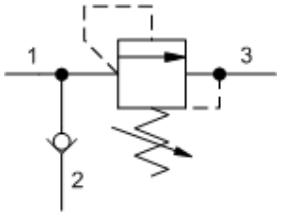
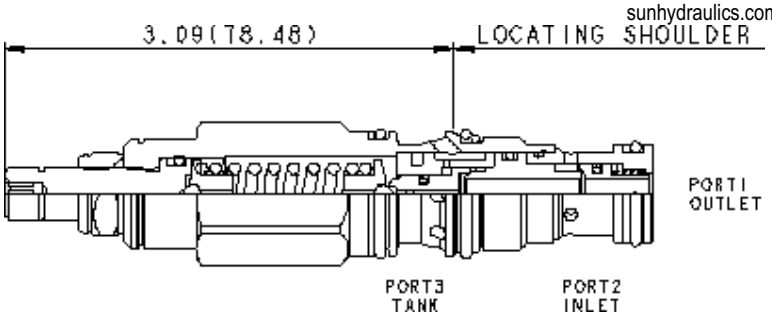
MODEL
HRDB

Direct-acting relief valve - after check
SERIES 1 / CAPACITY: 10 gpm / CAVITY: T-11A

sunhydraulics.com/model/HRDB





CONFIGURATION

L	Control	Standard Screw Adjustment
A	Adjustment Range	500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting
N	Seal Material	Buna-N
(none)	Material/Coating	

The relief-after-check cartridge is a CavitySaver™ (multi-function) valve incorporating a direct-acting relief tee'd in after a check function. The check valve flow is from the inlet (port 2) to the system port (port1). When the pressure in the system (port 1) reaches the relief valve setting, the valve starts to open to tank (port 3), throttling flow to limit the pressure rise. These valves are smooth and quiet, essentially zero-leak, dirt-tolerant, immune to silting and are very fast.

TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Cavity	T-11A
Series	1
Capacity	10 gpm
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	6
Valve Hex Size	7/8 in.
Valve Installation Torque	30 - 35 lbf ft
Adjustment Screw Internal Hex Size	5/32 in.
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006
Model Weight	0.43 lb.

CONFIGURATION OPTIONS

Model Code Example: HRDBLAN

CONTROL (L)

- **L** Standard Screw Adjustment
- **C** Tamper Resistant - Factory Set
- **K** Handknob

ADJUSTMENT RANGE (A)

- **A** 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting
- **W** 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting

SEAL MATERIAL (N)

- **N** Buna-N
- **V** Viton

MATERIAL/COATING

- Standard Material/Coating
- **/AP** Stainless Steel, Passivated
- **/LH** Mild Steel, Zinc-Nickel

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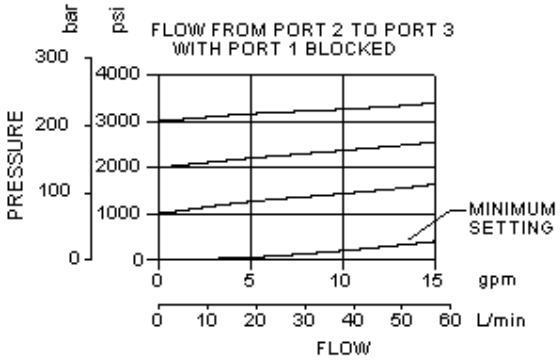
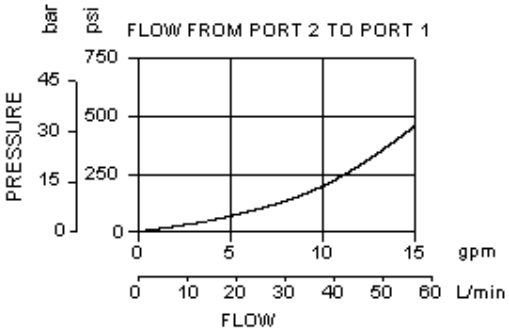
TECHNICAL FEATURES

- Note! This valve deviates from Sun's normal flow path for relief valves. It is probably not useable in current Sun relief manifolds.
- This cartridge can be used to provide relief protection on the system side of the circuit.
- The seals on the adjust screw are exposed to system pressure which means this valve can only be adjusted when the pressure is removed. The setting procedure is; check the setting, remove the pressure, adjust the valve, check the new setting.
- Select a spring range where the desired relief setting is approximately mid-range to high between the minimum and maximum pressure to ensure maximum valve repeatability.
- Suitable for use in load holding applications.
- The check portion of the valve has a maximum leakage rate of less than 1 drop/minute (0,07 cc/min).
- The direct acting relief exhibits rapid response characteristics that minimize pressure overshoot and also provides low reseat leakage (less than 5 drops/min (0,3 cc/min) @ 85% of cracking pressure), check valve leackage is less than 1 drop/min (0,07 cc/min).
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding due to excessive installation torque and/or cavity/cartridge machining variations.

PERFORMANCE CURVES





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