

Electro-Hydraulic Proportional Relief Valve

39 to 84.5 gpm
43 to 5075 psi

Features

This valve combines a compact, high-performance electro-hydraulic proportional pilot relief valve and balanced piston type relief valve to provide pressure control in proportion to **input current**.

Throughput volume and fluid temperature fluctuation has little effect on control pressure, so this valve provides open loop control of even complex pressures (forces).

• Handling

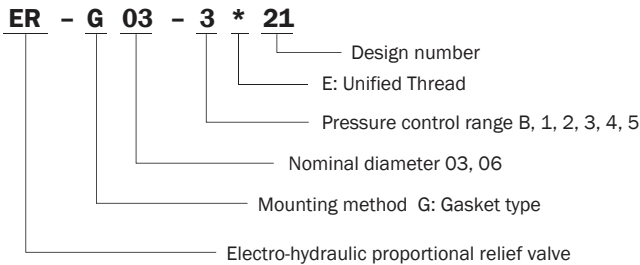
- 1 To enable proper pressure control, loosen the air vent when starting up the pump in order to bleed any air from the pump, and fill the inside of the solenoid with hydraulic operating fluid.
- 2 Manual Pressure Adjusting Screw
For the initial adjustment or when there is no input current to the valve 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 (counterclockwise) and secured with the lock nut.
- 3 Tank Port Back Pressure
Make sure that tank port back pressure is as small as possible; no greater than 29 psi.
- 4 Safety Valve Setting Pressure
The safety valve is set to maximum adjustment pressure plus 217 to 290 psi. When actually using the valve, adjust in accordance with actual pressure.
- 5 Bundled Accessories (Valve Mounting Bolts)

Specifications

Item	Model No.	ER-G03-*-21	ER-G06-*-21
Rated Flow Rate gpm		39	84
Pressure Control Range psi		B: 43 to 357 1: 100 to 1000 2: 143 to 2000 3: 214 to 3000 4: 214 to 3571 5: 286 to 5000	
Rated Current mA		800	
Coil Resistance Ω		20 (68° F)	
Hysteresis %		3 max. (Note 2)	
Minimum Relief Flow Rate gpm		1.3	2.1
Weight lbs		13.2	15.7

Note: 1. G03 type only Flow rate: 10.5 gpm
2. Value when a Nachi-Fujikoshi special amplifier is used (with dithering).

Understanding Model Numbers

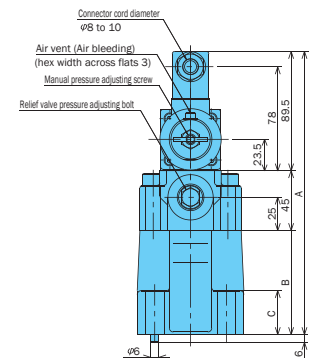
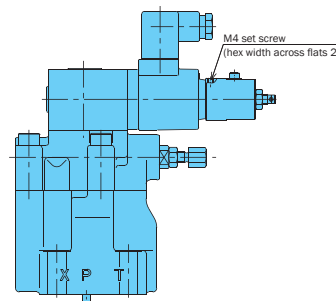
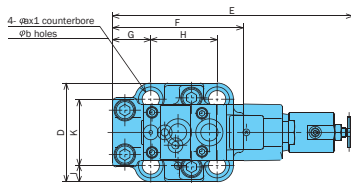


Model No.	Bolt Size	Q'ty	Tightening Torque ft lbs
ER-G03	1/2-13 x 2"	4	55 to 70
ER-G06	5/8-11 x 2 3/8"	4	140 to 170

- 6 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

ER-G**-*-21

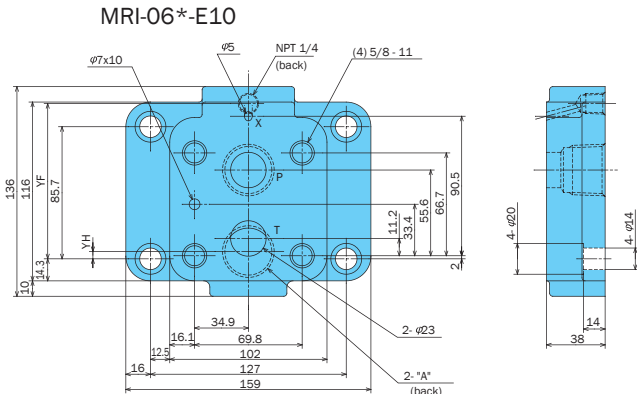
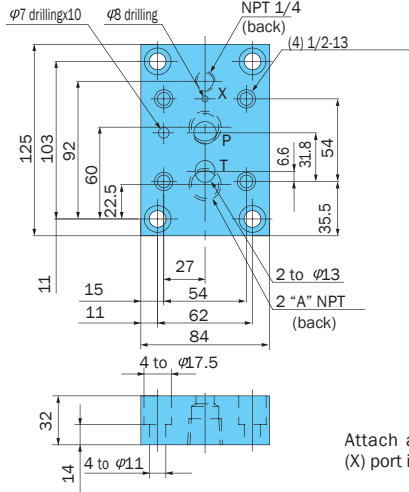


The gasket surface dimensions comply with the ISO standard shown below.
G03-ISO 6264-AR-06-2-A
G06-ISO 6264-AS-08-2-A

Model No.	A	B	C	D	E	F	G	H	J	K	a	b
ER-G03	212.5	78	33	80	194.8	106	31	53.8	13.1	53.8	20	14
ER-G06	217.5	83	37	100	203.8	119	37	66.7	15	70	26	17.5

Proportional Valves

Sub Plate (Maximum Operating Pressure: 3625 psi)
MRI-03*-E10 MRI-03X-E10 MRI-06*-E10



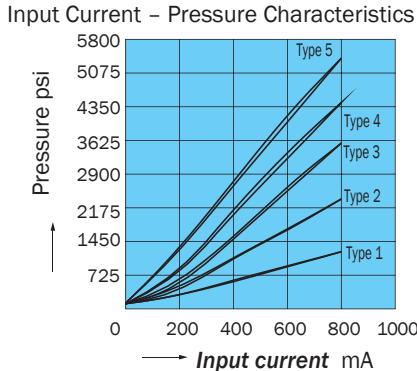
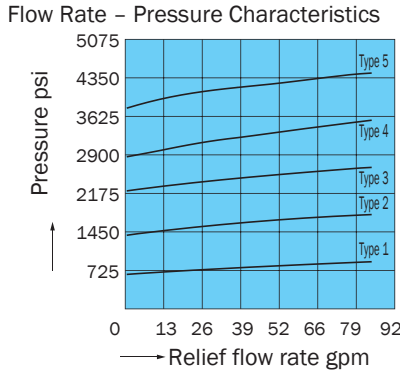
Model No.	A NPT
MRI-03-E10	3/8
MRI-03X-E10	1/2
MRI-06-E10	3/4
MRI-06X-E10	1

Model No.	YF	YH
MRI-06-E10	92.5	13.2
MRI-06X-E10	100.7	4.7

Attach a plug when the vent (X) port is not used.

Performance Curves

Hydraulic Operating Fluid Viscosity 32 centistokes

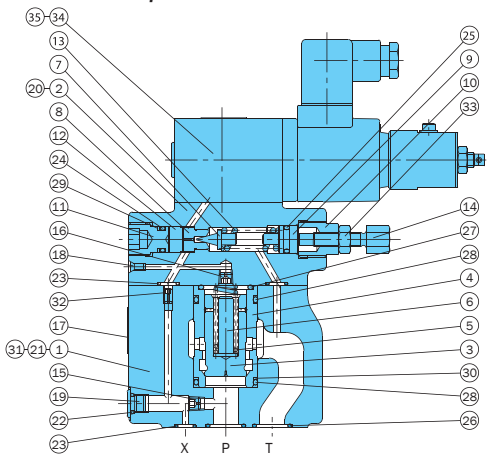


Cross-sectional Drawing

ER-G**-*-21

ER Valve Built-in Pilot Relief Valve List

Model No.	Built-in Pilot Relief Valve
ER-G03-B-21	EPR-G01-B-0011S-12
1	1-0011S-12
2	2-1313S-12
3	3-1212S-12
4	4-1111S-12
5	5-1010S-12
ER-G06-1-21	EPR-G01-1-0011S-12
2	2-1313S-12
3	3-1212S-12
4	4-1111S-12
5	5-1010S-12



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

Part No.	Part Name	Nominal Diameter/Part Number		Qty
		G03	G06	
22	O-ring	1B-P8	1B-P8	1
23	O-ring	1B-P9	1B-P9	3
24	O-ring	1B-P10A	1B-P10A	1
25	O-ring	1A-P11	1A-P11	1
26	O-ring	1B-P18	1B-P28	2
27	O-ring	1B-G25	1B-P28	1
28	O-ring	1B-G30	1B-P32	2
29	Backup ring	T2-P10A	T2-P10A	1
30	Backup ring	T2-G30	T2-P32	1

Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
1	Body	17	Plate	33	Nut
2	Cover	18	Plug	34	Pilot relief valve
3	Poppet	19	Plug	35	Screw
4	Sleeve	20	Screw		
5	Spring	21	Pin		
6	Spacer	22	O-ring		
7	Poppet	23	O-ring		
8	Seat	24	O-ring		
9	Plunger	25	O-ring		
10	Retainer	26	O-ring		
11	Plug	27	O-ring		
12	Collar	28	O-ring		
13	Spring	29	Backup ring		
14	Handle	30	Backup ring		
15	Orifice	31	Screw		
16	Orifice	32	Choke		

Note: 1. O-ring 1A/B-** refers to JIS B2401-1A/B.
2. For the ** part of the kit number, specify the valve size (G03, G06).
3. EPR-G01 pilot valve seal is available separately. See page G-3 for more information.