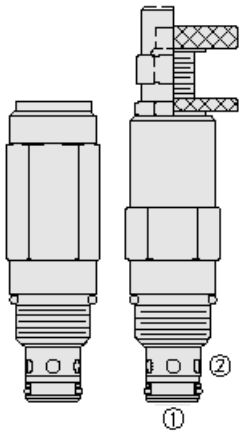
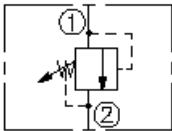




Overview



Symbol



Description

RV10-20X is a screw in, cartridge style, direct acting, poppet type, hydraulic relief valve intended for use as a pressure limiting device for common hydraulic circuit protection. It is intended for use in mineral based or synthetic (with lubricating properties) hydraulic fluids.

Operation

The RV10-20X blocks flow from port 1 to 2 until sufficient pressure is present at port 1 to force the poppet from its seat. The cartridge offers fast response to load changes in typical hydraulic circuits requiring low internal leakage.

Notes

Supersession: Existing and new applications.

[RVD58-20](#) is our best-in-class relief valve and can functionally replace this valve in most applications. We strongly encourage you to consider this newer alternative.

Considerations:

- Smaller valve with comparable pressure and flow ratings
- Not a drop-in replacement
- Comparable response rate
- Better pressure rise characteristics
- Smaller size
- No dynamic seal
- Competitive cost
- Assistance is available to evaluate your application

Application:

- GRV10-20 (corrosion resistant version) not recommended for crossover applications

Ratings

Pressure Ratings

Pressure rating	228 bar (3300 psi)	- Note: RV10-20X
	228 bar (3300 psi)	- Note: Grv10-20x port 1
	34.5 bar (500 psi)	- Note: Grv10-20x port 2
Proof pressure	517.1 bar (7500 psi)	
Burst pressure	1037.7 bar (15000 psi)	
Crack pressure defined	Pressure evident at 0.95 lpm (0.25 gpm) attained port 1 to port 2	
Reseat pressure	Nominal 85% of crack pressure	
Relief pressure range	6.9 to 206.8 bar (100 to 3000 psi)	- Note: From zero to maximum control current

Flow Ratings

Flow rating	38 lpm (10 gpm)	- Note: At max pressure
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
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 70 °C (-40 to 160 °F)	

Other Ratings

Corrosion protection	RV10-20X type III clear zinc plating per ASTM B633 Grv10-20x 960 hour salt spray per ASTM b117
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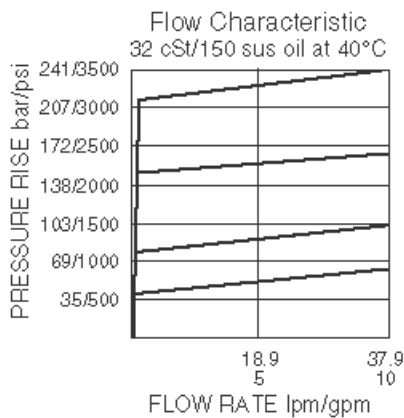
Operating Parameters

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

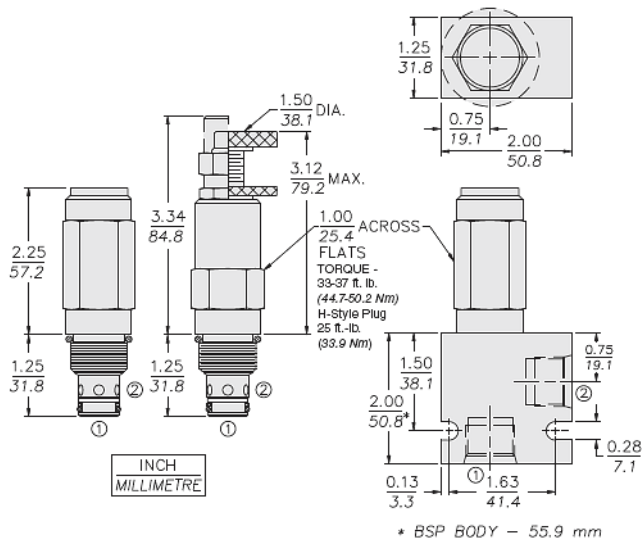
Properties

Unit weight	0.23 kg (0.51 lb)	- Note: A
	0.25 kg (0.56 lb)	- Note: B
	0.28 kg (0.61 lb)	- Note: C/I
	0.22 kg (0.49 lb)	- Note: F/h
Internal wetted surface area	133 cm ² (20.56 in ²)	- Note: A b c l
	150 cm ² (23.25 in ²)	- Note: F h

Performance



Dimensions



Installation Specifications

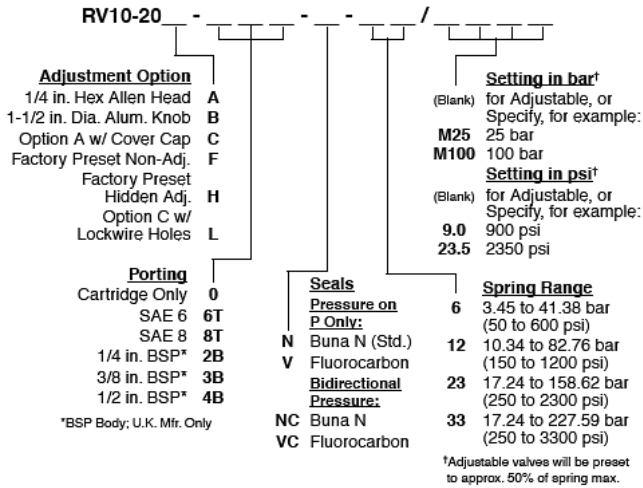
Cavity	VC10-2
Cartridge installation torque	33.9 to 36.7 N-m (25 to 27 ft-lb)
Maximum allowable torque	67.7 N-m (50 ft-lb)
H style plug torque	33.9 N-m (25 ft-lb)
Orientation restriction	None

Accessories

Seal kit	SK10-2X-B	- Note: X=seal option
	SK10-2X-M	- Note: X=seal option



Order Code



Model Options

RV10-20F-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
NC	Buna-N for Crossover Applications
V	Fluorocarbon
VC	Fluorocarbon for Crossover Applications
P	Polyurethane
PC	Polyurethane for Crossover Applications
U	PPDI Urethane



R Spring

CODE	DESCRIPTION
06	3.4 to 41.4 bar (50 to 600 psi) Spring Range
12	10.3 to 82.7 bar (150 to 1200 psi) Spring Range
23	17.2 to 158.6 bar (250 to 2300 psi) Spring Range
33	17.2 to 227.5 bar (250 to 3300 psi) Spring Range

S Setting

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