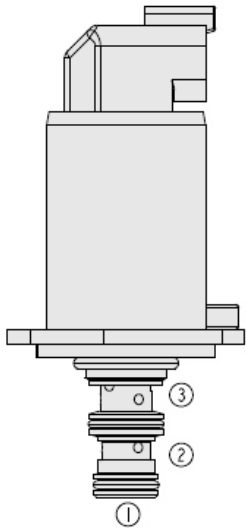




Overview



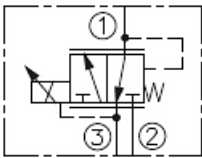
Description

The EHP98-G35 is a direct-acting, spool-type, proportional, pressure reducing relieving valve. It is a 3rd generation HydraForce drop-in, flange mounted cartridge type valve for use with mineral based or synthetic (with lubricating properties) hydraulic fluids. The coil is an integral part of the valve and is not serviceable the regulated pressure is proportional to the input electrical current in the pressure ranges shown

Features

- Economical drop-in style.
- Mounting plate option.
- Compact size.
- Retrofit option for EHP98-T35.
- Quick response time.
- Inlet screen and pressure options.
- Top-mounted connector.
- Low leakage.

Symbol



Ratings

Pressure Ratings

| | | |
|---|--------------------|--------------------------------------|
| Pressure rating | 103 bar (1500 psi) | - Note: Port 2 |
| | 45 bar (650 psi) | - Note: Port 1 |
| | 45 bar (650 psi) | - Note: Port 3 |
| Proof pressure | 54 bar (780 psi) | - Note: Port 3 |
| | 345 bar (5000 psi) | - Note: Port 1 |
| | 345 bar (5000 psi) | - Note: Port 2 |
| Burst pressure | 258 bar (3750 psi) | - Note: All ports pressurized |
| Control pressure at maximum control current | 120 bar (290 psi) | |

Flow Ratings

| | | |
|--------------------------|--------------------------------------|---|
| Flow rating | 6 lpm (1.6 gpm) | |
| Maximum internal leakage | 45 ml/min (2.7 in ³ /min) | - Note: EHP98-G35 at 24 bar (350 psi) |
| | 15 ml/min (1.0 in ³ /min) | - Note: EHP98-G35F at 24 bar (350 psi) |
| Hysteresis per cent | 4 % | |

Other Ratings

| | |
|----------------------|-----------------------------------|
| Cycle life | 10 million cycles |
| Environmental rating | Ip69k |
| Corrosion protection | 960 hour salt spray per ASTM b117 |

Temperature Ratings

| | | |
|-----------------------------|-------------------------------|--|
| Operating fluid temperature | -40 to 149 °C (-40 to 300 °F) | - Note: With HNBR seals |
| | -26 to 204 °C (-15 to 400 °F) | - Note: With fluorocarbon seals |
| | -54 to 107 °C (-65 to 225 °F) | - Note: With polyurethane seals |
| Storage temperature | -40 to 70 °C (-40 to 158 °F) | |
| Ambient temperature | -40 to 80 °C (-40 to 176 °F) | |



Operating Parameters

| | |
|-----------------------|--|
| Fluids | Mineral based or synthetic hydraulic fluid with lubricating properties |
| Fluid viscosity range | 7.4 to 420 cSt |

Properties

| | |
|------------------------------|--|
| Unit weight | 0.26 kg (0.57 lb) |
| Internal wetted surface area | 90 cm ² (14 in ²) |

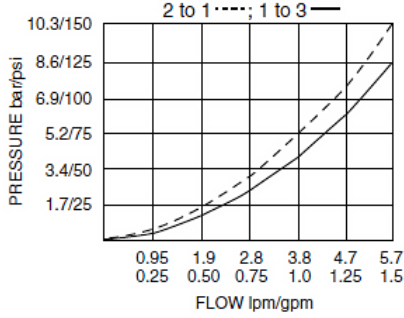
Electrical Parameters

| | | |
|-------------------------|---------|----------------------------|
| Maximum control current | 1.130 A | - Note: Coil 10 V |
| | 0.940 A | - Note: Coil 12 V |
| | 0.780 A | - Note: Coil 14 V |
| | 0.565 A | - Note: Coil 20 V |
| | 0.470 A | - Note: Coil 24 V |
| | 0.390 A | - Note: Coil 28 V |
| Dither PWM frequency | 120 Hz | - Note: EHPR98-G35 |
| | 150 Hz | - Note: EHPR98-G35F |
| Valve inductance | 68 mH | - Note: Coil 10 V |
| | 104 mH | - Note: Coil 12 V |
| | 152 mH | - Note: Coil 14 V |
| | 284 mH | - Note: Coil 20 V |
| | 433 mH | - Note: Coil 24 V |
| | 645 mH | - Note: Coil 28 V |

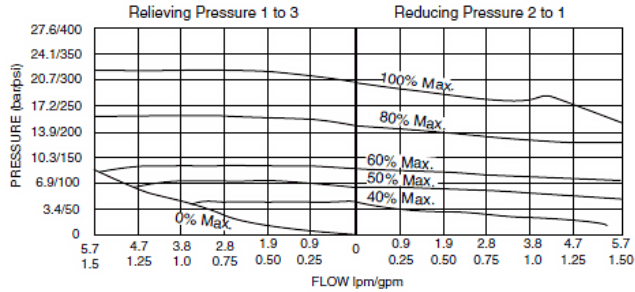


Performance

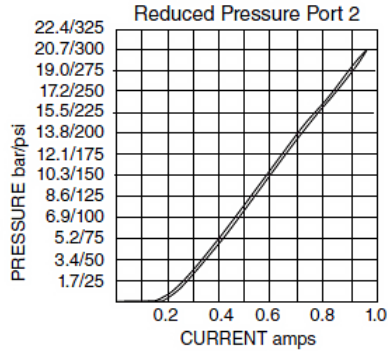
Pressure Drop vs. Flow
Cartridge Only



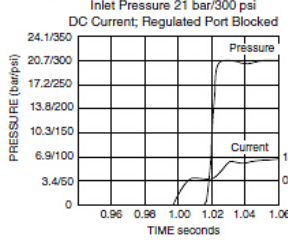
Typical Relieving/Reducing Pressure vs. Flow Characteristic
Typical Relieving Pressure at Various %s of Maximum Control Current
Inlet: 21 bar/300 psi; 100 Hz PWM (Both Directions)



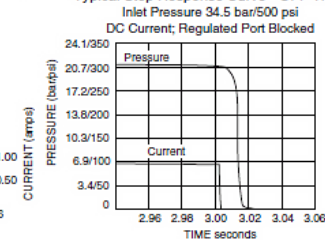
Reducing Pressure vs. Current
100 Hz PWM (12V coil)



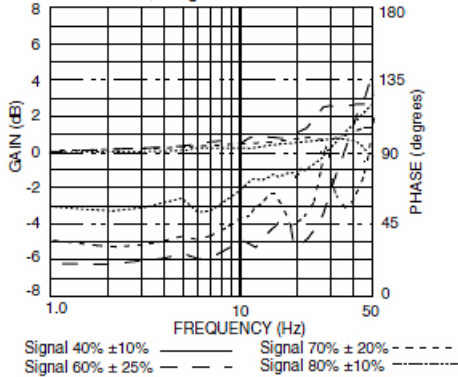
Typical Step Response Curve - ON TIME



Typical Step Response Curve - OFF TIME

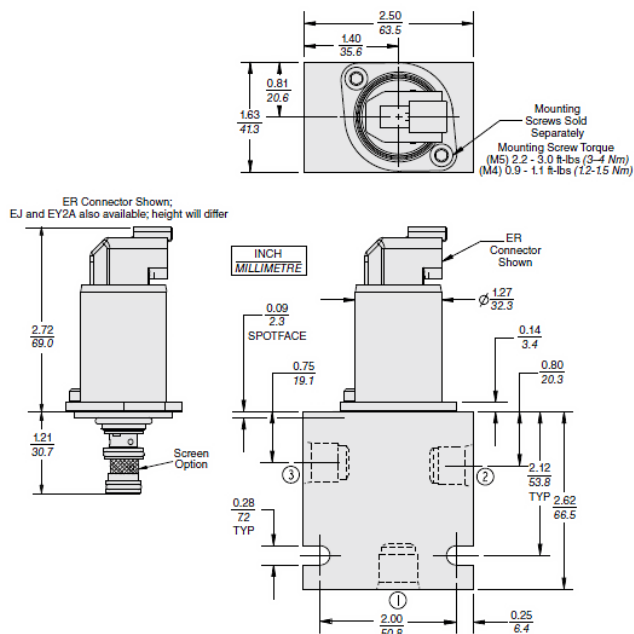


Typical Frequency Response Curves
24 bar (350 psi) Inlet Pressure
DC Current, Regulated Port Blocked





Dimensions



Materials

Materials

Cartridge Including Coil: Weight: 0.26 kg. (0.57 lbs.) Steel with hardened work surfaces. Zinc-nickel plated exposed surfaces. HNBR seals standard. Coil is encapsulated, Class N high-temperature magnet wire, with zinc-nickel plated shell.

Ported Test Body: Part No. 7161120

Mounting Screws: Must be ordered separately; M5 x 0.8 x 12 mm Long, Part No. 4002609 (with standard VC-G027 cavity); M4 x 0.7 x 12 Long; Part No. 4001015 (with retrofit application VC-T009 cavity).

Installation Specifications

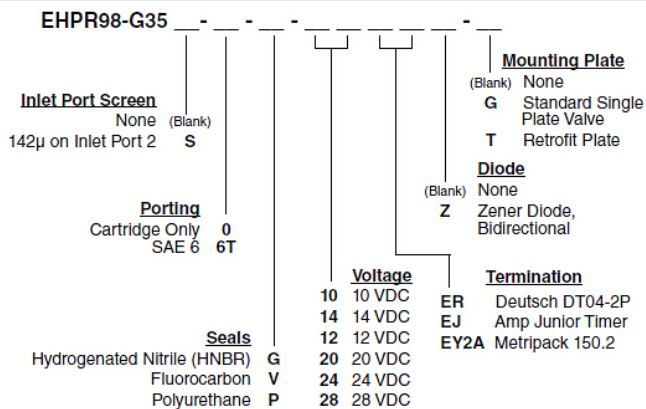
| | |
|-------------------------|---|
| Cavity | VC-G027 |
| Installation type | Flange mounted |
| Orientation restriction | None |
| Mounting screw torque | 3 to 4 N-m (2.2 to 3.0 ft-lb) - Note: M5 mounting screw |
| Note | For retro-fitting into older drop-in cavities and other mounting options, see "g3_mounting_options" technical reference |

Accessories

| | |
|----------------|---|
| Mounting plate | Hf p/n 4595096 |
| Mounting screw | M5 x 0.8 x 12 mm long, hf p/n: 4002609 (sold separately) |
| Valve body | Hf p/n 71611x0 (sold separately). For retro-fitting into older drop-in cavities and other mounting options, see "g3_mounting_options" outline drawing |
| Seal kit | SK-G027-X - Note: X = seal option |



Order Code



| POSITION | CODE | DESCRIPTION |
|----------|-------|--|
| | | EHPR98-G35G-H-J-KL-U |
| G | | Screen |
| G | BLANK | NONE |
| G | S | 100 Mesh Screen |
| H | | Line Body |
| H | 0 | No Body |
| J | | Seal |
| J | G | HBNR (Hydrogenated Nitrile Butadiene Rubber) |
| J | V | Fluorocarbon |
| J | P | Polyurethane |
| K | | Coil Voltage |
| K | 10 | 10 VDC |
| K | 12 | 12 VDC |
| K | 14 | 14 VDC |
| K | 20 | 20 VDC |
| K | 24 | 24 VDC |
| K | 28 | 28 VDC |
| L | | Coil Termination |
| L | EJ | E-Coil, AMP Jr. |
| L | ER | E-Coil, Deutsch |
| L | EY2A | E-Coil, Metri-Pack 150.2 |
| U | | Mounting Plate |
| U | BLANK | None |
| U | G | Standard Single Valve Plate |
| U | T | Retro-Fit Plate |