



Ventable, 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. They provide a vent port (port 3) that connects between the main piston and pilot stage to provide for remote control by other pilot or 2-way valves. 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-163A
Series	0
Capacity	7.5 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Valve Hex Size	3/4 in.
Valve Installation Torque	20 - 25 lbf ft
Adjustment Screw Internal Hex Size	5/32 in.
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Model Weight	.30 lb
Seal kit - Cartridge	Buna: 990-163-007
Seal kit - Cartridge	EPDM: 990-163-014
Seal kit - Cartridge	Polyurethane: 990-163-002
Seal kit - Cartridge	Viton: 990-163-006

OPTION SELECTION EXAMPLE: RVBALANV

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(V)	MATERIAL/COATING
L Standard Screw Adjustment		A 75 - 3000 psi (5 - 210 bar), 1000 psi (70 bar) Standard Setting		V Viton		Standard Material/Coating
C Tamper Resistant - Factory Set		B 75 - 1500 psi (5 - 105 bar), 1000 psi (70 bar) Standard Setting		E EPDM		IAP Stainless Steel, Passivated
		C 75 - 6000 psi (5 - 420 bar), 1000 psi (70 bar) Standard Setting		N Buna-N		
		N 75 - 800 psi (5 - 55 bar), 400 psi (28 bar) Standard Setting				
		Q 75 - 400 psi (5 - 28 bar), 200 psi (14 bar) Standard Setting				
		W 75 - 4500 psi (5 - 315 bar), 1000 psi (70 bar) Standard Setting				

TECHNICAL FEATURES

- A remote pilot relief on port 3 (vent) will control the valve below its own setting.
- 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.
- Minimum setting is 75 psi (5 bar) for all spring ranges.
- 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.
- The main stage orifice is protected against contamination.
- 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.
- 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



