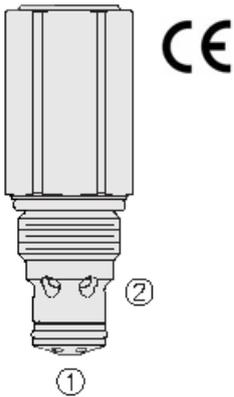




Overview



Description

The RVD50-20P is a screw in, cartridge style, direct acting, poppet type, hydraulic safety relief valve intended for use as a pressure limiting device for common hydraulic circuit protection. The RVD50-20P is suitable for use as a safety accessory in category IV group 2 applications according to the pressure equipment directive (PED) 2014/68/EU.

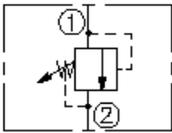
Operation

The RVD50-20P 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 hysteresis, low pressure rise and low internal leakage.

Features

- PED-Certified to European Commission Pressure Equipment Directive 2014/68/EC.
- Suitable for use as a safety accessory in PED Category IV Group 2 applications.
- Salt spray protection to meet 960 hour specifications.
- Hardened poppet and cage for long life.
- No maintenance required (or allowed).
- Rapid response to pressure surges.
- Industry-common cavity.
- Spring ranges from 13.7 bar (200 psi) to 350 bar (5075 psi).
- Poppet developed using computational fluid dynamics to ensure dynamic response with minimal friction.

Symbol



Ratings

Pressure Ratings

Pressure rating	385 bar (5575 psi)	- Note: Port 1
	10.0 bar (145 psi)	- Note: Port 2
Proof pressure	517.1 bar (7500 psi)	
Burst pressure	1379 bar (20000 psi)	
Crack pressure defined	Pressure evident at 0.95 lpm (0.25 gpm)	
Reseat pressure	Nominal 85% of crack pressure	

Flow Ratings

Flow rating	113.6 lpm (30 gpm)	- Note: Port 1 to 2 at max pressure
Maximum internal leakage	1 ml/min (20 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
	-40 to 107 °C (-40 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)	

Other Ratings

Corrosion protection	960 hr salt spray per ASTM b117
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Operating Parameters

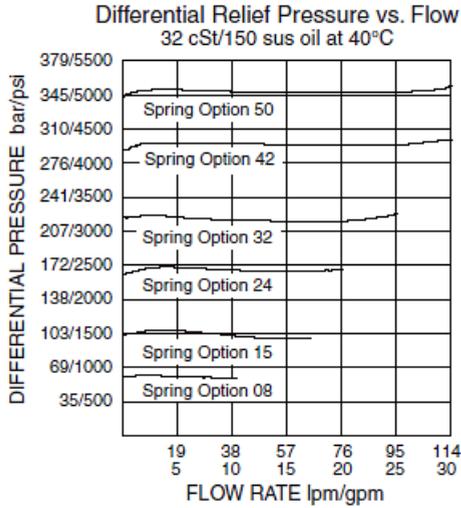
Fluids	Mineral based or synthetic with lubricating properties hydraulic fluids. For other fluids contact HydraForce
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406



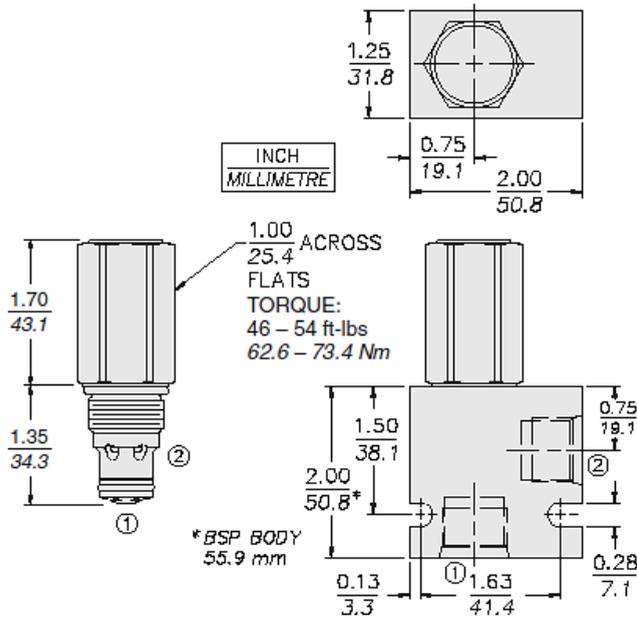
Properties

Unit weight	0.20 kg (0.44 lb)
Internal wetted surface area	151 cm ² (23.3 in ²)

Performance



Dimensions



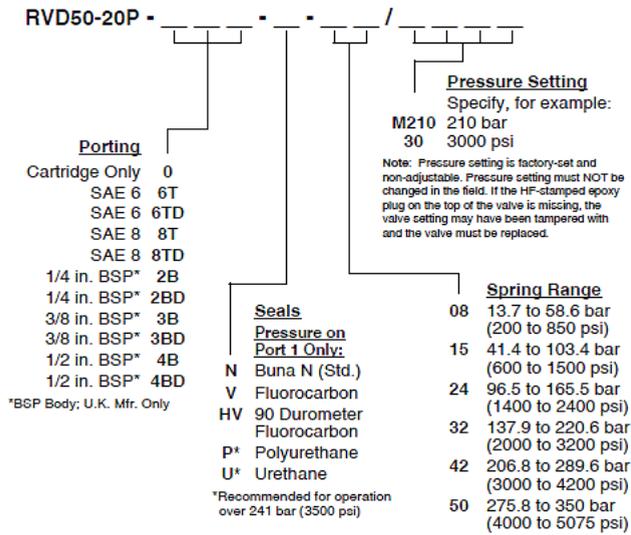
Installation Specifications

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-O	- Note: X=u, bidirectional

Order Code



Model Options

RVD50-20P-H-J-R/S

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
HV	High Durometer Fluorocarbon
VC	Fluorocarbon for Crossover Applications
P	Polyurethane
U	PPDI Urethane

R Spring

CODE	DESCRIPTION
08	13.7 to 58.6 bar (200 to 850 psi) Spring Range
15	41.4 to 103.4 bar (600 to 1500 psi) Spring Range
24	96.5 to 165.5 bar (1400 to 2400 psi) Spring Range
32	137.9 to 220.6 bar (2000 to 3200 psi) Spring Range
42	206.8 to 289.6 bar (3000 to 4200 psi) Spring Range



CODE	DESCRIPTION
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50	275.8 to 350 bar (4000 to 5075 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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