**Features**

Pump/Trap with built-in steam trap for a wide range of applications: drainage of heat exchangers, flash steam recovery systems and non-vented receivers such as low-pressure stages of turbines and absorption chillers, often operating under vacuum conditions.

1. Handles high-temperature condensate without cavitation.
2. No electric power or additional level controls required, hence INTRINSICALLY SAFE.
3. Pump will operate with a low filling head.
5. Easy, inline access to internal parts simplifies cleaning and reduces maintenance costs.
6. High-quality stainless steel internals and hardened working surfaces ensure reliability.

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Body Material</th>
<th>Connection</th>
<th>Pumped Medium Inlet &amp; Outlet</th>
<th>Motive Medium &amp; Pump Exhaust</th>
<th>Motive Medium Pressure Range (MPaG)</th>
<th>Maximum Operating Temperature (°C)</th>
<th>Maximum Allowable Back Pressure</th>
<th>Volume of Each Discharge Cycle (L)</th>
<th>Motive Medium*</th>
<th>Pumped Medium**</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT14</td>
<td>Cast Iron</td>
<td>Screwed</td>
<td>Cast Iron</td>
<td>Cast Iron</td>
<td>0.03 – 1.4</td>
<td>200</td>
<td>0.05 MPa less than motive medium pressure used, but not to exceed 1.05 MPaG</td>
<td>approximately 30</td>
<td>Saturated Steam</td>
<td>Steam Condensate</td>
</tr>
</tbody>
</table>

*Do not use with toxic, flammable or otherwise hazardous fluids.

**Do not use for fluids with specific gravities under 0.85 or over 1, or for toxic, flammable or otherwise hazardous fluids.

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 1.4 (Cast Iron), 1.6 (Cast Steel) Maximum Allowable Temperature (°C) TMA: 220

CAUTION

To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.
### Discharge Capacity

<table>
<thead>
<tr>
<th>Check Valve Size &amp; Model</th>
<th>Motive Medium: Saturated Steam Condensate Temperature: 90 °C Filling Head: 860 mm (see correction factors for other filling heads)</th>
<th>Correction Factors (for filling heads other than 860 mm)</th>
</tr>
</thead>
</table>

#### Check Valve Size & Model

- **A**
  - **80 mm inlet / 50 mm Outlet**
  - **CK3MG**
  - System Back Pressure (kg/cm² G)
  - Motive Medium Pressure: MPaG
  - System Back Pressure (MPaG)

- **B**
  - **80 mm inlet / 50 mm Outlet**
  - **CKF3MG**
  - System Back Pressure (kg/cm² G)
  - Motive Medium Pressure: MPaG
  - System Back Pressure (MPaG)

- **C**
  - **90 mm inlet / 50 mm Outlet**
  - **CK3MG**
  - System Back Pressure (kg/cm² G)
  - Motive Medium Pressure: MPaG
  - System Back Pressure (MPaG)

- **D**
  - **90 mm inlet / 50 mm Outlet**
  - **CKF3MG**
  - System Back Pressure (kg/cm² G)
  - Motive Medium Pressure: MPaG
  - System Back Pressure (MPaG)

#### NOTE:
- A check valve must be installed at both the pumped medium inlet and outlet. To achieve the above capacities with the standard GT14 configuration, TLV CK3MG or CKF3MG check valves must be used.
- Motive medium pressure minus back pressure must be greater than 0.05 MPa.
- A strainer must be installed at the motive medium and pumped medium inlets.

#### Illustration of Filling Head and Pressures

The discharge capacity is determined by the motive medium, motive medium pressure (Pm) and back pressure (P2).

Make sure that:

Discharge Capacity × Correction Factor > Required Flow Rate

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SDS M2404-16
GT14 Steam Trap Discharge Capacity

Differential Pressure (kg/cm²)

<table>
<thead>
<tr>
<th>Discharge Capacity (kg/h)</th>
<th>Differential Pressure (MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>0.1</td>
</tr>
<tr>
<td>50</td>
<td>0.2</td>
</tr>
<tr>
<td>60</td>
<td>0.3</td>
</tr>
<tr>
<td>70</td>
<td>0.4</td>
</tr>
<tr>
<td>80</td>
<td>0.5</td>
</tr>
<tr>
<td>90</td>
<td>0.6</td>
</tr>
<tr>
<td>100</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Capacity of GT14 as a steam trap (P₁ > P₂).
Instantaneous condensate loads above the rated trap capacity will cause the pump to cycle and therefore reduce the discharge capacity.

Minimum amount of condensate required to prevent steam leakage.
1. Capacities are based on continuous discharge of condensate 6 °C below steam temperature.
2. Differential pressure is the difference between inlet and outlet pressure of the trap.

CAUTION
DO NOT use this product under conditions that exceed maximum differential pressure, as condensate backup will occur!

Size of Reservoir

The reservoir must have a capacity sufficient to store the condensate produced during the PowerTrap operation and discharge.

Size of Reservoir (flash steam is not involved)

Amount of Condensate (kg/h) | Reservoir Diameter (mm) and Length (m) |
-------------------------------|----------------------------------------|
300 or less                   | 40  50  60  80  100  150  200  250 |
400                           | 1.2  1.0  0.8  0.6  0.5 |
500                           | 1.5  1.2  0.9  0.7 |
600                           | 1.5  1.0  0.7  0.5 |
700                           | 1.5  1.0  0.6  0.5 |
800                           | 1.5  1.0  0.6  0.5 |
900                           | 1.5  1.0  0.6  0.5 |
1000                          | 1.5  1.0  0.6  0.5 |

Reservoir length can be reduced by 50% when the motive medium pressure (Pₘ) divided by back pressure (P₂) equals 2 or greater (when Pₘ > P₂ ≥ 2).

Steam Consumption (Motive Medium)

Back Pressure (kg/cm²G)

Motive Medium Inlet

Pumped Medium Outlet

Pumped Medium Inlet

Pump Exhaust Outlet

Units: mm

* Rc(PT), other standards available
** ASME Class 150 RF, other standards available