

HydraForce Launches RVD58-20 High Performance Relief Valve

Quiet, Reliable Pressure Control for Demanding Hydraulic Systems

Relief valves are an essential component in most hydraulic systems. Although critical, relief valves are often seen as a commodity-style product. It can be difficult to find a high quality, high performance relief valve.

HydraForce engineers have developed the RVD58-20, a new direct-acting relief valve with a damped poppet design that offers stable performance and low pressure rise over the entire flow range. The damping chamber of the valve results in smoother performance, lower hysteresis, better re-seating and a quieter valve.



The RVD58-20 relief valve is the first HydraForce product with an embossed QR code that provides the serial number.

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Performance Comparison						
	RVD58-20	HRVD08-20	RV08-20	RV58-20	RV08-22	RV08-29
Type	Direct-acting, damped	Direct-acting, high pressure, bidirectional, damped	Direct-acting	Direct-acting, high pressure	Direct-acting, poppet, reverse	Direct-acting, low flow, pilot
Pressure Rating	344 bar (5000 psi) at Port 1	420.6 bar (6100 psi) at Port 1;	275.8 bar (4000 psi)	345 bar (5000 psi)	248 bar (3600 psi) at Port 2	241 bar (3500 psi)
Crossover-bidirectional pressure rating	207 bar (3000 psi) at Port 2	241.3 bar (3500 psi) at Port 2	207 bar (3000 psi) at Port 2	207 bar (3000 psi) at Port 2	207 bar (3000 psi) at Port 1	N/A
Flow Rating	37.9 lpm (10 gpm) at maximum pressure	52.9 lpm (14 gpm) Port 1 to 2	22.7 lpm (6 gpm)	22 lpm (6 gpm) maximum	30.3 lpm (8 gpm)	Up to 1.9 lpm (0.5 gpm)
Spring Range	13.7 to 344.7 bar (200 to 5000 psi)	13.8 to 420.5 bar (200 to 6100 psi)	3.4 to 278.2 bar (50 to 4000 psi)	55.2 to 317.2 bar (800 to 4600 psi)	3.4 to 248.2 bar (50 to 3600 psi)	17.2 to 241.3 bar (1300 to 5000 psi)
Weight	0.13 kg (0.28 lb)	0.19 to 0.22 kg (0.41 to 0.48 lb)	0.16 to 0.22 kg (0.35 to 0.47 lb)	0.23 to 0.28 kg (0.50 to 0.61 lb)	0.16 to 0.22 kg (0.35 to 0.47 lb)	0.22 to 0.29 kg (0.48 to 0.64 lb)
Cavity	VC08-2 Variation B	VC08-2 Variation A or HVC08-2 Variation A	VC08-2	VC08-2	VC08-2	VC08-2

For detailed information and specifications, visit www.hydraforce.com or contact your local HydraForce representative at www.hydraforce.com/distrib/world.htm

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Features and Benefits

The RVD58-20 has a range of pressure settings that provide great flexibility for hydraulic system design, allowing customers to select options that minimize hydraulic system losses, reducing heat and component wear and tear. It has a compact VC08-2 variation B cavity with a 10 gpm flow rating.

The variation B cavity is needed to accommodate the nose of the valve. Most comparable relief products are rated for only 6 gpm.

Three spring ranges are available:

- 13.7 to 55.1 bar (200 to 800 psi)
- 55.1 to 206.8 bar (800 - 3,000 psi)
- 206.8 to 344.7 bar (3,000-5,000 psi)

The re-seat characteristic of the RVD58-20 is 90%, compared with 75% for similar relief valve products. Leakage is rated at 5 drops per minute at 85 percent of crack pressure.

A tamper-resistant, A-style adjuster is available for original equipment applications. This feature prevents field failures as a result of tampering with the valve setting.

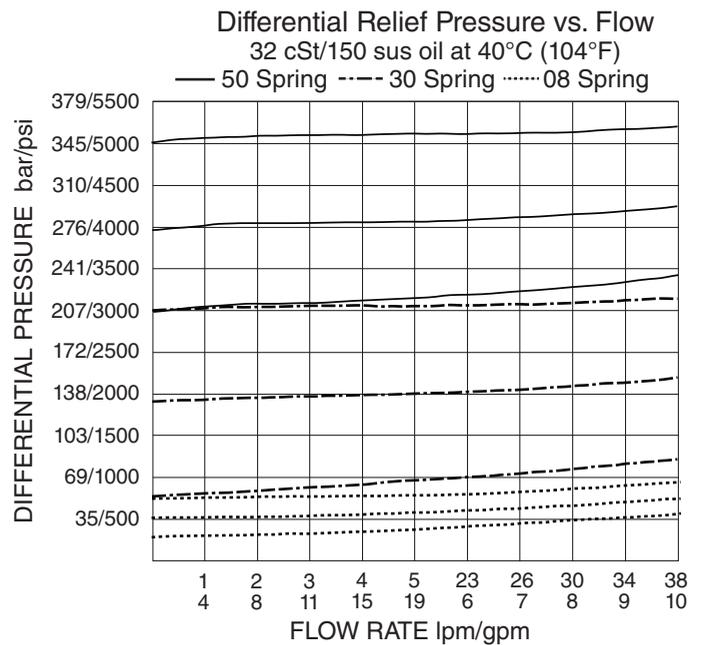
Suggested Applications

The RVD58-20 can be used in a wide variety of applications, replacing legacy relief products, including the RV08-20, HRVD08-20, RV58-20 and RV08-29. It can also be used to replace the RV08-22 which has opposite port logic, but adjustments must be made in the manifold.

- Main relief valve
- Load-sensing relief (with compensator)
- Load-sense relief control of load-sense pump
- Remote control of compensator, pump, pressure limiting valve
- Crossover applications (working psi must be below 210 bar (3000 psi))

For Application Assistance

For application assistance with relief valves, consult your HydraForce representative.



Performance Testing

The RVD58-20 relief valve successfully passed one-million cycle endurance tests without performance degradation. This is due in part to its hardened seat, which was a design selection to differentiate the product from commodity valves.

Several groups of valves with each spring value - 08 - 30 and 50 - were tested at a range of pressure settings on a circuit using a proportional valve with a 30-second ramp (15 seconds increasing and 15 seconds decreasing.)

Data is presented below:

RVD58-20 Performance Testing				
Pressure Setting	Spring	Pressure Rise (psi/gpm)	Average Hysteresis	Max Hysteresis
200	08	33.48	0.8%	2.4%
500	08	25.92	1.2%	2.9%
800	08	19.27	2.8%	4.2%
800	30	51.12	0.9%	2.9%
1900	30	25.39	0.9%	2.8%
3000	30	15.40	1.2%	3.2%
3000	50	45.24	0.9%	2.3%
4000	50	28.34	1.1%	2.8%
5000	50	19.58	1.1%	2.9%