



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

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

TECHNICAL DATA

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Response Time - Typical	10 ms
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - Number of Clockwise Turns to Increase Setting	6
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990-011-007
Seal kit - Cartridge	Polyurethane: 990-011-002
Seal kit - Cartridge	Viton: 990-011-006

CONFIGURATION OPTIONS

Model Code Example: HRDALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	D 200 - 700 psi (14 - 50 bar), 400 psi (28 bar) Standard Setting	V Viton	
K Handknob	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting		

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.
- 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).
- One purpose of this dual function cartridge is to offer pump isolation and relief protection in single and/or multiple pump circuits. Another purpose is to act as a main stage in an accumulator sense, pump unload circuit.
- The direct acting relief exhibits rapid response characteristics that minimize pressure overshoot and also provides low reseal leakage (less than 5 drops/min (0,3 cc/min) @ 85% of cracking pressure), check valve leakage 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

