



Overview

RVD50-20C-0-P-42/M240

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**Description**

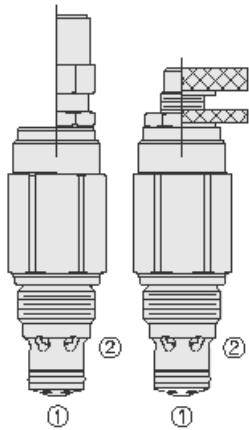
The xrvd50-20x is a screw-in, cartridge style, direct acting poppet type relief valve intended for use as a pressure limiting device for common hydraulic circuit protection

**Operation**

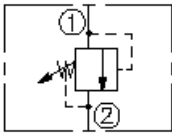
The xrvd50-20x blocks flow from port 1 to port 2 until sufficient pressure is present at port 1 to force the poppet off its seat. The cartridge offers fast response to load changes in circuits requiring low hysteresis, low pressure rise, and low internal leakage

**Features**

- Adjustments cannot be backed out of the valve.
- Height of the adjuster does not change when the pressure setting is adjusted.
- Hardened poppet and cage for long life.
- Optional spring ranges to 345 bar (5000 psi).
- Rapid response to pressure changes.
- Industry-common cavity.



Symbol



Ratings

**Pressure Ratings**

Pressure rating	413.7 bar (6000 psi)
Proof pressure	785.4 bar (11000 psi)
Burst pressure	1515.8 bar (22000 psi)
Crack pressure defined	Pressure evident at 0.95 lpm (0.25 gpm)
Reseat pressure	Nominal 85% of crack pressure 1 ml/min (20 drops/min)

**Flow Ratings**

Flow rating	113.6 lpm (30 gpm)	- <b>Note:</b> Port 1 to 2 at max pressure
Maximum internal leakage	0.25 ml/min (5 drops/min)	- <b>Note:</b> To 80% of nominal

**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
	-54 to 107 °C (-65 to 225 °F)	- <b>Note:</b> With 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	960 hr salt spray per ASTM b117 (grvd50-20x)
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Operating Parameters

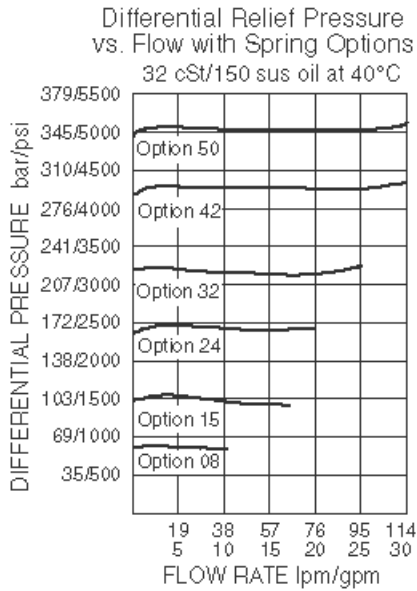
Fluids	Mineral based or synthetic with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406



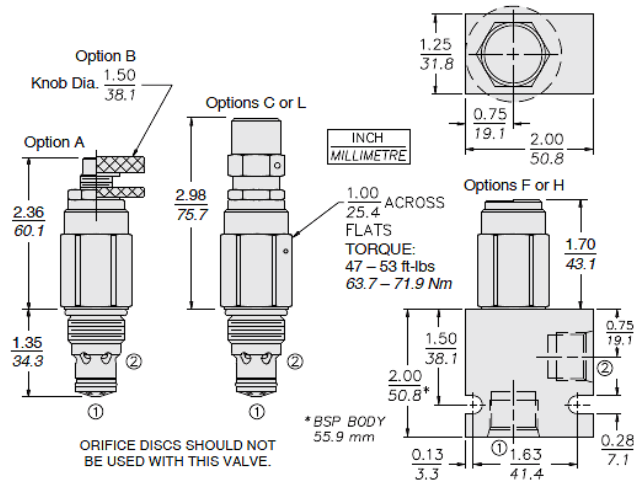
## Properties

Unit weight	0.21 kg (0.46 lb)	- Note: A
	0.23 kg (0.51 lb)	- Note: B
	0.25 kg (0.56 lb)	- Note: C I
	0.20 kg (0.44 lb)	- Note: F h
Internal wetted surface area	158 cm <sup>2</sup> (24.6 in <sup>2</sup> )	- Note: A b c I
	151 cm <sup>2</sup> (23.3 in <sup>2</sup> )	- Note: F h

## Performance



## Dimensions



## Materials

### Materials

**Cartridge:** Weight: 0.25 kg. (0.56 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and polyester elastomer back-up standard. Anodized aluminum knobs.

**Standard Ported Body:** Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ.

**Adjustment Options:** For A-Alt™ Fixed Height Adjuster details, See [adjustment options](#)

## Installation Specifications

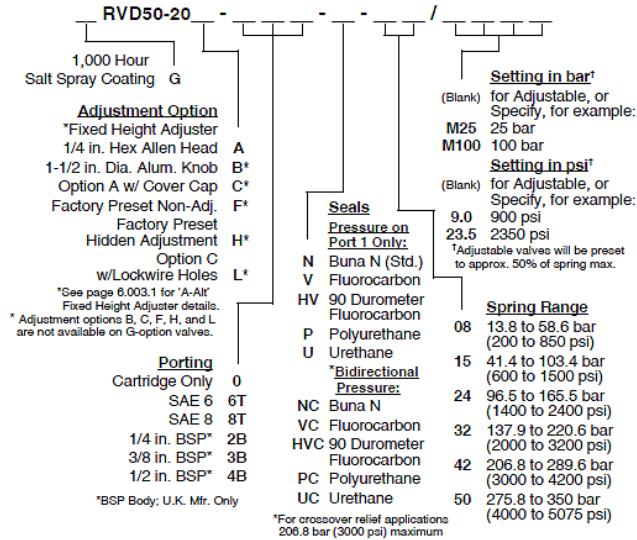
Cavity	VC10-2
Cartridge installation torque	63.7 to 71.9 N-m (47 to 53 ft-lb)
Orientation restriction	None



Accessories

- Seal kit SK10-2X-B - **Note:** X = n, v, HV, P
- SK10-2X-M - **Note:** X = NC, VC, HVC, PC
- SK10-2X-O - **Note:** X = U
- Housings

Order Code



POSITION	CODE	DESCRIPTION
		RVD50-20F-H-J-R/S
F		Adjustment Option
F	A	1/4" Hex Allen Head
F	B	1-1/2" Diameter Aluminum Knob
F	C	1/4" Hex Allen Head with Cover Cap
F	F	Factory Preset Non-Adjustable
F	H	Factory Preset Hidden Adjustment
F	L	1/4" Hex Allen Head with Cover Cap and Lockwire Holes
F	P	PED 2014/68/EC
H		Line Body
H	0	No Body
H	6T	Aluminum SAE 6
H	8T	Aluminum SAE 8
H	6TD	Ductile Iron SAE 6
H	8TD	Ductile Iron SAE 8
H	2B	Aluminum BSPP 1/4" (2)
H	3B	Aluminum BSPP 3/8" (3)
H	4B	Aluminum BSPP 1/2" (4)
H	4BD	Ductile Iron BSPP 1/2" (4)
J		Seal
J	N	Buna-N
J	NC	Buna-N for Crossover Applications
J	V	Fluorocarbon
J	HV	High Durometer Fluorocarbon
J	VC	Fluorocarbon for Crossover Applications



POSITION	CODE	DESCRIPTION
J	P	Polyurethane
J	U	PPDI Urethane
R		Spring
R	08	13.7 to 58.6 bar (200 to 850 psi) Spring Range
R	15	41.4 to 103.4 bar (600 to 1500 psi) Spring Range
R	24	96.5 to 165.5 bar (1400 to 2400 psi) Spring Range
R	32	137.9 to 220.6 bar (2000 to 3200 psi) Spring Range
R	42	206.8 to 289.6 bar (3000 to 4200 psi) Spring Range
R	50	275.8 to 350 bar (4000 to 5075 psi) Spring Range
S		Setting
S	MXXX	Spring Setting in XXX bar
S	XX	Spring Setting in XX psi (x 100)