HSPEC12-34 Proportional Flow Control Valve

DESCRIPTION
A high pressure, proportional, solenoid-operated, poppet-type, restrictive type, pressure compensated, normally closed, flow control, screw-in hydraulic cartridge valve with built-in damping and load-holding features.

OPERATION
With inlet at port 3, the HSPEC12-34 will regulate flow out of port 2 regardless of load pressure with flow rate proportional to current applied to the solenoid. Port 1 must be connected to port 3 to provide load-sense function for the compensator. When de-energized, the valve blocks flow from port 3 to port 2 while allowing free flow in the opposite direction.

FEATURES
• Sealed integral compensator.
• Efficient wet-armature construction.
• Continuous-duty rated coils.
• Reduced manifold space claim.
• Optional manual override.
• All HyPerformance™ valves are tested to the rigorous standards of NFPA specification T2.6.1 and are tested at a verification level of 90% and an assurance of 99%.

RATINGS
Operating Pressure: 350 bar (5075 psi); 10% cycle life; 420 bar (6090 psi)
Note: All HyPerformance™ products are tested for 900K cycles at 350 bar and 100K at 420 bar.
Proof Pressure: 690 bar (10000 psi) (10% life cycle)
Burst Pressure: 1380 bar (20000 psi)
Flow Rating: 60 lpm (16 gpm); 64 lpm (17 gpm) with linear metering option.
Maximum Internal Leakage (at 350 bar/5075 psi): Port 3 to port 2: 8 drops/minute; Port 1 to 3 (sealed piston): zero leakage.
Operating Temperature: -54° to 107°C (-65° to 225° F) with urethane seals.
Electrical Parameters: (with size 10 E-series coils)

<table>
<thead>
<tr>
<th>Coil Voltage Rating (VDC)</th>
<th>Threshold Current (mA)</th>
<th>Maximum Control Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>200 - 500</td>
<td>1300</td>
</tr>
<tr>
<td>24</td>
<td>100 - 275</td>
<td>650</td>
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</tbody>
</table>

Hysteresis: 9.5 lpm (2.5 gpm) maximum
Dither/PMW Frequency Range: 100 to 200 Hz
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: HVC12-3; See page 9.112.1
Cavity Tool: HCT12-3; See page 8.600.1
Seal Kit: SK12-3U-0; See page 8.650.1

FLOW VS. CURRENT (Linear Metering)
350 bar (5075 psi) Inlet Pressure (Port 3)
12V Coil; 100 Hz PWM
32 cSt/150 sus oil at 40°C (104°F)

FLOW VS. CURRENT (Standard Metering)
350 bar (5075 psi) Inlet Pressure (Port 3)
12V Coil; 100 Hz PWM
32 cSt/150 sus oil at 40°C (104°F)

FLOW VS. CURRENT (Linear Metering)
350 bar (5075 psi) Inlet Pressure (Port 3)
12V Coil; 100 Hz PWM
32 cSt/150 sus oil at 40°C (104°F)

FLOW VS. CURRENT (Standard Metering)
350 bar (5075 psi) Inlet Pressure (Port 3)
12V Coil; 100 Hz PWM
32 cSt/150 sus oil at 40°C (104°F)
PERFORMANCE (Continued)

**FLOW VS. CURRENT (Standard Metering)**
- 310 bar (4500 psi) Load at Port 2
- 435 psi to 240 psi to 160 psi to 80 psi
- 12V Coil, 110 Hz PWM
- 32 cSt/150 sus oil at 40 °C (104 °F)

**FLOW VS. CURRENT (Linear Metering)**
- 400 psi to 330 psi to 230 psi to 160 psi to 90 psi to 40 psi
- 12V Coil, 110 Hz PWM
- 32 cSt/150 sus oil at 40 °C (104 °F)

**MATERIALS**
- **Cartridge**: Weight: 0.32 kg. (0.70 lbs.) with manual override **T** 0.33 kg. (0.72 lb.)
  - Steel with hardened work surfaces. Zinc-plated exposed surfaces. PPDI urethane seals without back-up rings standard.

- **10-Size E-Coil**: Weight: 0.41 kg. (0.92 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1

- **Ported Body**: Weight: 4.0 kg. (8.93 lbs.) H-series ductile iron standard. Rated to 945 bar (5000 psi). See page 8.012.1

**TO ORDER**
- **HSPEC12-34**
  - **Metering Options**
  - None
  - Blank
  - Linear Metering **A**
  - **Manual Override Options**
  - None
  - Blank
  - **Porting**
  - Cartridge Only **0**
  - SAE 12 **12HT**
  - **Seals**
  - PPDI urethane **U**

**DIMENSIONS**
- **COIL MUST BE INSTALLED WITH LETTERING UP**
- **ORIFICE DISCS SHOULD NOT BE USED WITH THIS PRODUCT.**

**TORQUE**
- 5 to 7 ft-lbs
- 7 to 10 Nm

**NOTE:** Consult factory for additional seal options.

**VOLTAGE**
- **Coil Termination**
  - Deutsch DT04-2P **ER** (IP69K)
  - Metri-Pack® 150 **EY** (IP69K)
  - Dual Lead Wires **EL** (IP69K)

For Coils with Zener Diode, add "Z" to option code. For example: **ERZ** Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1