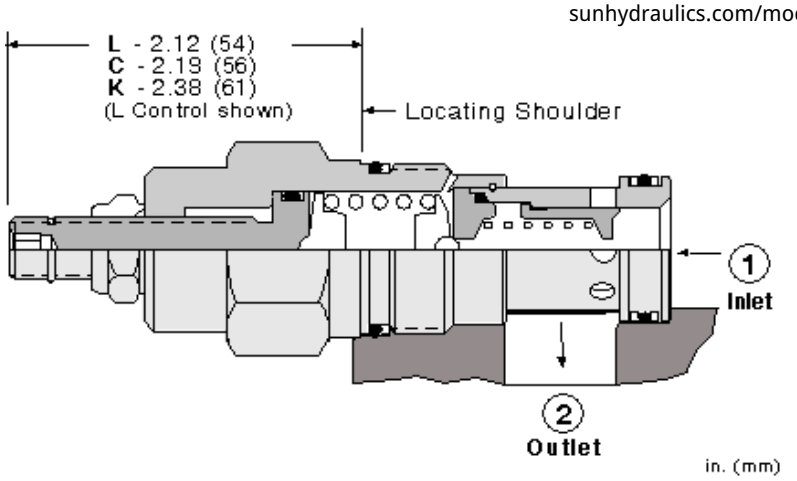




Pilot-operated, balanced-piston relief cartridges are normally closed pressure regulating valves. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to regulate the pressure. These valves are accurate, have low pressure rise vs. flow, they are smooth and quiet, and are moderately fast.

TECHNICAL DATA

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

Cavity	T-3A
Series	2
Capacity	50 gpm
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in³/min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Valve Hex Size	1 1/8 in.
Valve Installation Torque	45 - 50 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: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Polyurethane: 990003002
Seal kit - Cartridge	Viton: 990203006
Model Weight	0.57 lb.

NOTES

For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

© 2025 Sun Hydraulics

CONFIGURATION OPTIONS

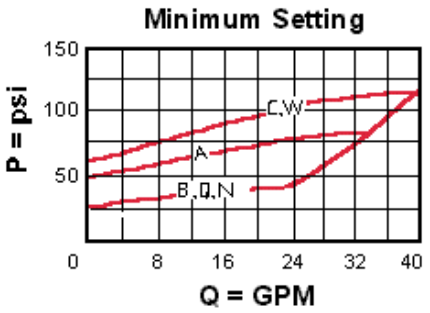
Model Code Example: RPGCLAN

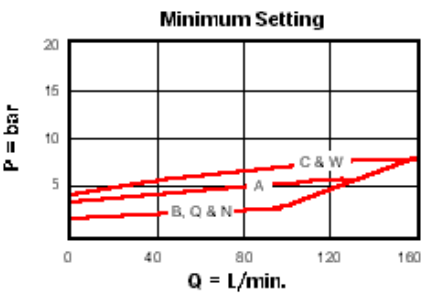
CONTROL (L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (N)	MATERIAL/COATING
L Standard Screw Adjustment	**A** 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	**N** Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	**W** 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting	**E** EPDM	**/AP** Stainless Steel, Passivated
J Capped Screw Adjustment	**B** 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	**V** Viton	**/LH** Mild Steel, Zinc-Nickel
K Handknob	**C** 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
O Handknob with Panel Mount	**D** 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
W Hex Wrench Adjustment	**E** 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
Y Tri-Grip Handknob	**N** 60 - 800 psi (4 - 55 bar), 400 psi (28 bar) Standard Setting		
	Q 60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting		

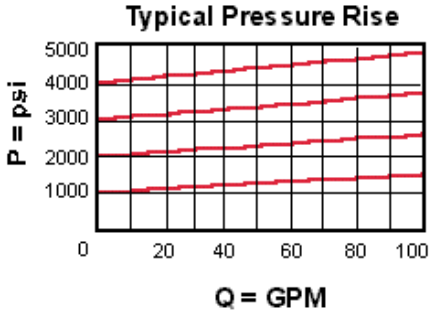
TECHNICAL FEATURES

- All 2-port relief cartridges (except pilot reliefs) are physically and functionally interchangeable (same flow path, same cavity for a given frame size).
- Will accept maximum pressure at port 2; suitable for use in cross port relief circuits. If used in cross port relief circuits, consider spool leakage.
- Main stage orifice is protected by a 150-micron stainless steel screen.
- Not suitable for use in load holding applications due to spool leakage.
- Back pressure on the tank port (port 2) is directly additive to the valve setting at a 1:1 ratio.
- Cartridges configured with EPDM seals are for use in systems with phosphate ester fluids. Exposure to petroleum based fluids, greases and lubricants will damage the seals.
- W and Y controls (where applicable) can be specified with or without a special setting. When no special setting is specified, the valve is adjustable throughout its full range using the W or Y control. When a special setting is specified, this setting represents the maximum setting of the valve.
- Corrosion resistant cartridge valves are intended for use in corrosive environments and are identified by the model code suffix /AP for external stainless steel components, or /LH for external zinc-nickel plated components. See the CONFIGURATION section for all options. For further details, please see the Materials of Construction page located under TECH RESOURCES.
- 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.

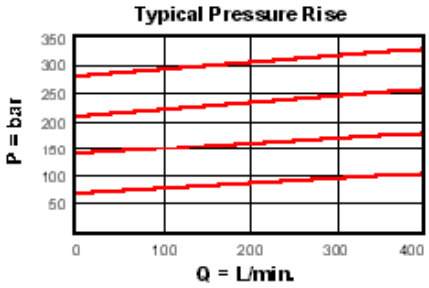
PERFORMANCE CURVES







© 2025 Sun Hydraulics



RELATED MODELS

- RPGC3 Non-adjustable pilot-operated, balanced piston relief valve
- RPGC8 Pilot-operated, balanced piston relief main stage with integral T-8A control cavity

© 2025 Sun Hydraulics