PMA
Max. allowable pressure 145 psig (PN10)

TMA
Max. allowable temperature 392°F (200°C)

Materials

<table>
<thead>
<tr>
<th>No.</th>
<th>Part</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cover</td>
<td>SG Iron ASTM A395/DIN 1693 GGG 40.3</td>
</tr>
<tr>
<td>2</td>
<td>Cover Gasket</td>
<td>Synthetic fiber</td>
</tr>
<tr>
<td>3</td>
<td>Body</td>
<td>SG Iron ASTM A395/DIN 1693 GGG 40.3</td>
</tr>
<tr>
<td>4</td>
<td>Cover Bolts</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>5</td>
<td>Pump trap lever</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>6</td>
<td>Float</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>7</td>
<td>Pivot shaft</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>8</td>
<td>Washer</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>9</td>
<td>Trap housing</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>10</td>
<td>Ball</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>11</td>
<td>Seat (inlet check valve)</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>12</td>
<td>Flap (inlet check valve)</td>
<td>Stainless Steel</td>
</tr>
</tbody>
</table>

Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only.

In the interests of development and improvement of the product, we reserve the right to change the specification.
**APT10-4.5 Automatic Pump Trap**

**Approximate Dimensions**

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot; x 3/4&quot; NPT</td>
<td>7.4</td>
<td>0.9</td>
<td>8.7</td>
<td>10.5</td>
<td>10.7</td>
<td>7.6</td>
<td>2.2</td>
<td>8.9</td>
<td>6.7</td>
<td>31</td>
<td></td>
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<tr>
<td></td>
<td>187</td>
<td>23</td>
<td>223</td>
<td>266</td>
<td>273</td>
<td>194</td>
<td>57</td>
<td>225</td>
<td>171</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

**Nominal capacities**

For full capacity details for a specific application consult Spirax Sarco.

To accurately size the pump trap, the following data is required.

1. Installation head available, from the base of the pump trap to the center line of the heat exchanger/process condensate outlet (ft).
   - If the outlet is mounted vertically, then this should be from the base of the pump to the face of the outlet.
2. Motive steam pressure available to power the pump trap (psig).
3. Total back pressure in the condensate return system (psig).
   - See note below.
4. Heat exchanger/plant full load operating pressure (psig).
5. Heat exchanger/plant maximum steam load (lb/hr).
6. Minimum temperature of process fluid (°F).
7. Maximum controlled temperature of process fluid (°F).

**Spare Parts**

See TIS 5.231

**Installation & Maintenance**

Complete installation and maintenance instructions are given in IM-P612-18, supplied with each unit.

**Sample Specification**

The pump trap shall be a Spirax Sarco automatic pump trap type APT10-4.5 operated by steam to 65 psig. No electrical energy shall be required.

Body construction from SG iron ASTM A395 dual certified with DIN 1693 GGG 40.3 with a swing type inlet check valve and ball type outlet check valve.

The internal trap mechanism shall contain a stainless steel float connected to an internal trap. The pump trap and check valve mechanisms shall be incorporated into the same body envelope with no external seals or glands and shall be capable of operating with a minimum 7.8 inches installation head from the base of the unit.

**Certification**

All pump traps are EN 10204 (3.1.B) certifiable.

**Design Compliance**

Shell designed in accordance with ASME VIII / A.D. Merkblatter

**How to order**


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