

Electro-Hydraulic Proportional Pilot Relief Valve

0.3 gpm
43 to 4000 psi

Features

This DC solenoid relief valve matches the attraction force of a DC solenoid with fluid pressure. When connected to a

small-volume hydraulic system or the poppet of a balanced piston type pressure control valve, this valve provides

continual pressure control in proportion to **input current**.

Specifications

Item	Model No.	EPR-G01-*-***-12
Rated Flow Rate gpm		0.3
Pressure Control Range psi		B: 43 to 360 1: 100 to 1000 2: 145 to 2000 3: 215 to 3000 4: 215 to 4000 5: 290 to 5000
Rated Current mA		800
Coil Resistance Ω		20 (68° F)
Hysteresis %		3 max. (Note)
Weight lbs		3.5

Note: Value when a Nachi-Fujikoshi special amplifier is used (with dithering).

Series List

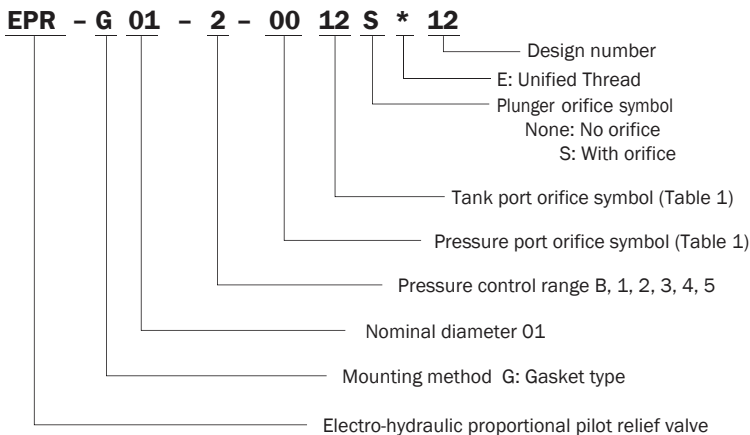


Table 1 Pressure Port and Tank Port Orifice Symbols

Orifice Symbol	00	08	09	10	11	12	13
Orifice Diameter	None	$\phi 0.8$	$\phi 0.9$	$\phi 1.0$	$\phi 1.1$	$\phi 1.2$	$\phi 1.3$

Note: The following are the standards for the orifice auxiliary symbols.

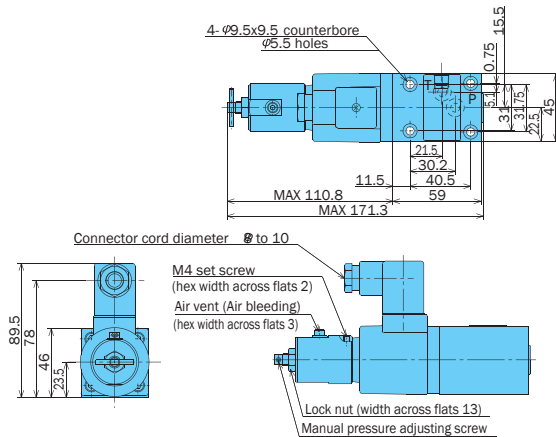
Pressure Control Range	Orifice Auxiliary Symbol
Type B, Type 1	0013S
Type 2, Type 3	0012S
Type 4	1212S
Type 5	1111S

• Handling

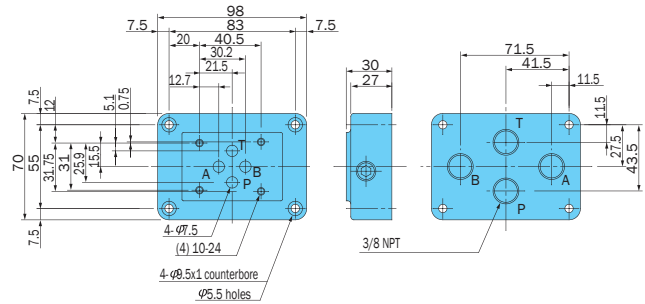
- Air Bleeding**
To enable proper pressure control, loosen the air vent when starting up the pump in order to bleed any air from the pump, and fill the inside of the solenoid with hydraulic operating fluid. The position of the air vent can change by loosening the M4 screw and rotating the cover.
- Mounting Method**
Mounting on a vertical surface causes minimum pressure to increase by 14 psi.
- Manual Pressure Adjusting Screw**
For the initial adjustment or when there is no **input current** to the valve due to an electrical problem or some other reason, valve pressure can be increased by rotating the manual adjustment screw clockwise (rightward). Normally, the manual adjusting screw should be rotated back fully to the left (counter-clockwise) and secured with the lock nut.
- Minimum Relief Flow Rate**
A small flow rate can cause setting pressure to become unstable. Use a flow rate of at least .18 in³/min.
- Load Capacity**
When using this valve to control direct circuit pressure, make sure the load volume (valve P port side volume) is at least 2.4 in³.
- Bundled Accessories (Valve Mounting Bolts)**
10-24 x 1 3/4" (four) Tightening torque: 3.6-7 ft lbs.
- Sub Plate**
When a sub plate is required, order using the following model number. MSA-01Y-E10 (See the next page for dimensions.)
- Use an operating fluid that conforms to the both of the following.**
Fluid Temperature: 4° F to 140° F
Viscosity: 12 to 400 centistokes. The recommended viscosity range is 15 to 60 centistokes.

Installation Dimension Drawings

EPR-G01



Sub Plate
MSA-01Y-E10

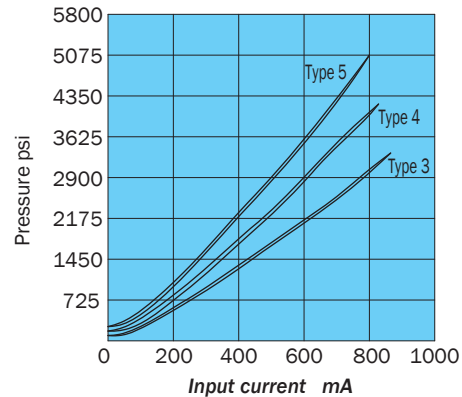
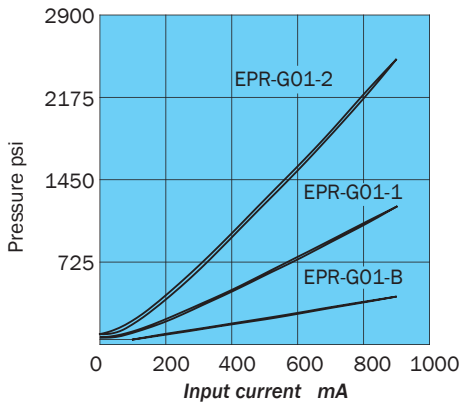


Note: Install the sub plate so the valve's P port is aligned with the sub plate's B port.
The gasket surface dimensions comply with the ISO standard shown below.
ISO 4401-03-02-0-94

Performance Curves

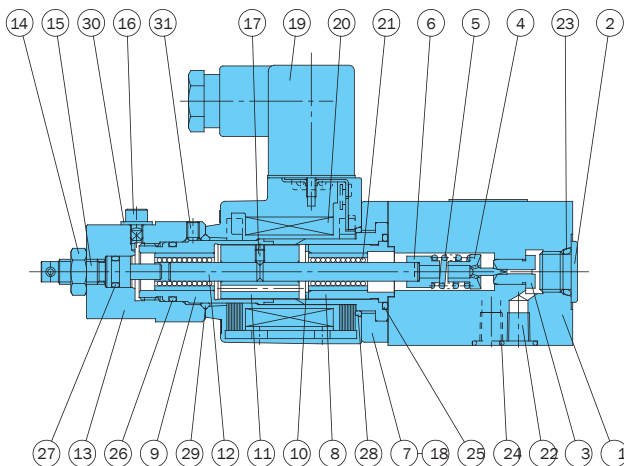
Hydraulic Operating Fluid Viscosity 32 centistokes

Input Current – Pressure Characteristics



Cross-sectional Drawing

EPR-G01-*.****-12



Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
1	Body	12	Rod	22	Choke
2	Plug	13	Cover	23	O-ring
3	Seat	14	Nut	24	O-ring
4	Poppet	15	Screw	25	O-ring
5	Spring	16	Screw	26	O-ring
6	Retainer	17	Screw	27	O-ring
7	Cover	18	Screw	28	O-ring
8	Stopper	19	Connector	29	O-ring
9	Guide	20	Coil	30	Seal
10	Shim	21	Ball bush	31	Screw
11	Plunger				

Note: Coil model number JD64-D2

Seal Part List (Kit Model Number JPS-G01-1A)

Part No.	Part Name	Part Number	Q'ty
23	O-ring	1B-P11	1
24	O-ring	1B-P9	2
25	O-ring	1B-P22	1
26	O-ring	AS 568-016(Hs90)	1
27	O-ring	1B-P7	1
28	O-ring	S-25	1
29	O-ring	1A-P20	1
30	Seal	CW1000FO	1

Note: O-ring 1A/B-** refers to JIS B2401-1A/B.