3.12

50ER58-21F TYPE

Inverse-proportional Relief Valve

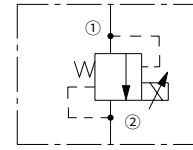
Rated pressure(bar / psi) 393 / 5700

Features

- 12 and 24 volt coils standard
- Optional waterproof E-Coils rated up to IP69K
- Industry common cavity
- Hardened parts for long life

Contents

Symbol

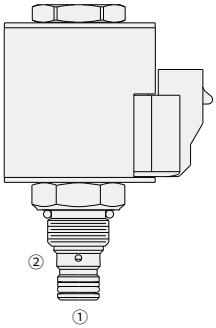


Description

A screw-in, cartridge-style, direct acting, poppet-type hydraulic relief valve, which can be infinitely adjusted across a Inverse proportion range using a variable electric input. Pressure output is proportional to DC current inverse.

Operation

50ER58-21F Cut off the oil flow from port ① to port ② until port ① bears a sufficient pressure that is greater than the spring pressure as to open the valve. When the current is left unused, the valve overflows within ± 50 psi of the maximum spring pressure. The spring pressure will reduce when current is applied to the coil, thereby reducing the valve overflow pressure.



Ordering Code

50ER58-21F □ – □ – □ – □□ □□ – □□

Option
None — Blank
150μ filter screen — S

Cartridge only — 0

Seals
Buna N (Std.) — **N**
Fluorocarbon — **V**
Polyurethane — **P**

Voltage
0 Less Coil
10 10VDC (1.56 amps，max.)
12 12VDC (1.30 amps，max.)
20 20VDC (0.78 amps，max.)
24 24VDC (0.65 amps，max.)

Pressure setting
M345=345bar
M290=290bar
40=276bar (4000psi)
50=345bar (5000psi)

In this range, other pressures are optional.

E-Coil
ER (IP69K)
EJ (IP67)
EG (IP65)

Coil termination
Deutsch DT04-2P
Amp Jr. Timer
DIN43650

Technical data

Hydraulic

Operating pressure	393 bar (5700 psi)
Pressure relief range from zero to maximum control current	344.7-6.9 bar (5000-100 psi)
Magnetic hysteresis at 200Hz PWM	5%
Rated flow	1.9 lpm/0.5 gpm; Δ P = 6.9 to 9 bar (100 to 130 psi)，cartridge valves only; port ① to port ②，coil energized
Flow path	Free Flow: port ① to port ② coil energized; Relieving:Port ① to port ② coil de-energized
Temperature range	-40 to 100 °C (Buna N seals)
	-54 to 107 °C (Polyurethane seals)
	-26 to 204 °C (Fluorocarbon seals)
Fluids	Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to or 2000 sus)
Cavity	VC08-2 (See technical reference)
Installation recommendation	When possible, the valve should be mounted below the reservoir oil level.This will maintain oil in the armature preventing trapped air instability. If this is not feasible, mount the valve horizontally for best results.

Electric

Coil		**E-Coil**
Maximum current (A)	12VDC	1.30
	24VDC	0.65
Electric resistance (Ω) @20° C	12VDC	7.1±3%
	24VDC	28.5±5%
Inductance coefficient (mH)	12VDC	160
	24VDC	560

Materials

Cartridge:
Weight: 0.16 kg ; Steel with hardened work surfaces.
Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

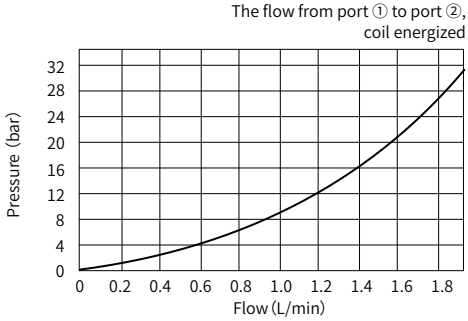
Standard Ported Body:
Anodized high-strength aluminum alloy, rated to 240 bar; Ductile iron and steel bodies available; Dimensions may differ, consult factory.

Standard Coil: Consult factory.

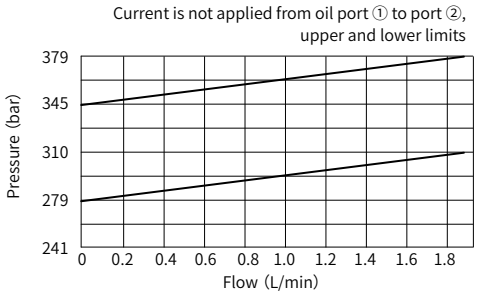
E-Coil:
Weight: 0.359 kg; Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with Deutsch sockets.

Characteristic curves

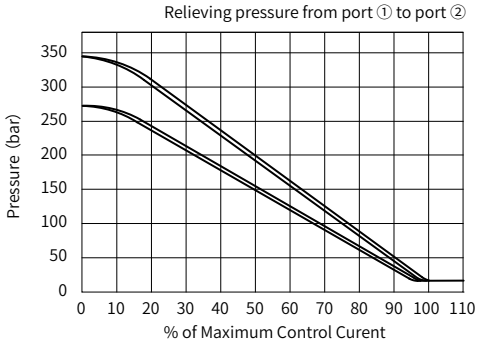
Pressure Loss



Pressure Fow Characteristics

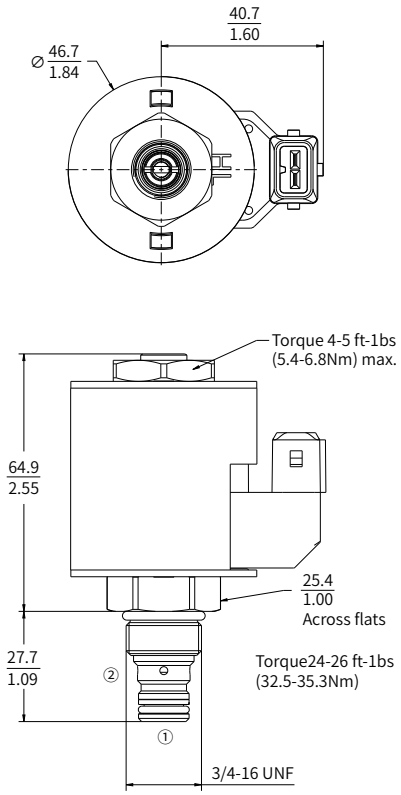


Pressure relief and current characteristic
200Hz PWM



Unit dimensions

E J



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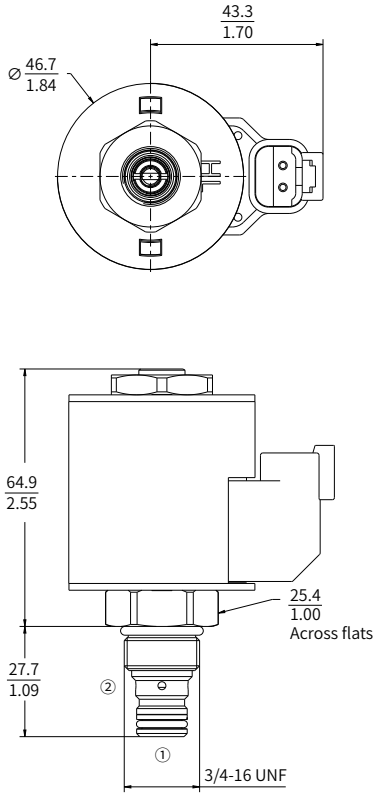

Millimetre
Inch

China
+86 400 101 8889

America
+01 630 995 3674

Germany
+49 (30) 72088-0

Japan
+81 03 6809 1696