



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

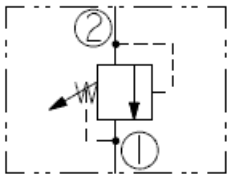
The RV50-22X blocks flow from port 2 to port 1 until sufficient pressure is present at port 2 to force the poppet from its seat. The cartridge offers smooth transition in response to loads in common hydraulic circuits.

NOTE: Limit crossover 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 - Note: To 85% of nominal setting

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

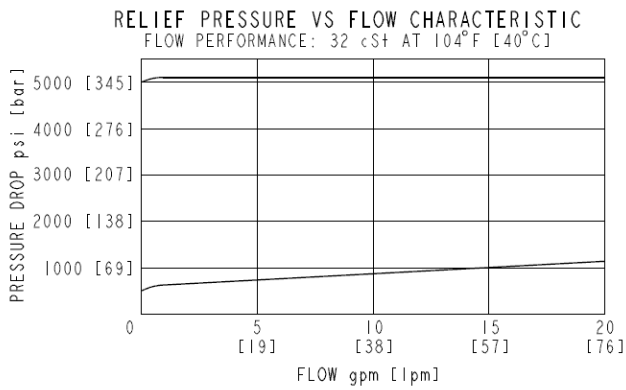
Fluids

Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406

Properties

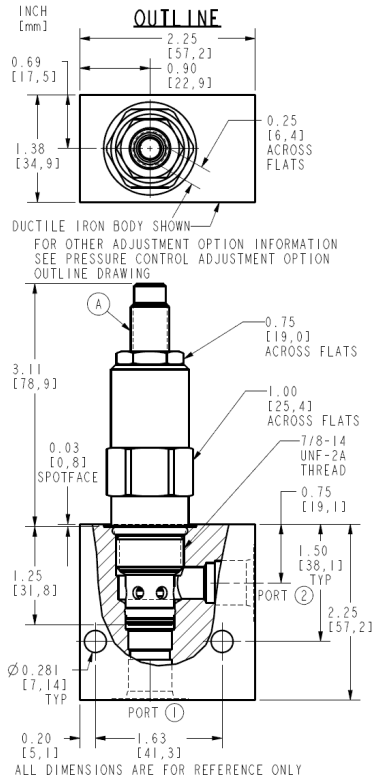
Unit weight	0.23 kg (0.51 lb)	- Note: RV50-22A
	0.25 kg (0.56 lb)	- Note: RV50-22B
	0.28 kg (0.61 lb)	- Note: RV50-22C
	0.22 kg (0.49 lb)	- Note: RV50-22F
	0.22 kg (0.49 lb)	- Note: RV50-22H
	0.28 kg (0.61 lb)	- Note: RV50-22L
Internal wetted surface area	114 cm ² (17.7 in ²)	- Note: A, B, C, and L
	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
	50	

Performance





Dimensions



Installation Specifications

Cavity	VC10-2
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

Order Code



ORDERING INFORMATION:

RV50-22X-X-XX-XX/XXXX

BASE MODEL NUMBER:

ADJUSTMENT OPTIONS:

0.25 [6,4] HEX ALLEN HEAD - A
 Ø1.50 [38,1] ALUMINUM KNOB - B
 OPTION "A" WITH COVER CAP - C
 FACTORY PRESET NONADJUSTABLE - F
 FACTORY PRESET HIDDEN ADJUSTMENT - H
 OPTION "C" WITH LOCK WIRE HOLES - L

PORTING:

CARTRIDGE ONLY - 0

SEAL OPTION:

PRESSURE ON PORT 2 ONLY

BUNA N - N
 FLUOROCARBON - V
 POLYURETHANE - P
 URETHANE - U

*BIDIRECTIONAL PRESSURE

POLYURETHANE - PC

SPRING RANGE:

500 TO 5000 psi - 50
 [34 TO 345 bar]

PRESSURE SETTING:

FOR EXAMPLE

(IN psi)

3500 psi - 35

(IN bar)

150 bar - M150

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

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



CODE	DESCRIPTION
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P	Polyurethane
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R Spring

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

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