RELIEF VALVE CARTRIDGE DIRECT ACTING POPPET

Overview



Description

RV50-22X is a screw in, cartridge style, direct acting, differential area, poppet type, hydraulic relief valve intended for use as a pressure limiting device in more demanding hydraulic circuits requiring low hysteresis and low internal leakage.

Operation

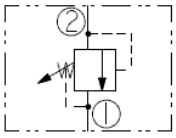
The RV50-22X blocks flow from port 2 to port 1 until sufficient pressure is present at port 2 to force the poppet from its seat. The cartridge offers smooth transition in response to loads in common hydraulic circuits.

NOTE: Limit corssover applications to 207 bar (3000 psi) max.

Features

- Adjustments cannot be backed out of the valve.
- Adjustments prevent springs from going solid.
- Hardened poppet and cage for long life.
- Smooth response to pressure surges.
- Industry-common size.

SYMBOL



Ratings

Pressure Ratings

Pressure rating: 365 bar (5300 psi)

Proof pressure: 482.6 bar (7000 psi)

Burst pressure: 965.3 bar (14000 psi)

Crack pressure defined: Pressure evident at 0.95 lpm (0.25 gpm)

Flow Ratings

Flow rating: 75.7 lpm (20 gpm)

Maximum internal leakage: 5 drops/min

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 seals with urethane seals

Storage temperature: -40 to 70 °C (-40 to 160 °F)

Ambient temperature: -40 to 70 °C (-40 to 160 °F)

Operating Parameters

Fluids

Fluids: Mineral based or synthetic hydraulic fluid with lubricating properties

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Fluid viscosity range: 7.4 to 420 cSt

Maximum operating contamination level: 18/16/13 per ISO 4406

Properties

Unit weight: 0.23 kg (0.51 lb) note: RV50-22A

0.25 kg (0.56 lb) note: RV50-22B

0.28 kg (0.61 lb) note: RV50-22C

0.22 kg (0.49 lb) note: RV50-22F

0.22 kg (0.49 lb) note: RV50-22H

0.28 kg (0.61 lb) note: RV50-22L

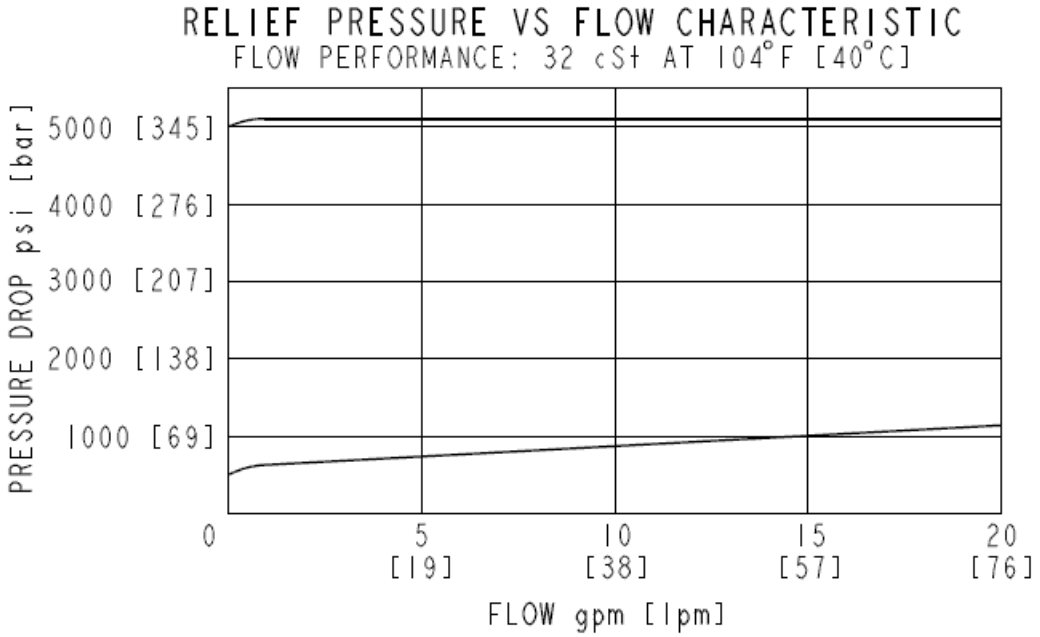
Internal wetted surface area: 114 cm^2 (17.7 in^2) note: A, B, C, and L

126 cm^2 (19.5 in^2) note: F and H

Pressure change per adjuster turn: 35.8 bar (520 psi) note: (approximate) A, B, C and L adjusters, spring code 50

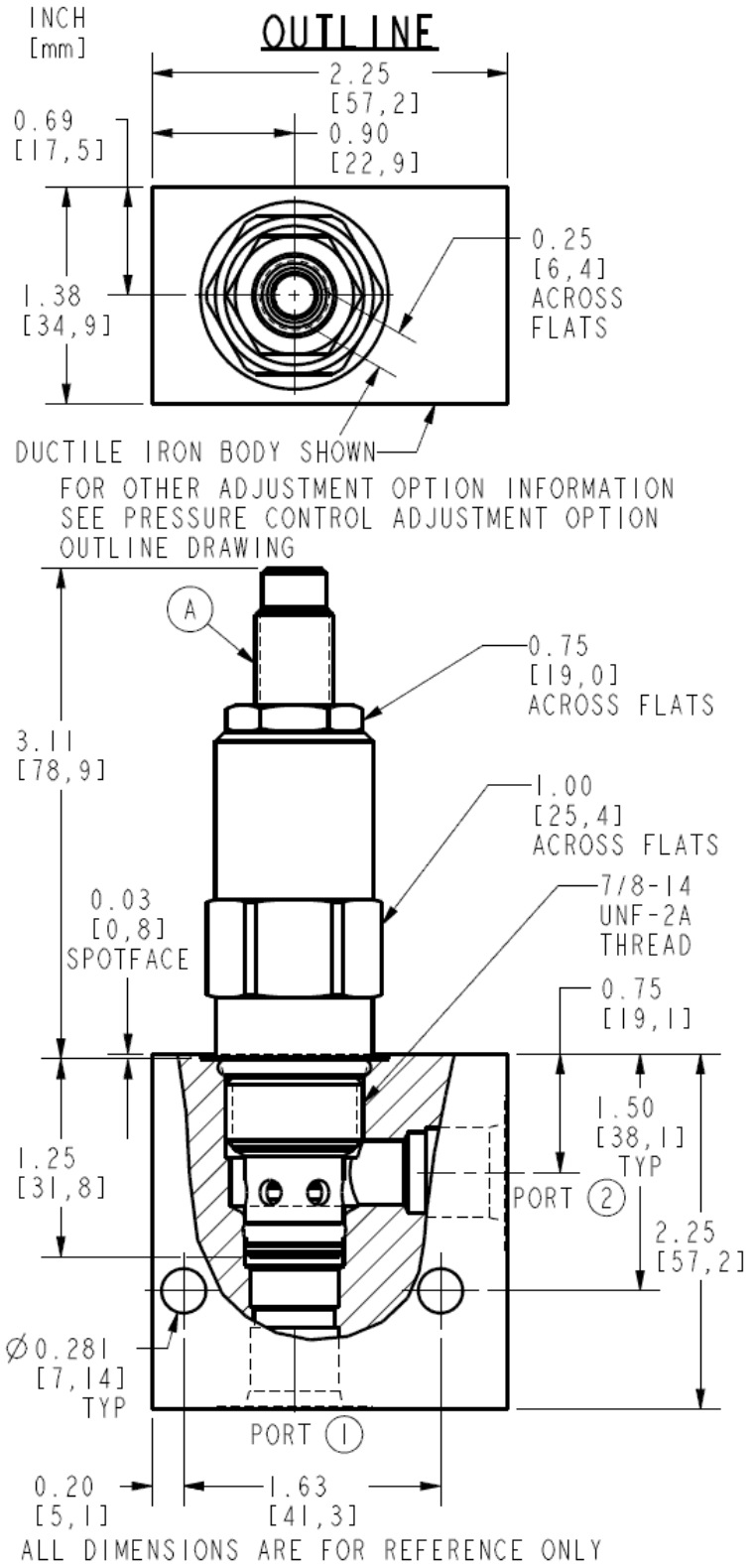
44.9 bar (651 psi) note: (approximate) H and F adjusters, spring code 50

Performance



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Dimensions



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Installation Specifications

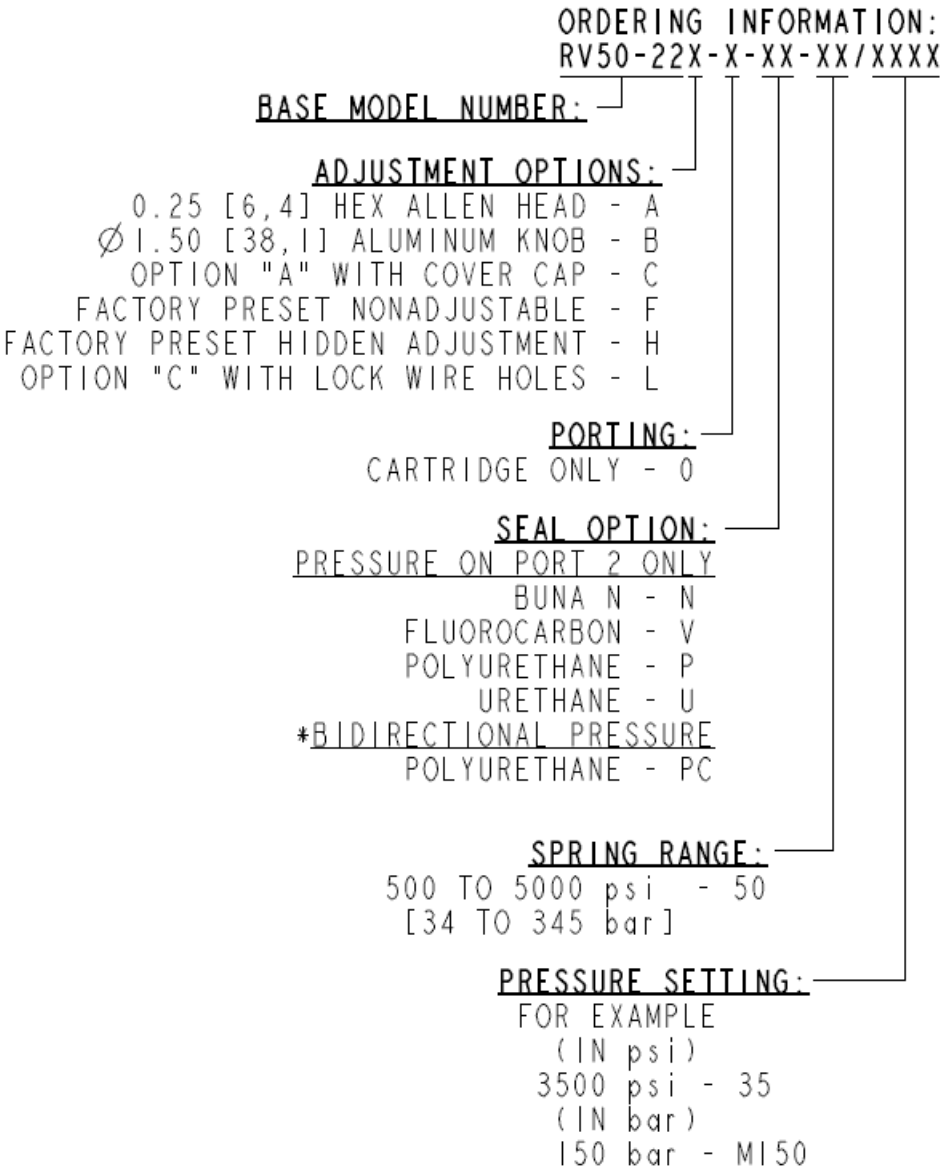
Cavity: VC10-2
10-size-2-way Cavities
Cartridge installation torque: 44.7 to 50.2 N-m (33 to 37 ft-lb)
Maximum allowable torque: 67.8 N-m (50 ft-lb)
H style plug torque: 32.5 to 35.3 N-m (24 to 26 ft-lb)
Orientation restriction: None

Accessories

Seal kit: SK10-2X-T note: X=N, V, P (port 2 pressure only)
SK10-2P-M note: For PC seal option
SK10-2U-O note: For U seal option
Seal kit installation instructions
Housings: Available 10-2W valve bodies

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Order Code



Model Options

RV50-22F-H-J-R/S

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

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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
2B	Aluminum BSPP 1/4" (2)
3B	Aluminum BSPP 3/8" (3)
4B	Aluminum BSPP 1/2" (4)
4BD	Ductile Iron BSPP 1/2" (4)

J Seal

CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
P	Polyurethane

R Spring

CODE	DESCRIPTION
50	34 to 345 bar (500 to 5000 psi) Spring Range

S Setting

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