**PC10-38 Check, Pilot-Operated with Integrated**

**DESCRIPTION**
A screw-in, cartridge-style, pilot-operated, hydraulic check valve for use in blocking or load-holding circuits. Pilot ratio is 3:1. The cartridge incorporates a low flow thermal relief valve intended to prevent cylinder damage resulting from temperature-induced pressure intensification.

*Note:* The thermal relief feature is not intended for use in dynamic pressure-limiting applications.

**OPERATION**
The PC10-38 allows flow from ports 2 to 3, while blocking flow in the opposite direction. If the pressure at port 3 exceeds the thermal relief setting, a small amount of oil will be allowed to pass from port 3 to port 2, preventing cylinder damage from pressure intensification.

**FEATURES**
- Integrated low flow thermal relief valve.
- Optional sealed piston.
- Hardened seat for long life and low leakage.
- Industry common cavity.

**RATINGS**
- **Operating Pressure:** 241 bar (3500 psi)
- **Proof Pressure:** 390 bar (5700 psi)
- **Flow Rating:** 45 lpm (12 gpm)
- **Maximum Internal Leakage:** 0.25 ml/minute (5 drops/minute) at 241 bar (3500 psi)
- **Pilot Ratio:** 3:1
- **Temperature:**
  - -40 to 100°C (-40 to 212°F) with standard Buna seals;
  - -26 to 204°C (-15 to 400°F) with Viton seals;
  - -54 to 107°C (-65 to 225°F) with Polyurethane seals
- **Filtration:** See page 9.010.1
- **Fluids:** Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1
- **Installation:** No restrictions; See page 9.020.1
- **Cavity:** VC10-3; See page 9.110.1
- **Cavity Tool:** CT10-3XX; See page 8.600.1
- **Seal Kit:** SK10-3X-TM; See page 8.650.1

**PERFORMANCE** (Cartridge Only)
Pressure Drop vs. Flow
- Port 2 to 3
- Port 3 to 2
- 32 cSt oil at 40°C (104°F)

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<thead>
<tr>
<th>FLOW lpm/gpm</th>
<th>PRESSURE DROP bar/psi</th>
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<tbody>
<tr>
<td>2</td>
<td>27.6/400</td>
</tr>
<tr>
<td>4</td>
<td>20.7/300</td>
</tr>
<tr>
<td>6</td>
<td>13.8/200</td>
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<tr>
<td>8</td>
<td>6.9/100</td>
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<td>10</td>
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<td>12</td>
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**ISO SYMBOL**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
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4.120.1
Thermal Relief

PC10-38

DIMENSIONS

Materials:

Cartridge: Weight: 0.14 kg. (0.3 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-ups standard.

Standard Ported Body:

Weight: 0.36 kg. (0.80 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1

To Order:

PC10-38 -

Porting
Cartridge Only 0
SAE 6 6T
SAE 8 8T
1/4 in. BSP* 2B
3/8 in. BSP* 3B

Seals
N Buna N (Std.)
NS* Buna N with Sealed Piston
V Fluorocarbon
VS* Fluorocarbon with Sealed Piston
P Polyurethane
PS* Polyurethane with Sealed Piston

Bias Spring 100 6.9 bar/100 psi

Thermal Relief Setting
05 34.5 to 48.3 bar (500 to 700 psi)
11 69.0 to 93.1 bar (1000 to 1350 psi)
20 137.9 to 172.4 bar (2000 to 2500 psi)
25 172.4 to 217.2 bar (2500 to 3150 psi)
30 206.9 to 262.1 bar (3000 to 3800 psi)
40 275.9 to 344.8 bar (4000 to 5000 psi)
45 310.3 to 386.2 bar (4500 to 5600 psi)

Note: NS, VS and PS seal options require 6.9 bar (100 psi) spring minimum.

* BSP Body; U.K. Mfr. Only