



## 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

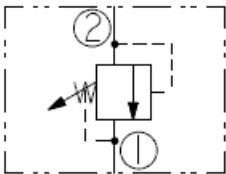
The RV50-22X blocks flow from port 2 to port 1 until sufficient pressure is present at port 2 to force the poppet from its seat. The cartridge offers smooth transition in response to loads in common hydraulic circuits.

**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 - <b>Note:</b> To 85% of nominal setting

### Temperature Ratings

Operating fluid temperature	-40 to 100 °C (-40 to 212 °F)	- <b>Note:</b> With buna N seals
	-26 to 204 °C (-15 to 400 °F)	- <b>Note:</b> With fluorocarbon seals
	-54 to 107 °C (-65 to 225 °F)	- <b>Note:</b> 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

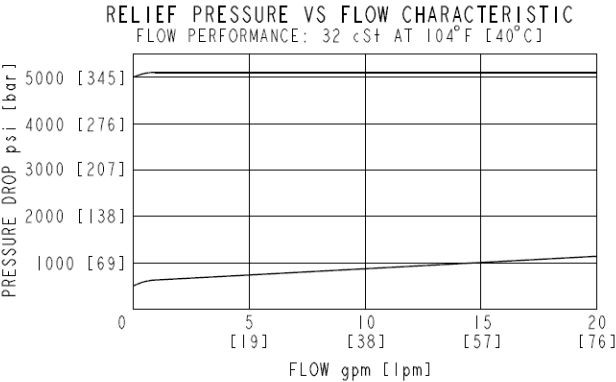
Fluids

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

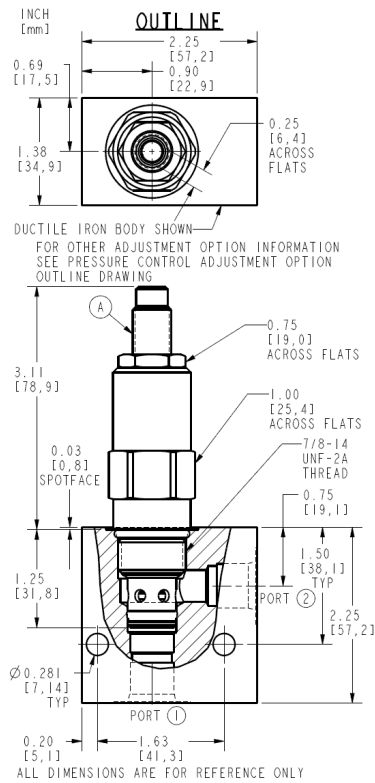
Properties

Unit weight	0.23 kg (0.51 lb)	- <b>Note:</b> RV50-22A
	0.25 kg (0.56 lb)	- <b>Note:</b> RV50-22B
	0.28 kg (0.61 lb)	- <b>Note:</b> RV50-22C
	0.22 kg (0.49 lb)	- <b>Note:</b> RV50-22F
	0.22 kg (0.49 lb)	- <b>Note:</b> RV50-22H
	0.28 kg (0.61 lb)	- <b>Note:</b> RV50-22L
Internal wetted surface area	114 cm² (17.7 in²)	- <b>Note:</b> A, B, C, and L
	126 cm² (19.5 in²)	- <b>Note:</b> F and H
Pressure change per adjuster turn	35.8 bar (520 psi)	- <b>Note:</b> (approximate) A, B, C and L adjusters, spring code 50
	44.9 bar (651 psi)	- <b>Note:</b> (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	- <b>Note:</b> X=N, V, P (port 2 pressure only)
	SK10-2P-M	- <b>Note:</b> For PC seal option
	SK10-2U-O	- <b>Note:</b> 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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