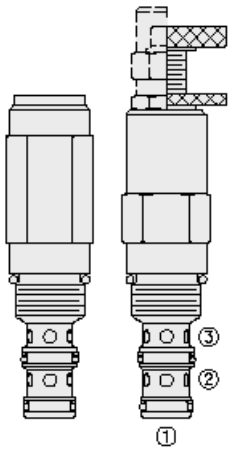




Overview



Description

The pr50-38xxx is a screw in, cartridge style, direct acting, spool type, hydraulic pressure reducing/relieving valve with internal spring chamber drain, and spool damping chamber. It is designed to act as a pressure regulating device for secondary circuits. Port 2 may be protected by 60 mesh, 250 micron rated screen with option s.

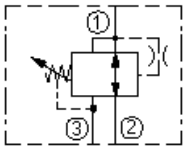
Operation

In its steady state, the pr50-38xxx allows flow to pass bidirectionally from port 2 to port 1 with the spring chamber constantly drained at port 3. Upon attainment of a predetermined pressure at port 1, the cartridge shifts to block flow at port 2, thereby regulating pressure at port 1. In this mode, the valve will also relieve port 1 to port 3 at a variable value over the set reducing pressure.

Features

- Adjustments cannot be backed out of the valve.
- Adjustments prohibit springs from going solid.
- Optional spring ranges to 227.5 bar (3300 psi).
- Hardened spool and cage for long life.
- Industry-common size.

Symbol



Ratings

Pressure Ratings

Pressure rating	344.7 bar (5000 psi) 68.9 bar (1000 psi)	- Note: Ports 1 and 2 - Note: Port 3
Proof pressure	482.6 bar (7000 psi) 482.6 bar (7000 psi) 68.9 bar (1000 psi)	- Note: Port 1 - Note: Port 2 - Note: Port 3
Burst pressure	1034 bar (15000 psi)	

Flow Ratings

Flow rating	See performance graphs
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Temperature Ratings

Operating fluid temperature	-40 to 100 °C (-40 to 212 °F)	- Note: With buna N seals
	-26 to 204 °C (-15 to 400 °F)	- Note: With fluorocarbon seals
	-54 to 107 °C (-65 to 225 °F)	- Note: With polyurethane and urethane seals
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 70 °C (-40 to 160 °F)	

Other Ratings

Corrosion protection	PR50-38XX 960 hr salt spray per ASTM b117
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Operating Parameters

Fluids	Mineral based or synthetic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	20/18/14 per ISO 4406 (tank port pressure is additive to pressure setting at ratio of 1:1)

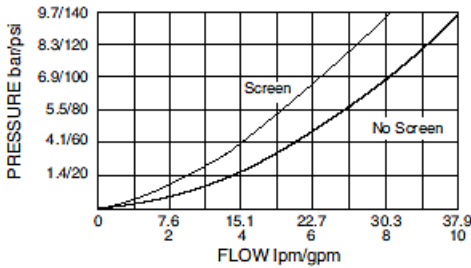


Properties

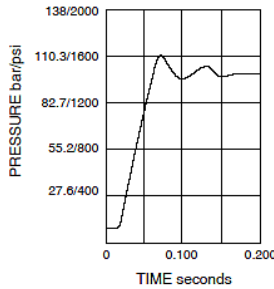
Unit weight	0.27 kg (0.59 lb)	- Note: A
	0.29 kg (0.64 lb)	- Note: B
	0.31 kg (0.69 lb)	- Note: C I
	0.26 kg (0.57 lb)	- Note: F h
Internal wetted surface area	215 cm ² (33.3 in ²)	- Note: A b c I
	195 cm ² (30.2 in ²)	- Note: F h

Performance

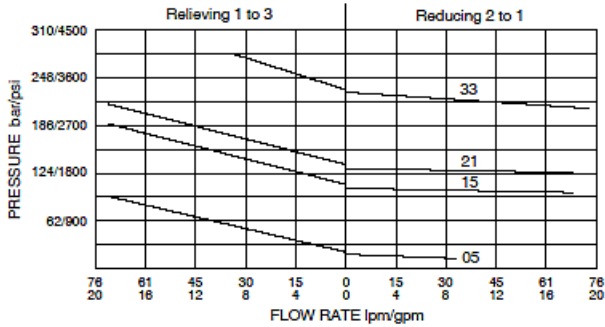
Fully Open Pressure Drop
Port 2 to Port 1 & Port 1 to Port 3
32 cSt/150 sus oil at 40°C



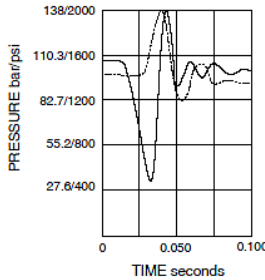
Response To Inlet Pressure Step
Time (sec.) Step Up: 0.040
Inlet Pressure Port 2 to Port 1
Supporting Valve Upstream Inlet Pressure Steps
Between 241.3 bar (3500 psi) and 10.3 bar (150 psi)



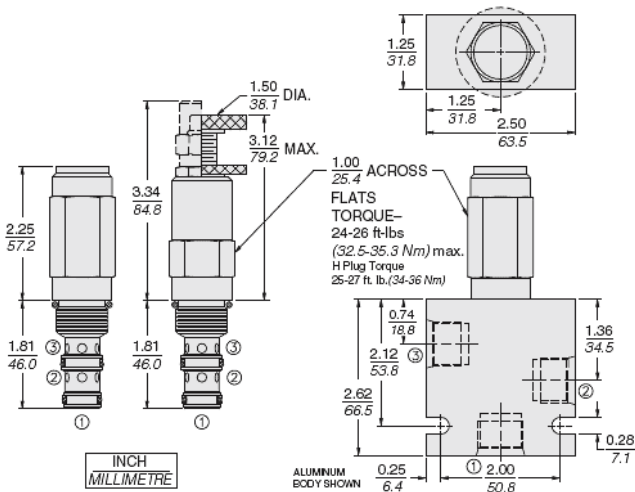
Typical Relieving and Reducing Pressure vs. Flow
at Maximum Pressure Setting for Different Spring Ranges
32 cSt/150 sus oil at 40°C



Pressure Step Response
in Reducing Mode Time (sec)
Step Up: 0.014 Step Down: 0.043
Inlet Pressure Port 2 to Port 1
Supporting Valve Downstream Reducing Flow Steps
Between 0 lpm (0 gpm) and 18.9 lpm (5 gpm)



Dimensions



Installation Specifications

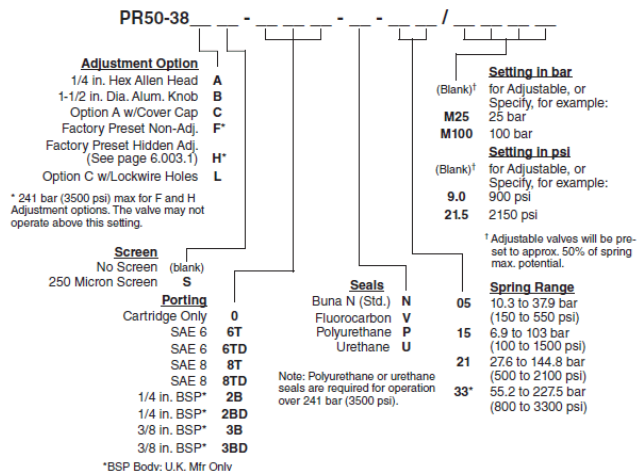
Cavity	VC10-3
Cartridge installation torque	33.9 to 36.6 N-m (25 to 27 ft-lb) 67.8 N-m (50 ft-lb) - Note: Maximum
H style plug torque	10.8 to 13.6 N-m (8 to 10 ft-lb)
Orientation restriction	None



Accessories

Seal kit SK10-3X-BM - Note: X=seal option

Order Code



Model Options

PR50-38DFG-H-J-R/S

D Rapid Response Option

CODE	DESCRIPTION
BLANK	Standard
R	Rapid Response

F Adjustment Option

CODE	DESCRIPTION
A	1/4" Hex Allen Head
B	1-1/2" Diameter Aluminum Knob with Aluminum Lock Knob
C	1/4" Hex Allen Head with Cover Cap
F	Factory Preset Non-Adjustable
H	Factory Preset Hidden Adjustment
L	1/4" Hex Allen Head with Cover Cap and Lockwire Holes

G Screen

CODE	DESCRIPTION
BLANK	NONE
S	60 Mesh Screen

H Line Body

CODE	DESCRIPTION
0	No Body
6T	Aluminum SAE 6
8T	Aluminum SAE 8
6TD	Ductile Iron SAE 6
8TD	Ductile Iron SAE 8
3B	Aluminum BSPP 3/8" (3)
3BD	Ductile Iron BSPP 3/8" (3)

J Seal



CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
P	Polyurethane
U	PPDI Urethane

R Spring

CODE	DESCRIPTION
05	10.3 to 37.9 bar (150 to 550 psi) Spring Range
15	6.9 to 103.4 bar (100 to 1500 psi) Spring Range
21	27.6 to 144.8 bar (400 to 2100 psi) Spring Range
33	55.2 to 227.5 bar (800 to 3300 psi) Spring Range

S Setting

CODE	DESCRIPTION
MXX	Spring Setting in XXX bar
XX	Spring Setting in XX psi (x 100)