

Pressure Control Cartridges

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RPEI	Electro-proportional relief valve - high pressure setting with no command1
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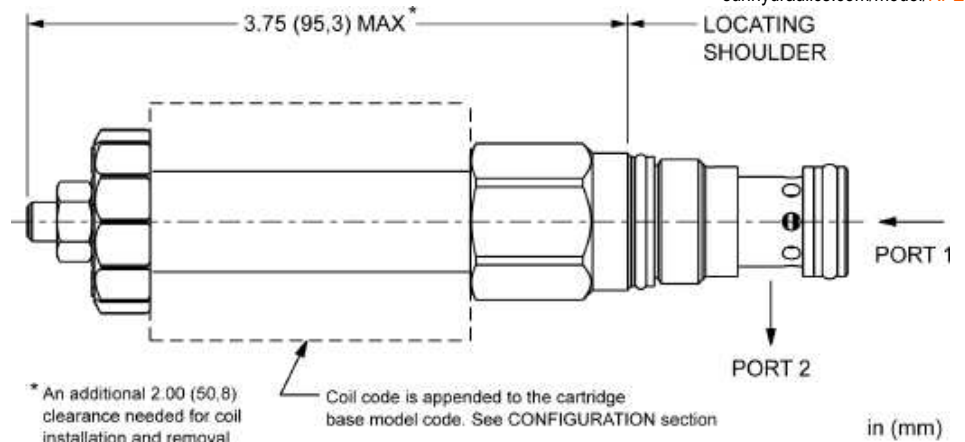
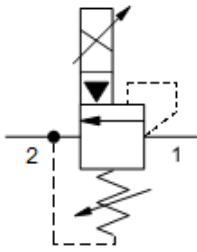
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Series	Ports	Cavities
Series Z Cartridges 3/8-24 UNF Cartridge Thread 5 mm Valve Hex Size 11 - 14 Nm Valve Installation Torque	3-Port	T-382A
Series P Cartridges M16 Cartridge Thread 22,2 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port	T-8A T-8DP T-9A
Series O Cartridges M16 Cartridge Thread 19,1 mm Valve Hex Size 25,4 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port 3-Port 4-Port	T-162A T-162DP T-150A T-163A T-30A
Series OC Cartridges 3/4-16 UNF Cartridge Thread 22,2 mm Valve Hex Size 19-22 lbf ft Valve Installation Torque	4-Port (Common)	SC-08-04
Series 1 Cartridges M20 Cartridge Thread 22,2 mm Valve Hex Size 41 - 47 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 6-Port	T-10A T-13A T-11A T-21A T-31A T-61A
Series 1C Cartridges 7/8-14 UNF Cartridge Thread 25,4 mm Valve Hex Size 23-26 lbf ft Valve Installation Torque	2-Port (Common) 4-Port (Common)	SC-10-02 SC-10-04
Series 2 Cartridges 1"-14 UNS Cartridge Thread 28,6 mm Valve Hex Size 61 - 68 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 4-Port (Dual path) 6-Port 6-Port	T-3A T-5A T-2A T-22A T-32A T-52AD T-52A T-62A
Series 3 Cartridges M36 Cartridge Thread 31,8 mm Valve Hex Size 203 - 217 Nm Valve Installation Torque	2-Port 3-Port 4-Port 4-Port 4-Port (Dual path) 6-Port 6-Port	T-16A T-17A T-23A T-33A T-53AD T-53A T-63A
Series 4 Cartridges M48 Cartridge Thread	2-Port 2-Port (Undercut)	T-18A T-18AU

41,3 mm Valve Hex Size
474 - 508 Nm Valve Installation Torque

3-Port	T-19A
3-Port (Undercut)	T-19AU
4-Port	T-24A
4-Port (Undercut)	T-24AU
4-Port	T-34A
4-Port (Dual path)	T-54AD
6-Port	T-54A
6-Port	T-64A



This 2-port, pilot-operated relief cartridge is an electro-proportionally controlled, normally-closed pressure regulating valve. The valve is spring biased closed to its highest setting (customer specified). Increasing current to the coil will proportionally decrease the pressure setting. When the pressure at port 1 (inlet) is sufficient to overcome the spring force minus the solenoid force, as determined by the analog input signal, the poppet lifts and allows flow from port 1 to port 2 (outlet).

TECHNICAL DATA

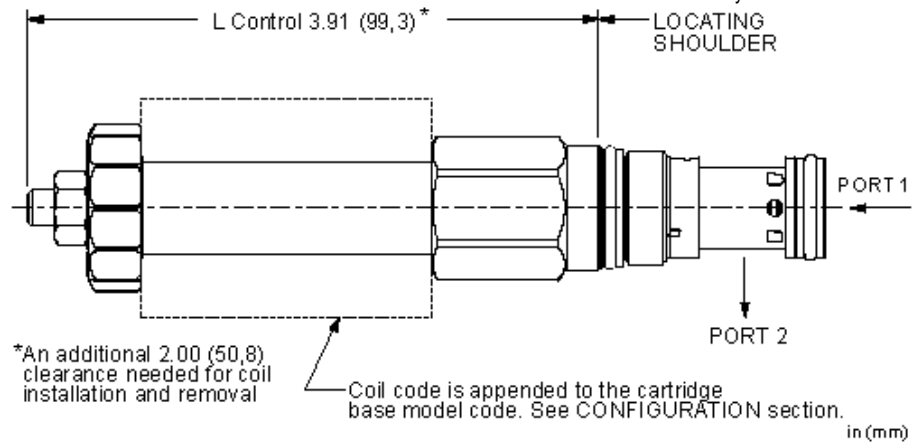
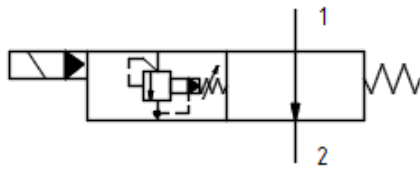
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Locknut Hex Size	7/16 in.
Locknut Torque	45 - 55 lbf in.
U.S. Patent #	10,775,812
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Viton: 990010006

- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS
Model Code Example: RPEILAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	COIL *
L Standard Screw Adjustment		A 1500 - 3000 psi (105 - 210 bar), 3000 psi (210 bar) Standard Setting		N Buna-N		No coil
C Concealed Manual Override		W 3000 - 5000 psi (210 - 350 bar), 5000 psi (350 bar) Standard Setting		V Viton		* Additional coil options are available



This FLeX Series solenoid-operated, 2-stage, balanced relief cartridge is a pressure regulating valve.

The valve is normally vented. When vented (de-energized), the pressure drop from the inlet (port 1) to tank (port 2) is typically 100 psi (see performance curves).

Energizing the solenoid activates the relief function. In relief mode, the valve opens to tank (port 2), throttling flow to regulate the pressure when the pressure at the inlet (port 1) reaches the valve setting. The setting is adjustable with an adjust screw.

TECHNICAL DATA

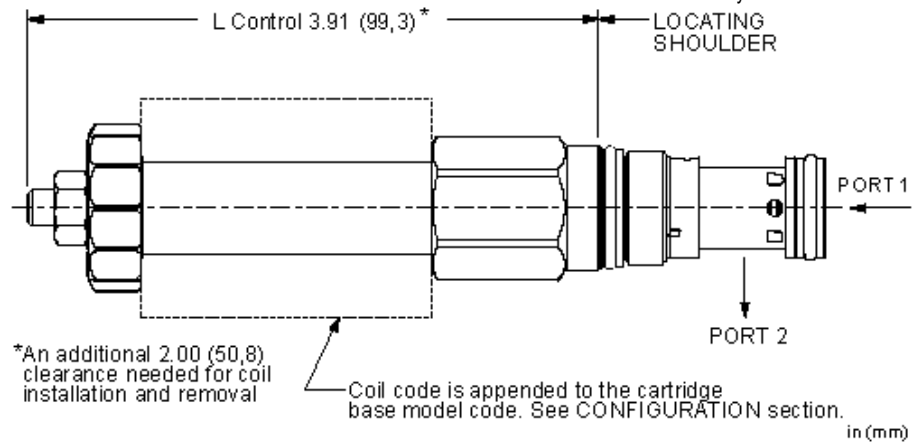
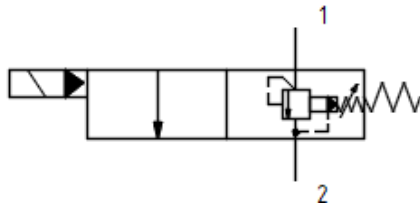
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@2000 psi
Response Time - Typical	50 ms
Adjustment - No. of CW Turns from Min. to Max. setting	3.5
Locknut Hex Size	7/16 in.
Locknut Torque	45 - 55 lbf in.
U.S. Patent #	10,533,584
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: RVCKLJN

CONTROL	(L) ADJUSTMENT RANGE	(J) SEAL MATERIAL	(N) COIL *
L Standard Screw Adjustment	J 300 - 5000 psi (20 - 350 bar), 1000 psi (70 bar) Standard Setting	N Buna-N E EPDM V Viton	No coil * Additional coil options are available



This FLeX Series solenoid-operated, 2-stage, balanced relief cartridge is a pressure regulating valve.

The valve is normally in relief mode. In relief mode, the valve is open to tank (port 2), throttling flow to regulate the pressure when the pressure at the inlet (port 1) reaches the valve setting. The setting is adjustable with an adjust screw.

Energizing the solenoid opens the main chamber to tank and the valve becomes vented. The pressure drop from the inlet (port 1) to tank (port 2) is typically 100 psi (see performance curves).

TECHNICAL DATA

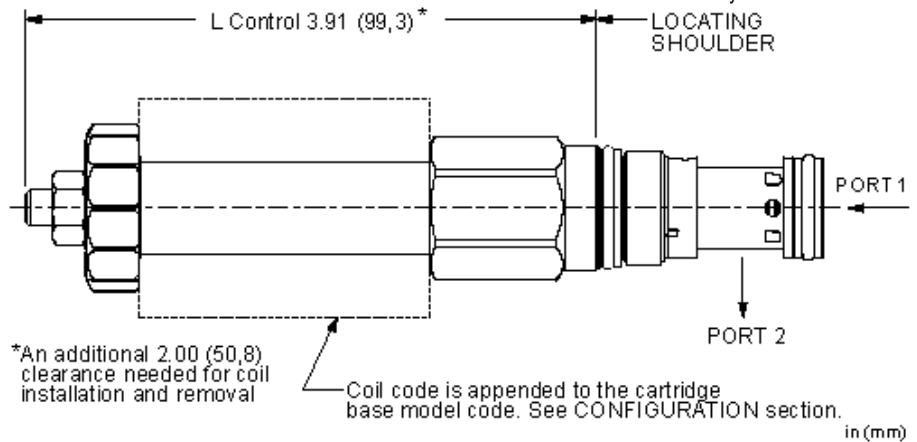
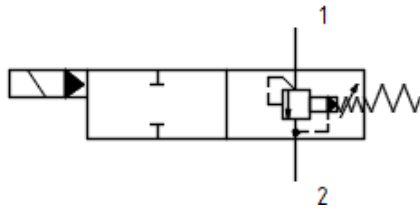
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@2000 psi
Response Time - Typical	50 ms
Adjustment - No. of CW Turns from Min. to Max. setting	3.5
Locknut Hex Size	7/16 in.
Locknut Torque	45 - 55 lbf in.
U.S. Patent #	10,557,483
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: RVCLLJN

CONTROL	(L) ADJUSTMENT RANGE	(J) SEAL MATERIAL	(N) COIL *
L Standard Screw Adjustment	J 300 - 5000 psi (20 - 350 bar), 1000 psi (70 bar) Standard Setting	N Buna-N E EPDM V Viton	No coil * Additional coil options are available



This FLeX Series solenoid-operated, 2-stage, balanced relief cartridge is a pressure regulating valve.

The valve is normally in relief mode. In relief mode, the valve is open to tank (port 2), throttling flow to regulate the pressure when the pressure at the inlet (port 1) reaches the valve setting. The setting is adjustable with an adjust screw.

Energizing the solenoid blocks pilot flow. The valve blocks the flow path from inlet (port 1) to tank (port 2) similar to a spool-type directional valve.

TECHNICAL DATA

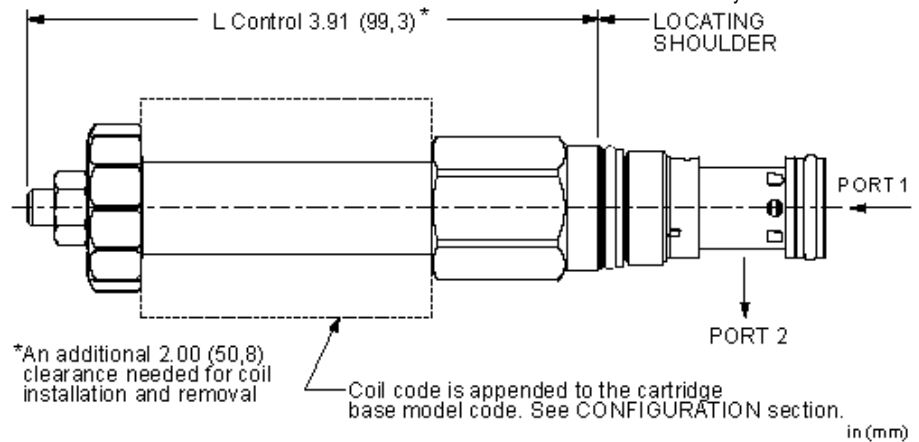
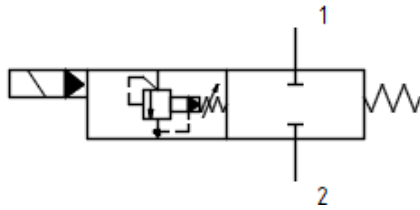
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@3000 psi
Response Time - Typical	50 ms
Adjustment - No. of CW Turns from Min. to Max. setting	3.5
Locknut Hex Size	7/16 in.
Locknut Torque	45 - 55 lbf in.
U.S. Patent #	10,570,932
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: RVCMLJN

CONTROL	(L) ADJUSTMENT RANGE	(J) SEAL MATERIAL	(N) COIL *
L Standard Screw Adjustment	J 300 - 5000 psi (20 - 350 bar), 1000 psi (70 bar) Standard Setting	N Buna-N E EPDM V Viton	No coil * Additional coil options are available



This FLeX Series solenoid-operated, 2-stage, balanced relief cartridge is a pressure regulating valve.

The valve is normally blocked. De-energized, the valve blocks the flow path from inlet (port 1) to tank (port 2) similar to a spool-type directional valve.

Energizing the solenoid activates the relief function. In relief mode, the valve opens to tank (port 2), throttling flow to regulate the pressure when the pressure at the inlet (port 1) reaches the valve setting. The setting is adjustable with an adjust screw.

TECHNICAL DATA

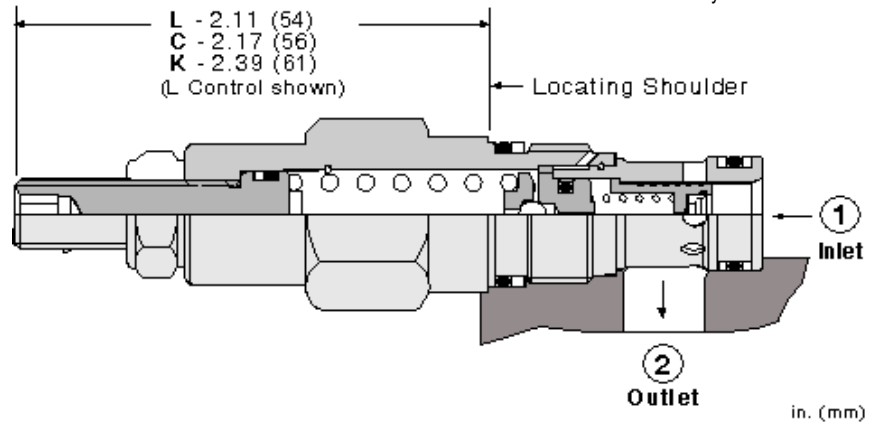
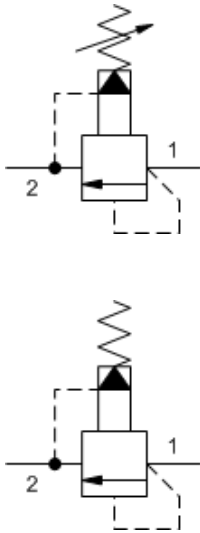
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@3000 psi
Response Time - Typical	50 ms
Adjustment - No. of CW Turns from Min. to Max. setting	3.5
Locknut Hex Size	7/16 in.
Locknut Torque	45 - 55 lbf in.
U.S. Patent #	10,774,853
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: RVCNLJN

CONTROL	(L) ADJUSTMENT RANGE	(J) SEAL MATERIAL	(N) COIL *
L Standard Screw Adjustment	J 300 - 5000 psi (20 - 350 bar), 1000 psi (70 bar) Standard Setting	N Buna-N E EPDM V Viton	No coil * Additional coil options are available



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.

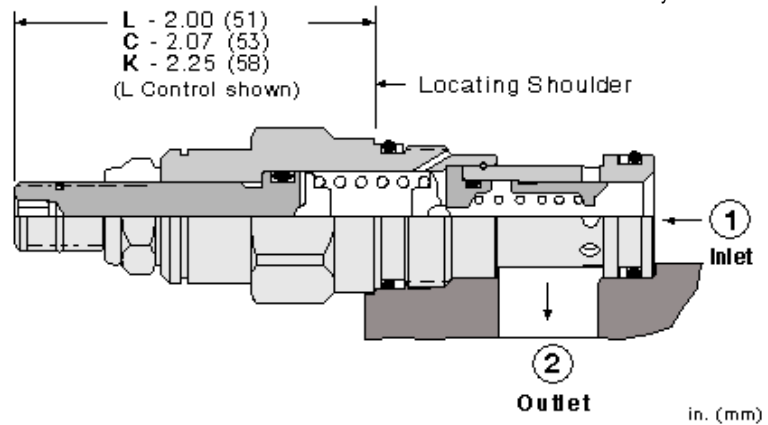
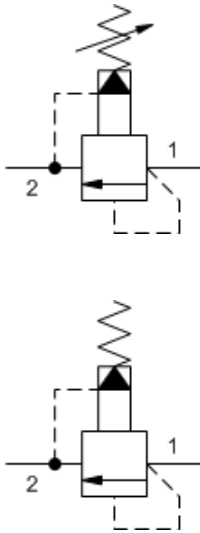
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
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
Locknut Hex Size	1/2 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS
Model Code Example: RPCCLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 75 - 3000 psi (5 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 75 - 4500 psi (5 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	B 75 - 1500 psi (5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 75 - 6000 psi (5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	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		



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

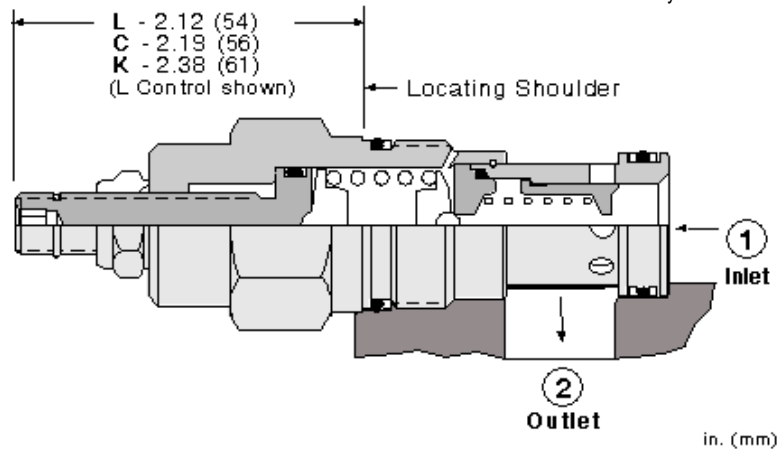
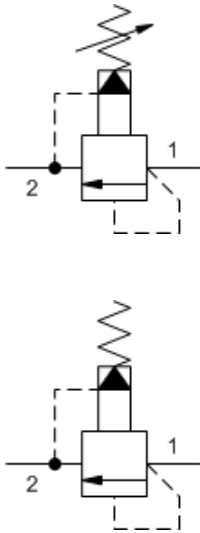
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
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
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

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.

CONFIGURATION OPTIONS
Model Code Example: RPECLAN

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		E EPDM	/AP Stainless Steel, Passivated
K Handknob	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting		
W Hex Wrench Adjustment	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 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		



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

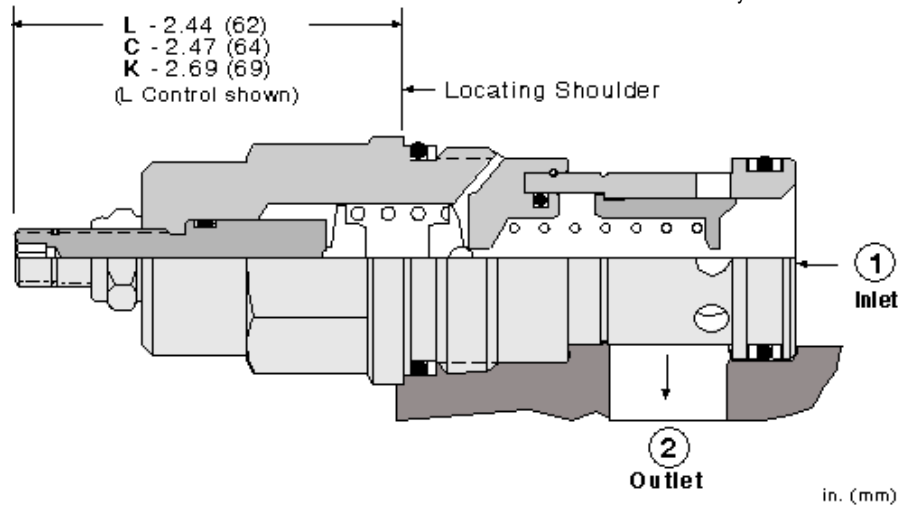
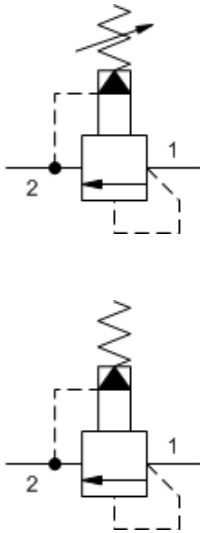
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
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

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.

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		



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.

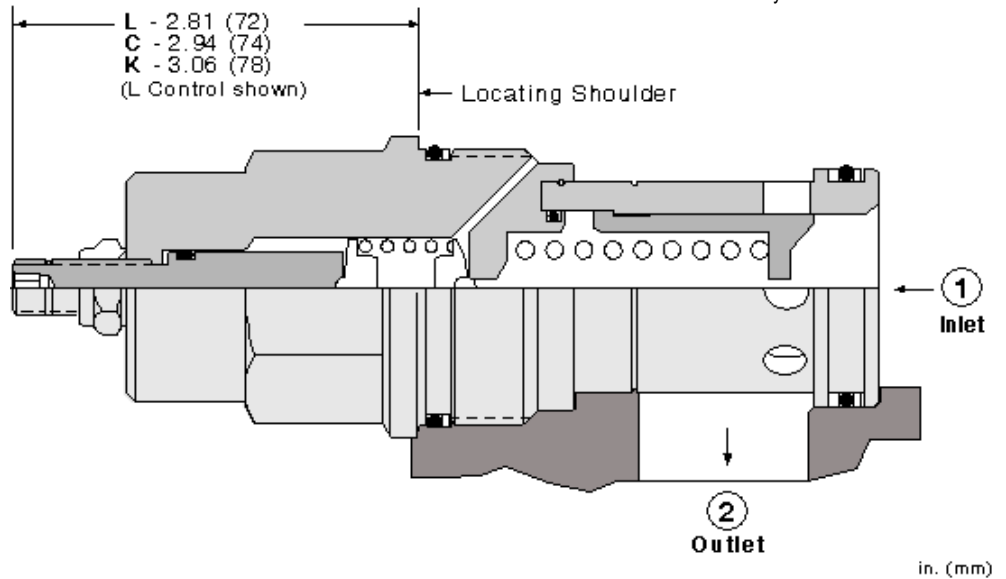
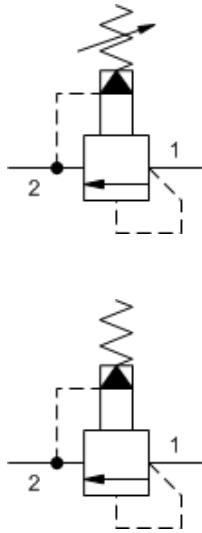
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

CONFIGURATION OPTIONS
Model Code Example: RPICLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
W Hex Wrench Adjustment	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	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		



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.

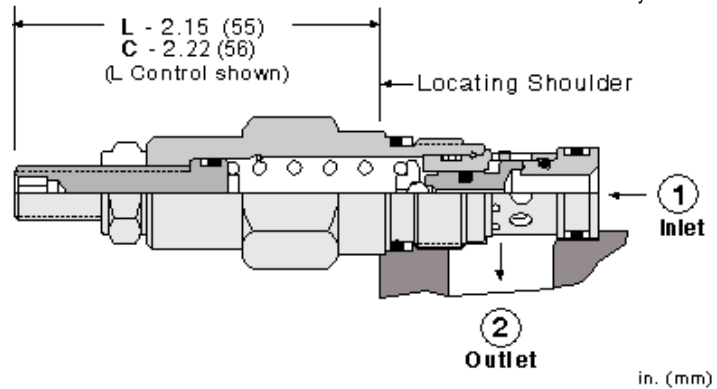
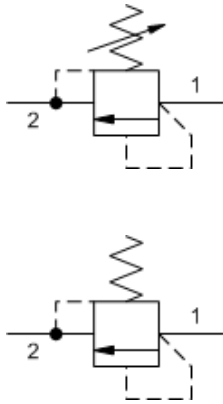
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

CONFIGURATION OPTIONS
Model Code Example: RPKCLAN

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
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
Q Capped and Lockwired	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
W Hex Wrench Adjustment	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
Y Tri-Grip Handknob	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	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		



Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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.

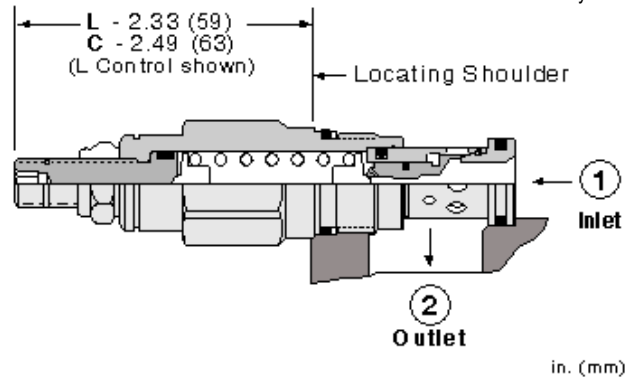
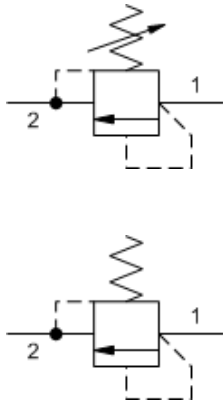
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>85% of crack setting
Adjustment - No. of CW Turns from Min. to Max. setting	6
Locknut Hex Size	1/2 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS
Model Code Example: RDBALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		



Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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.

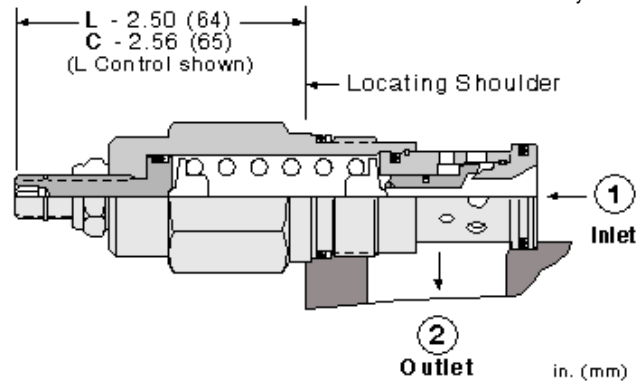
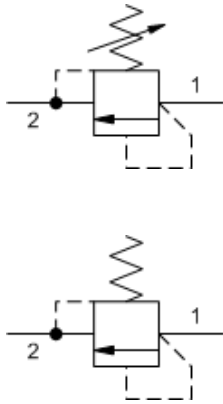
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Adjustment - No. of CW Turns from Min. to Max. setting	6
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990310014
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS
Model Code Example: RDDALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
Y Tri-Grip Handknob	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		



Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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.

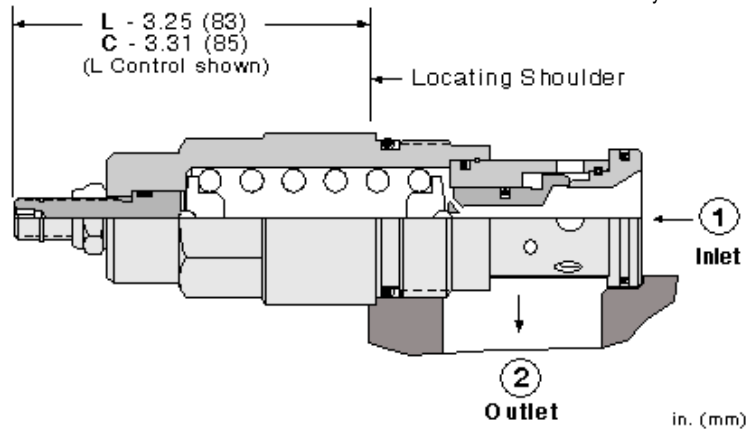
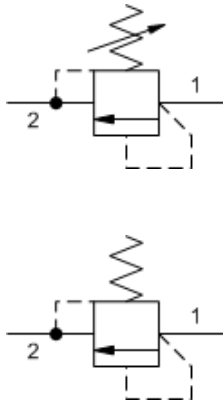
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Adjustment - No. of CW Turns from Min. to Max. setting	6
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	EPDM: 990303014
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

CONFIGURATION OPTIONS
Model Code Example: RDFALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
Q Capped and Lockwired	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		



Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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

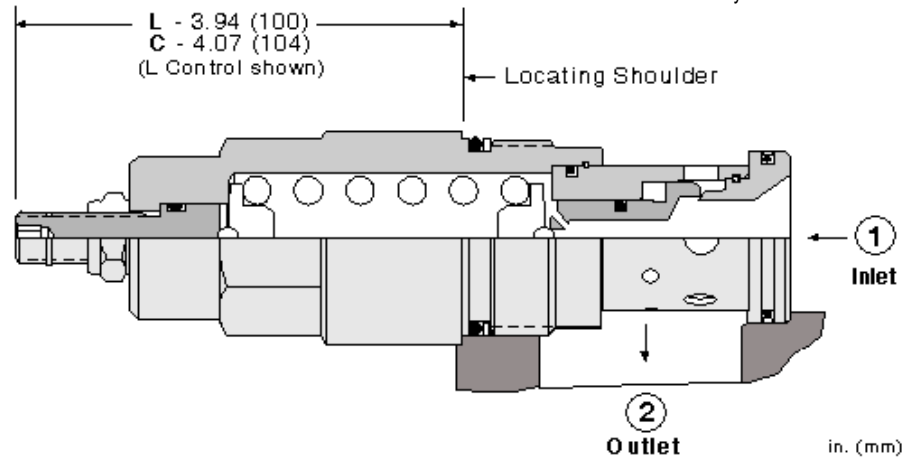
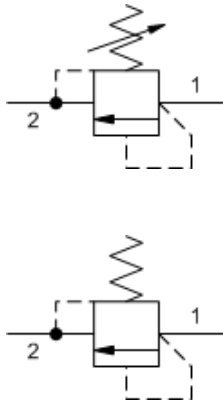
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Adjustment - No. of CW Turns from Min. to Max. setting	6
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990316007
Seal kit - Cartridge	Viton: 990316006

NOTES U.S. Patent #4,742,846; European Patent Pending

CONFIGURATION OPTIONS
Model Code Example: RDHALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3.5 - 14 bar), 100 psi (7 bar) Standard Setting		



Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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.

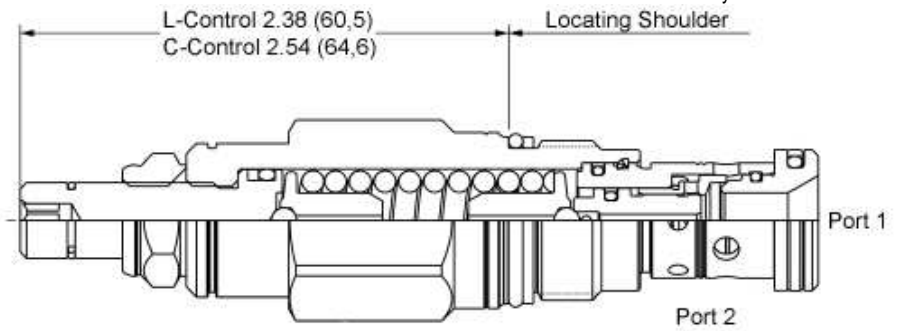
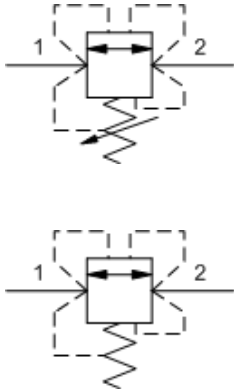
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Adjustment - No. of CW Turns from Min. to Max. setting	6
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990318007
Seal kit - Cartridge	EPDM: 990318014
Seal kit - Cartridge	Viton: 990318006

CONFIGURATION OPTIONS
Model Code Example: RDJALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
Q Capped and Lockwired	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		



in (mm)

The bi-directional, direct-acting relief cartridge is a normally closed, pressure-limiting valve used to protect hydraulic components from pressure transients. When the pressure differential between ports 1 and 2 exceeds the valve setting, the valve starts to open, throttling flow to limit the pressure rise, regardless of the direction.

TECHNICAL DATA

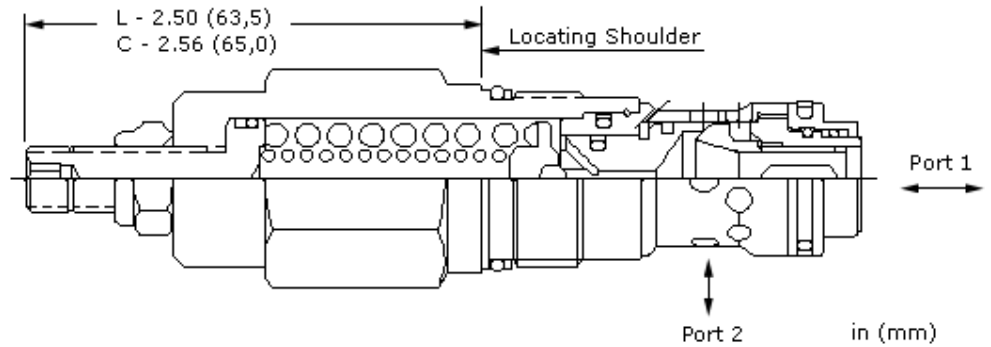
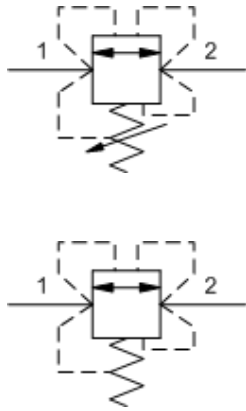
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>85% of setting
Hysteresis	≤ 3 %
Adjustment - No. of CW Turns from Min. to Max. setting	5
U.S. Patent #	11,384,857
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS

Model Code Example: RBDALAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment		A 1200 - 3000 psi (85-210 bar), 1500 psi (105 bar) Standard Setting		N Buna-N	
C Tamper Resistant - Factory Set		W 3000 - 5000 psi (210 - 350 bar), 4000 psi (280 bar) Standard Setting		V Viton	



The bi-directional, direct-acting relief cartridge is a normally closed, pressure-limiting valve used to protect hydraulic components from pressure transients. When the pressure differential between ports 1 and 2 exceeds the valve setting, the valve starts to open, throttling flow to limit the pressure rise, regardless of the direction.

Both directions have very similar setting and performance.

TECHNICAL DATA

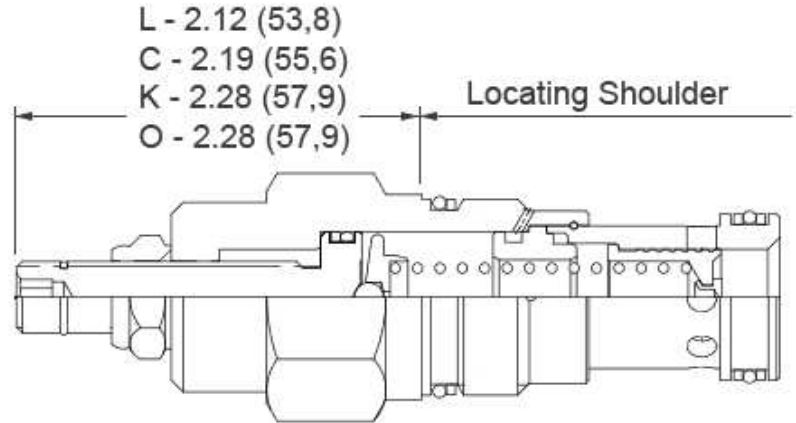
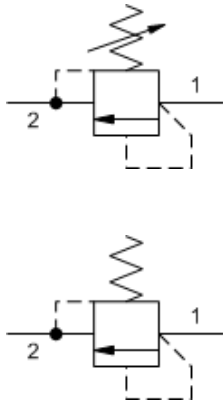
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	30 drops/min.
Response Time - Typical	2 ms
Reseat	>85% of setting
Hysteresis	≤ 3 %
Adjustment - No. of CW Turns from Min. to Max. setting	5
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

CONFIGURATION OPTIONS

Model Code Example: RBFALWN

CONTROL	(L) ADJUSTMENT RANGE	(W) SEAL MATERIAL	(N)
L Standard Screw Adjustment	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	C 1500 - 6000 psi (105 - 420 bar), 1500 psi (105 bar) Standard Setting	V Viton	



in (mm)

Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to limit the pressure rise.

TECHNICAL DATA

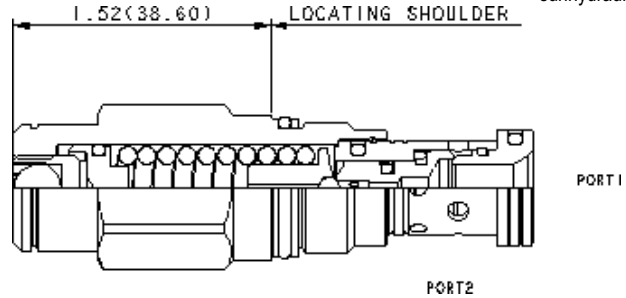
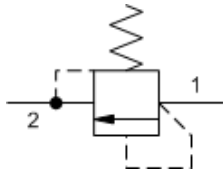
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	6
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

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.

CONFIGURATION OPTIONS
Model Code Example: RGFALCN

CONTROL	(L) ADJUSTMENT RANGE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	C 18 - 50 psi (1,2 - 3,5 bar), 50 psi (3,5 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	E 20 - 75 psi (1,4 - 5 bar), 75 psi (5 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	F 35 - 80 psi (2,4 - 5,5 bar), 80 psi (5,5 bar) Standard Setting	V Viton	
O Handknob with Panel Mount	G 50 - 150 psi (3,5 - 10,5 bar), 150 psi (10,5 bar) Standard Setting		



Non-adjustable direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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

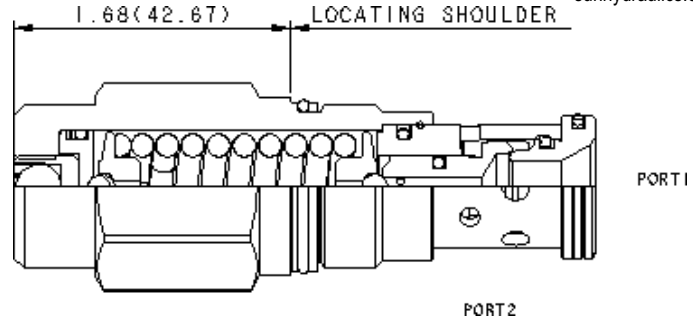
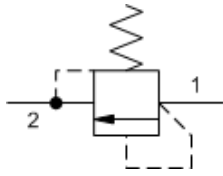
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS

Model Code Example: RDDA3AN

ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
A 500 - 3000 psi (35 - 210 bar)		N Buna-N		Standard Material/Coating
C 1000 - 6000 psi (70 - 420 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
D 200 - 800 psi (14 - 55 bar)				



Non-adjustable direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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

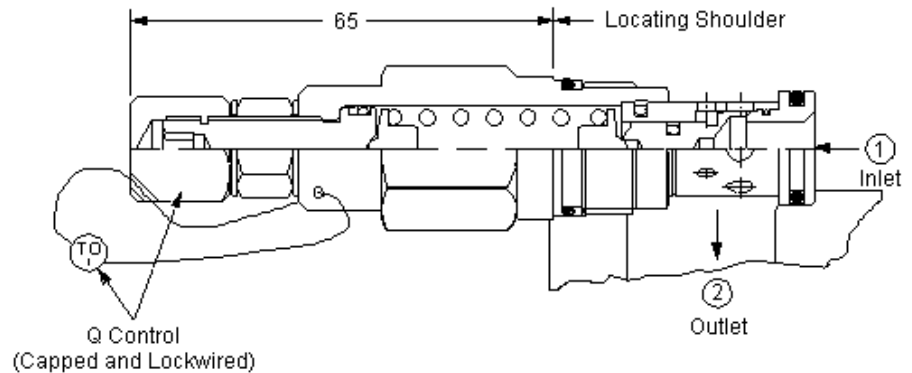
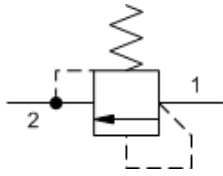
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	EPDM: 990303014
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

CONFIGURATION OPTIONS

Model Code Example: RDFA3AN

ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
A 500 - 3000 psi (35 - 210 bar)		N Buna-N	
C 1000 - 6000 psi (70 - 420 bar)		V Viton	
D 200 - 800 psi (14 - 55 bar)			



Dimensions in mm

Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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.

The CE marked valve is a safety valve that meets the requirements of the European Directive for Pressurized Devices (PED) 2014/68/EU. The valve setting represents the excess operating pressure at which the valve opens. Valve capacity can be determined from the performance curve. It shows an approved flow which depends on the excess operating pressure. As a requirement of the PED, the system pressure at the maximum approved flow is a maximum of 10% above the excess operating pressure.

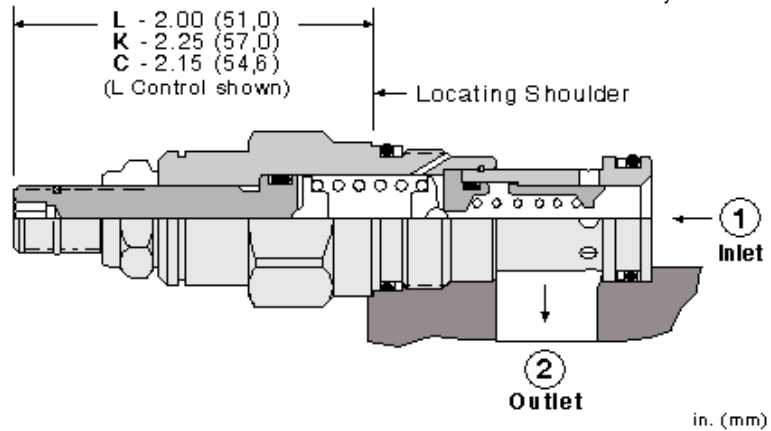
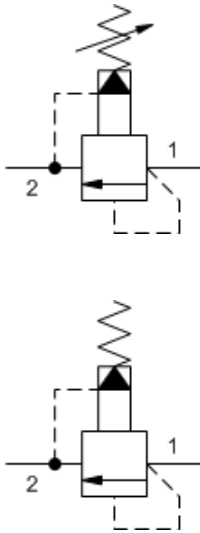
TECHNICAL DATA

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

Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS
Model Code Example: RDDTQAN

CONTROL	(Q) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
Q Capped and Lockwired	A 100 - 210 bar (100 - 210 bar) B 90 - 99 bar (90 - 99 bar) C 315 - 422 bar (315 - 422 bar) W 211 - 314 bar (211 - 314 bar)	N Buna-N V Viton	



Fast-acting, pilot-operated, balanced piston relief cartridges are normally closed, pressure-limiting valves used to protect hydraulics components from pressure transients. Fast opening and closing is gained at the expense of smoothness. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to limit the pressure rise. These valves have low pressure rise vs. flow and are very fast.

TECHNICAL DATA

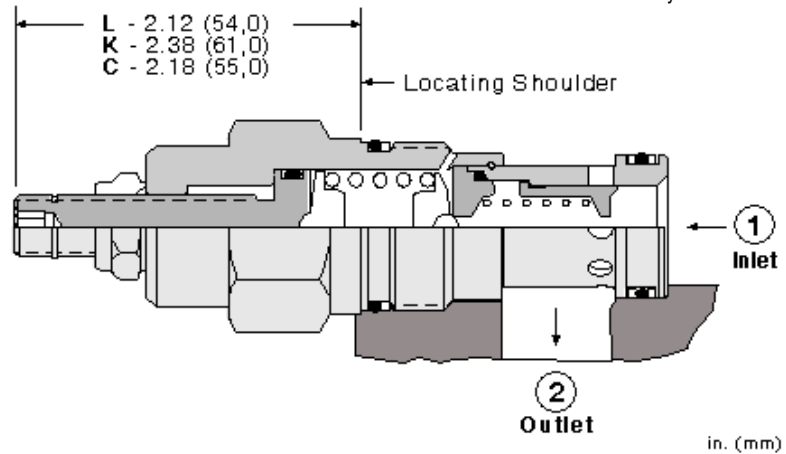
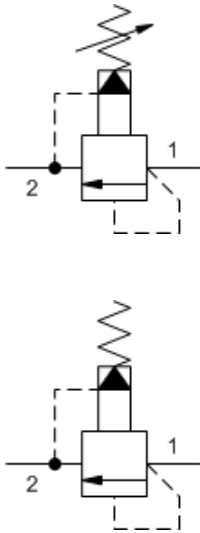
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min. @1000 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

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.

CONFIGURATION OPTIONS
Model Code Example: RPEELAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /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		
Y Tri-Grip Handknob	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Fast-acting, pilot-operated, balanced piston relief cartridges are normally closed, pressure-limiting valves used to protect hydraulics components from pressure transients. Fast opening and closing is gained at the expense of smoothness. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to limit the pressure rise. These valves have low pressure rise vs. flow and are very fast.

TECHNICAL DATA

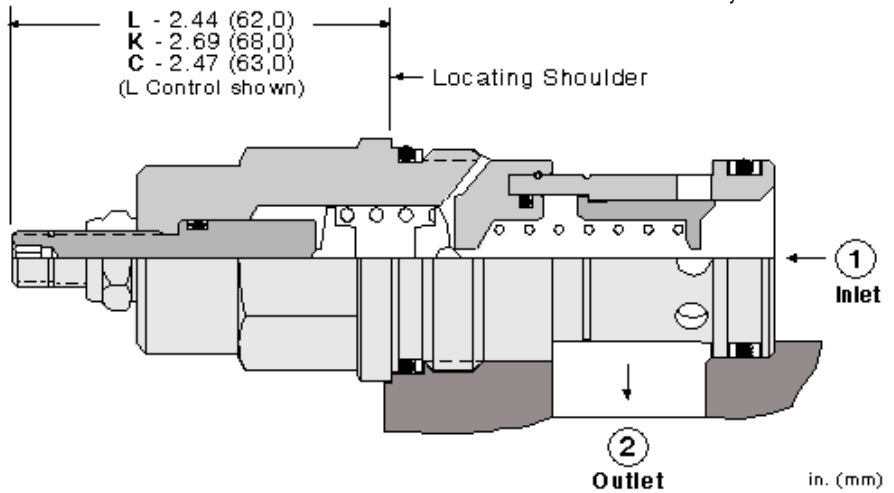
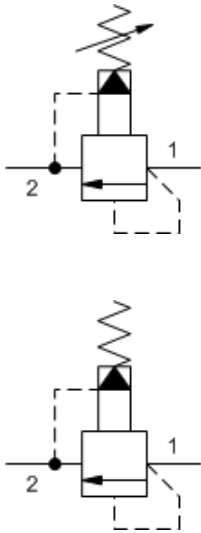
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
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

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.

CONFIGURATION OPTIONS
Model Code Example: RPGE LAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 100 - 1500 psi (7,0 - 105 bar), 1000 psi (70 bar) Standard Setting		



Fast-acting, pilot-operated, balanced piston relief cartridges are normally closed, pressure-limiting valves used to protect hydraulics components from pressure transients. Fast opening and closing is gained at the expense of smoothness. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to limit the pressure rise. These valves have low pressure rise vs. flow and are very fast.

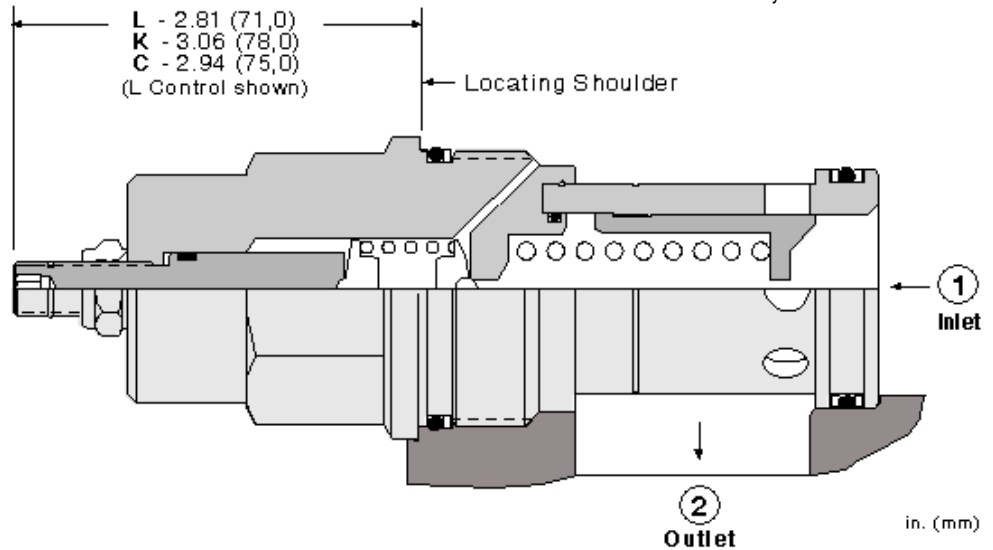
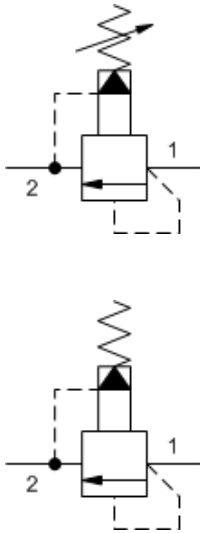
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

CONFIGURATION OPTIONS
Model Code Example: RPIELAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Fast-acting, pilot-operated, balanced piston relief cartridges are normally closed, pressure-limiting valves used to protect hydraulics components from pressure transients. Fast opening and closing is gained at the expense of smoothness. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to limit the pressure rise. These valves have low pressure rise vs. flow and are very fast.

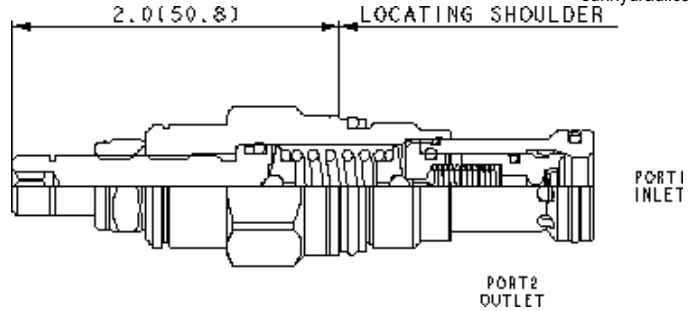
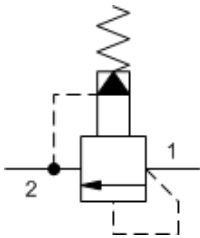
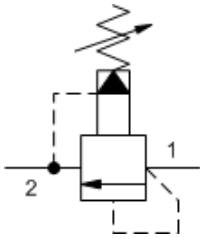
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

CONFIGURATION OPTIONS
Model Code Example: RPKELAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 100 - 1500 psi (7 - 105 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, balanced-poppet 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, smooth, quiet, fast, and have low pressure rise vs. flow.

TECHNICAL DATA

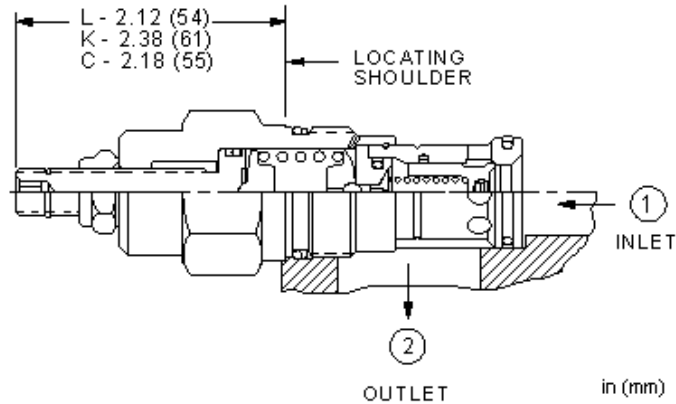
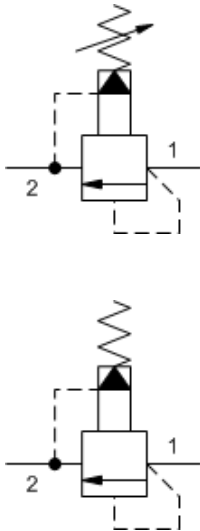
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Response Time - Typical	7 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS

Model Code Example: RPESLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
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		
	W 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, balanced-poppet 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, smooth, quiet, fast, and have low pressure rise vs. flow.

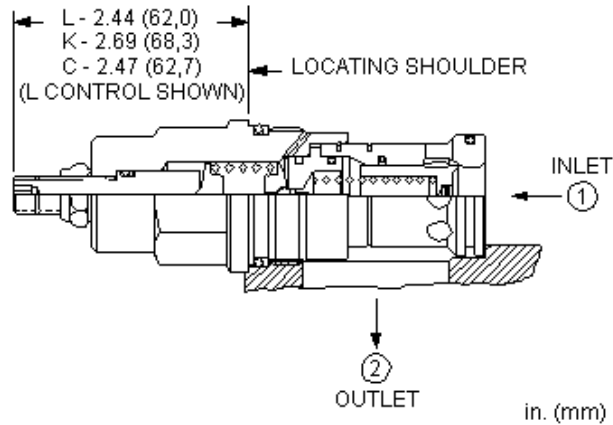
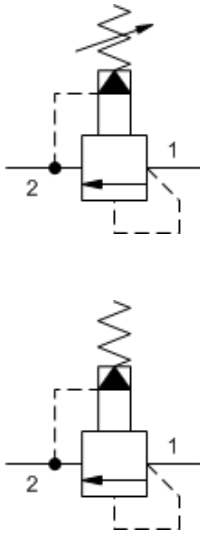
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	7 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	EPDM: 990303014
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

CONFIGURATION OPTIONS
Model Code Example: RPGSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
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		
	W 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, balanced-poppet 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, smooth, quiet, fast, and have low pressure rise vs. flow.

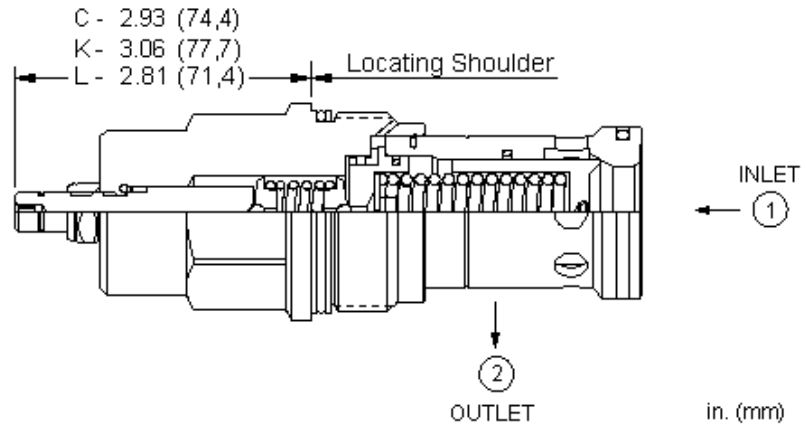
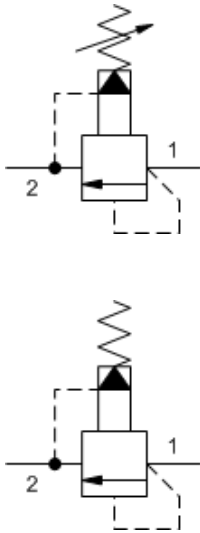
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	7 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990316007
Seal kit - Cartridge	EPDM: 990316014
Seal kit - Cartridge	Viton: 990316006

CONFIGURATION OPTIONS
Model Code Example: RPISLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, balanced-poppet 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, smooth, quiet, fast, and have low pressure rise vs. flow.

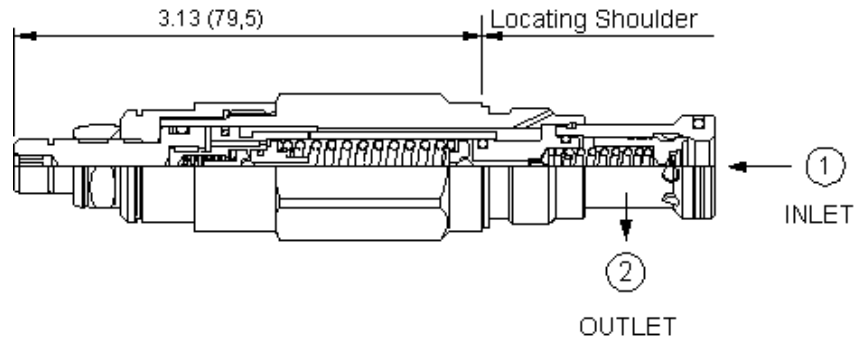
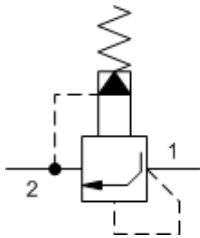
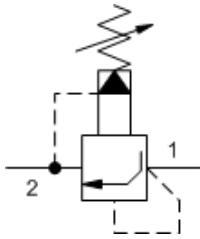
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	7 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990318007
Seal kit - Cartridge	EPDM: 990318014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990318006

CONFIGURATION OPTIONS
Model Code Example: RPKSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
W Hex Wrench Adjustment	N 60 - 800 psi (4 - 55 bar), 400 psi (28 bar) Standard Setting		
Y Tri-Grip Handknob	Q 60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



in (mm)

Pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

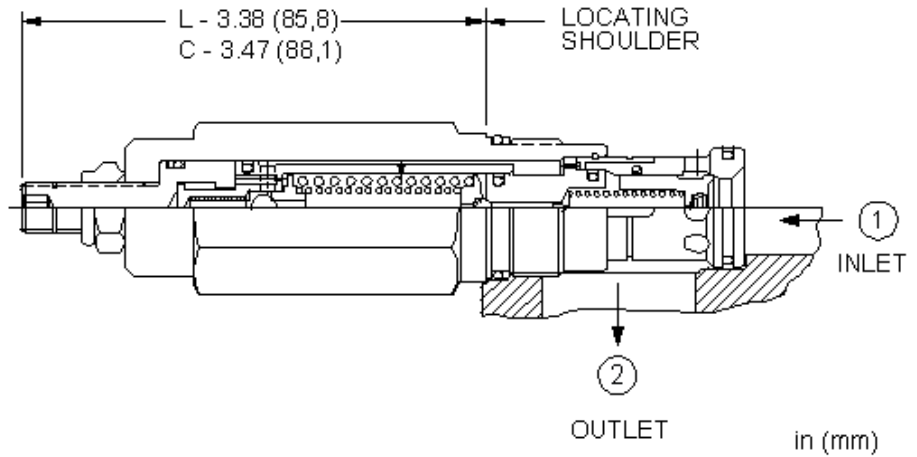
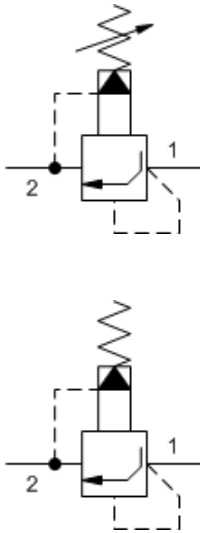
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	100 - 300 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS
Model Code Example: RPETLWN

CONTROL	(L) ADJUSTMENT RANGE	(W) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	W 3000 - 4500 psi (210 - 315 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 2000 - 3000 psi (140 - 210 bar), 2000 psi (140 bar) Standard Setting C 4500 - 6000 psi (315 - 420 bar), 4500 psi (315 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

TECHNICAL DATA

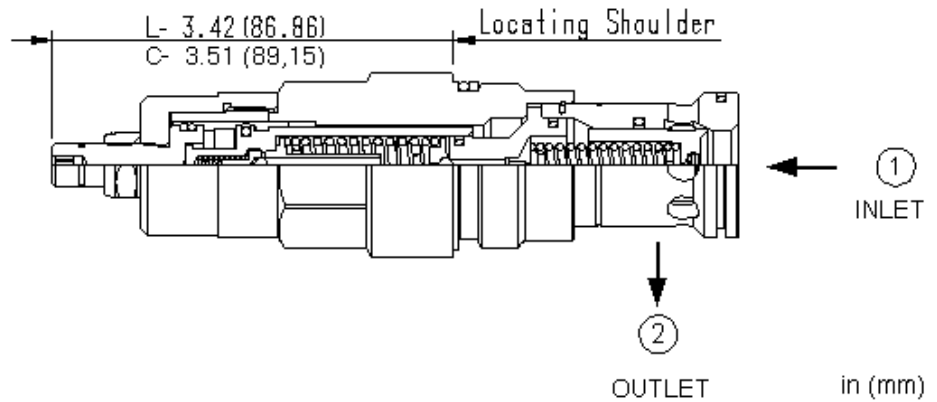
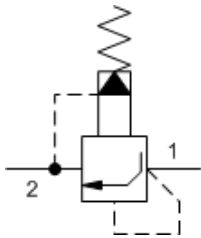
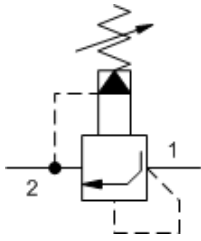
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	200 - 400 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

NOTES Patents: US#6,039,070; Germany EP 1 001 197; Japan #3,119,230

CONFIGURATION OPTIONS
Model Code Example: RPGLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 2000 - 3000 psi (140 - 210 bar), 2000 psi (140 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 4500 - 6000 psi (315 - 420 bar), 4500 psi (315 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
	W 3000 - 4500 psi (210 - 315 bar), 3000 psi (210 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel



Pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

TECHNICAL DATA

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

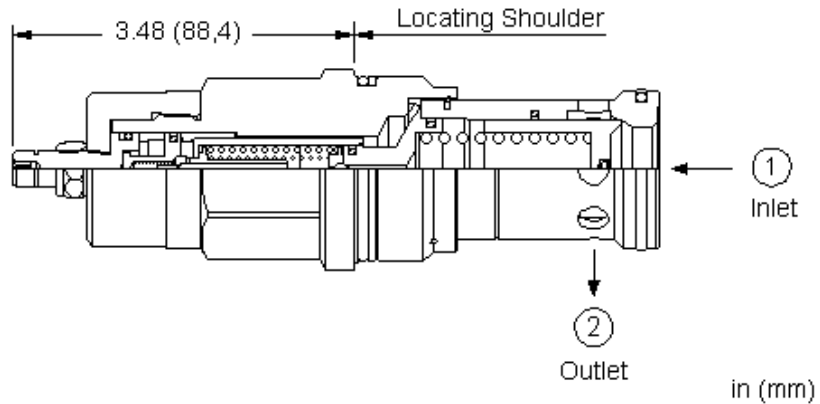
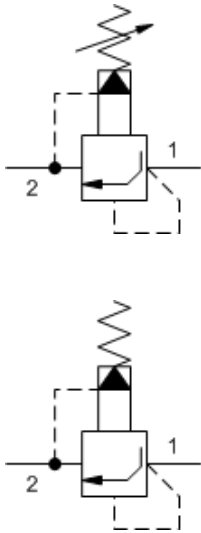
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	300 - 500 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990316007
Seal kit - Cartridge	Viton: 990316006

- NOTES**
- Patents: US#6,039,070; Germany EP 1 001 197; Japan #3,119,230
 - Patents: US#6,039,070; Germany EP 1 001 197; Japan #3,119,230

CONFIGURATION OPTIONS

Model Code Example: RPITLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 2000 - 3000 psi (140 - 210 bar), 2000 psi (140 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 4500 - 6000 psi (315 - 420 bar), 4500 psi (315 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
	W 3000 - 4500 psi (210 - 315 bar), 3000 psi (210 bar) Standard Setting		



Pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

TECHNICAL DATA

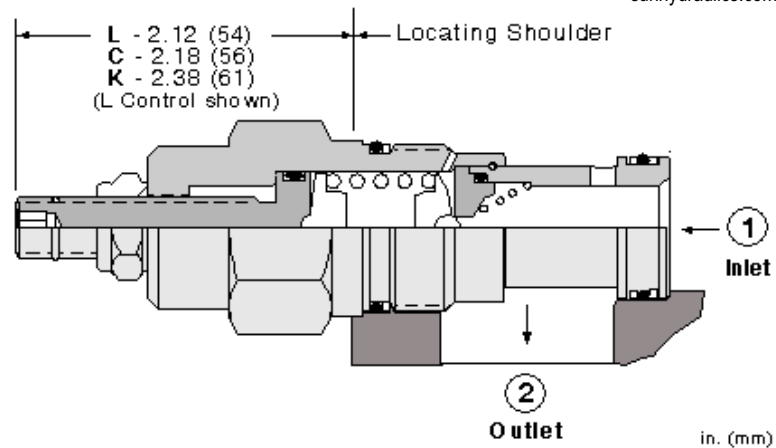
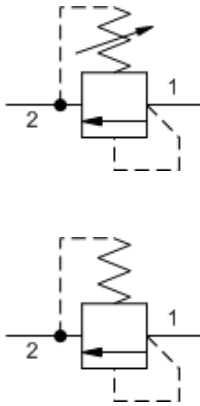
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	400 - 600 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990318007
Seal kit - Cartridge	Viton: 990318006

CONFIGURATION OPTIONS

Model Code Example: RPKTLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 2000 - 3000 psi (140 - 210 bar), 2000 psi (140 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 4500 - 6000 psi (315 - 420 bar), 4500 psi (315 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
	W 3000 - 4500 psi (210 - 315 bar), 3000 psi (210 bar) Standard Setting		



Direct-acting, pilot relief cartridges are used to remotely control the pressure setting of other pilot-operated valves. Because capacity is limited to pilot flow, these valves should be used with other higher flow valves.

TECHNICAL DATA

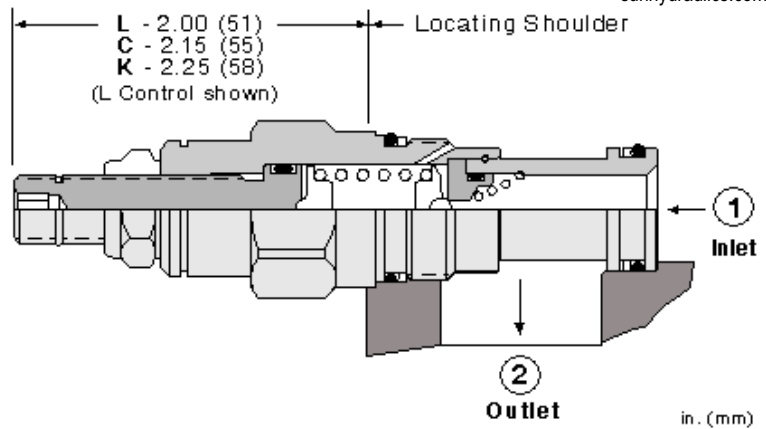
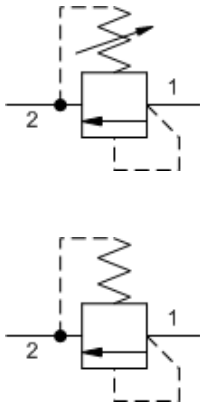
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
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

NOTES For Series 2 cartridges configured with an O control (panel mount handknob), a 1.00 in. (25,4 mm) diameter hole is required in the panel.

CONFIGURATION OPTIONS
Model Code Example: RBAALAN

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



Direct-acting, pilot relief cartridges are used to remotely control the pressure setting of other pilot-operated valves. Because capacity is limited to pilot flow, these valves should be used with other higher flow valves.

TECHNICAL DATA

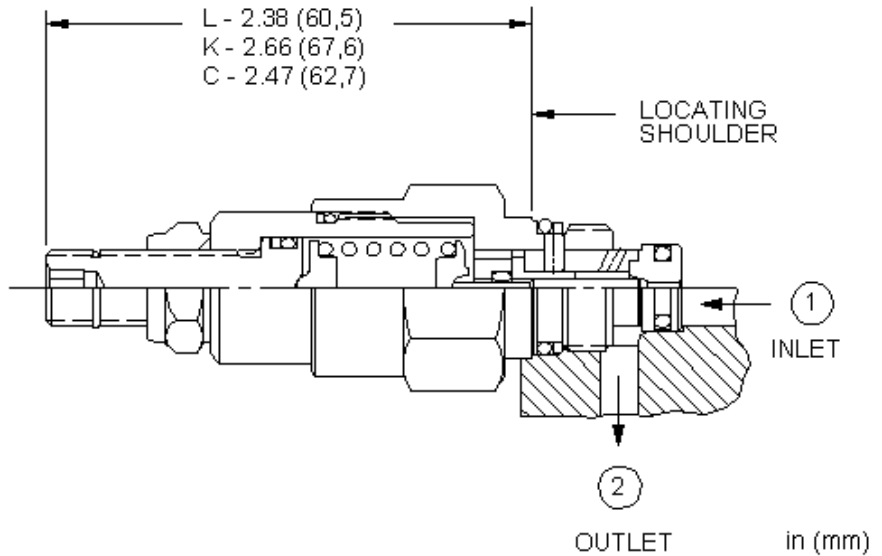
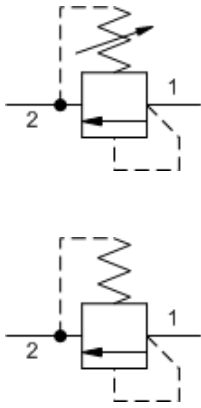
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

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.

CONFIGURATION OPTIONS
Model Code Example: RBACLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 25 - 3000 psi (1,7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 25 - 4500 psi (1,7 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
J Capped Screw Adjustment	B 25 - 1500 psi (1,7 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
K Handknob	C 25 - 6000 psi (1,7 - 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		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		



Two-port, pilot-stage, direct-acting relief cartridges are fully adjustable, normally closed pressure regulating valves. When the pressure at port 1 (inlet) is sufficient to overcome the spring force (valve setting), a flow path is opened from port 1 to port 2 (tank).

TECHNICAL DATA

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

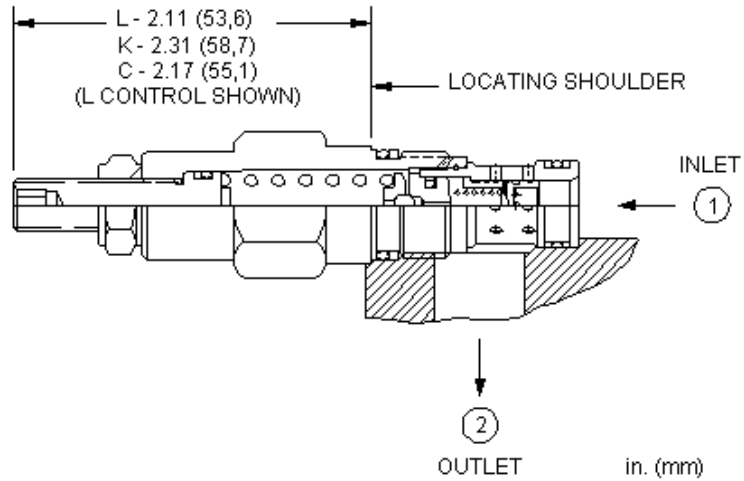
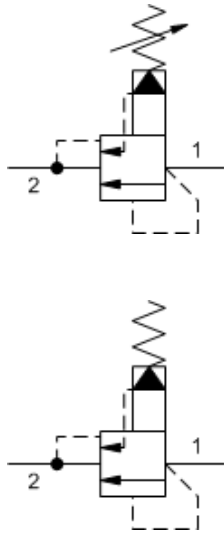
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 drops/min.
Response Time - Typical	2 ms
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990608007
Seal kit - Cartridge	EPDM: 990608014
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990608006

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.

CONFIGURATION OPTIONS

Model Code Example: RBAELAN

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



Kick-down relief cartridges act similar to a circuit breaker in an electrical system. The valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to tank (port 2). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, flow from port 1 to port 2 must cease and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

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

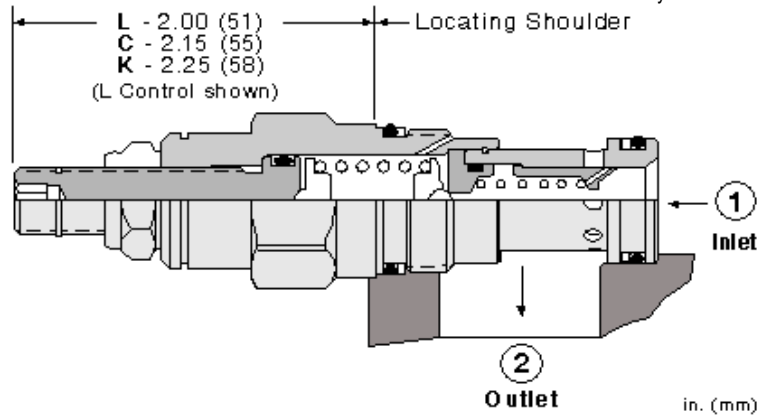
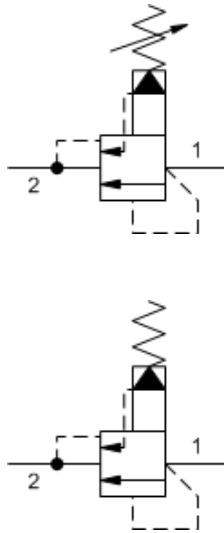
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	Kick down point
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

NOTES Do not use in load holding applications.

CONFIGURATION OPTIONS

Model Code Example: RQCBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 75 - 3000 psi (5 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 75 - 1500 psi (5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
K Handknob	C 75 - 6000 psi (5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	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		



Kick-down relief cartridges act similar to a circuit breaker in an electrical system. The valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to tank (port 2). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, flow from port 1 to port 2 must cease and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

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

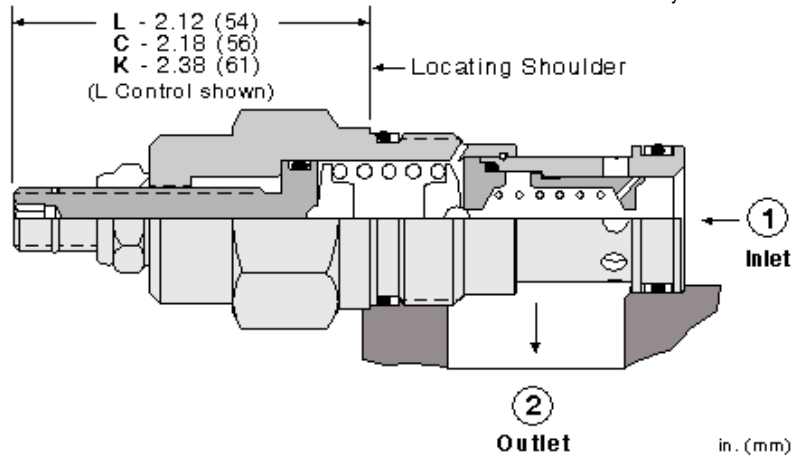
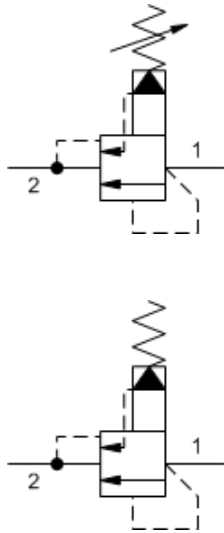
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	Kick down point
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

- NOTES**
- Do not use in load holding applications.
 - For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

CONFIGURATION OPTIONS

Model Code Example: RQEBLAN

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		V Viton	/AP Stainless Steel, Passivated
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting		
O Handknob with Panel Mount	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Kick-down relief cartridges act similar to a circuit breaker in an electrical system. The valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to tank (port 2). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, flow from port 1 to port 2 must cease and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

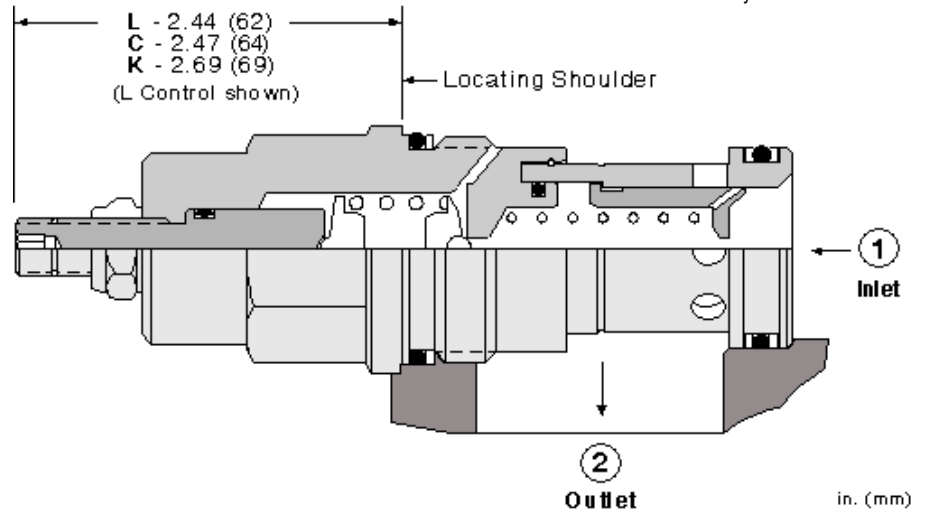
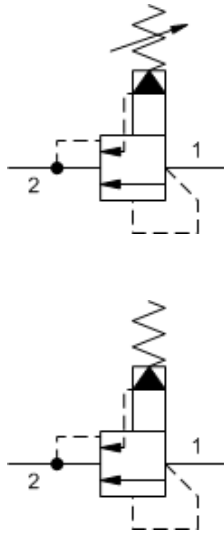
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	Kick down point
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Polyurethane: 990003002
Seal kit - Cartridge	Viton: 990203006

- NOTES**
- Do not use in load holding applications.
 - For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

CONFIGURATION OPTIONS
Model Code Example: RQGBLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Kick-down relief cartridges act similar to a circuit breaker in an electrical system. The valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to tank (port 2). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, flow from port 1 to port 2 must cease and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

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

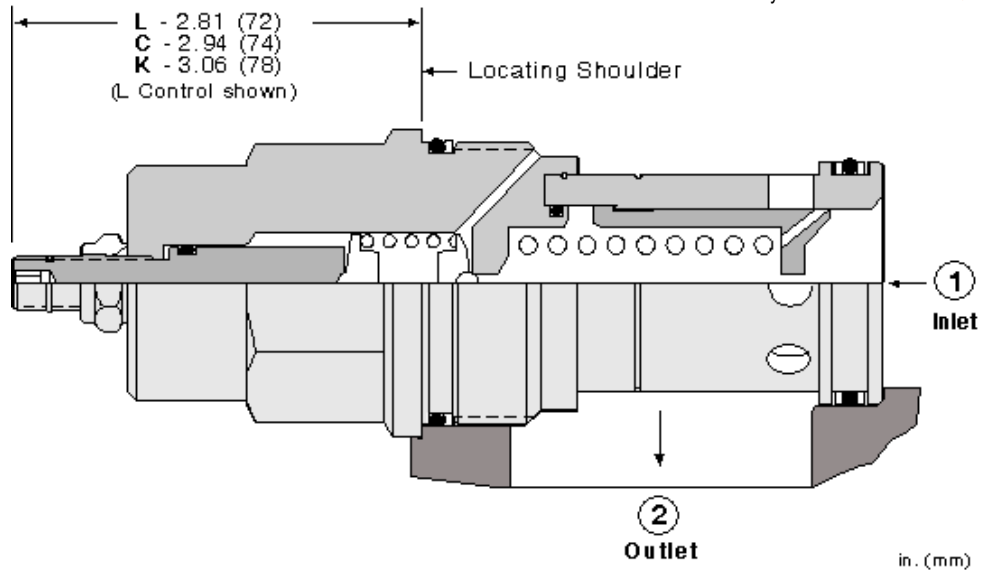
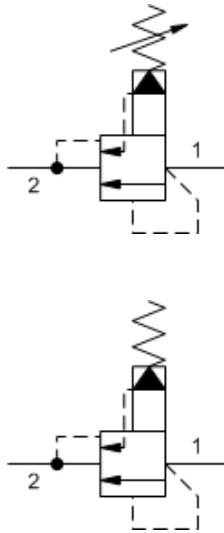
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	Kick down point
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

NOTES Do not use in load holding applications.

CONFIGURATION OPTIONS

Model Code Example: RQIBLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Kick-down relief cartridges act similar to a circuit breaker in an electrical system. The valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to tank (port 2). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, flow from port 1 to port 2 must cease and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

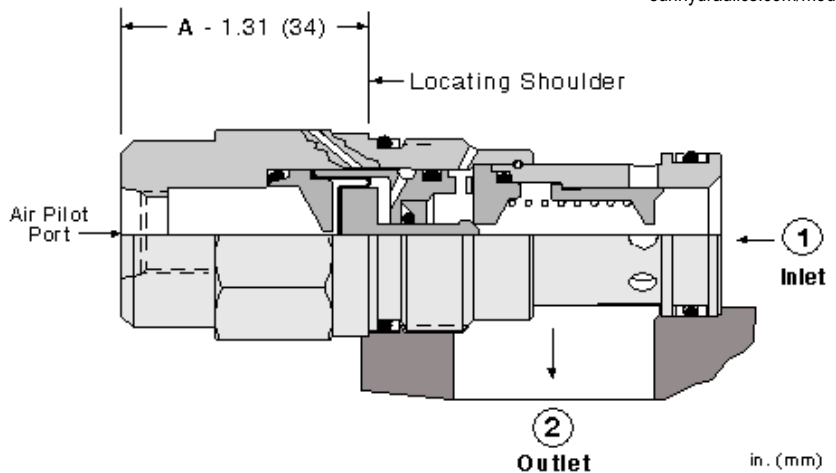
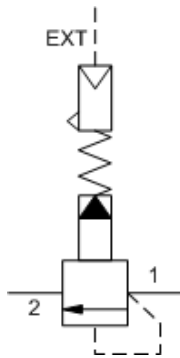
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	Kick down point
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

NOTES Do not use in load holding applications.

CONFIGURATION OPTIONS
Model Code Example: RQKBLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Air-controlled, pilot-operated, balanced piston relief cartridges use compressed air over a diaphragm instead of an adjustable spring to control pressure setting. The air signal is supplied through a port in the hex-end of the cartridge. They 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

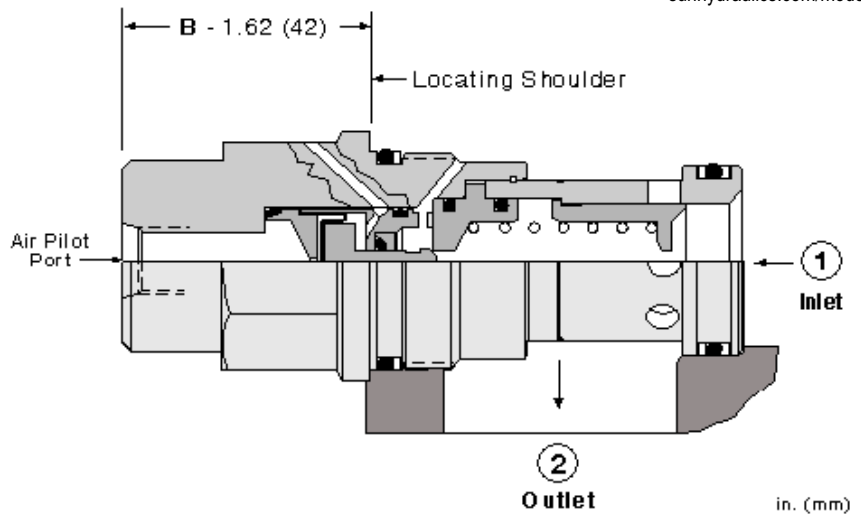
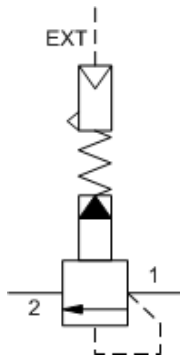
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	2000 psi
Pilot Ratio	20:1
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Maximum Air Pressure	150 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Polyurethane: 990003002
Seal kit - Cartridge	Viton: 990203006

CONFIGURATION OPTIONS

Model Code Example: RPGDABN

CONTROL	(A) OPERATING RANGE	(B) SEAL MATERIAL	(N)
A External 1/4 NPTF Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N V Viton	



Air-controlled, pilot-operated, balanced piston relief cartridges use compressed air over a diaphragm instead of an adjustable spring to control pressure setting. The air signal is supplied through a port in the hex-end of the cartridge. They 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.

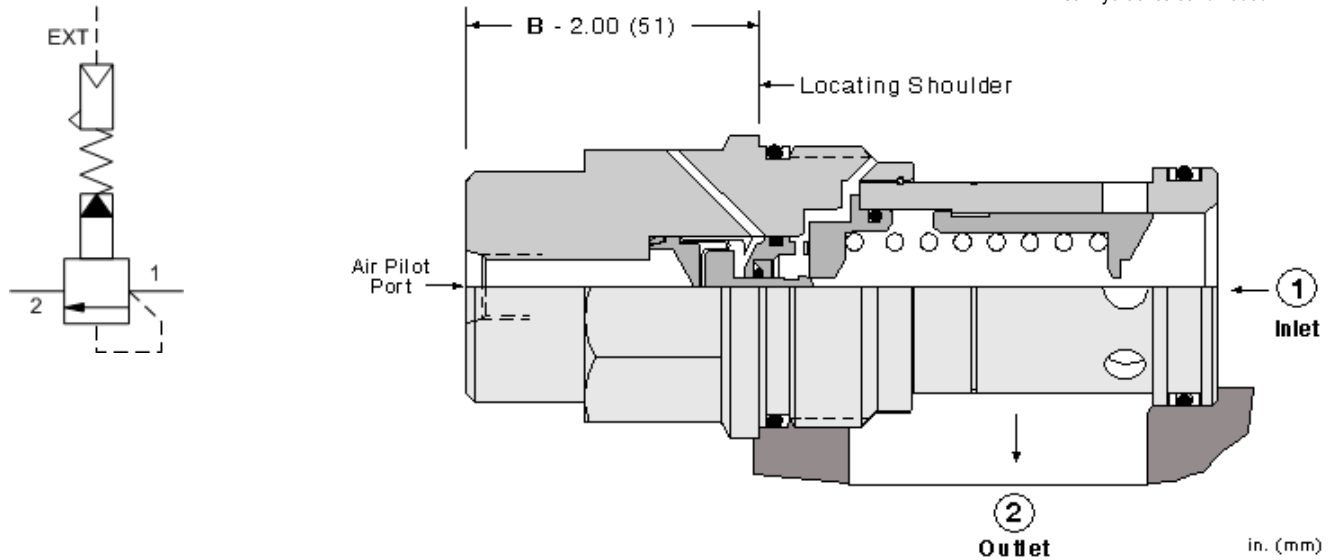
TECHNICAL DATA

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

Maximum Operating Pressure	2000 psi
Pilot Ratio	20:1
Hysteresis (with dither)	<4%
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Maximum Air Pressure	150 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

CONFIGURATION OPTIONS
Model Code Example: RPIDBBN

CONTROL	(B) OPERATING RANGE	(B) SEAL MATERIAL	(N)
B External 4- SAE Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N V Viton	



Air-controlled, pilot-operated, balanced piston relief cartridges use compressed air over a diaphragm instead of an adjustable spring to control pressure setting. The air signal is supplied through a port in the hex-end of the cartridge. They 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

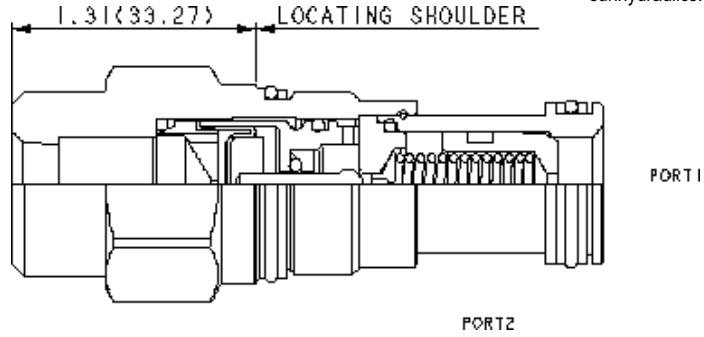
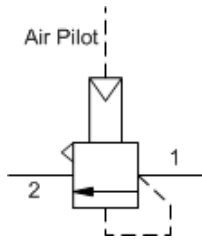
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	2000 psi
Pilot Ratio	20:1
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min. @1000 psi
Maximum Air Pressure	150 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

CONFIGURATION OPTIONS

Model Code Example: RPKDBBN

CONTROL	(B) OPERATING RANGE	(B) SEAL MATERIAL	(N)
B External 4- SAE Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N V Viton	



Air-controlled, pilot relief cartridges are used to remotely control the pressure setting of other pilot operated valves. Because capacity is limited to pilot flow, these valves should be used with valves with compatible pilot flows. They use compressed air over a diaphragm instead of an adjustable spring to control pressure setting, the air signal is supplied through a port in the hex-end of the cartridge.

TECHNICAL DATA

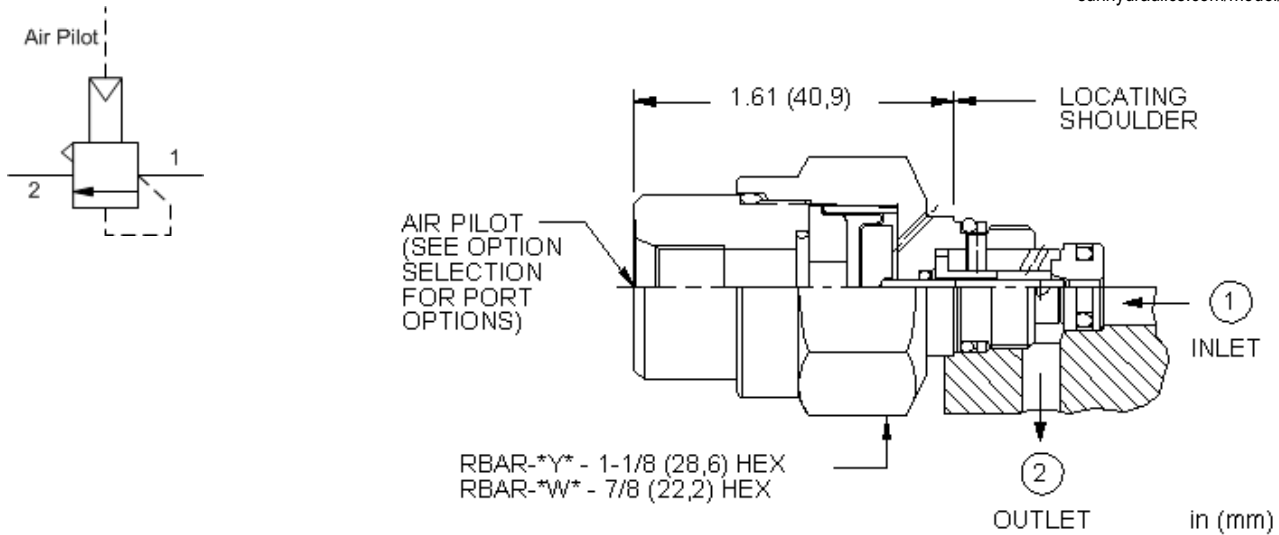
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	2000 psi
Pilot Ratio	20:1
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

CONFIGURATION OPTIONS

Model Code Example: RBABABN

CONTROL	(A) OPERATING RANGE	(B) SEAL MATERIAL	(N)
A External 1/4 NPTF Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N V Viton	



Two-port, pilot-stage, air-controlled, direct-acting relief cartridges are normally closed pressure regulating valves. When the pressure at port 1 (inlet) is sufficient to overcome the force due to the air signal, a flow path is opened from port 1 to port 2 (tank). These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves.

TECHNICAL DATA

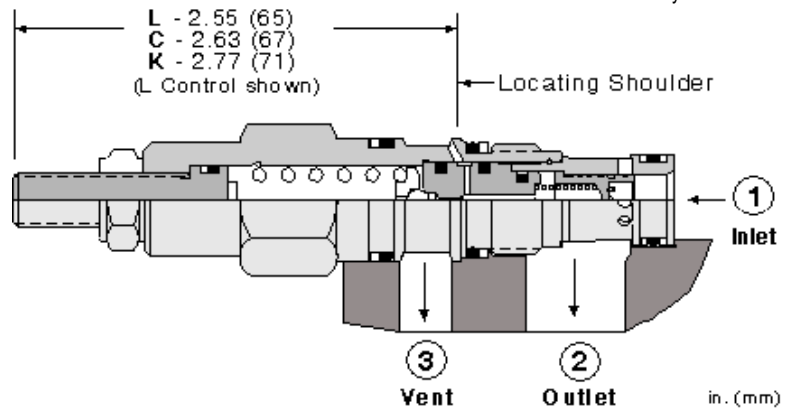
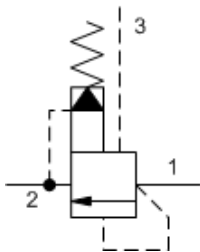
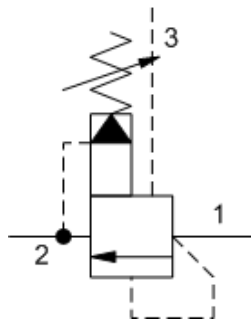
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	15 drops/min.
Maximum Pilot Pressure	150 psi
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990608007
Seal kit - Cartridge	EPDM: 990608014
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990608006

CONFIGURATION OPTIONS

Model Code Example: **RBARBWN**

CONTROL	(B) AIR PILOT RATIO	(W) SEAL MATERIAL	(N)
B External 4- <small>SAE</small> Port	W 50:1	N Buna-N	
A External 1/8 <small>NPTF</small> Port	Y 75:1	E EPDM	
D External 1/8 <small>BSPP</small> Port		V Viton	



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

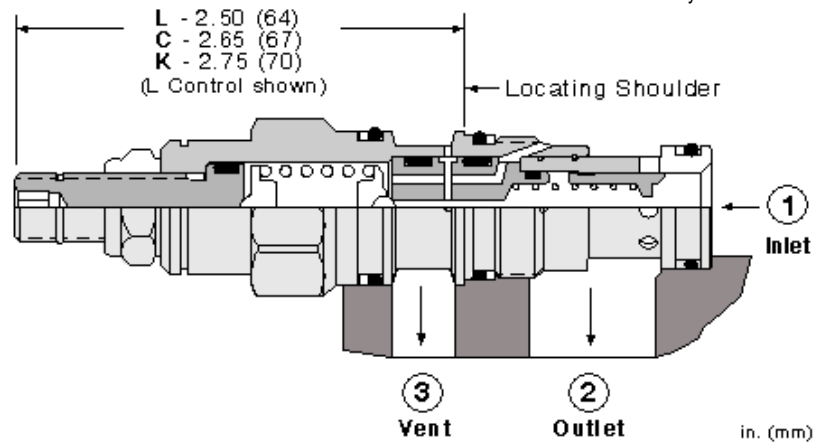
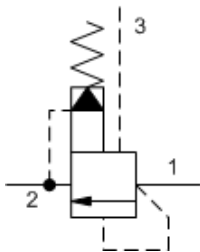
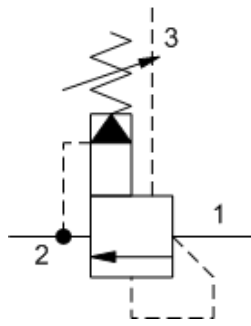
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	7 - 10 in ³ /min.
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
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	EPDM: 990163014
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS

Model Code Example: RVBALAN

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



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.

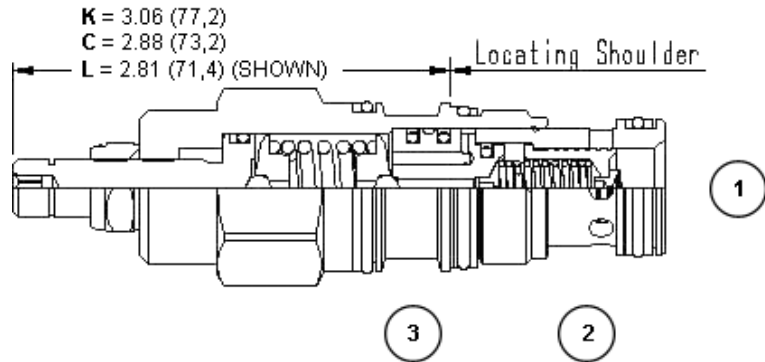
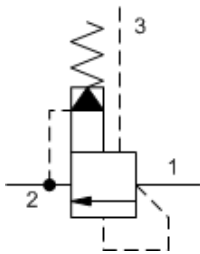
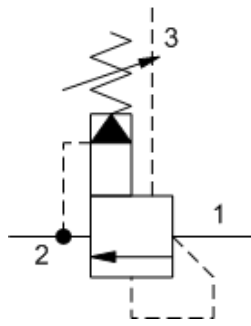
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	7 - 10 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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.

CONFIGURATION OPTIONS

Model Code Example: RVCALAN

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
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		



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

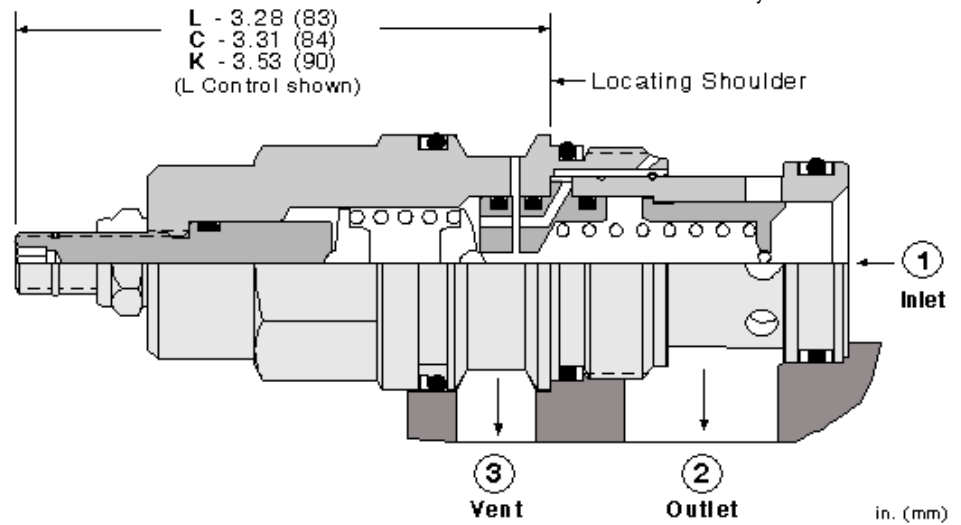
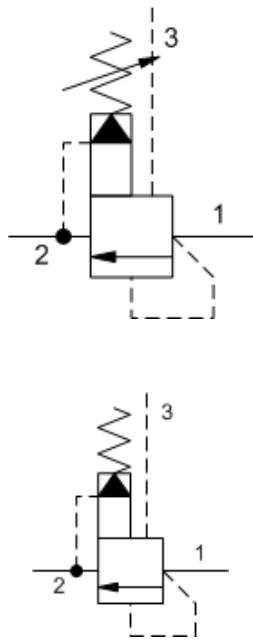
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 15 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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.

CONFIGURATION OPTIONS
Model Code Example: RVEALAN

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
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
W Hex Wrench Adjustment	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
Y Tri-Grip Handknob	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		



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

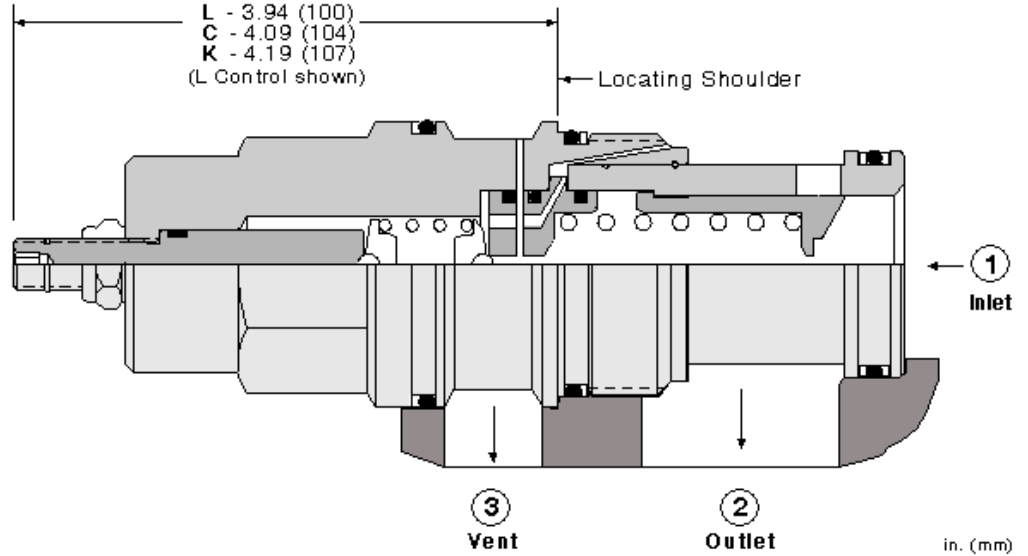
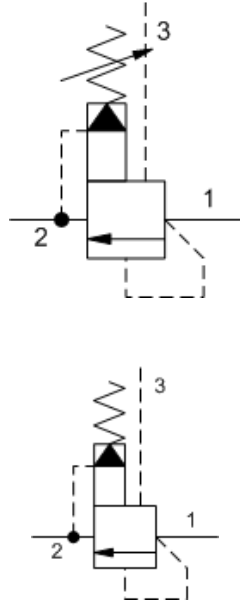
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: RVGALAN

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
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		



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.

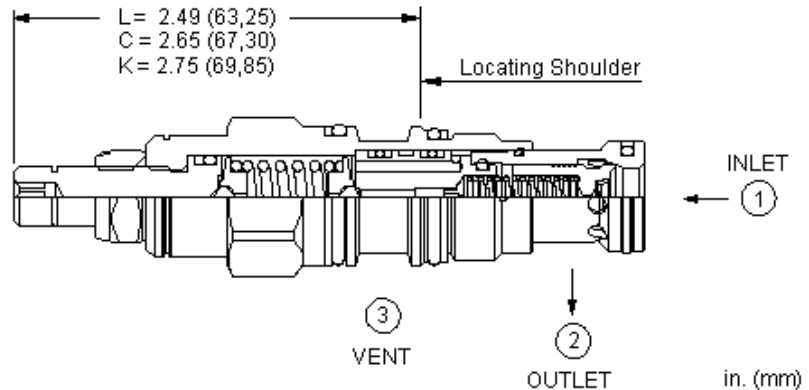
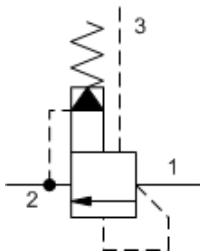
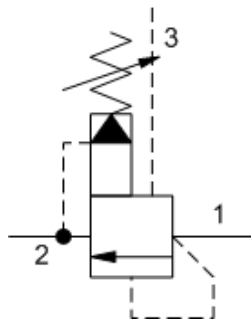
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min. @1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS
Model Code Example: RVIALAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	N 60 - 800 psi (4 - 55 bar), 400 psi (28 bar) Standard Setting		



Ventable, pilot-operated, balanced-poppet 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.

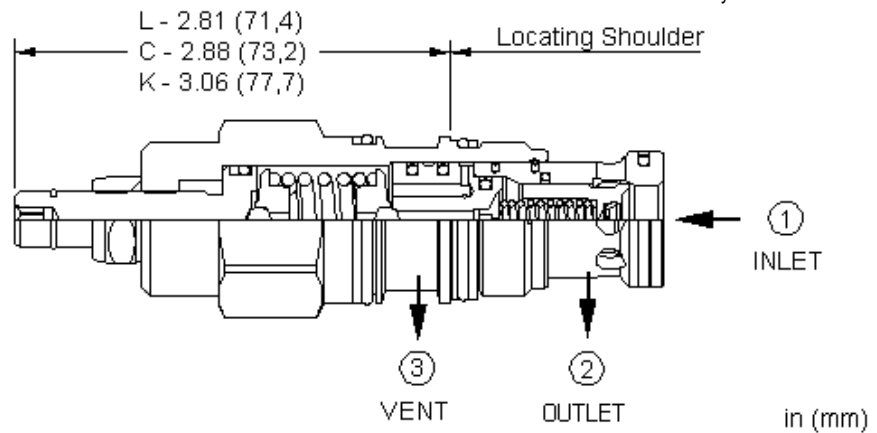
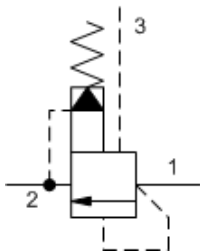
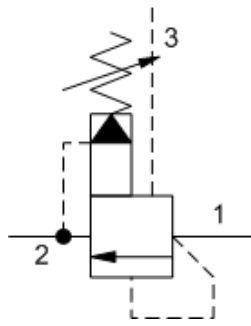
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	7 - 10 in ³ /min.
Maximum Valve Leakage at Reset	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990611007
Seal kit - Cartridge	Viton: 990611006

CONFIGURATION OPTIONS
Model Code Example: RVCSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, balanced-poppet 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.

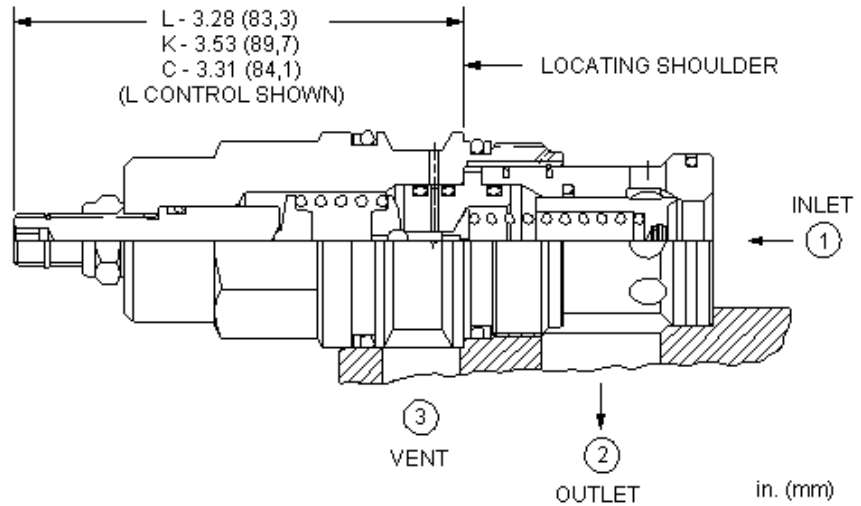
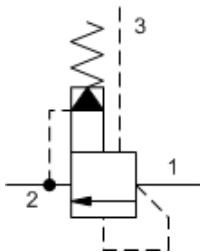
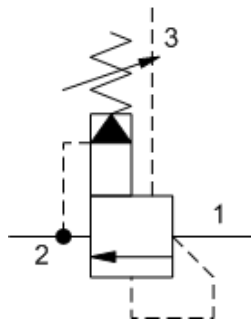
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990402007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990402006

CONFIGURATION OPTIONS
Model Code Example: RVESLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, balanced-poppet 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.

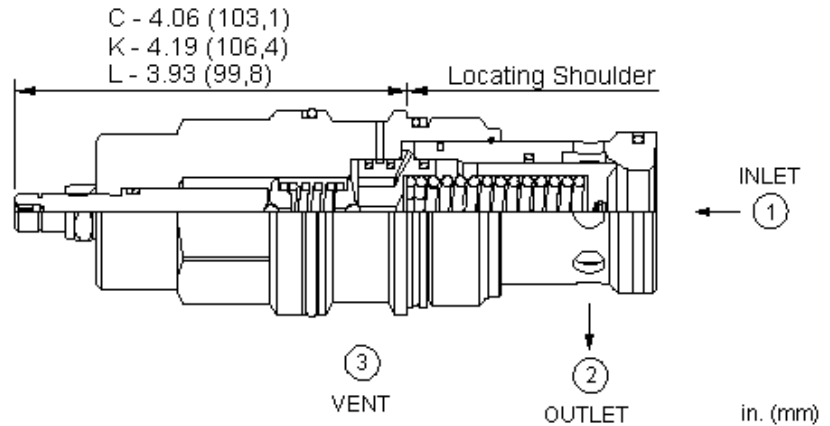
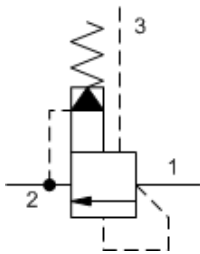
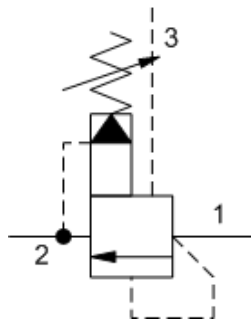
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990217007
Seal kit - Cartridge	Polyurethane: 990217002
Seal kit - Cartridge	Viton: 990217006

CONFIGURATION OPTIONS
Model Code Example: RVGSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, balanced-poppet 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.

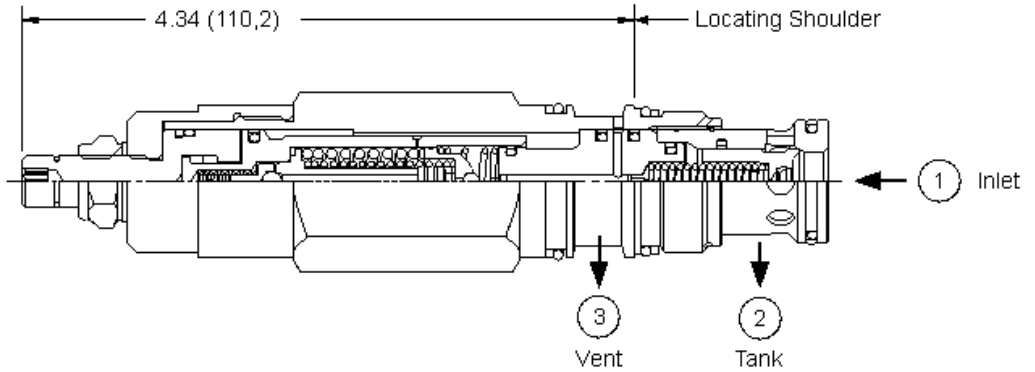
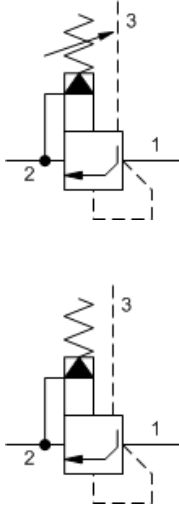
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990219007
Seal kit - Cartridge	Viton: 990219006

CONFIGURATION OPTIONS
Model Code Example: RVISLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. These 3 port valves include a vent port (port 3) that connects between the main piston and the pilot stage to provide for remote control by other pilot or 2-way valves. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

TECHNICAL DATA

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

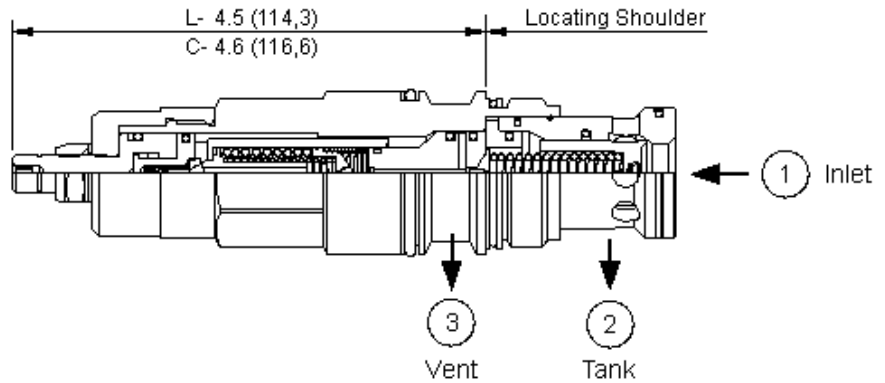
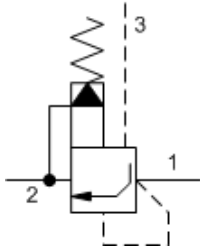
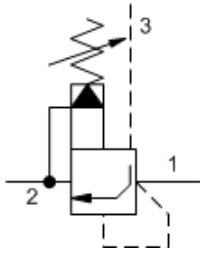
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	200 - 400 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990402007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990402006

NOTES Patents are pending for this product.

CONFIGURATION OPTIONS

Model Code Example: RVETLAN

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	B 500 - 1500 psi (35 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	W 1000 - 4500 psi (70 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. These 3 port valves include a vent port (port 3) that connects between the main piston and the pilot stage to provide for remote control by other pilot or 2-way valves. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

TECHNICAL DATA

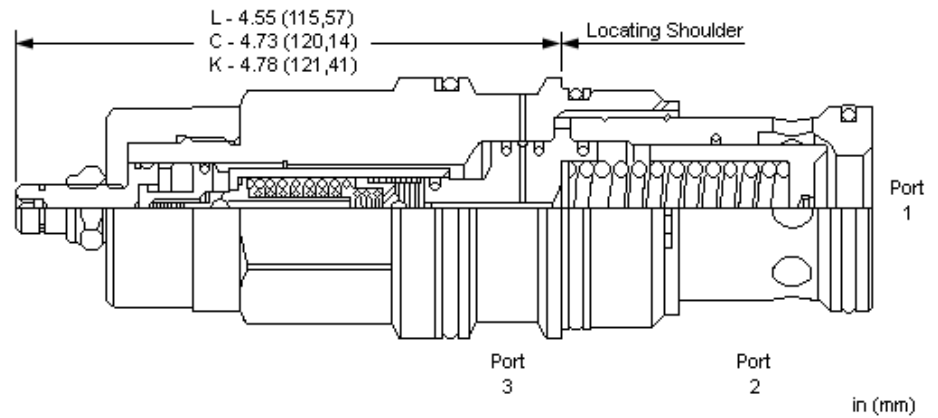
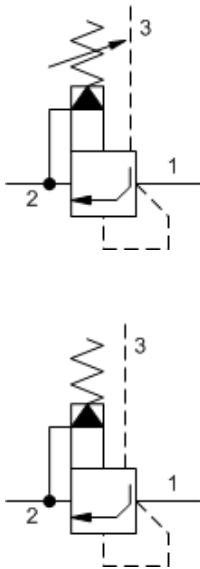
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Pressure Ramp Up Time	300 - 500 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990217007
Seal kit - Cartridge	Polyurethane: 990217002
Seal kit - Cartridge	Viton: 990217006

NOTES Patents are pending for this product.

CONFIGURATION OPTIONS
Model Code Example: RVGTLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 500 - 1500 psi (35 - 105 bar), 1000 psi (70 bar) Standard Setting C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting W 1000 - 4500 psi (70 - 315 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated



Ventable, pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. These 3 port valves include a vent port (port 3) that connects between the main piston and the pilot stage to provide for remote control by other pilot or 2-way valves. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

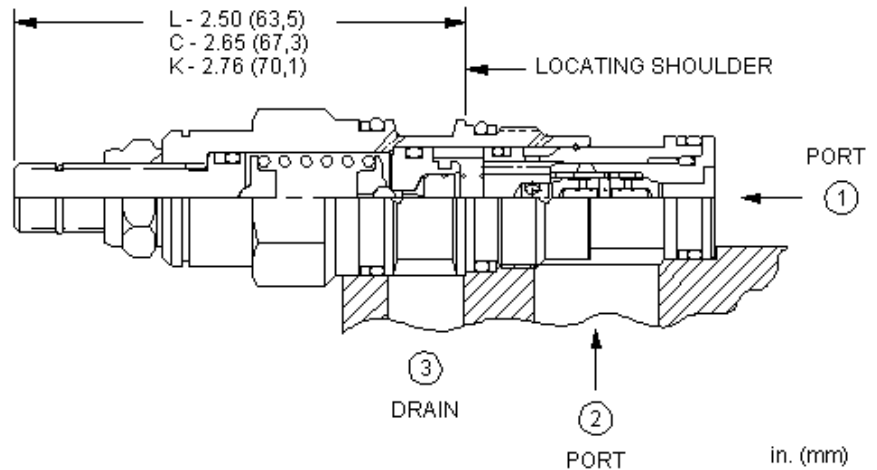
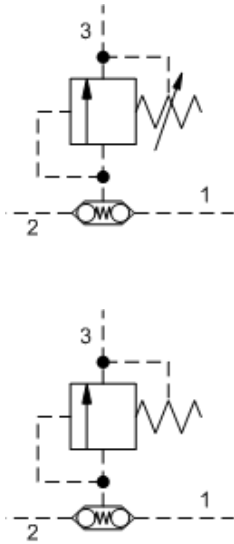
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Pressure Ramp Up Time	400 - 850 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990219007
Seal kit - Cartridge	Viton: 990219006

CONFIGURATION OPTIONS
Model Code Example: RVITLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	W 1000 - 4500 psi (70 - 315 bar), 1000 psi (70 bar) Standard Setting		



This direct-acting, pilot relief cartridge incorporates back-to-back check valves. This allows it to remotely control 2 other pilot-operated valves or act as a thermal relief for both ends of an actuator. Because capacity is limited to pilot flow, this valve should be used with other valves with comparable pilot flows.

TECHNICAL DATA

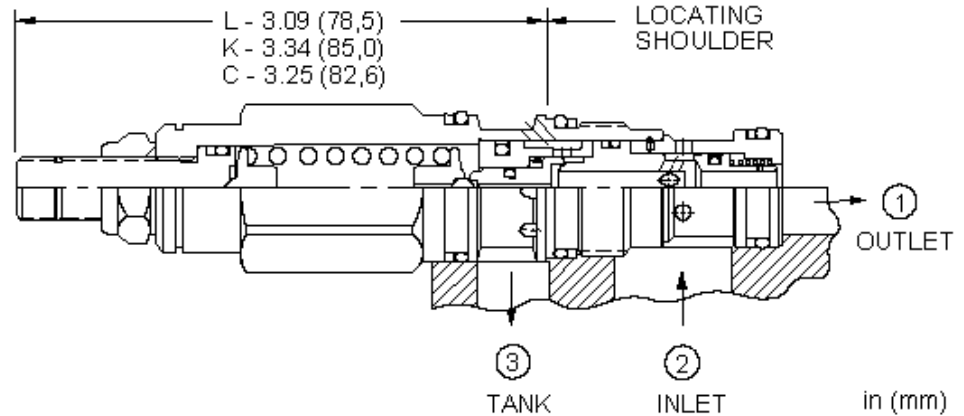
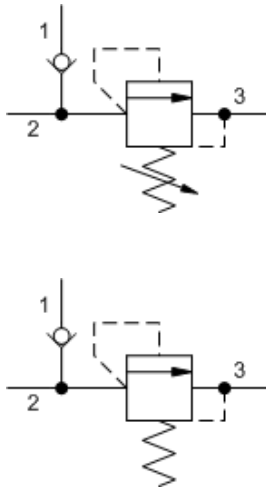
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
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

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.

CONFIGURATION OPTIONS
Model Code Example: RBADLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 25 - 3000 psi (1,7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 25 - 1500 psi (1,7 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 25 - 6000 psi (1,7 - 420 bar), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 25 - 4500 psi (1,7 - 315 bar), 1000 psi (70 bar) Standard Setting		



The relief-before-check cartridge is a CavitySaver™ (multi-function) valve incorporating a direct-acting relief tee'd in 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 (port 1). These valves are smooth and quiet, essentially zero leak, dirt tolerant, immune to silting and are very fast.

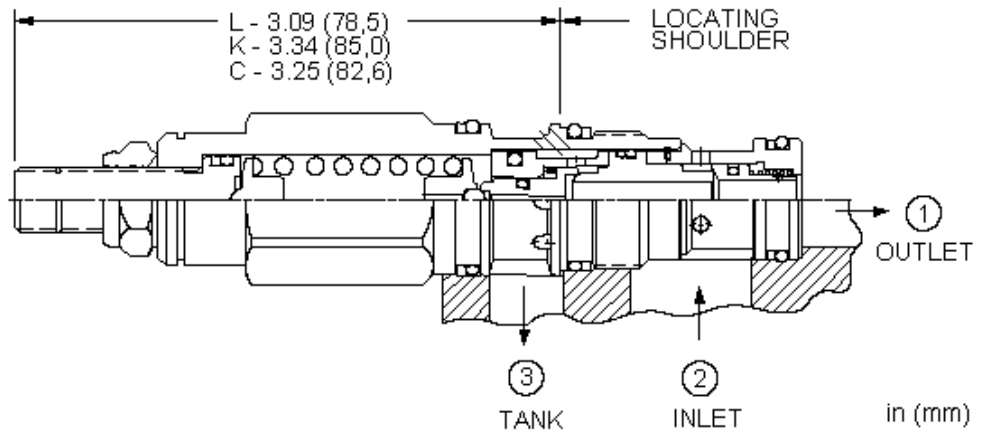
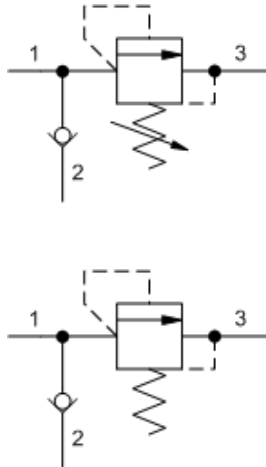
TECHNICAL DATA

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

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
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

CONFIGURATION OPTIONS
Model Code Example: HRDALAN

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



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 (port 1). 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

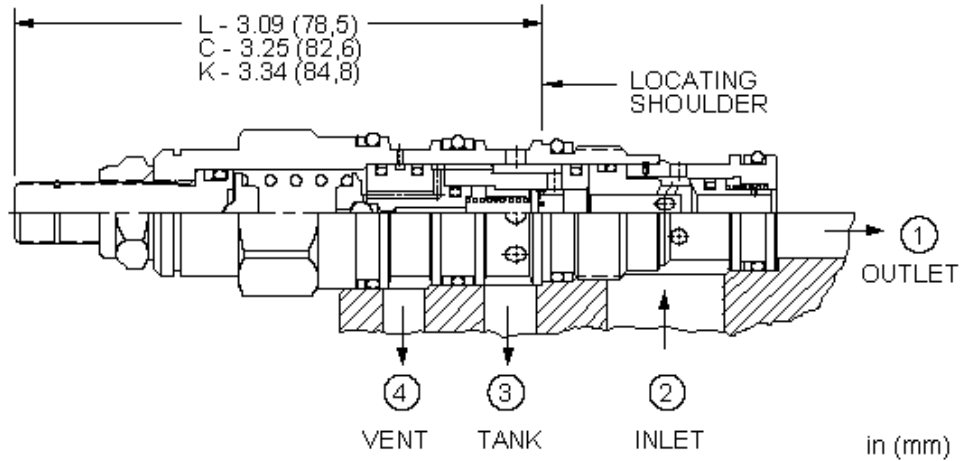
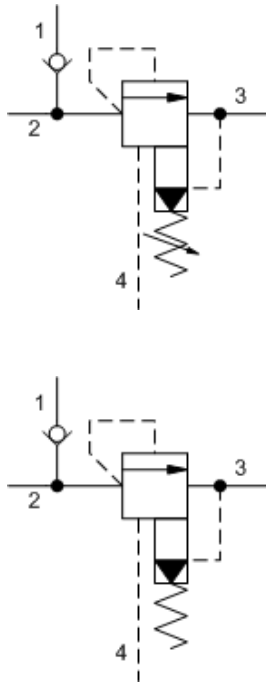
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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
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

CONFIGURATION OPTIONS

Model Code Example: HRDBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob			/LH Mild Steel, Zinc-Nickel



The ventable relief-before-check cartridge is a CavitySaver™ (multi-function) valve incorporating a ventable, pilot-operated, balanced piston relief tee'd in 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 regulate the pressure. The check valve flow is from the inlet (port 2) to the system port (port 1). The valve includes a vent port (port 4) 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, are smooth, quiet, and are moderately fast.

TECHNICAL DATA

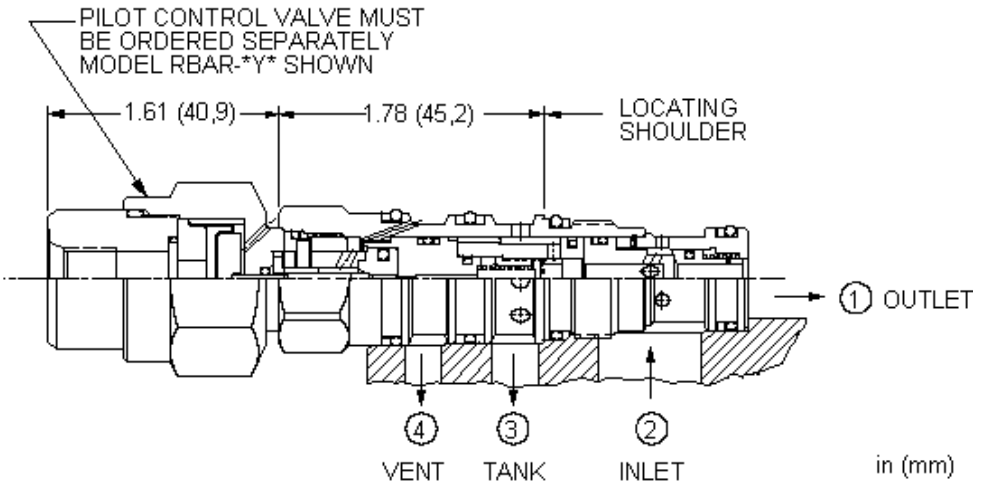
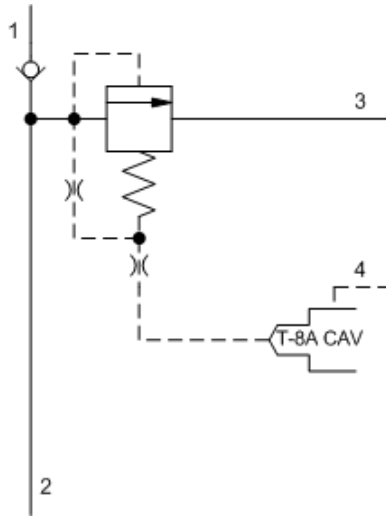
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Check Cracking Pressure	25 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: HVCALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 75 - 3000 psi (5 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 75 - 1500 psi (5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
K Handknob	D 75 - 800 psi (5 - 55 bar), 400 psi (28 bar) Standard Setting		
	W 75 - 4500 psi (5 - 315 bar), 1000 psi (70 bar) Standard Setting		



The relief-before-check cartridge is a CavitySaver™ (multi-function) valve incorporating a normally closed, balanced piston modulating element tee'd in before a check function. The valve incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 2) reaches the pilot control valve setting, the modulating element starts to open to tank (port 3), throttling flow to regulate the pressure. The T-8A pilot section is drained to port 4. The check valve flow is from the inlet (port 2) to the system port (port 1).

TECHNICAL DATA

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

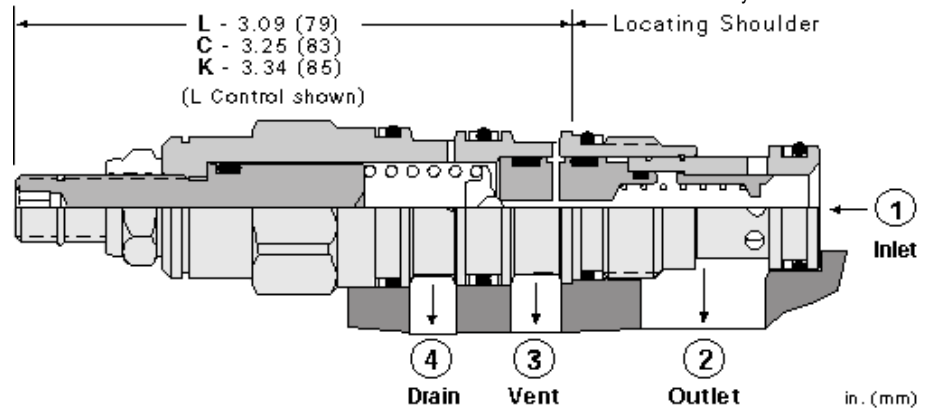
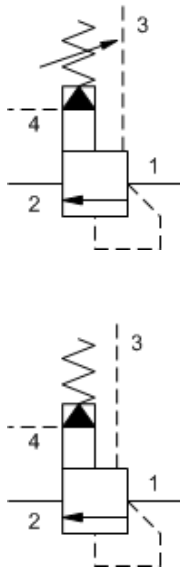
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Check Cracking Pressure	25 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: HVCA8DN

BIAS PRESSURE	(D)	SEAL MATERIAL	(N)
D 75 psi (5 bar)		N Buna-N	
		E EPDM	
		V Viton	



Ventable, pilot-operated, balanced piston relief cartridges with external drain 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 and a drain (port 4) that makes them insensitive to back pressure. These valves are accurate, have low pressure rise vs. flow, they are smooth and quiet, and are moderately fast.

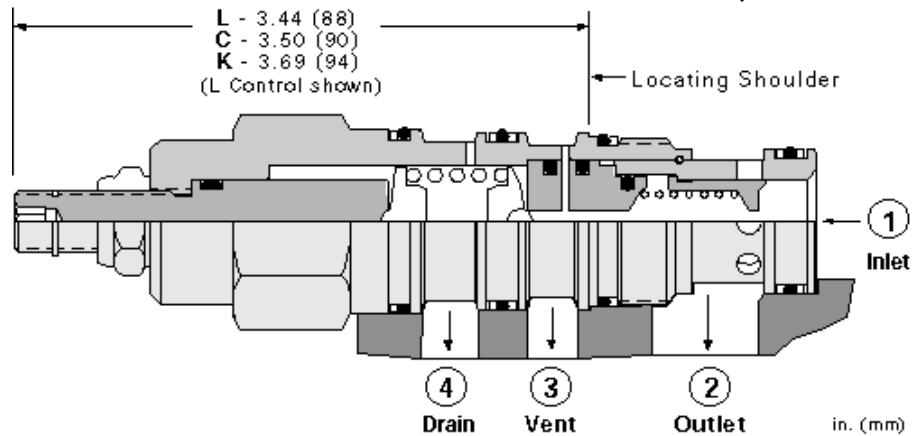
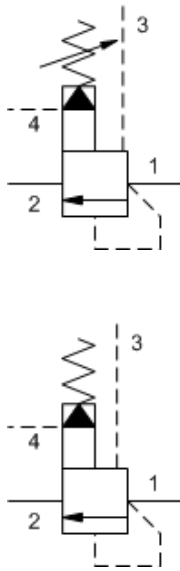
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	7 - 10 in ³ /min.
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
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS
Model Code Example: RVCDLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, balanced piston relief cartridges with external drain 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 and a drain (port 4) that makes them insensitive to back pressure. These valves are accurate, have low pressure rise vs. flow, they are smooth and quiet, and are moderately fast.

TECHNICAL DATA

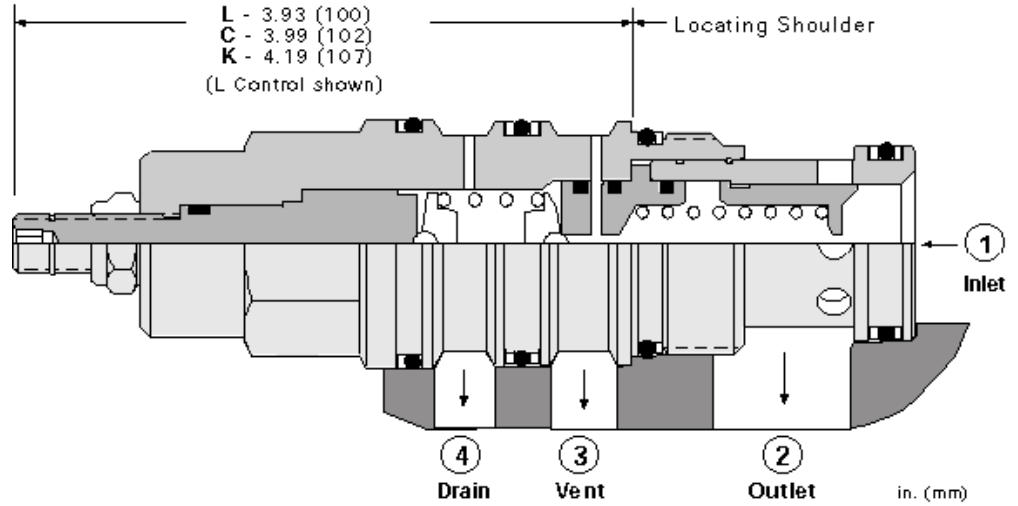
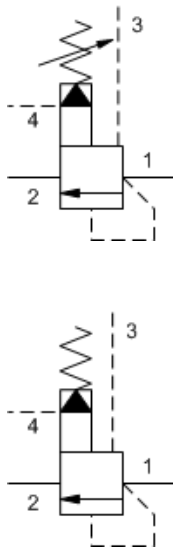
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 15 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS

Model Code Example: RVEDLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	
W Hex Wrench Adjustment	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
Y Tri-Grip Handknob	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, balanced piston relief cartridges with external drain 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 and a drain (port 4) that makes them insensitive to back pressure. These valves are accurate, have low pressure rise vs. flow, they are smooth and quiet, and are moderately fast.

TECHNICAL DATA

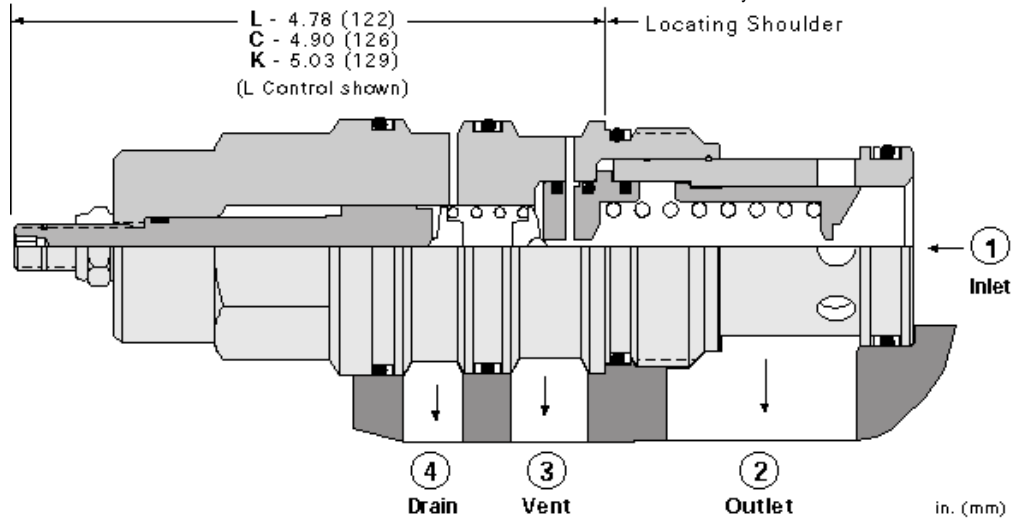
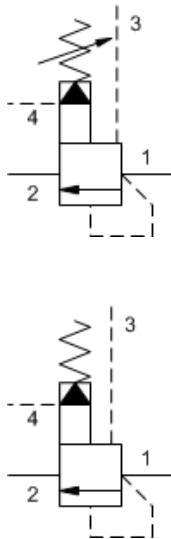
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min. @1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: RVGDLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, balanced piston relief cartridges with external drain 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 and a drain (port 4) that makes them insensitive to back pressure. These valves are accurate, have low pressure rise vs. flow, they are smooth and quiet, and are moderately fast.

TECHNICAL DATA

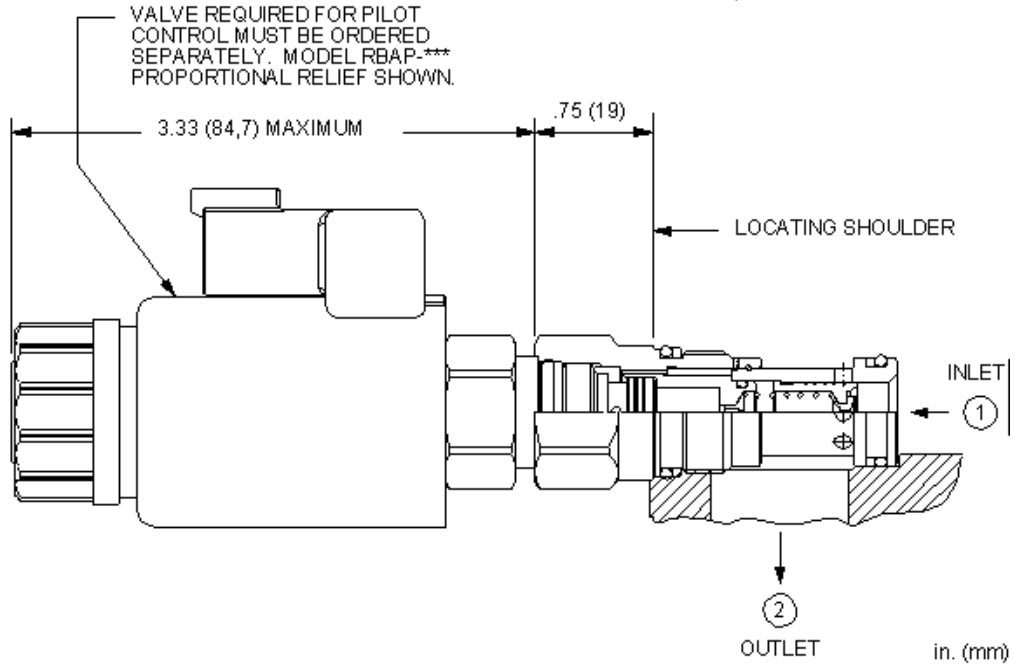
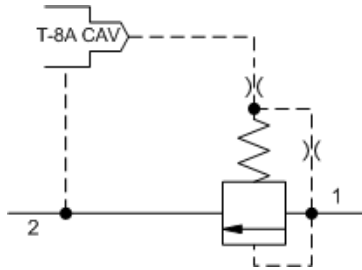
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS

Model Code Example: RVIDLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

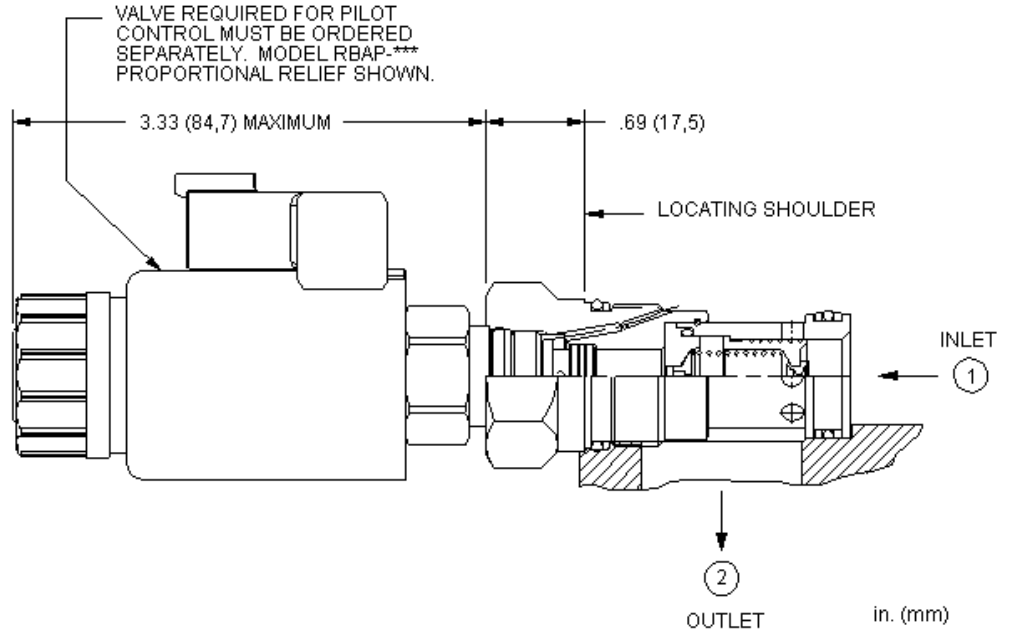
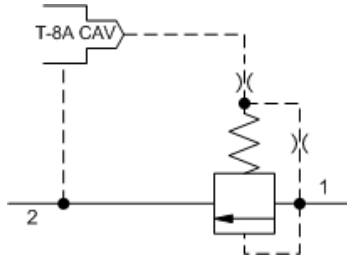
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at 110 SUS (24 cSt)	2 in ³ /min. @1000 psi
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPEC8WN

ADJUSTMENT RANGE	(W)	SEAL MATERIAL	(N)
W 100 - 5000 psi (7 - 350 bar)		N Buna-N	
D 25 - 3000 psi (1,7 - 210 bar)		E EPDM	
		V Viton	



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	3 in ³ /min. @1000 psi
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Polyurethane: 990003002
Seal kit - Cartridge	Viton: 990203006

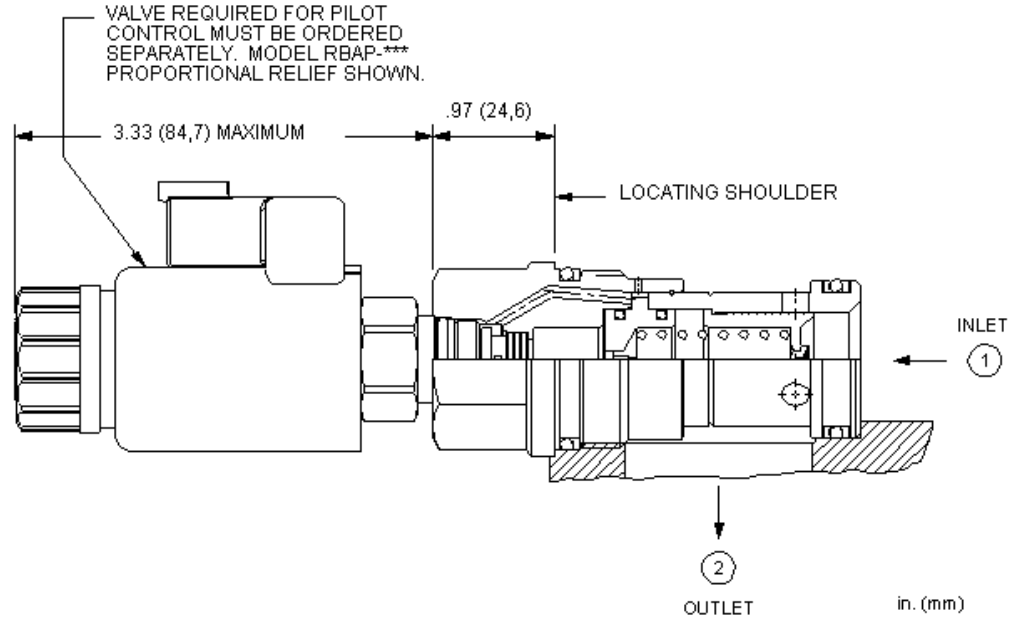
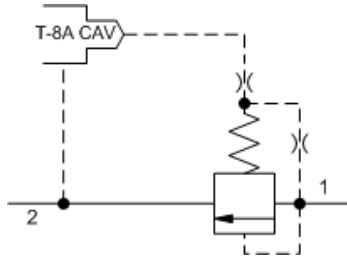
NOTES

Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPGC8WN

ADJUSTMENT RANGE	(W)	SEAL MATERIAL	(N)
W 100 - 5000 psi (7 - 350 bar)		N Buna-N	
D 25 - 3000 psi (1,7 - 210 bar)		E EPDM	
		V Viton	



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

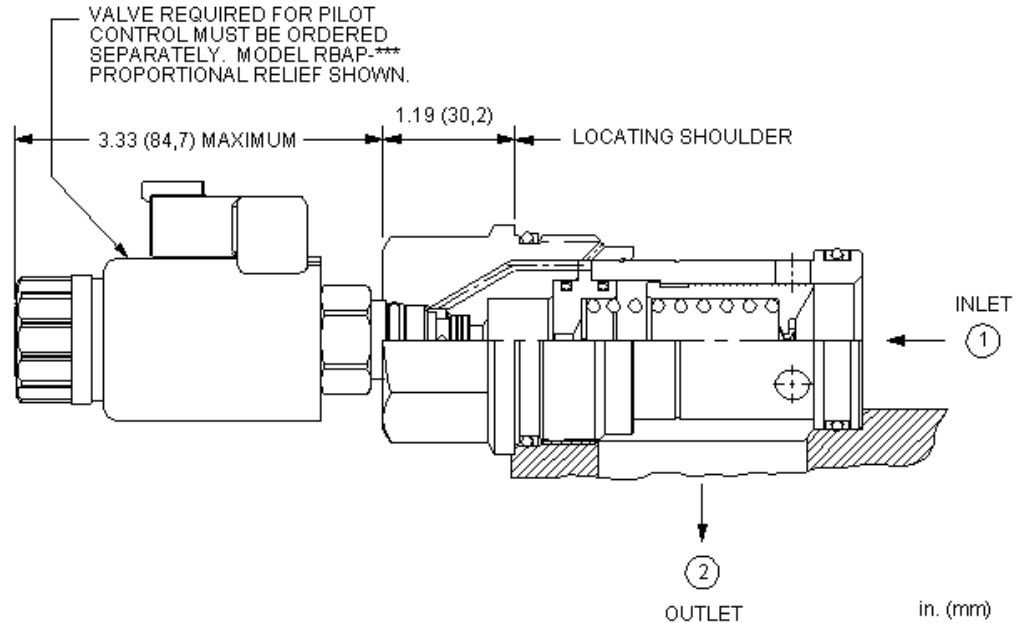
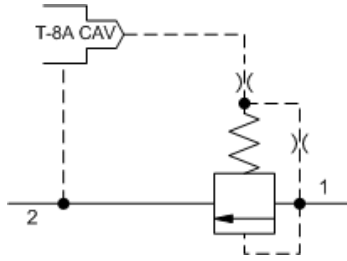
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	4 in ³ /min. @1000 psi
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPIC8WN

ADJUSTMENT RANGE	(W)	SEAL MATERIAL	(N)
W 100 - 5000 psi (7 - 350 bar)		N Buna-N	
D 25 - 3000 psi (1,7 - 210 bar)		E EPDM	
		V Viton	



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

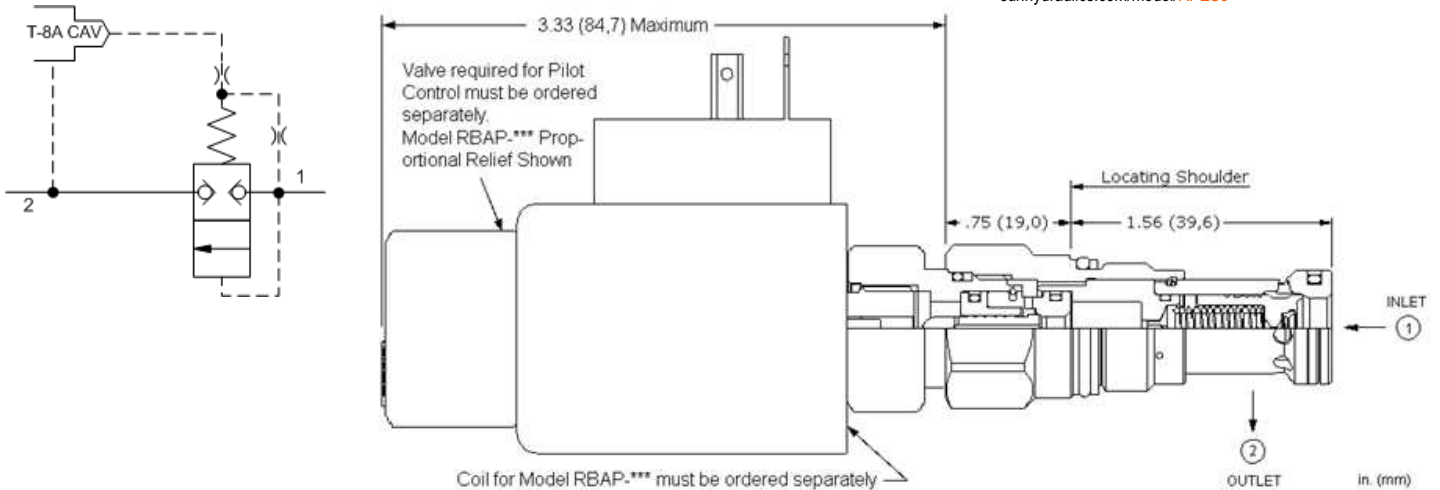
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	5 in ³ /min. @1000 psi
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPKC8WN

ADJUSTMENT RANGE	(W)	SEAL MATERIAL	(N)
W 100 - 5000 psi (7 - 350 bar)		N Buna-N	
D 25 - 3000 psi (1,7 - 210 bar)		E EPDM	
		V Viton	



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

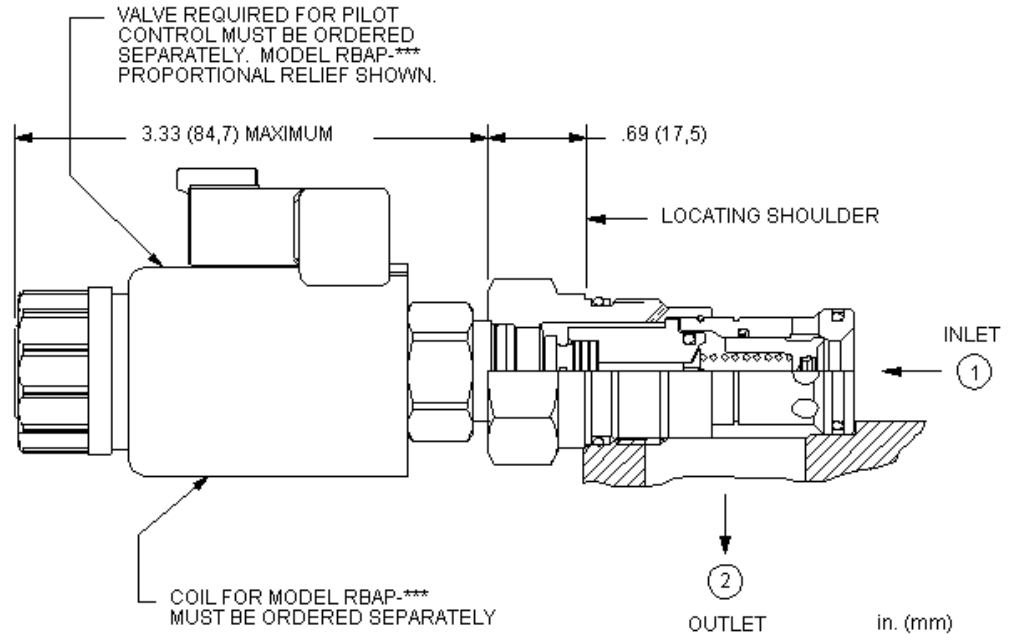
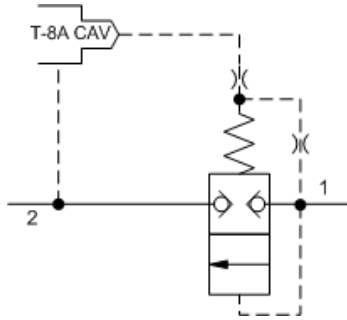
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseal	10 drops/min.
Response Time - Typical	7 ms
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990310014
Seal kit - Cartridge	Viton: 990310006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPES8WN

ADJUSTMENT RANGE	(W)	SEAL MATERIAL	(N)	MATERIAL/COATING
W 1000 - 5000 psi (70 - 350 bar)	N Buna-N			Standard Material/Coating
D 50 - 1500 psi (3,5 - 105 bar)	E EPDM			/LH Mild Steel, Zinc-Nickel
	V Viton			



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseal	10 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	EPDM: 990303014
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

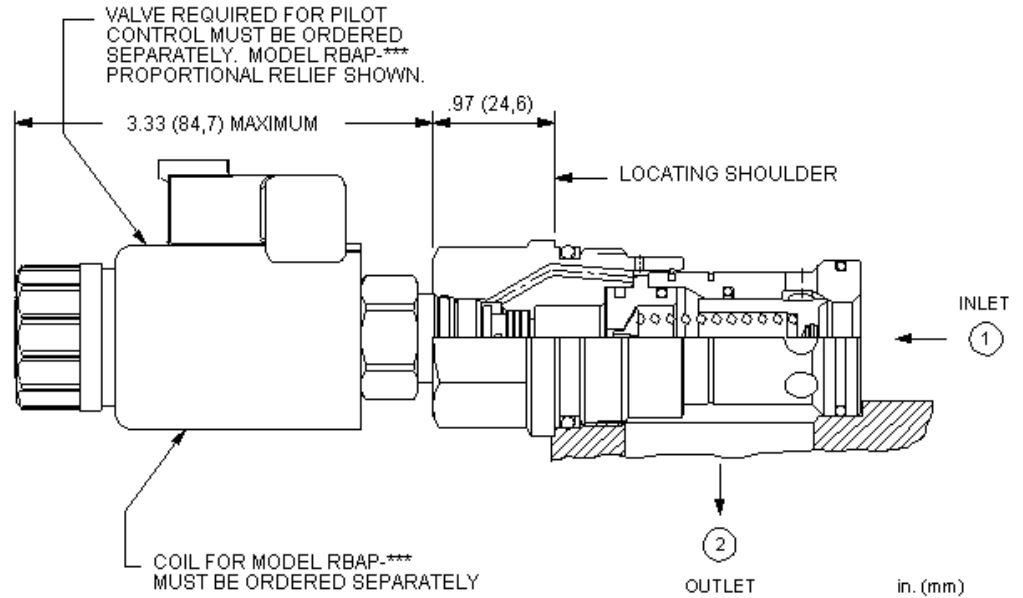
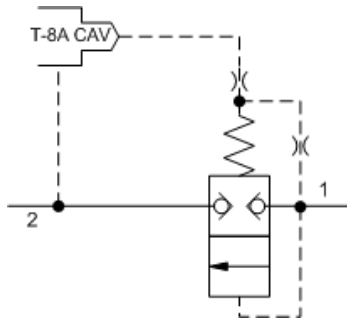
Model Code Example: RPGS8N

ADJUSTMENT RANGE

- B** 50 - 1500 psi (3,5 - 105 bar)
- W** 100 - 5000 psi (7 - 350 bar)

SEAL MATERIAL

- E** EPDM
- N** Buna-N
- V** Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at reseal	10 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990316007
Seal kit - Cartridge	EPDM: 990316014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990316006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

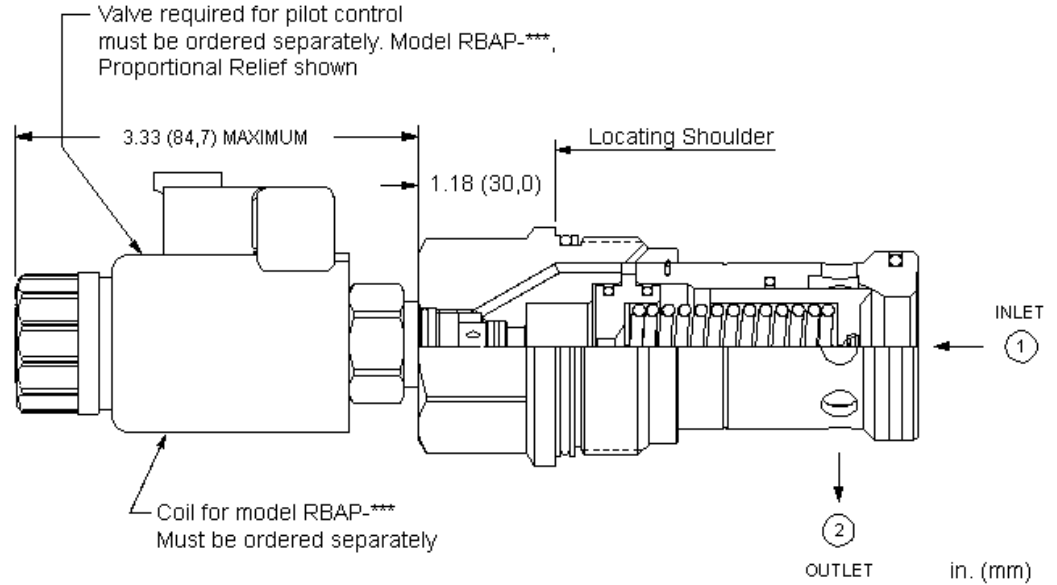
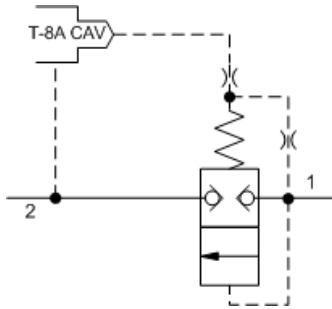
Model Code Example: RPIS8N

ADJUSTMENT RANGE

- B** 50 - 1500 psi (3,5 - 105 bar)
- W** 100 - 5000 psi (7 - 350 bar)

SEAL MATERIAL

- E** EPDM
- N** Buna-N
- V** Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

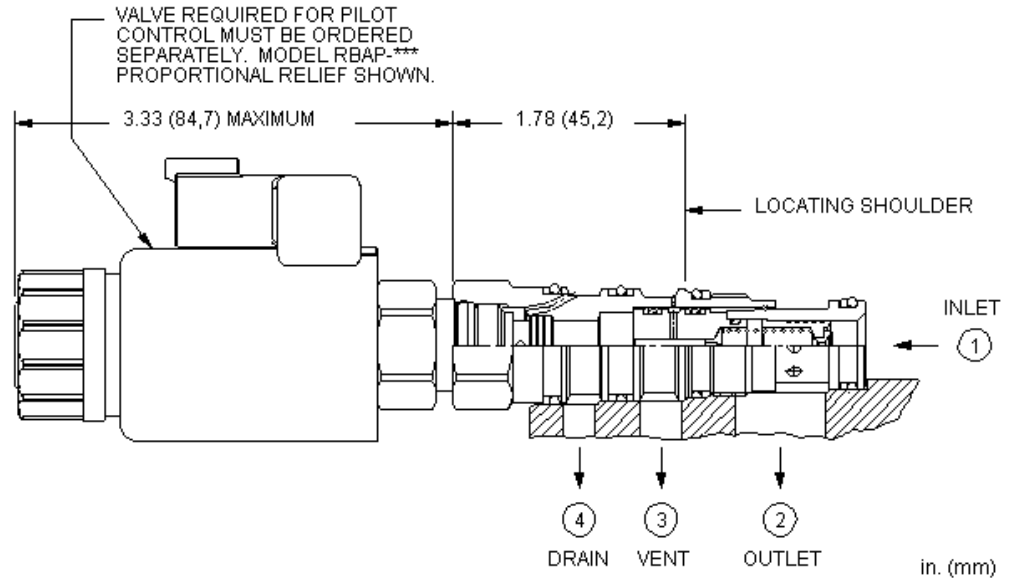
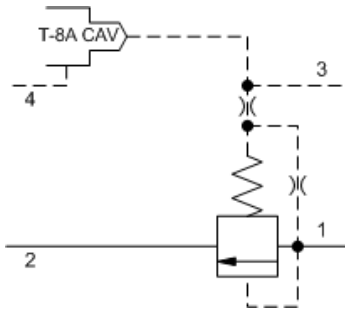
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseal	10 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990318007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990318006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPKS8N

ADJUSTMENT RANGE	SEAL MATERIAL
B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N
W 100 - 5000 psi (7 - 350 bar)	V Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is ventable, externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 4). The vent port (port 3) that tees in between the main piston and pilot control cartridge, allows the modulating element to also be controlled by remote pilot or 2-way valves.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

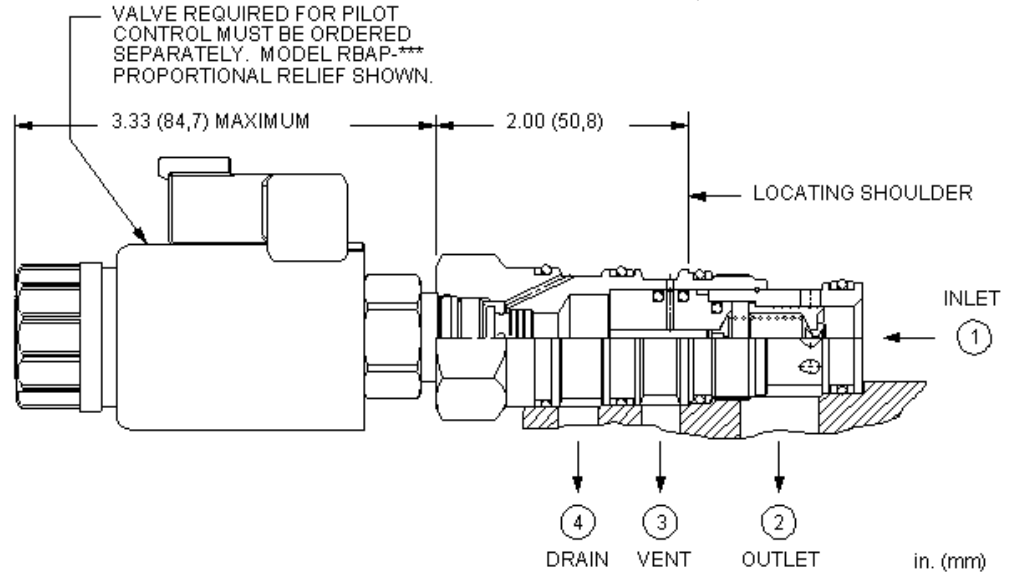
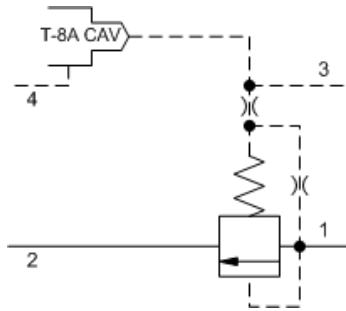
CONFIGURATION OPTIONS

Model Code Example: RVCD8WN

MINIMUM CONTROL PRESSURE (W) SEAL MATERIAL (N)

W 100 psi (7 bar) **N** Buna-N

D 25 psi (1,7 bar) **EPDM**



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is ventable, externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 4). The vent port (port 3) that tees in between the main piston and pilot control cartridge, allows the modulating element to also be controlled by remote pilot or 2-way valves.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

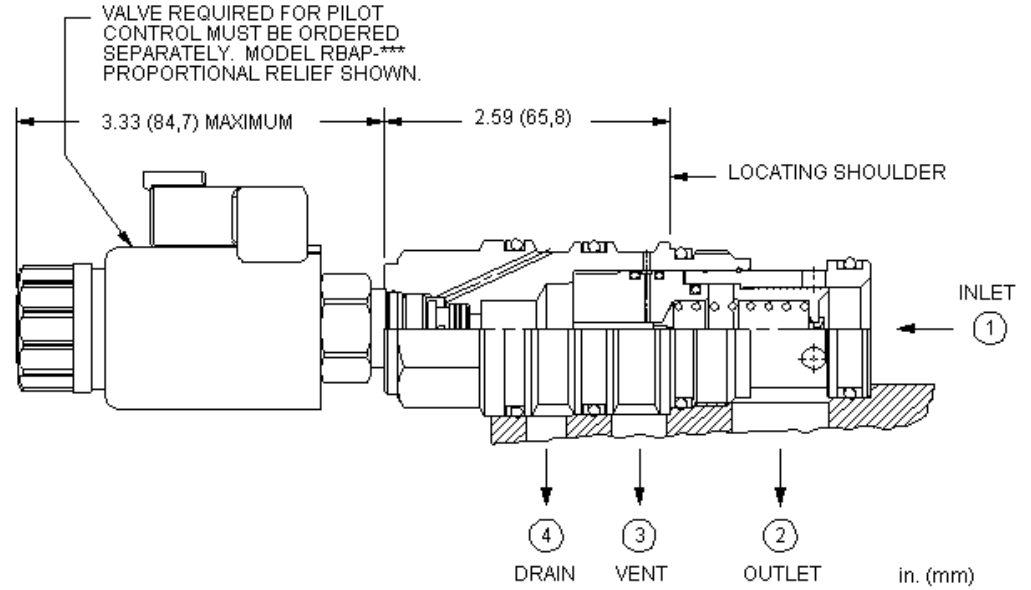
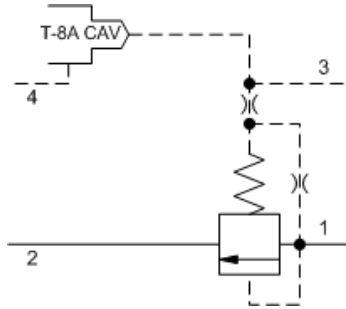
NOTES

Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RVED8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM
	V Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is ventable, externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 4). The vent port (port 3) that tees in between the main piston and pilot control cartridge, allows the modulating element to also be controlled by remote pilot or 2-way valves.

TECHNICAL DATA

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

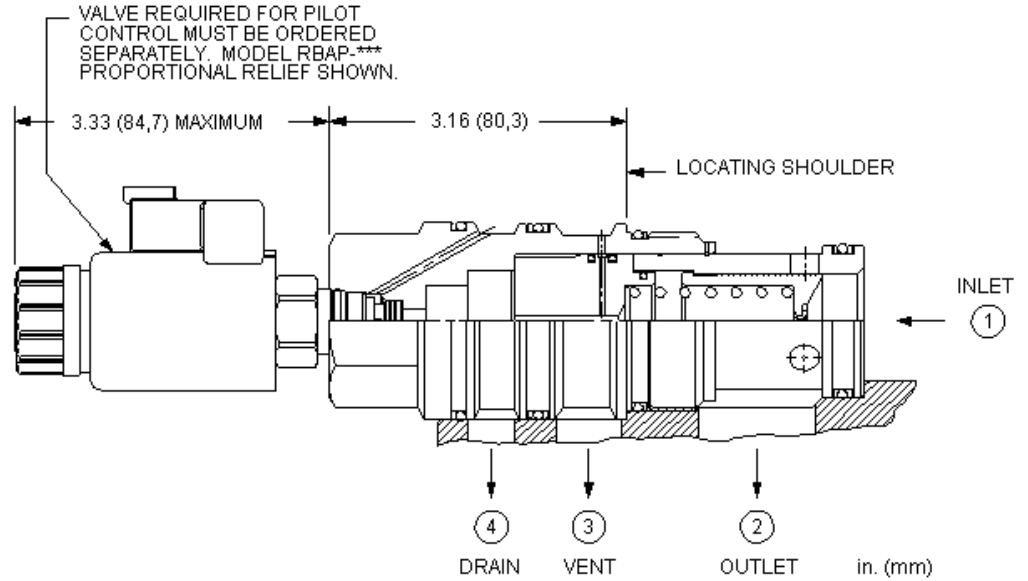
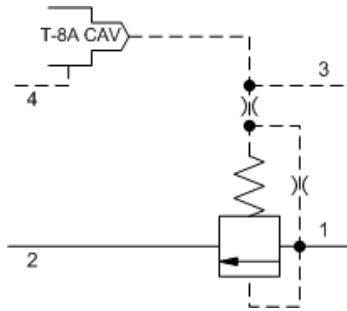
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RVGD8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM V Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is ventable, externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 4). The vent port (port 3) that tees in between the main piston and pilot control cartridge, allows the modulating element to also be controlled by remote pilot or 2-way valves.

TECHNICAL DATA

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

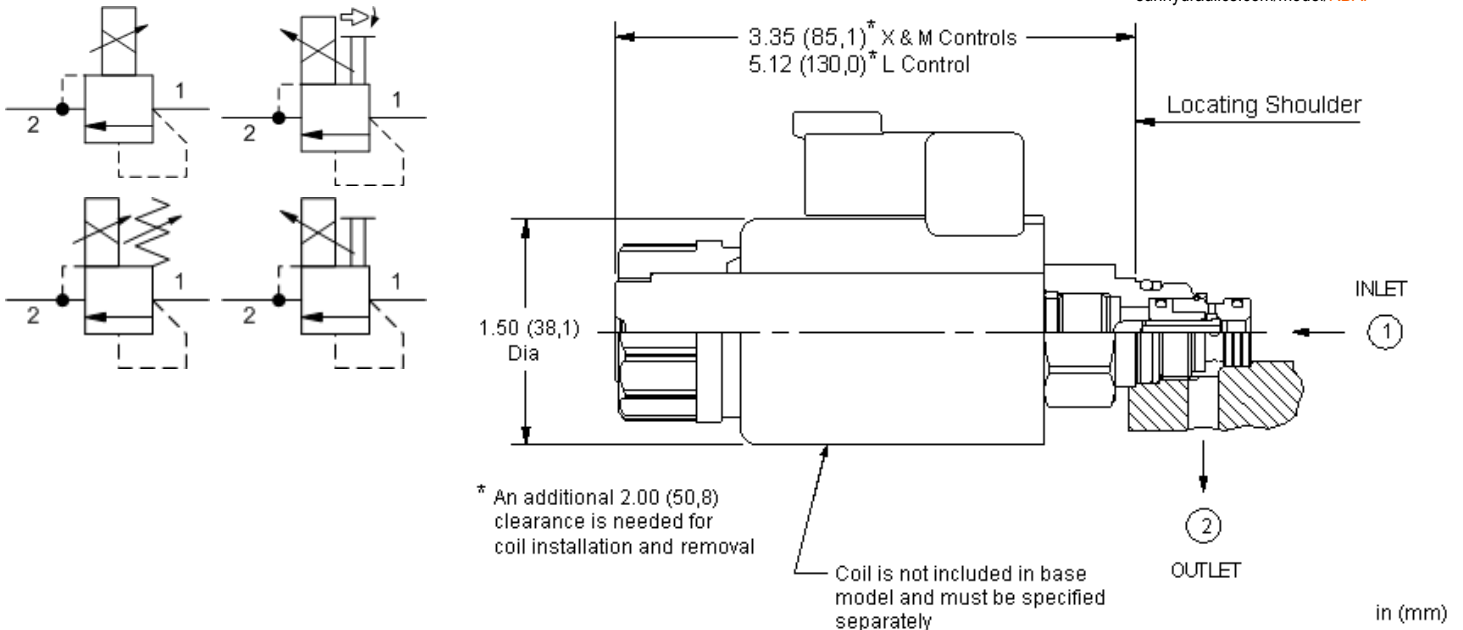
Maximum Operating Pressure	5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RVID8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



This 2-port, pilot-stage, direct-acting relief cartridge is an electro-proportionally controlled, pressure regulating valve. The proportional control allows for infinite, step-less adjustability within the selected pressure range. When the pressure at port 1 (inlet) is sufficient to overcome the solenoid forces, as determined by the analog input signal, the poppet lifts and allows flow from port 1 to port 2 (outlet). This pilot control cartridge utilizes the T-8A cavity so it can be used in conjunction with Sun's main stage, pressure control elements.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	1.5 in ³ /min.
Manual Override Force Requirement	10 lbs/1000 psi @ Port 1
Reseat	>85% of setting
Seal kit - Cartridge	Buna: 990208007
Seal kit - Cartridge	EPDM: 990008014
Seal kit - Cartridge	Viton: 990208006

NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

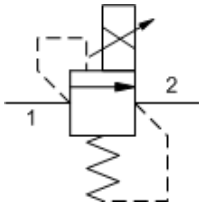
CONFIGURATION OPTIONS

Model Code Example: RBAPXAN

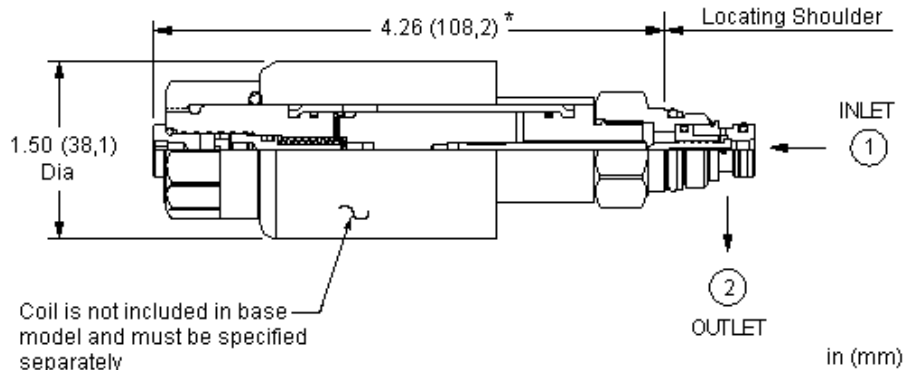
CONTROL	(X) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) COIL *
X No Manual Override	A 300 - 3000 psi (20 - 210 bar)	N Buna-N	No coil
E Twist (Extended) Manual Override	B 150 - 1500 psi (10,5 - 105 bar)	E EPDM	212 DIN 43650-Form A, 12 VDC
L Manual Override - Adjustable	D 50 - 750 psi (3,5 - 50 bar)	V Viton	224 DIN 43650-Form A, 24 VDC
T Tuning Adjustment	W 500 - 5000 psi (35 - 350 bar)		224NX01 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
			224NX02 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver
			912 Deutsch DT04-2P, 12 VDC
			912NX01 Deutsch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
			912NX02 Deutsch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver

- 924** Deutsch DT04-2P, 24 VDC
- 924NX01** Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
- 924NX02** Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver

* Additional coil options are available



* An additional 2.00 (50,8) clearance is needed for coil installation and removal



This 2-port, pilot-stage, direct-acting relief cartridge is an electro-proportionally controlled, normally-closed pressure regulating valve. The valve is spring biased closed to its highest setting (customer specified). Increasing current to the coil will proportionally decrease the pressure setting. When the pressure at port 1 (inlet) is sufficient to overcome the spring force minus the solenoid force, as determined by the analog input signal, the poppet lifts and allows flow from port 1 to port 2 (outlet). This pilot control cartridge utilizes the T-8A cavity so it can be used in conjunction with Sun's main stage, pressure control elements.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	1.5 in ³ /min.
Reseat	>85% of setting
Seal kit - Cartridge	Buna: 990208007
Seal kit - Cartridge	Viton: 990208006

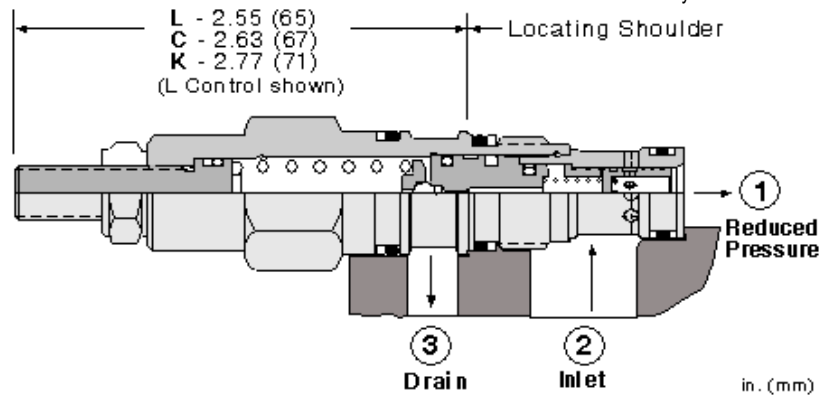
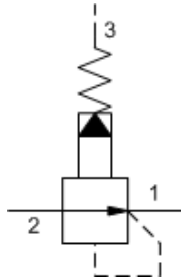
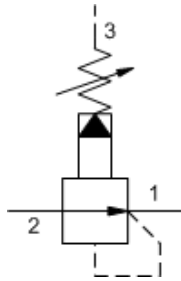
CONFIGURATION OPTIONS

Model Code Example: RBANXAN

CONTROL	(X) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) COIL *
X No Manual Override	A 3000 - 1500 psi (105 - 210 bar) B 1500 - 800 psi (55 - 105 bar) D 800 - 300 psi (20 - 55 bar) W 5000 - 3000 psi (210 - 350 bar)	N Buna-N V Viton	No coil 212 DIN 43650-Form A, 12 VDC 224 DIN 43650-Form A, 24 VDC 224NX01 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver 224NX02 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver 912 Deutsch DT04-2P, 12 VDC 912NX01 Deutsch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver 912NX02 Deutsch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver 924 Deutsch DT04-2P, 24 VDC 924NX01 Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver 924NX02 Deutsch DT04-2P, 24 VDC, no transient voltage suppression

transient voltage suppression
(TVS) diodes, with XMD-02
driver

* Additional coil options are available



Pilot-operated, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, allowing circuits with multiple pressure requirements to be operated using a single pump.

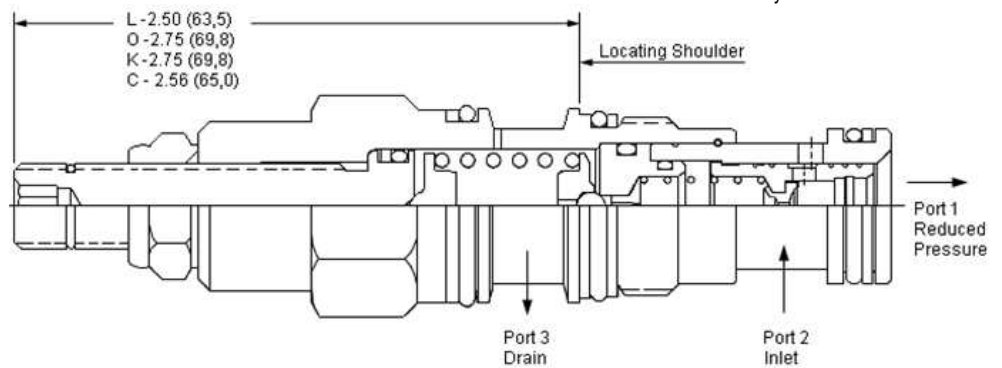
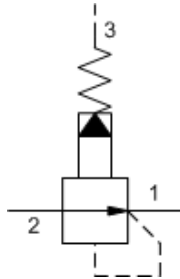
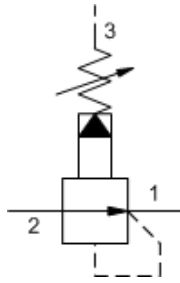
TECHNICAL DATA

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

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	1/2 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS
Model Code Example: PBBBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 75 - 3000 psi (5 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		E EPDM	/AP Stainless Steel, Passivated
K Handknob	W 75 - 4500 psi (5 - 315 bar), 200 psi (14 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
W Hex Wrench Adjustment	B 75 - 1500 psi (5 - 105 bar), 200 psi (14 bar) Standard Setting		
	N 75 - 800 psi (5 - 55 bar), 200 psi (14 bar) Standard Setting		
	Q 75 - 400 psi (5 - 28 bar), 200 psi (14 bar) Standard Setting		



Pilot-operated, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, allowing circuits with multiple pressure requirements to be operated using a single pump.

TECHNICAL DATA

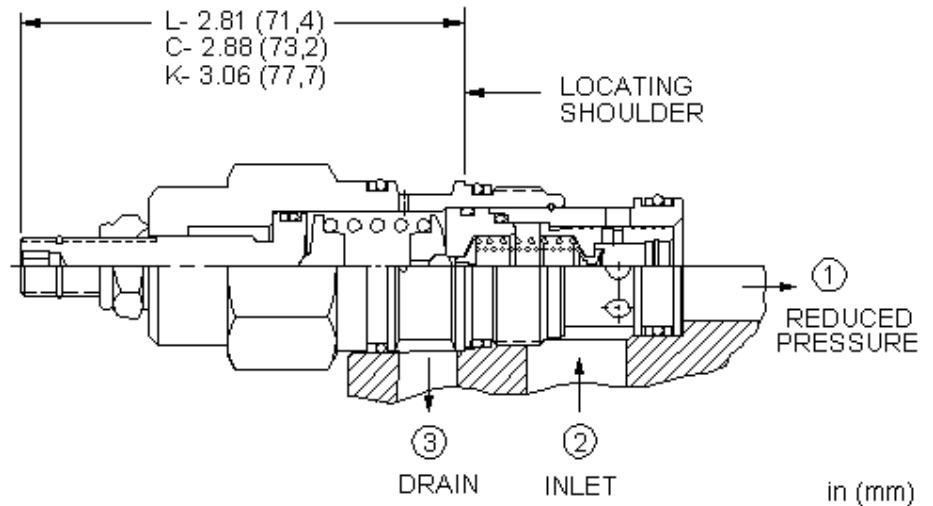
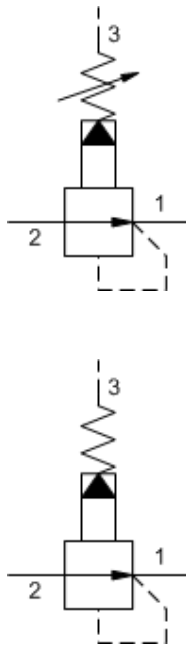
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

- NOTES**
- Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) N and Q are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure
 - For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

CONFIGURATION OPTIONS
Model Code Example: PBDLAN

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



Pilot-operated, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, allowing circuits with multiple pressure requirements to be operated using a single pump.

TECHNICAL DATA

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

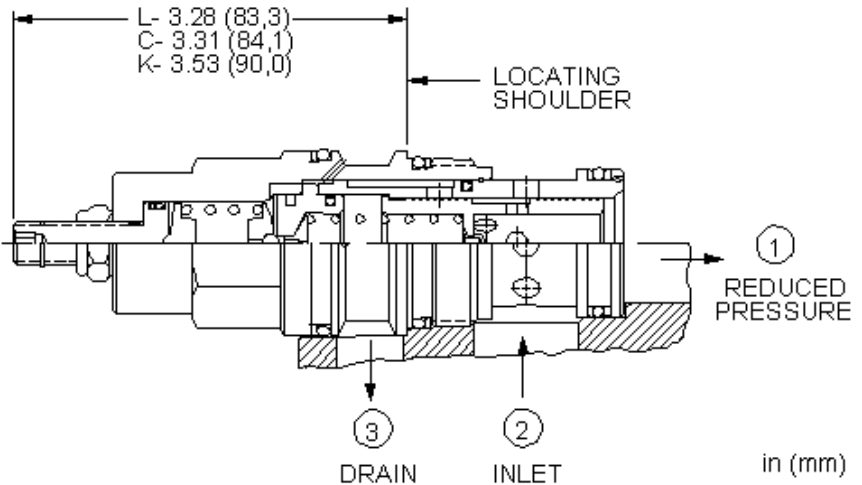
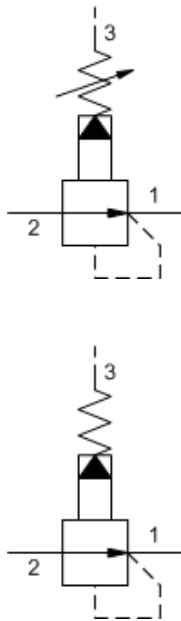
Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

NOTES

- Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) N and Q are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure
- For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

CONFIGURATION OPTIONS
Model Code Example: PBFBLAN

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



Pilot-operated, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, allowing circuits with multiple pressure requirements to be operated using a single pump.

TECHNICAL DATA

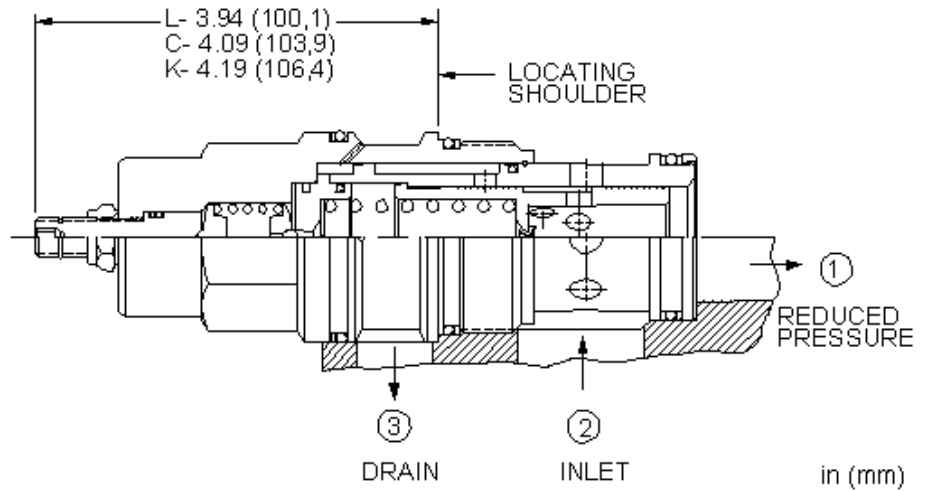
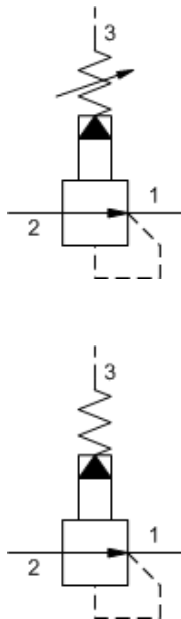
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) N and Q are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS
Model Code Example: PBHBLAN

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



Pilot-operated, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, allowing circuits with multiple pressure requirements to be operated using a single pump.

TECHNICAL DATA

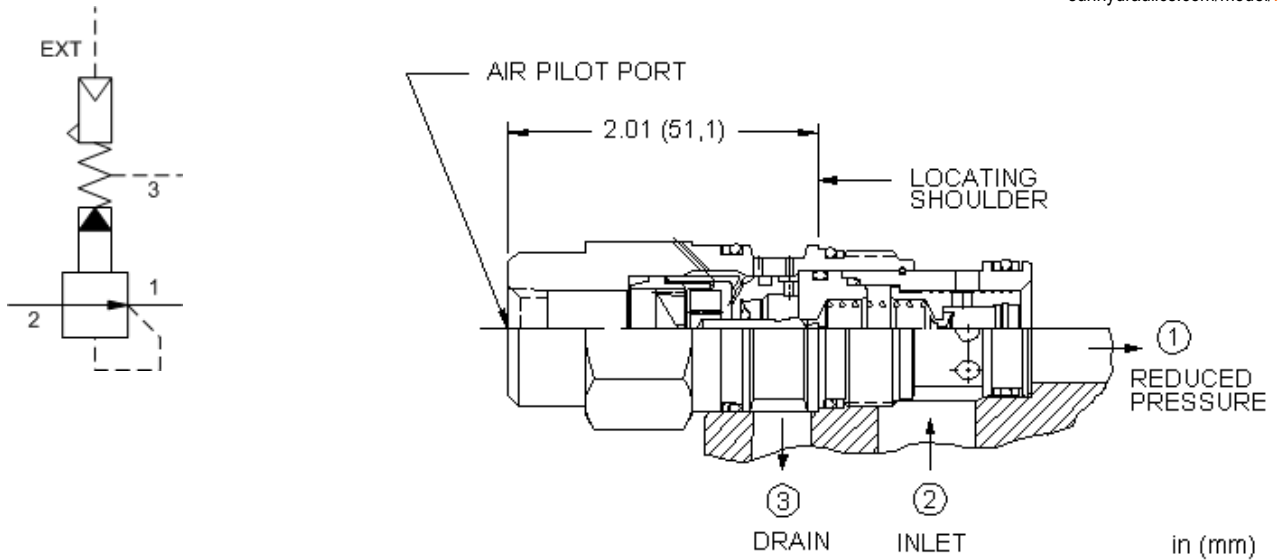
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) N and Q are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS
Model Code Example: PBJBLAN

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



Air-controlled, pilot-operated pressure reducing cartridges use compressed air over a diaphragm instead of an adjustable spring as the setting to reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. The air signal is supplied through a port in the hex-end of the cartridge and the hydraulic setting is directly proportional to the air setting at a ratio of 20:1 (hydraulic:air).

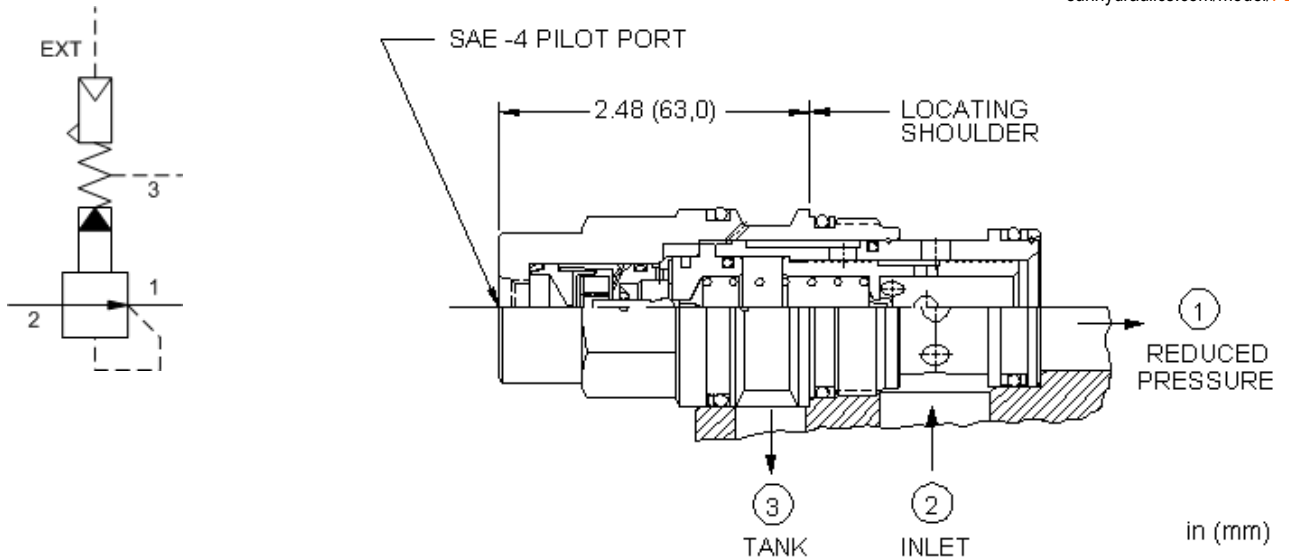
TECHNICAL DATA

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

Pilot Ratio	20:1
Maximum Operating Pressure	2000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Maximum Air Pressure	150 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: PBFCABN

CONTROL	(A) OPERATING RANGE	(B) SEAL MATERIAL	(N)
A External 1/4 NPTF Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N V Viton	



Air-controlled, pilot-operated pressure reducing cartridges use compressed air over a diaphragm instead of an adjustable spring as the setting to reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. The air signal is supplied through a port in the hex-end of the cartridge and the hydraulic setting is directly proportional to the air setting at a ratio of 20:1 (hydraulic:air).

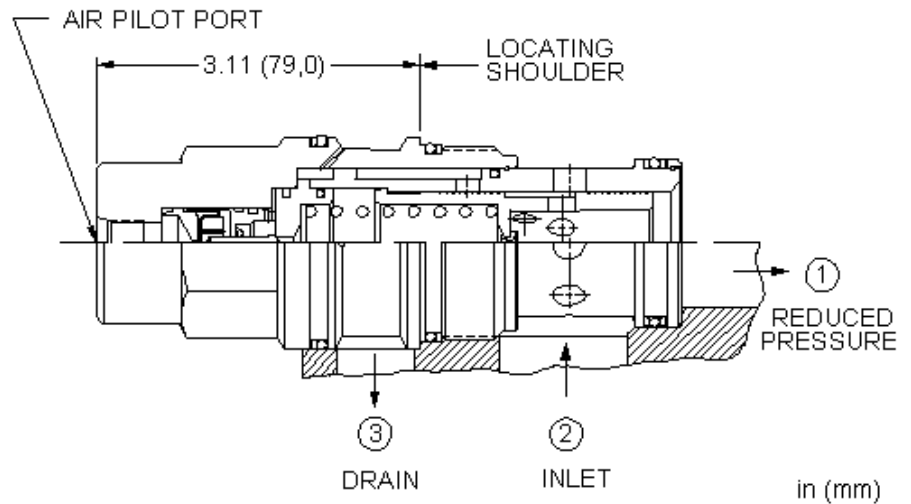
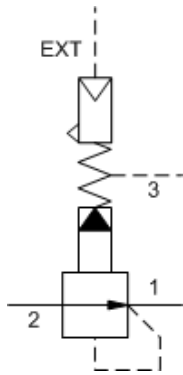
TECHNICAL DATA

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

Pilot Ratio	20:1
Maximum Operating Pressure	2000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Air Pressure	150 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS
Model Code Example: PBHCBBN

CONTROL	(B) OPERATING RANGE	(B) SEAL MATERIAL	(N)
B External 4- SAE Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N	
		V Viton	



Air-controlled, pilot-operated pressure reducing cartridges use compressed air over a diaphragm instead of an adjustable spring as the setting to reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. The air signal is supplied through a port in the hex-end of the cartridge and the hydraulic setting is directly proportional to the air setting at a ratio of 20:1 (hydraulic:air).

TECHNICAL DATA

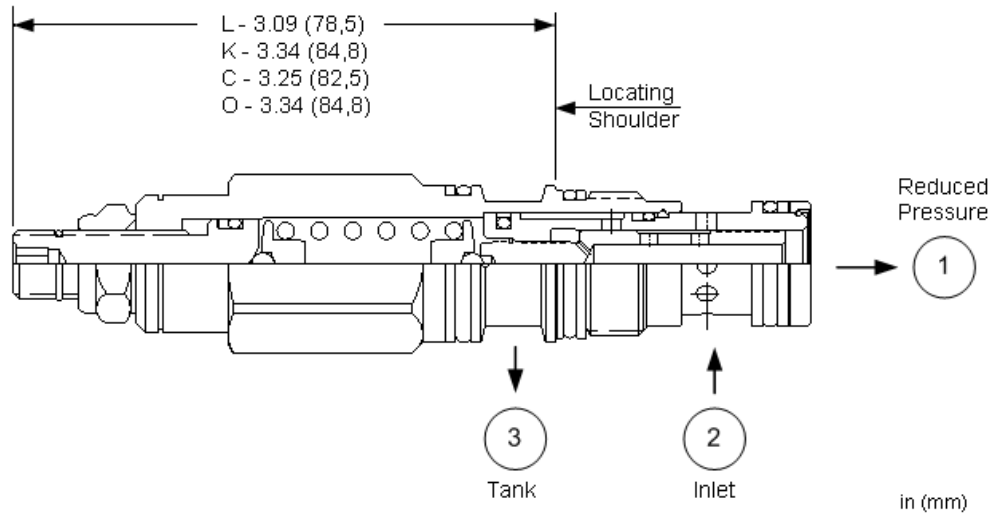
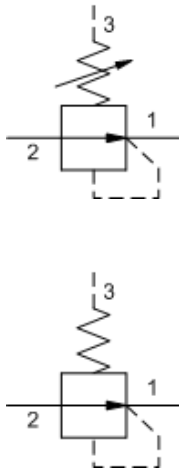
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	20:1
Maximum Operating Pressure	2000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Air Pressure	150 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: PBJCBBN

CONTROL	(B) OPERATING RANGE	(B) SEAL MATERIAL	(N)
B External 4- <small>SAE</small> Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N V Viton	



Direct-acting, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

TECHNICAL DATA

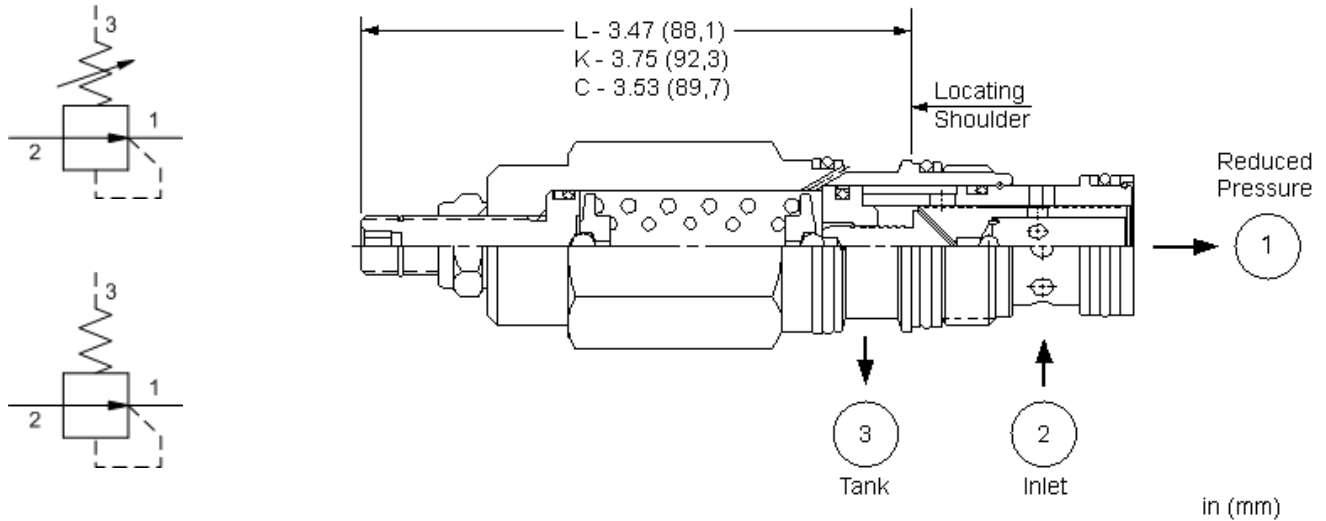
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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.

CONFIGURATION OPTIONS
Model Code Example: PRDRLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 700 psi (50 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		E EPDM	/AP Stainless Steel, Passivated
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting		



Direct-acting, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

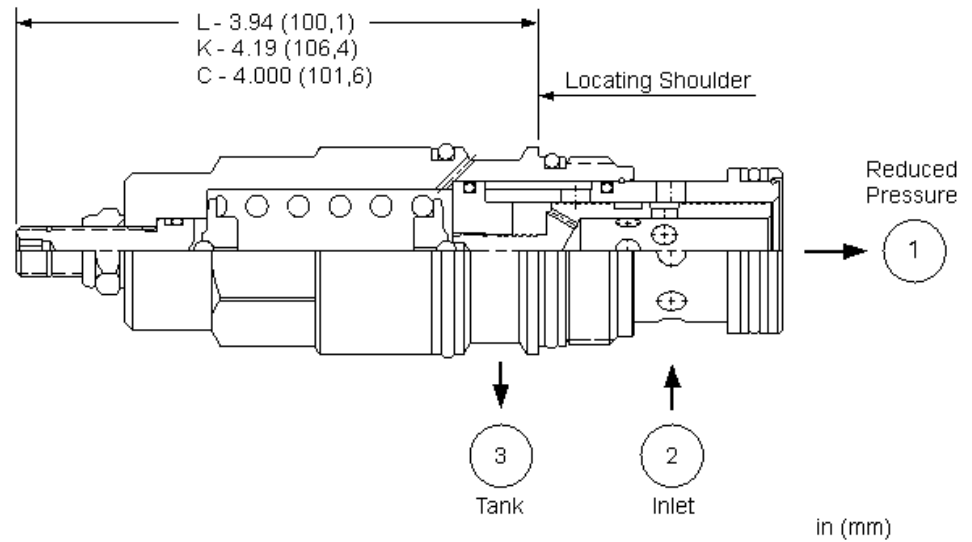
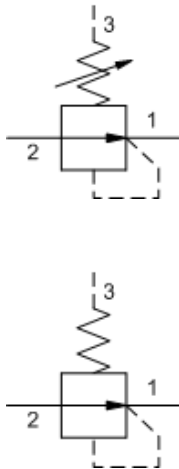
TECHNICAL DATA

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

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: PRFRLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 1000 - 4500 psi (70 - 315 bar), 1000 psi (70 bar) Standard Setting		



Direct-acting, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

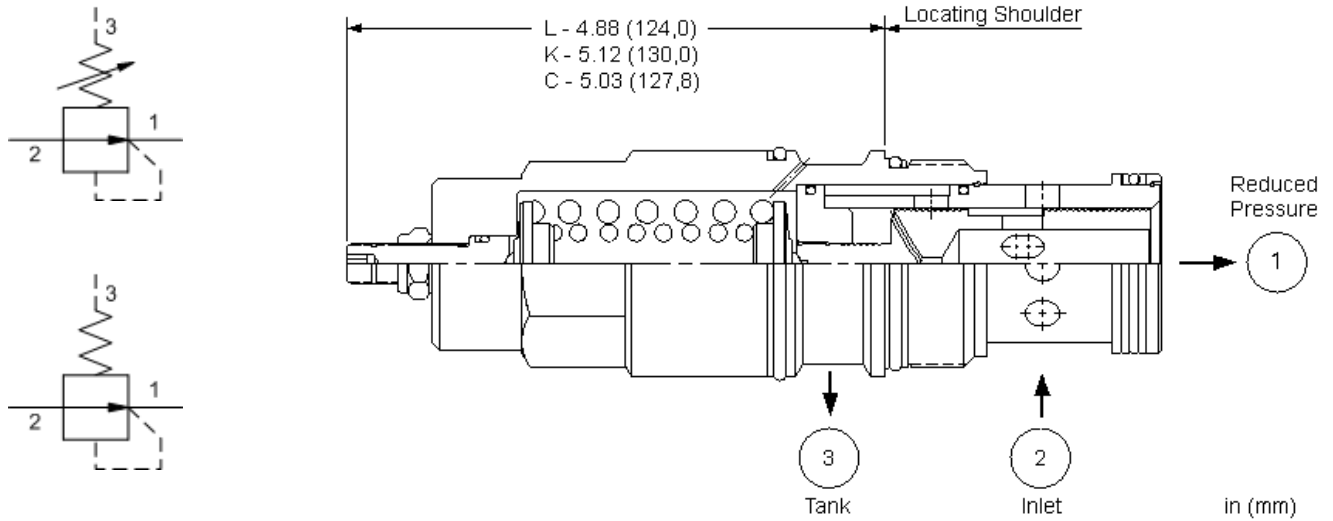
TECHNICAL DATA

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

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS
Model Code Example: PRHRLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 1100 - 4500 psi (76 - 315 bar), 1100 psi (76 bar) Standard Setting		



Direct-acting, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

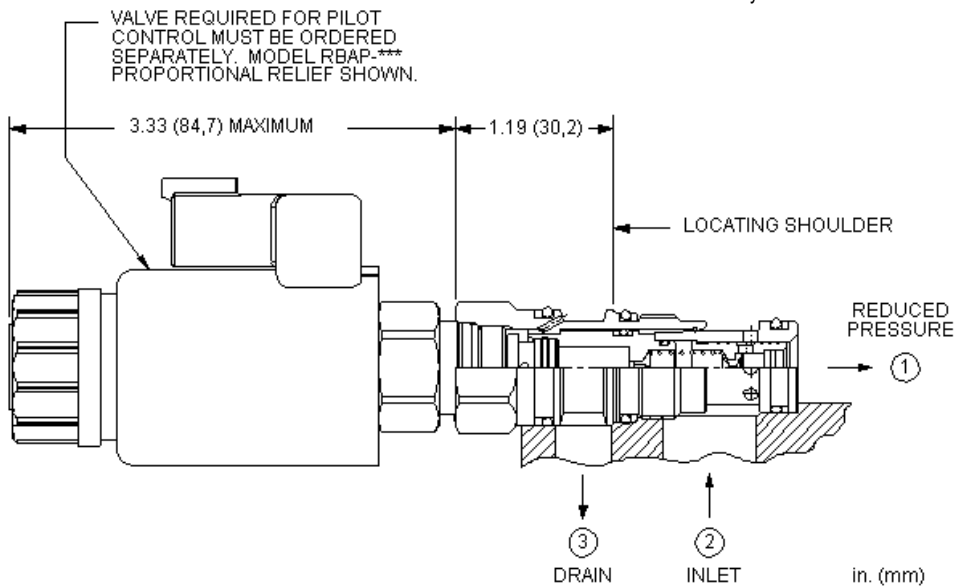
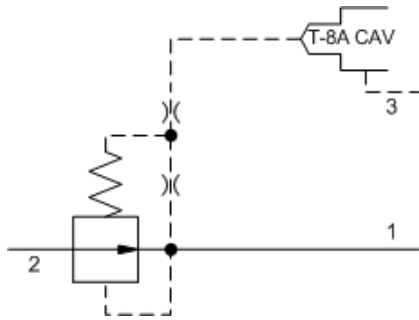
TECHNICAL DATA

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

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS
Model Code Example: PRJRLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting	V Viton	
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 1100 - 4500 psi (76 - 315 bar), 1100 psi (76 bar) Standard Setting		



This valve is a normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 3).

TECHNICAL DATA

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

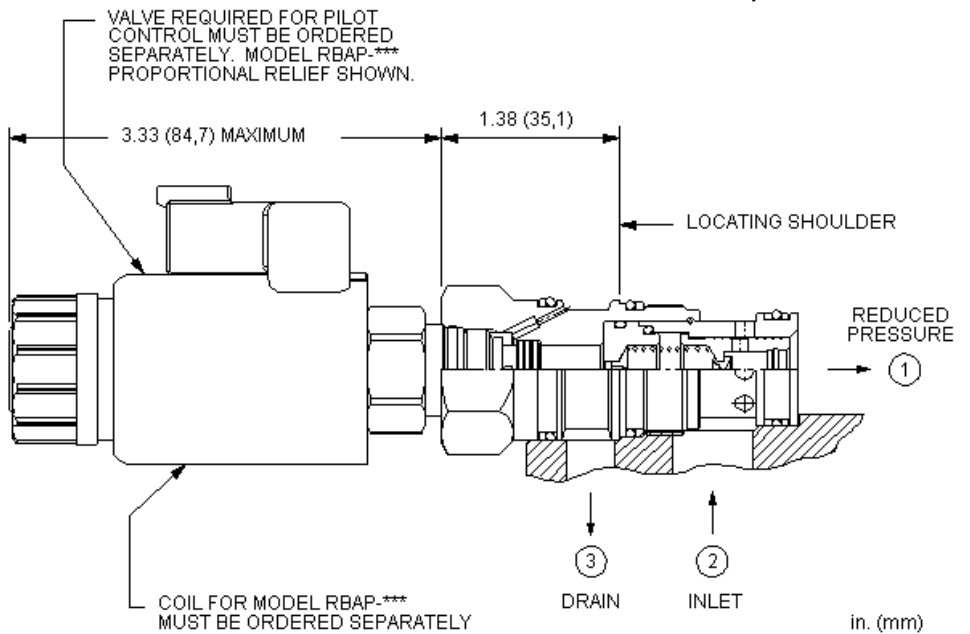
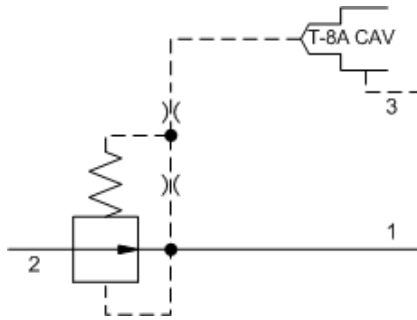
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PBDB8WN

BIAS PRESSURE	(W)	SEAL MATERIAL	(N)
W 100 psi (7 bar)		N Buna-N	
D 25 psi (1,7 bar)		V Viton	



This valve is a normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 3).

TECHNICAL DATA

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

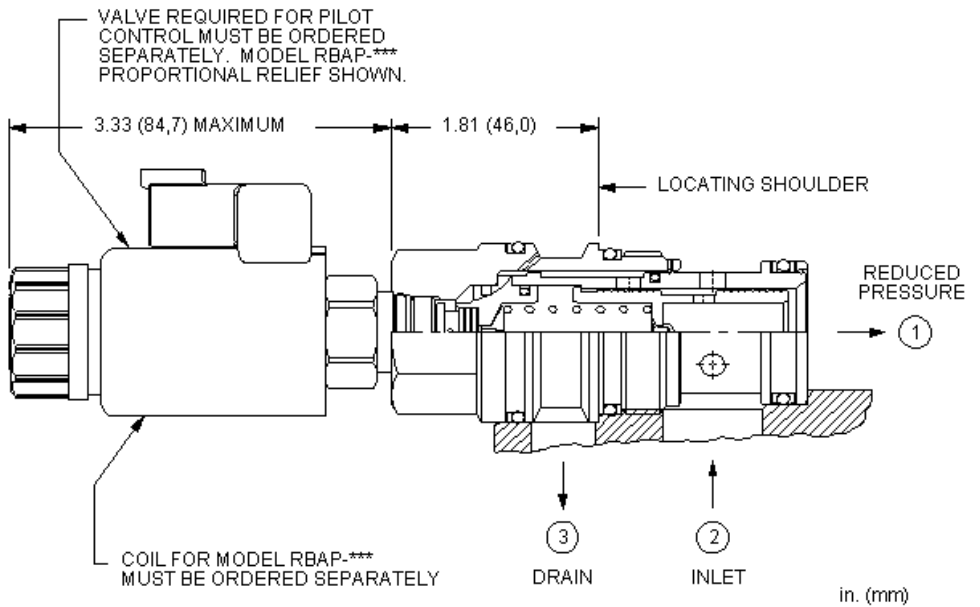
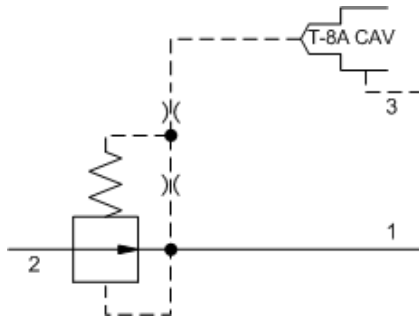
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PBFB8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



This valve is a normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 3).

TECHNICAL DATA

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

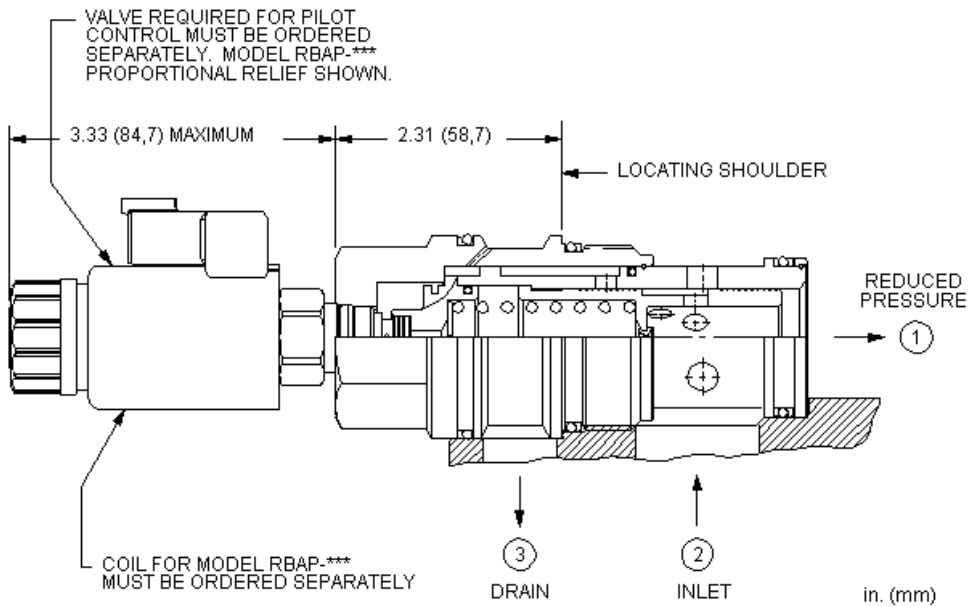
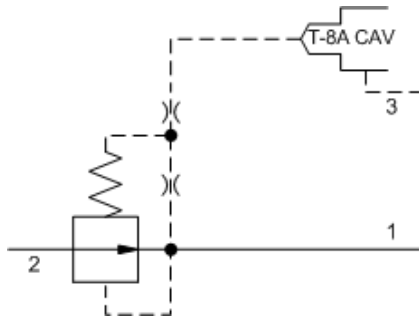
Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PBHB8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM
	V Viton



This valve is a normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 3).

TECHNICAL DATA

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

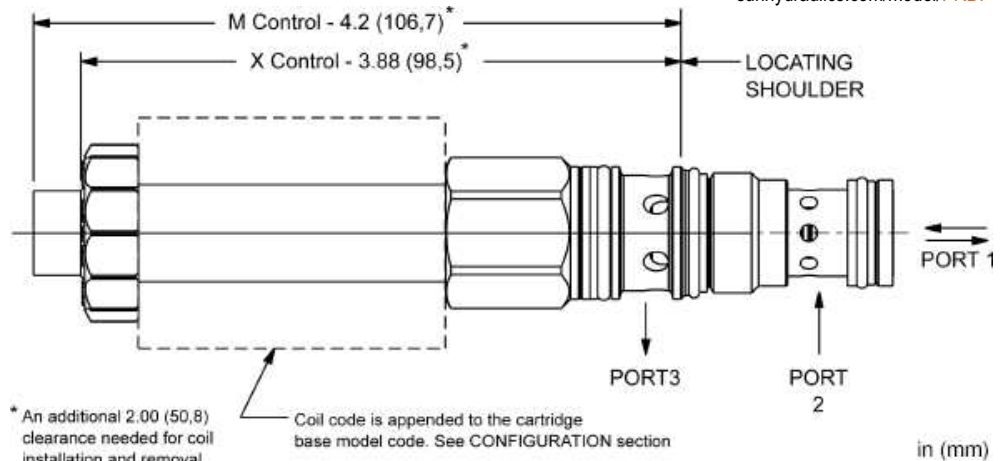
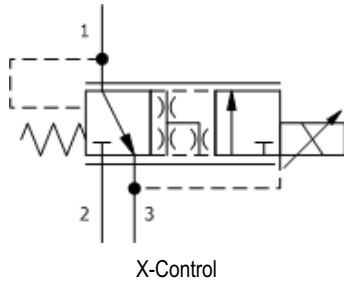
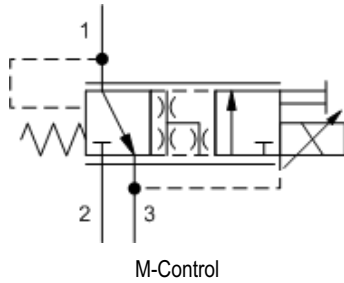
Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PBJB8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM
	V Viton



This electro-proportional, direct-acting reducer/reliever valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The valve is biased to the relieving mode. Energizing the coil connects port 2 to port 1. Increasing the current to the coil will proportionally increase the reduced pressure at port 1. If pressure at port 1 exceeds the setting induced by the coil, pressure at port 1 is relieved to port 3. This valve is open in the transition from reducing to relieving. It provides good pressure control and dynamic response. Optional full manual control is available.

This valve is designed to be used with 740 and 747 Series coils.

TECHNICAL DATA

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

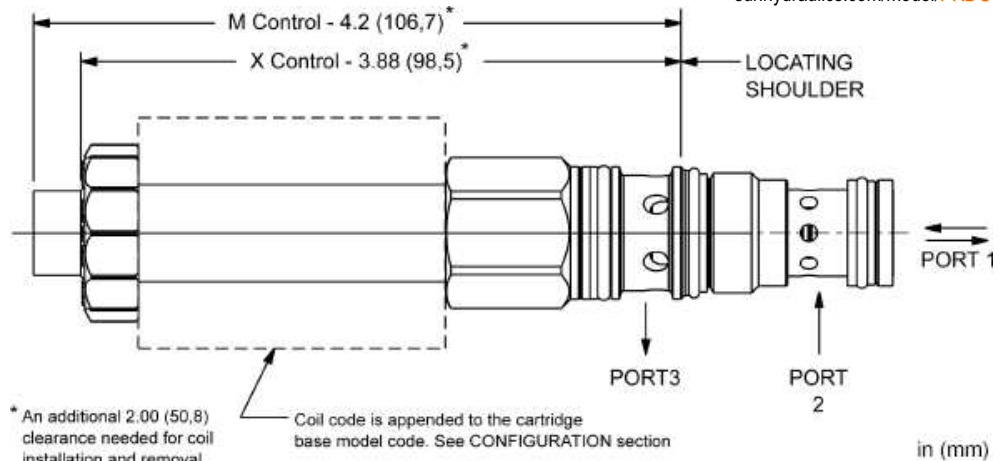
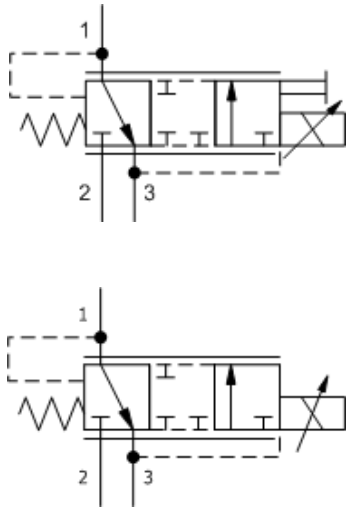
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	33.5 in ³ /min.
Seal kit - Cartridge	Buna: 990511007
Seal kit - Cartridge	Viton: 990611006

NOTES

- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
- An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS
Model Code Example: PRDFMDN

CONTROL	(M) OPERATING RANGE	(D) SEAL MATERIAL	(N) COIL *
M Manual Override (Standard)	D 50 - 485 psi (3,5 - 33,5 bar)	N Buna-N	No coil
X No Manual Override	B 100 - 1125 psi (7 - 77,5 bar)	E EPDM	* Additional coil options are available
	E 25 - 250 psi (1,7 - 18 bar)	V Viton	
	S 10 - 100 psi (0,7 - 7 bar)		



This electro-proportional, direct-acting reducer/reliever valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The valve is biased to the relieving mode. Energizing the coil connects port 2 to port 1. Increasing the current to the coil will proportionally increase the reduced pressure at port 1. If pressure at port 1 exceeds the setting induced by the coil, pressure at port 1 is relieved to port 3. This valve is closed in the transition between reducing and relieving resulting in very low consumption of oil. Optional full manual control is available.

This valve is designed to be used with 740 and 747 Series coils.

TECHNICAL DATA

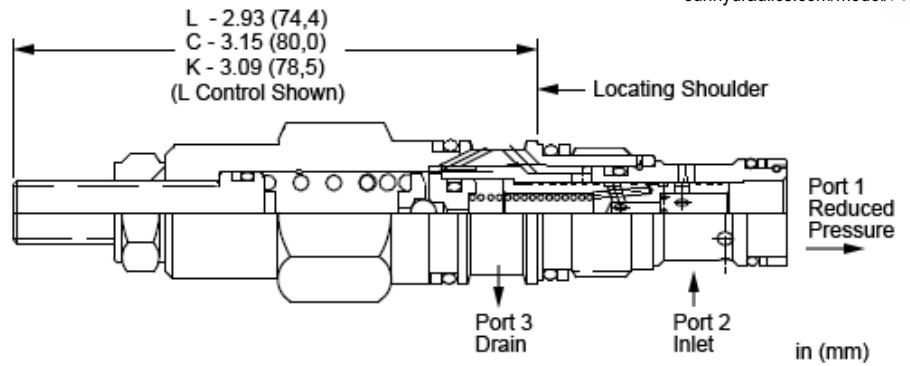
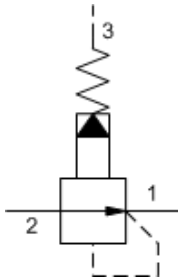
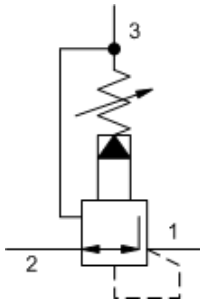
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2.5 in ³ /min.
Seal kit - Cartridge	Buna: 990511007
Seal kit - Cartridge	Viton: 990511006

- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS
Model Code Example: PRDGMDN

CONTROL	(M) OPERATING RANGE	(D) SEAL MATERIAL	(N) COIL *
M Manual Override (Standard)	D 50 - 485 psi (3,5 - 33,5 bar)	N Buna-N	No coil
X No Manual Override	B 100 - 1125 psi (7 - 77,5 bar)	V Viton	* Additional coil options are available
	E 25 - 250 psi (1,7 - 18 bar)		



Pilot-operated, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

TECHNICAL DATA

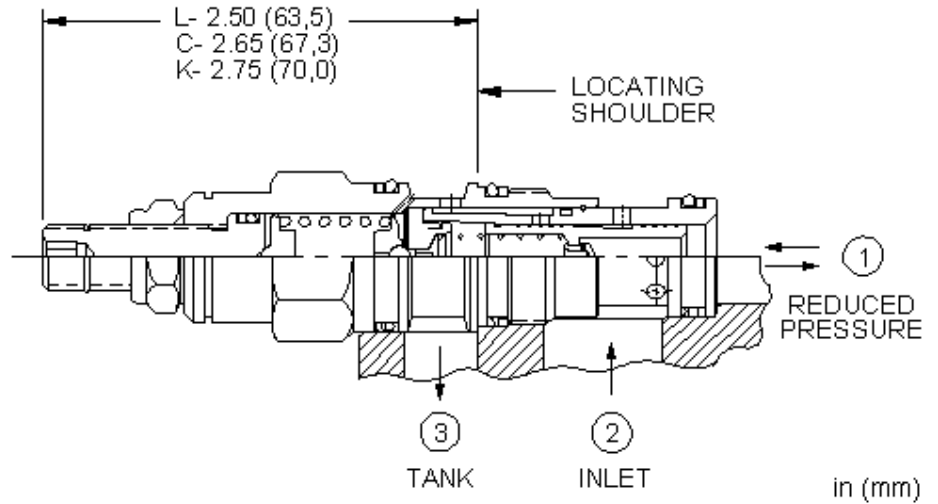
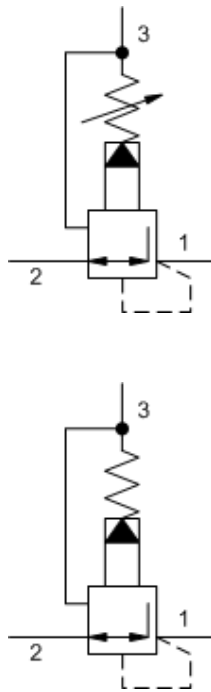
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	1/2 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	EPDM: 990163014
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) N and Q are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS
Model Code Example: PPBBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 75 - 3000 psi (5 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 75 - 1500 psi (5 - 105 bar), 200 psi (14 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	N 75 - 800 psi (5 - 55 bar), 200 psi (14 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	Q 75 - 400 psi (5 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 100 - 4500 psi (7 - 315 bar), 200 psi (14 bar) Standard Setting		



Pilot-operated, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

TECHNICAL DATA

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

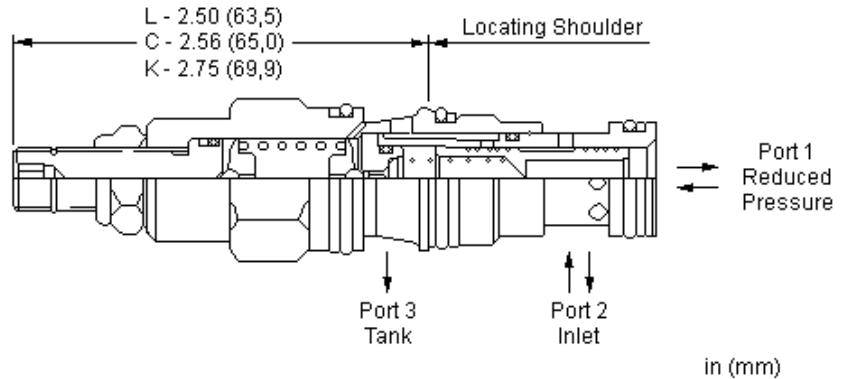
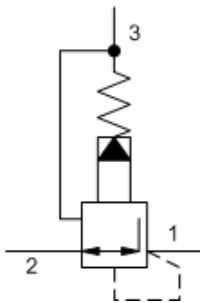
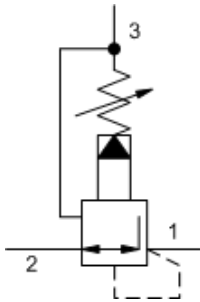
Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES

- Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) N and Q are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure
- For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

CONFIGURATION OPTIONS
Model Code Example: PPDBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob	N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting		
	Q 60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting		



Pilot-operated, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

TECHNICAL DATA

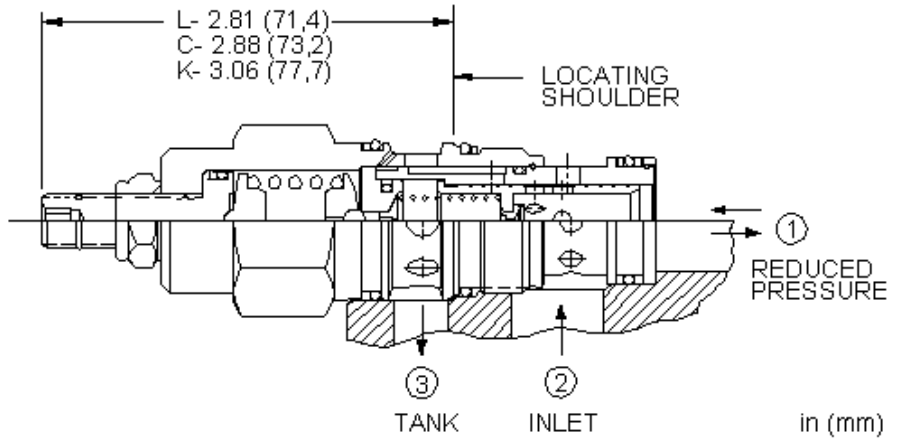
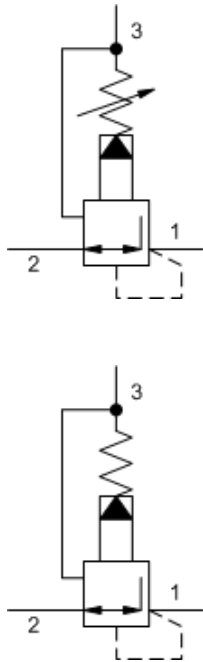
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
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

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.

CONFIGURATION OPTIONS
Model Code Example: PPDFLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	
K Handknob	N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting		
Y Tri-Grip Handknob	Q 60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting		



Pilot-operated, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

TECHNICAL DATA

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

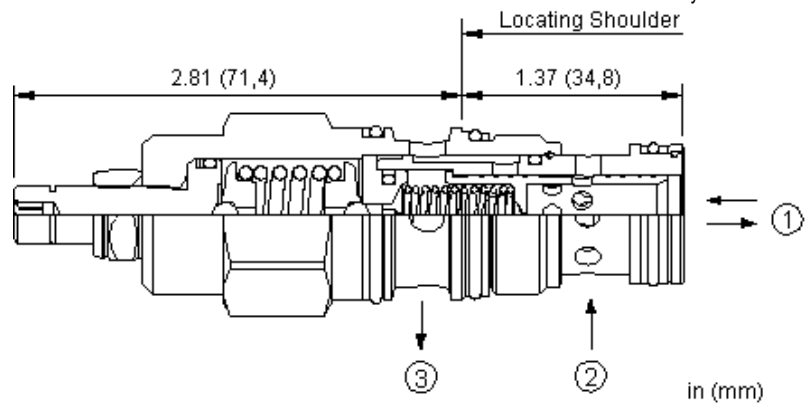
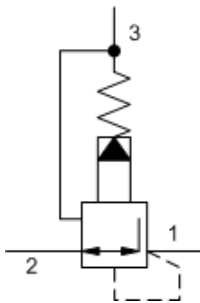
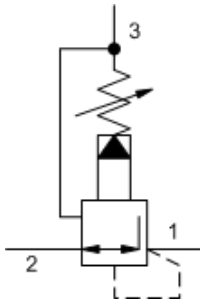
Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

- NOTES**
- Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) N and Q are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure
 - For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

CONFIGURATION OPTIONS

Model Code Example: PPFBLAN

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



Pilot-operated, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

TECHNICAL DATA

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

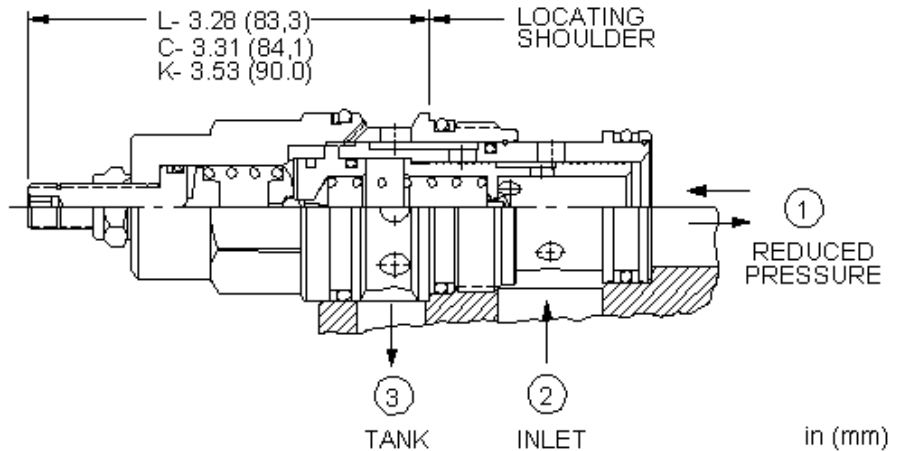
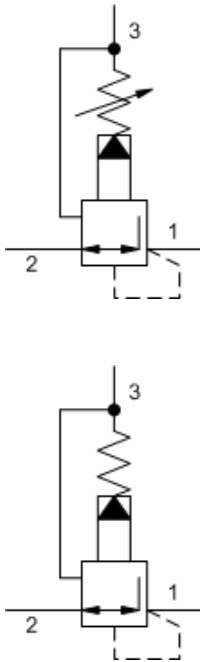
Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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.

CONFIGURATION OPTIONS

Model Code Example: PPFFLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set		V Viton	
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting Q 60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting W 100 - 5000 psi (7 - 350 bar), 200 psi (14 bar) Standard Setting		



Pilot-operated, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

TECHNICAL DATA

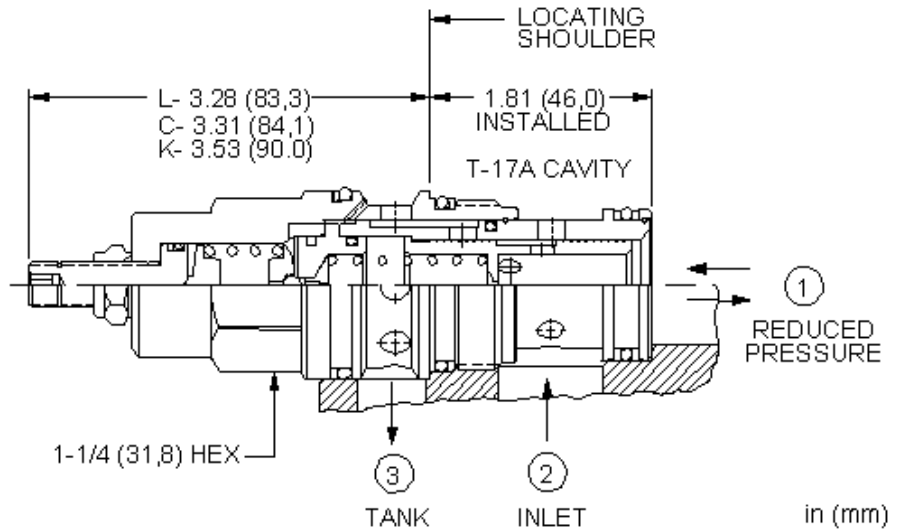
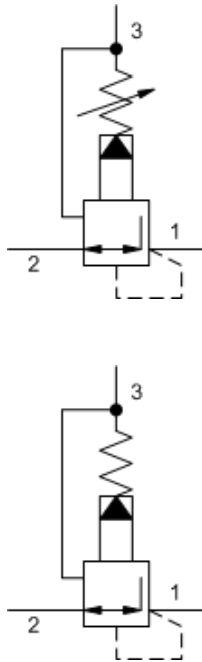
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) N and Q are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS
Model Code Example: PPHBLAN

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



Pilot-operated, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

TECHNICAL DATA

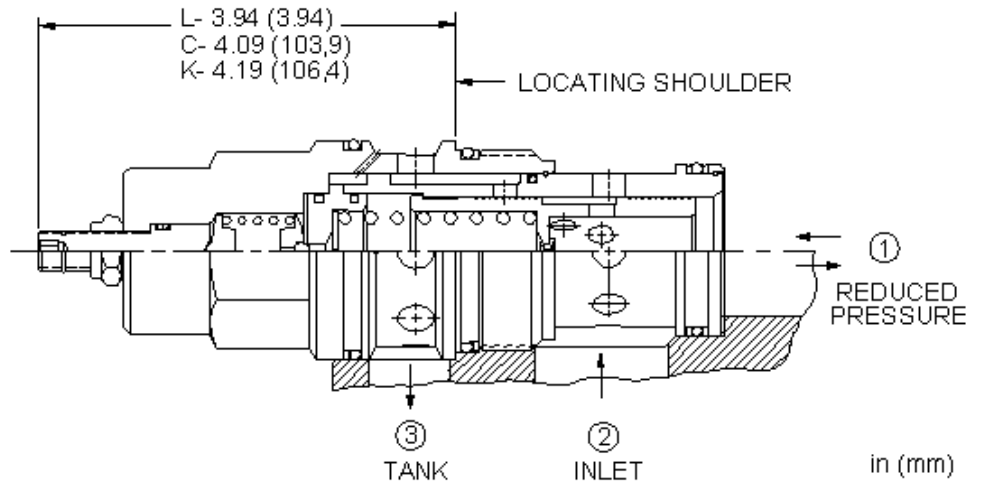
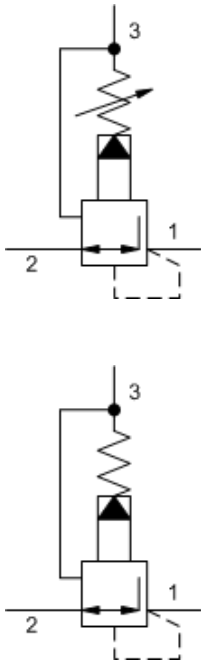
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: PPHFLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment	A	100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N	Buna-N	
C Tamper Resistant - Factory Set	B	50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V	Viton	
K Handknob	C	150 - 6000 psi (10,5 - 420 bar), 200 psi (14 bar) Standard Setting			
Q Capped and Lockwired	D	25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting			
	E	25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting			
	H	30 - 3000 psi (2 - 210 bar), 200 psi (14 bar) Standard Setting			
	N	60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting			
	Q	60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting			
	W	150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting			



Pilot-operated, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

TECHNICAL DATA

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

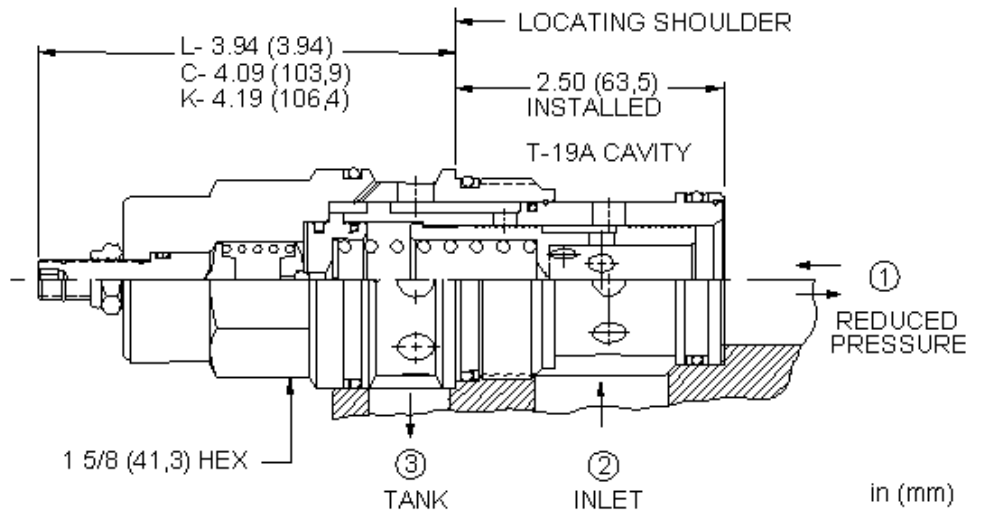
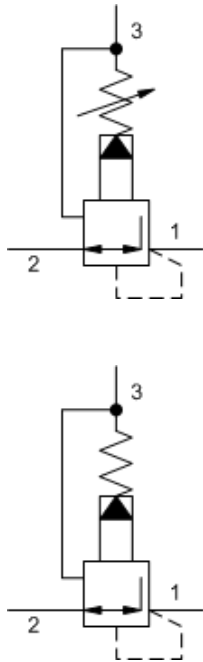
Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) N and Q are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS

Model Code Example: PPJBLAN

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



Pilot-operated, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

TECHNICAL DATA

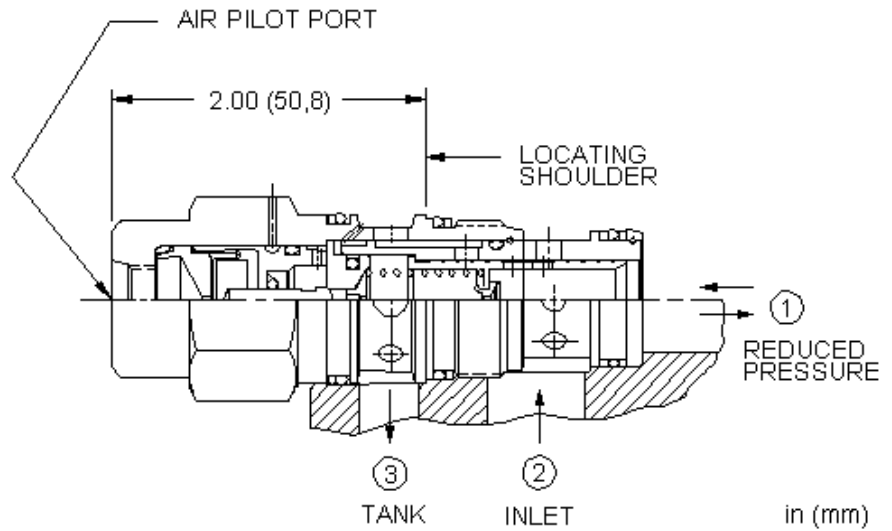
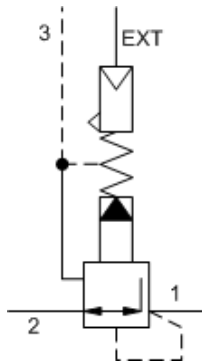
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: PPJFLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment	A	100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N	Buna-N	
C Tamper Resistant - Factory Set	B	50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V	Viton	
K Handknob	D	25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting			
	E	25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting			
	H	30 - 3000 psi (2 - 210 bar), 200 psi (14 bar) Standard Setting			
	N	60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting			
	Q	60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting			
	W	150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting			



Air-controlled, pilot-operated pressure reducing/relieving valves use compressed air over a diaphragm instead of an adjustable spring to control the setting. These valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The air signal is supplied through a port in the hex-end of the cartridge and the hydraulic setting is directly proportional to the air setting at a ratio of 20:1 (hydraulic:air).

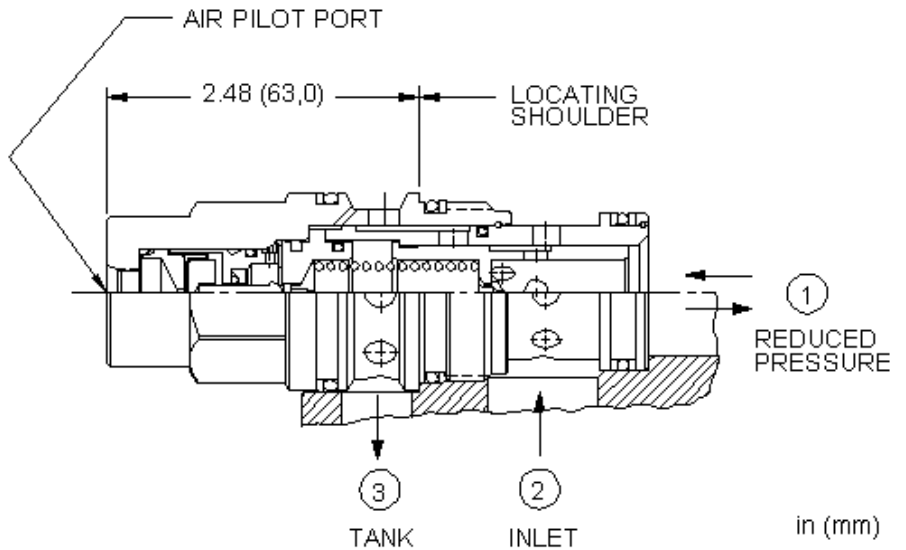
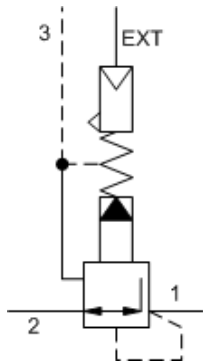
TECHNICAL DATA

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

Pilot Ratio	20:1
Maximum Operating Pressure	2000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Maximum Air Pressure	150 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: PPFCABN

CONTROL	(A) OPERATING RANGE	(B) SEAL MATERIAL	(N)
A External 1/4 NPTF Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N V Viton	



Air-controlled, pilot-operated pressure reducing/relieving valves use compressed air over a diaphragm instead of an adjustable spring to control the setting. These valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The air signal is supplied through a port in the hex-end of the cartridge and the hydraulic setting is directly proportional to the air setting at a ratio of 20:1 (hydraulic:air).

TECHNICAL DATA

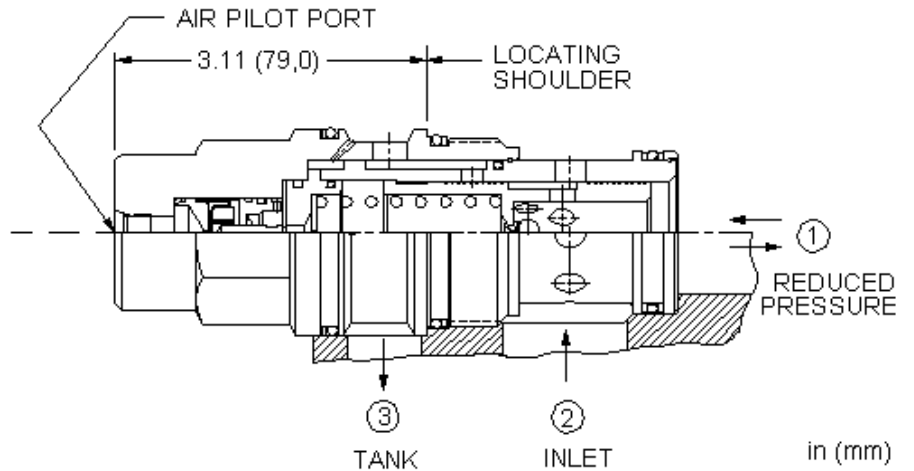
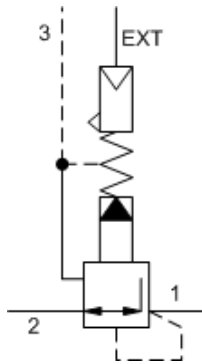
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	20:1
Maximum Operating Pressure	2000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Air Pressure	150 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: PPHCBBN

CONTROL	(B)	OPERATING RANGE	(B)	SEAL MATERIAL	(N)
B External 4- SAE Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N	V Viton		



Air-controlled, pilot-operated pressure reducing/relieving valves use compressed air over a diaphragm instead of an adjustable spring to control the setting. These valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The air signal is supplied through a port in the hex-end of the cartridge and the hydraulic setting is directly proportional to the air setting at a ratio of 20:1 (hydraulic:air).

TECHNICAL DATA

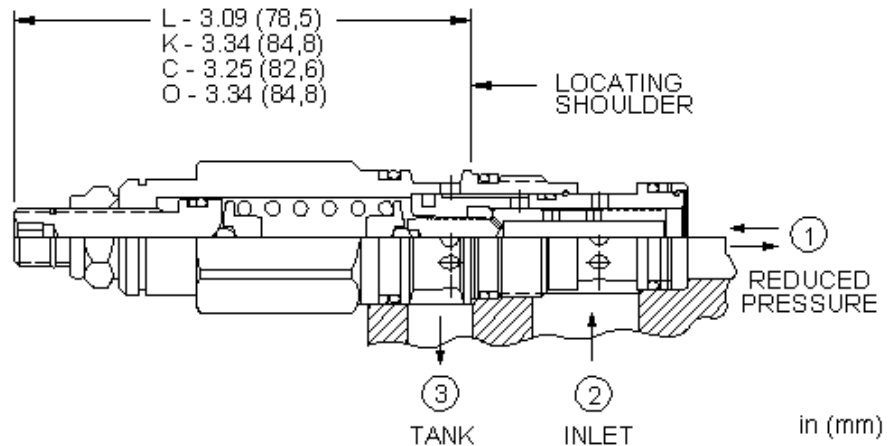
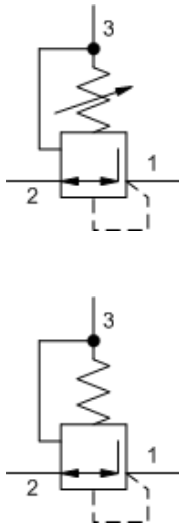
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	20:1
Maximum Operating Pressure	2000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Air Pressure	150 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: PPJCBBN

CONTROL	(B) OPERATING RANGE	(B) SEAL MATERIAL	(N)
B External 4- <small>SAE</small> Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N V Viton	



Direct-acting, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

TECHNICAL DATA

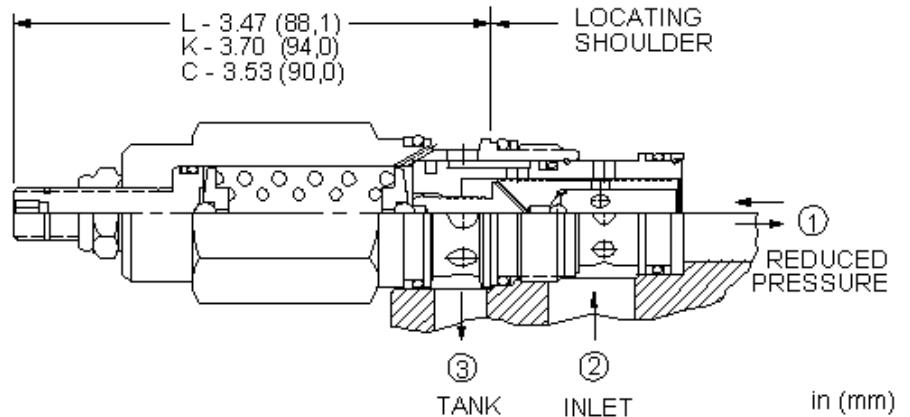
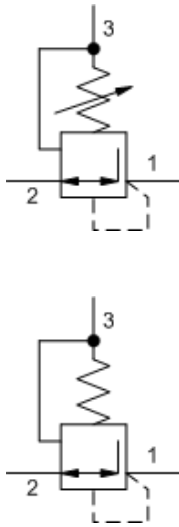
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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.

CONFIGURATION OPTIONS
Model Code Example: PRDBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 700 psi (50 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting		



Direct-acting, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

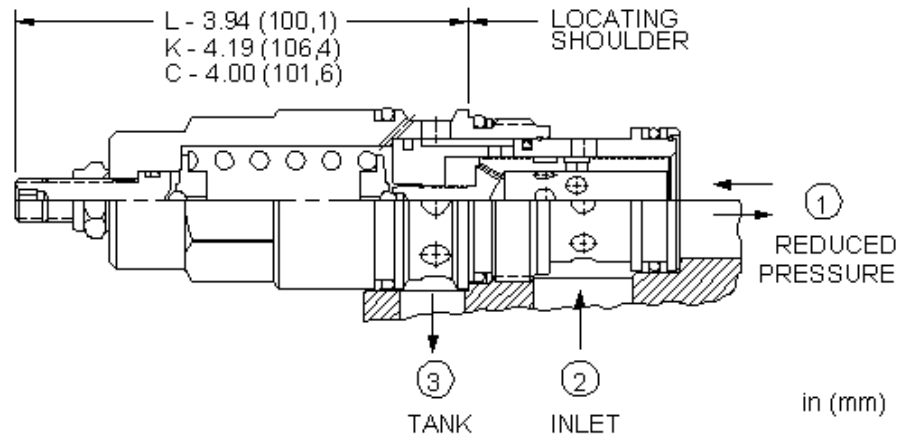
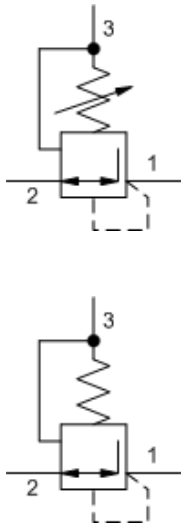
TECHNICAL DATA

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

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: PRFBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 1000 - 4500 psi (70 - 315 bar), 1000 psi (70 bar) Standard Setting		



Direct-acting, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

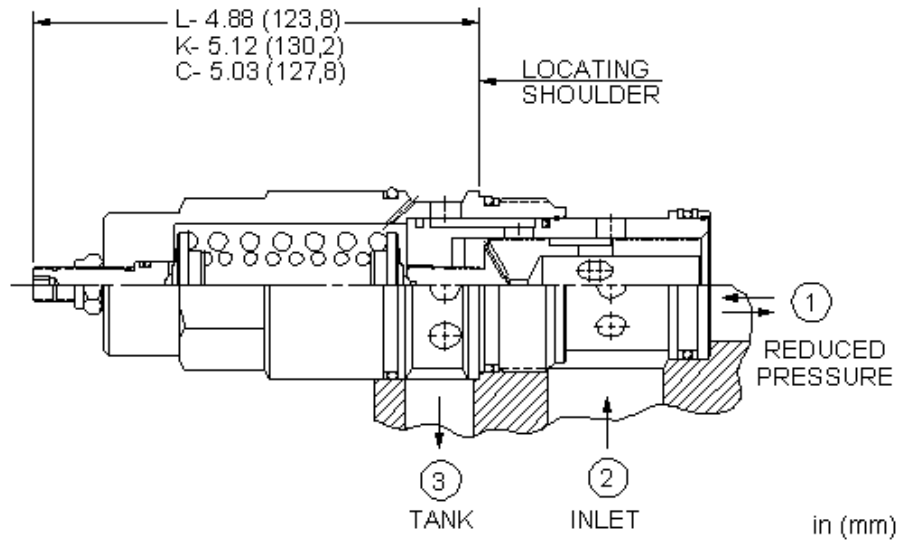
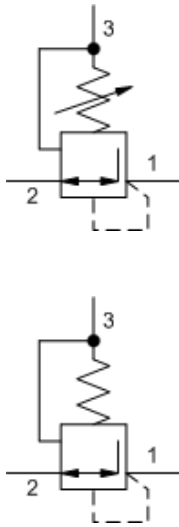
TECHNICAL DATA

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

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS
Model Code Example: PRHBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 1100 - 4500 psi (76 - 315 bar), 1100 psi (76 bar) Standard Setting		



Direct-acting, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

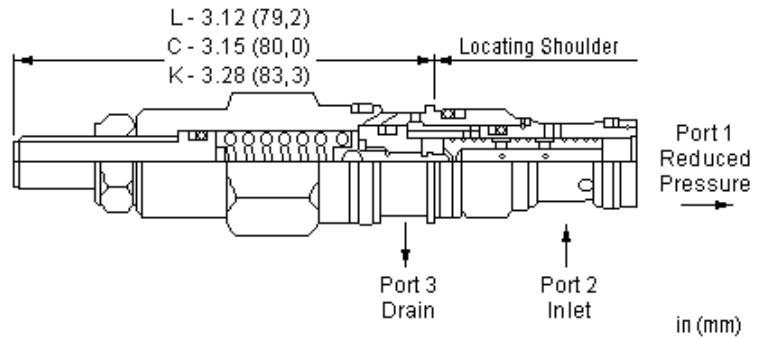
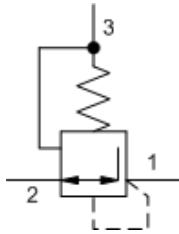
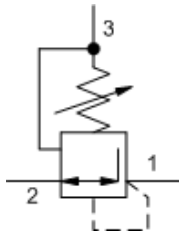
TECHNICAL DATA

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

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS
Model Code Example: PRJBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting	V Viton	
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 1100 - 4500 psi (76 - 315 bar), 1100 psi (76 bar) Standard Setting		



Direct-acting, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure. This valve is open in the transition from reducing to relieving. It provides good pressure control and dynamic response.

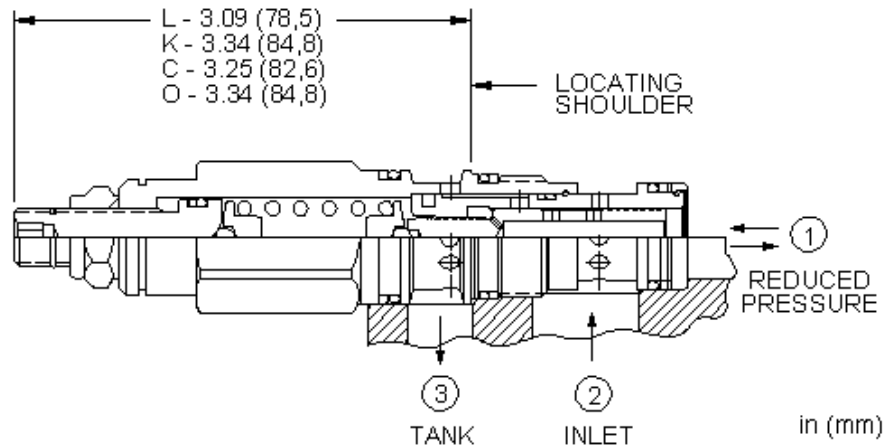
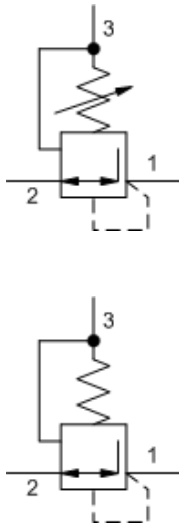
TECHNICAL DATA

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

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	7
Locknut Hex Size	1/2 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS
Model Code Example: PRBCLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 700 psi (50 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting		



Direct-acting, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure. This valve is open in the transition from reducing to relieving. It provides good pressure control and dynamic response.

TECHNICAL DATA

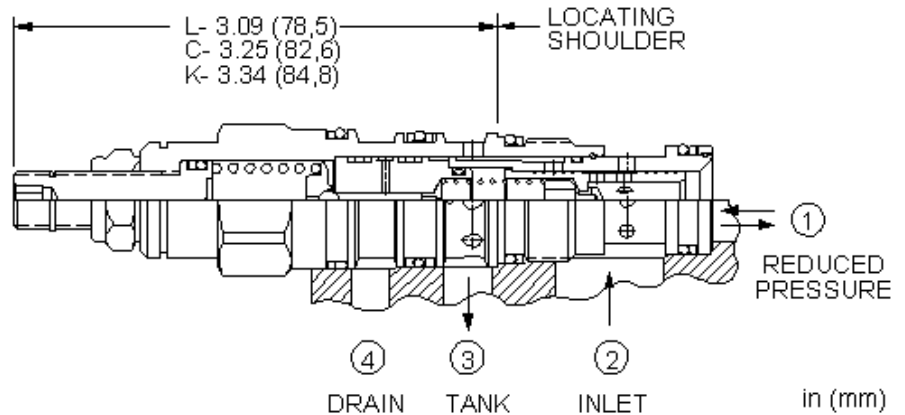
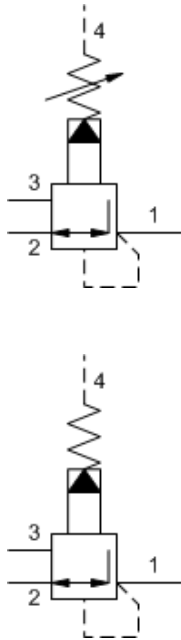
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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.

CONFIGURATION OPTIONS
Model Code Example: PRDCLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 700 psi (50 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting	V Viton	
O Handknob with Panel Mount	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting		



Externally drained, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). Draining the pilot section at port 4 makes these valves insensitive to pressure at tank (port 3) and provides a means for remote control by pilot or 2-way valves.

TECHNICAL DATA

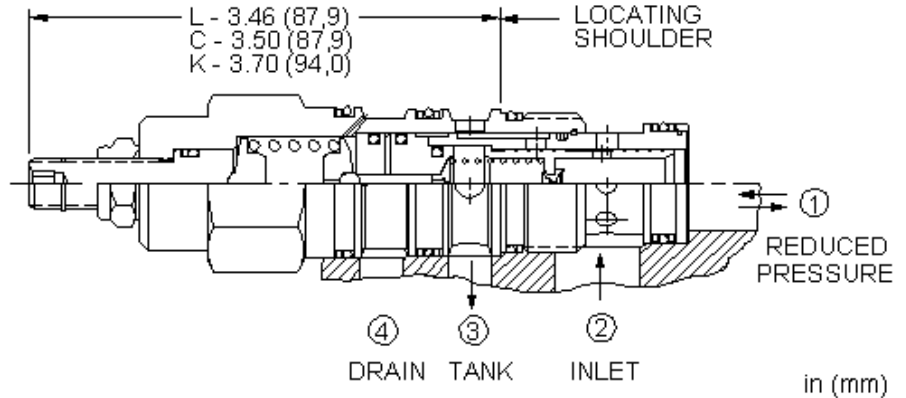
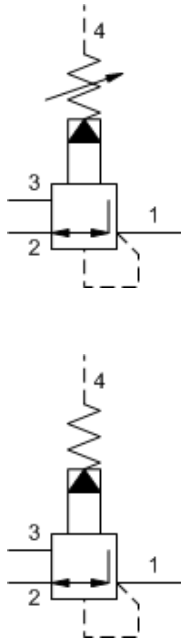
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) D and E are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS
Model Code Example: PVDALAN

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



Externally drained, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). Draining the pilot section at port 4 makes these valves insensitive to pressure at tank (port 3) and provides a means for remote control by pilot or 2-way valves.

TECHNICAL DATA

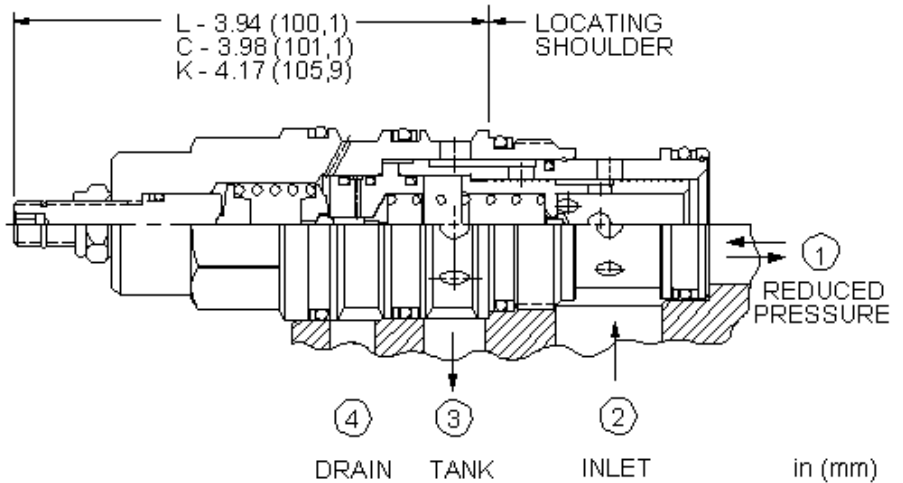
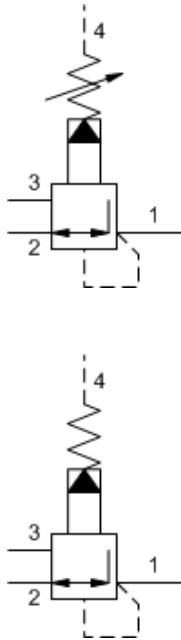
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) D and E are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS
Model Code Example: PVFALAN

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



Externally drained, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). Draining the pilot section at port 4 makes these valves insensitive to pressure at tank (port 3) and provides a means for remote control by pilot or 2-way valves.

TECHNICAL DATA

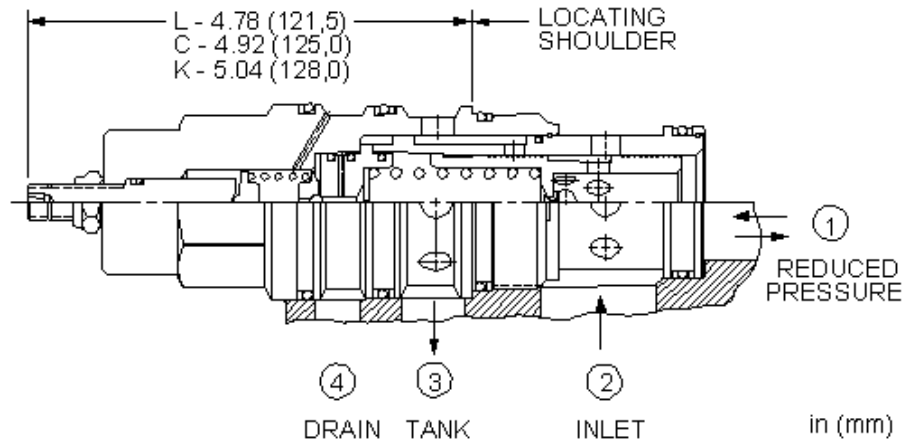
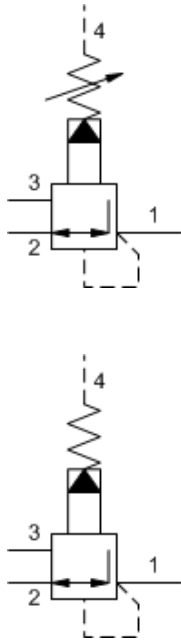
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) D and E are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS
Model Code Example: PVHALAN

CONTROL	(L) ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	N Buna-N		Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	E EPDM	E EPDM		/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting	V Viton	V Viton		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting				
	W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting				



Externally drained, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). Draining the pilot section at port 4 makes these valves insensitive to pressure at tank (port 3) and provides a means for remote control by pilot or 2-way valves.

TECHNICAL DATA

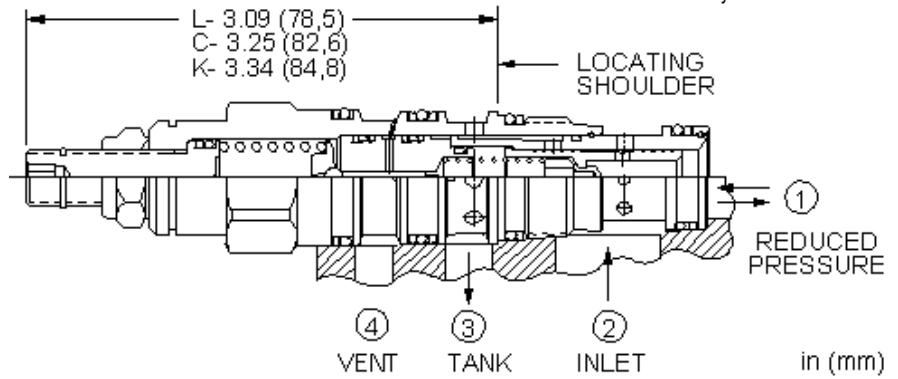
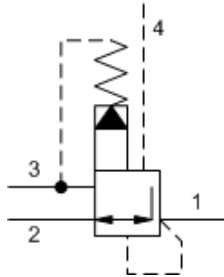
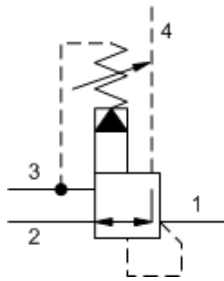
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) D and E are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS
Model Code Example: PVJALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting	V Viton	
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting		



Ventable, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The vent port (port 4) can be used as a means for remote control by pilot or 2-way valves.

TECHNICAL DATA

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

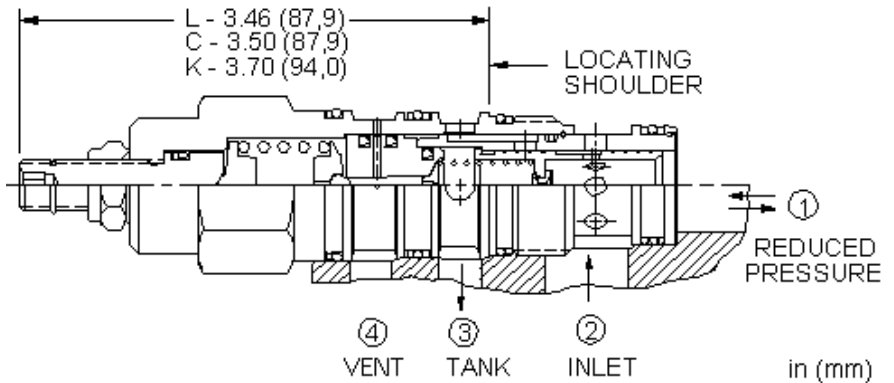
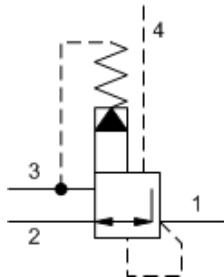
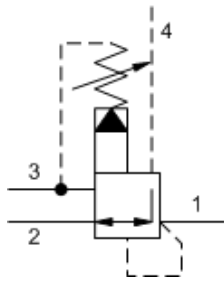
Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) D and E are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS

Model Code Example: PVDBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 200 psi (14 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting		



Ventable, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The vent port (port 4) can be used as a means for remote control by pilot or 2-way valves.

TECHNICAL DATA

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

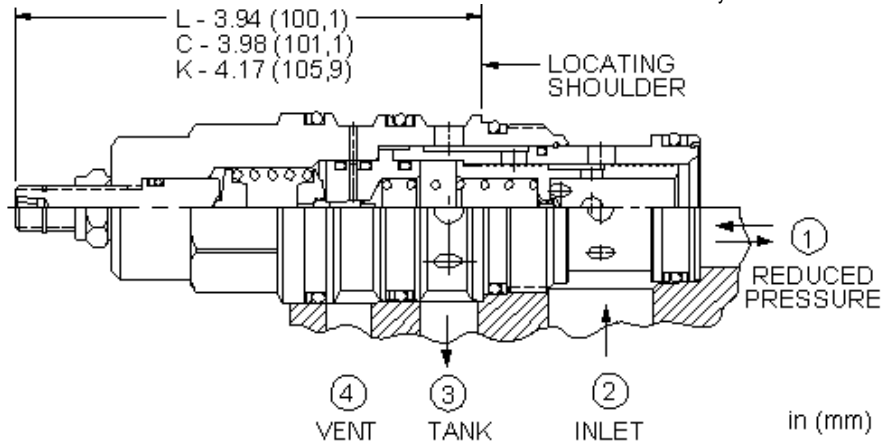
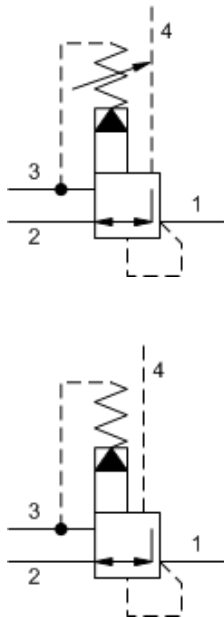
Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) D and E are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS

Model Code Example: PVFBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting		



Ventable, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The vent port (port 4) can be used as a means for remote control by pilot or 2-way valves.

TECHNICAL DATA

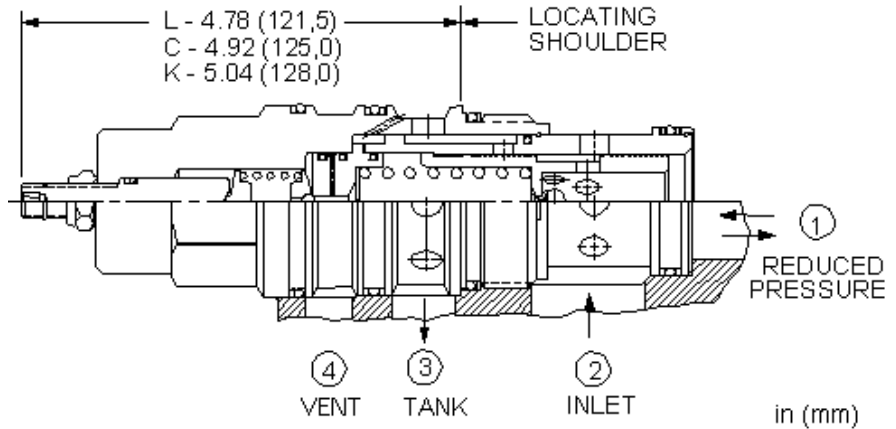
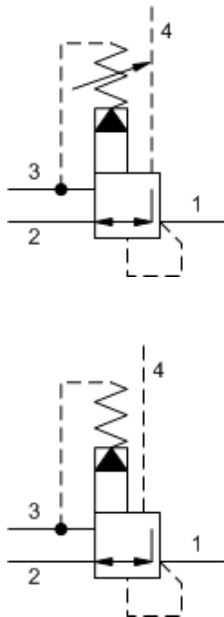
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) D and E are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS
Model Code Example: PVHBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting		



Ventable, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The vent port (port 4) can be used as a means for remote control by pilot or 2-way valves.

TECHNICAL DATA

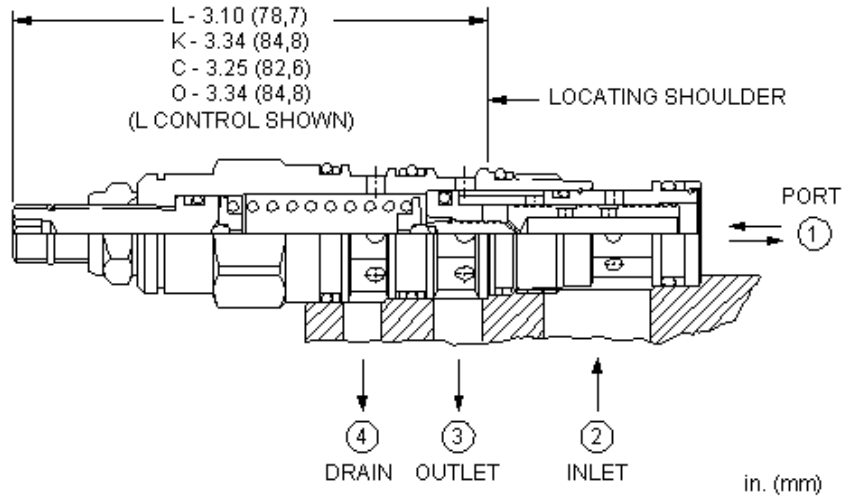
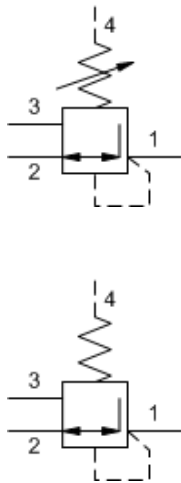
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

NOTES Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) D and E are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS
Model Code Example: PVJBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting		



Direct-acting, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). Draining port 4 makes the valve insensitive to pressure at port 3. These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

TECHNICAL DATA

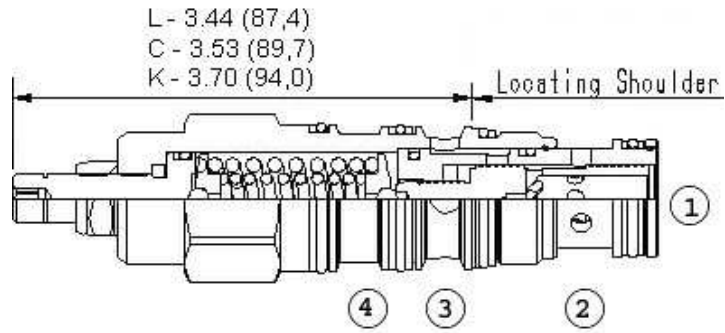
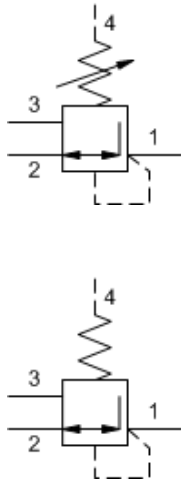
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

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.

CONFIGURATION OPTIONS
Model Code Example: PSDBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 700 psi (50 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
O Handknob with Panel Mount	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting		



Direct-acting, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). Draining port 4 makes the valve insensitive to pressure at port 3. These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

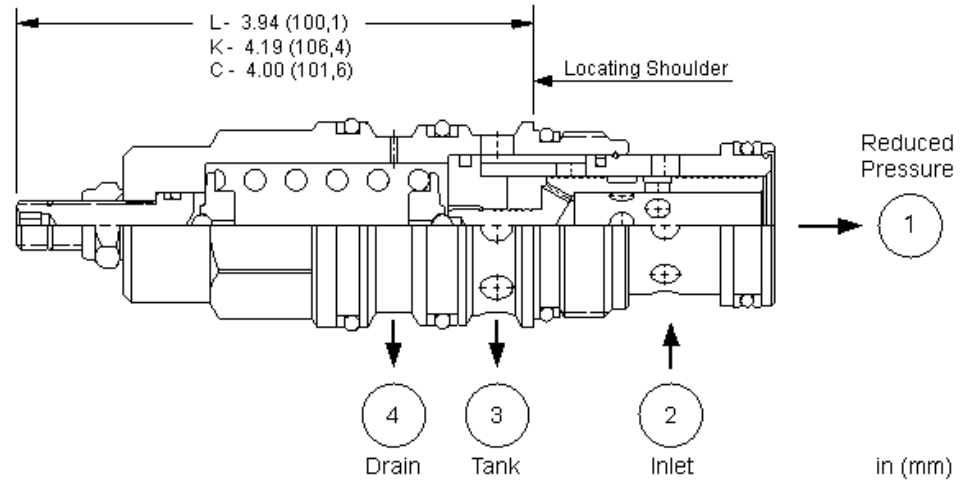
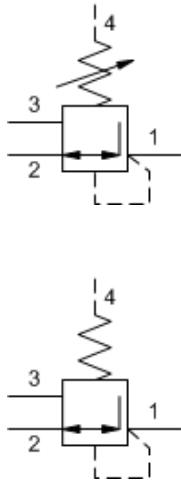
TECHNICAL DATA

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

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS
Model Code Example: PSFBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting	V Viton	
K Handknob	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		



Direct-acting, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). Draining port 4 makes the valve insensitive to pressure at port 3. These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

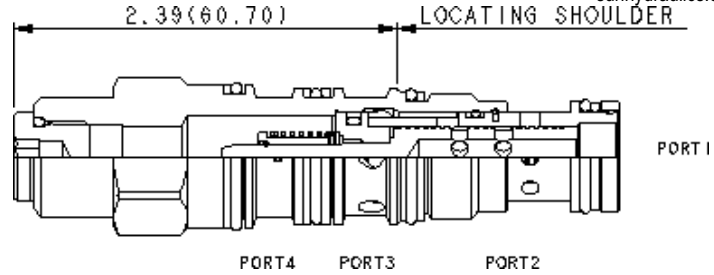
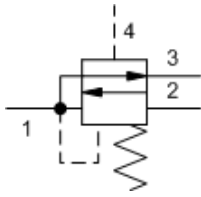
TECHNICAL DATA

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

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS
Model Code Example: PSHBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting	E EPDM	
K Handknob	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting	V Viton	
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 1100 - 4500 psi (76 - 315 bar), 1100 psi (76 bar) Standard Setting		



The direct-acting reducer/reliever main section is meant to act as an interface between a low flow pressure source at port 4 and a circuit with higher flow requirements. The valve will reduce a high primary pressure at the inlet (port 2) to a reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

The valve incorporates a damped construction for stable operation allowing the use of high reduced pressure.

TECHNICAL DATA

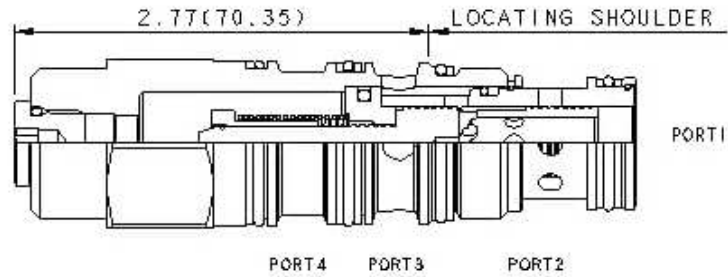
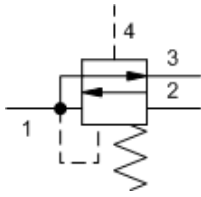
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2.5 in ³ /min.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: PSDTXFN

CONTROL	(X) BIAS PRESSURE	(F) SEAL MATERIAL	(N)
X Not Adjustable	F 100 psi (7 bar)	N Buna-N	
		E EPDM	
		V Viton	



The direct-acting reducer/reliever main section is meant to act as an interface between a low flow pressure source at port 4 and a circuit with higher flow requirements. The valve will reduce a high primary pressure at the inlet (port 2) to a reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

The valve incorporates a damped construction for stable operation allowing the use of high reduced pressure.

TECHNICAL DATA

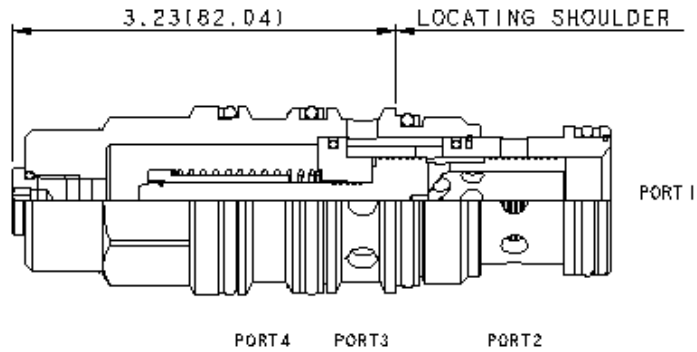
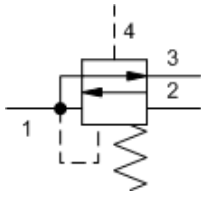
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS

Model Code Example: PSFTXFN

CONTROL	(X)	BIAS PRESSURE	(F)	SEAL MATERIAL	(N)
X Not Adjustable		F 100 psi (7 bar)		N Buna-N	
				E EPDM	
				V Viton	



The direct-acting reducer/reliever main section is meant to act as an interface between a low flow pressure source at port 4 and a circuit with higher flow requirements. The valve will reduce a high primary pressure at the inlet (port 2) to a reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

The valve incorporates a damped construction for stable operation allowing the use of high reduced pressure.

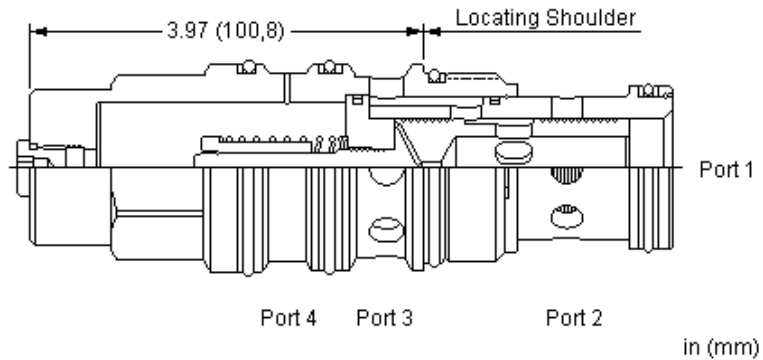
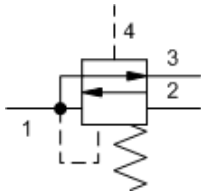
TECHNICAL DATA

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

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min. @1000 psi
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS
Model Code Example: PSHTXFN

CONTROL	(X)	BIAS PRESSURE	(F)	SEAL MATERIAL	(N)
X Not Adjustable		F 100 psi (7 bar)		N Buna-N	
				E EPDM	
				V Viton	



The direct-acting reducer/reliever main section is meant to act as an interface between a low flow pressure source at port 4 and a circuit with higher flow requirements. The valve will reduce a high primary pressure at the inlet (port 2) to a reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3).

The valve incorporates a damped construction for stable operation allowing the use of high reduced pressure.

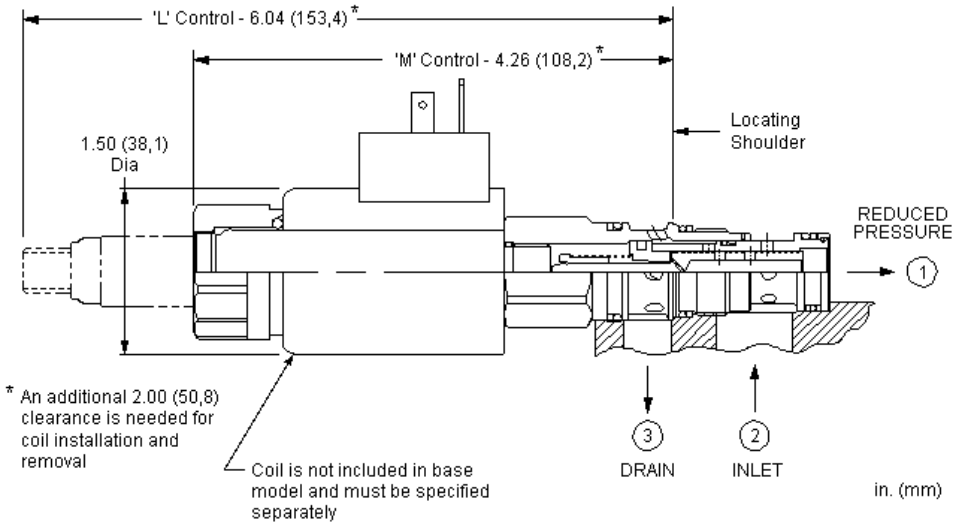
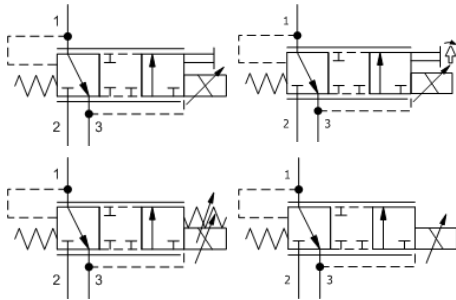
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS
Model Code Example: PSJTxFN

CONTROL	(X) BIAS PRESSURE	(F) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	F 100 psi (7 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



This electro-proportional, direct-acting reducer/reliever valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The valve is biased to the relieving mode. Energizing the coil connects port 2 to port 1. Increasing the current to the coil will proportionally increase the reduced pressure at port 1. If pressure at port 1 exceeds the setting induced by the coil, pressure at port 1 is relieved to port 3. This valve is closed in the transition between reducing and relieving resulting in very low consumption of oil. Optional full manual control is available.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2.5 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990511007
Seal kit - Cartridge	Viton: 990511006

NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

CONFIGURATION OPTIONS

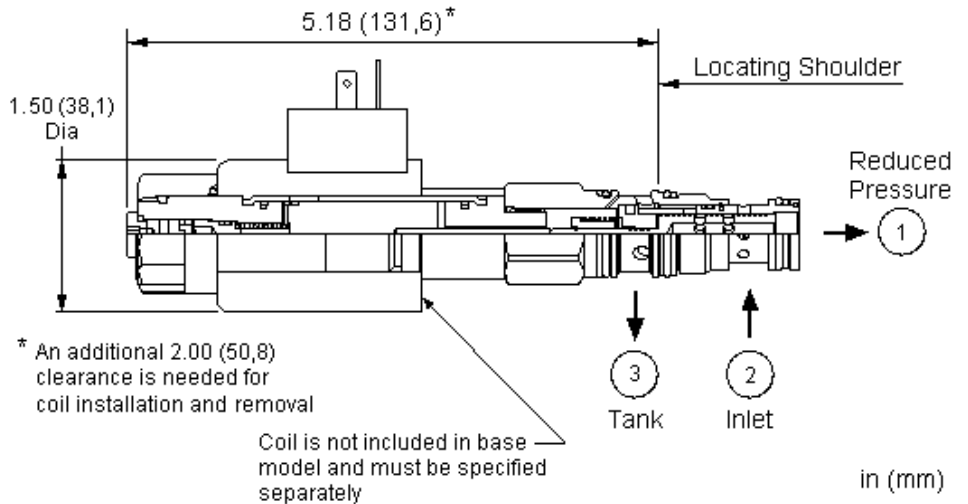
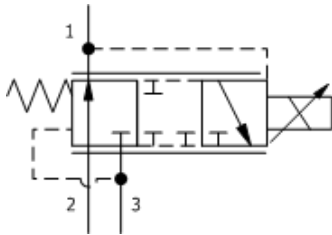
Model Code Example: PRDPMDN

CONTROL	(M) OPERATING RANGE	(D) SEAL MATERIAL	(N) COIL *
M Manual Override (Standard)	D 50 - 485 psi (3,5 - 33,5 bar)	N Buna-N	No coil
E Twist (Extended) Manual Override	E 25 - 250 psi (1,7 - 18 bar)	E EPDM	212 DIN 43650-Form A, 12 VDC
L Standard Screw Adjustment	B 100 - 1125 psi (7 - 77,5 bar)	V Viton	224 DIN 43650-Form A, 24 VDC
X No Manual Override			224NX01 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
			224NX02 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver
			912 Bosch DT04-2P, 12 VDC
			912NX01 Bosch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
			912NX02 Bosch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver

driver

- 924** Deutsch DT04-2P, 24 VDC
- 924NX01** Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
- 924NX02** Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver

* Additional coil options are available



This electro-proportional, direct-acting reducer/reliever valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The valve is biased to the reducing mode, connecting port 2 to port 1 at a customer specified pressure setting. Increasing the current to the coil will proportionally decrease the reduced pressure at port 1. If pressure at port 1 exceeds the setting induced by the coil, pressure at port 1 is relieved to port 3. This valve is closed in the transition between reducing and relieving resulting in very low consumption of oil.

TECHNICAL DATA

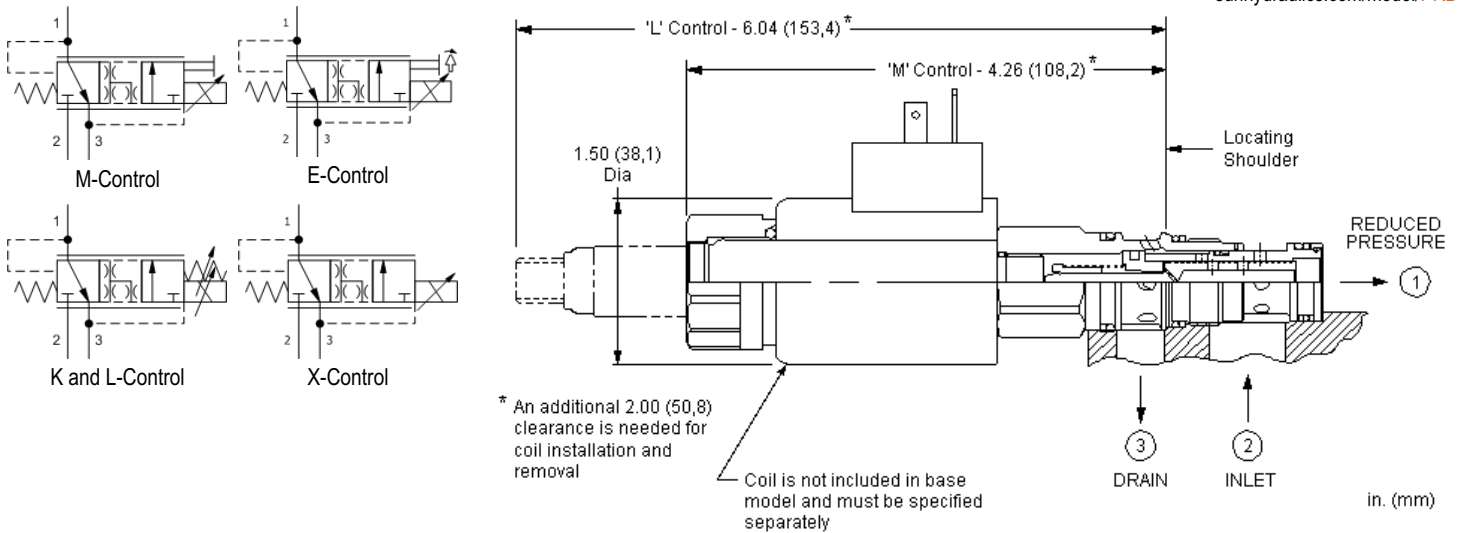
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2.5 in ³ /min.
Seal kit - Cartridge	Buna: 990511007
Seal kit - Cartridge	Viton: 990511006

CONFIGURATION OPTIONS
Model Code Example: PRDNXDN

CONTROL	(X) ADJUSTMENT RANGE	(D) SEAL MATERIAL	(N) COIL *
X No Manual Override	D 400 - 200 psi (14 - 28 bar) B 1000 - 400 psi (28 - 70 bar) E 200 - 100 psi (7 - 14 bar)	N Buna-N V Viton	No coil 212 DIN 43650-Form A, 12 VDC 224 DIN 43650-Form A, 24 VDC 912 Deutsch DT04-2P, 12 VDC 924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available



This electro-proportional, direct-acting reducer/reliever valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The valve is biased to the relieving mode. Energizing the coil connects port 2 to port 1. Increasing the current to the coil will proportionally increase the reduced pressure at port 1. If pressure at port 1 exceeds the setting induced by the coil, pressure at port 1 is relieved to port 3. This valve is open in the transition from reducing to relieving. It provides good pressure control and dynamic response. Optional full manual control is available.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990511007
Seal kit - Cartridge	Viton: 990511006

NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

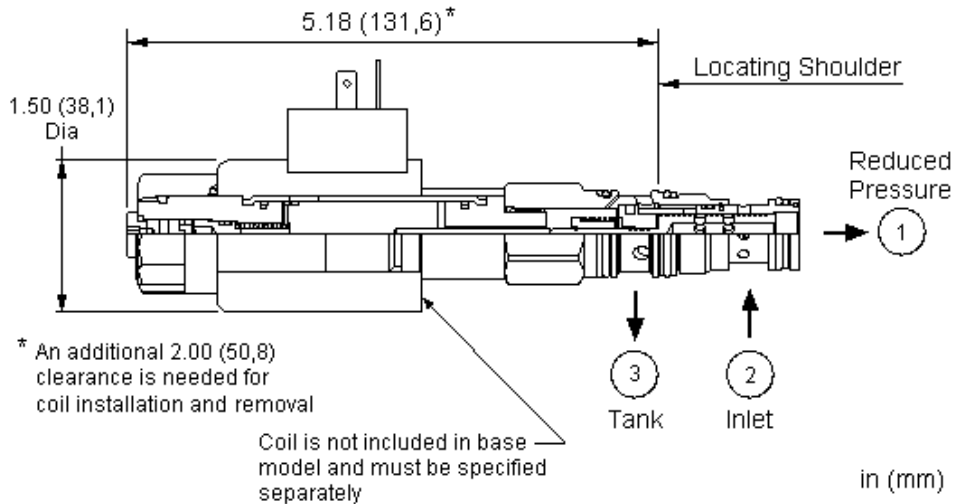
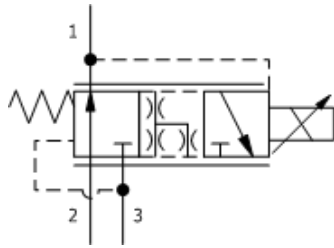
CONFIGURATION OPTIONS
Model Code Example: PRDLMDN

CONTROL	(M) OPERATING RANGE	(D) SEAL MATERIAL	(N) COIL *
M Manual Override (Standard)	D 50 - 485 psi (3,5 - 33,5 bar)	N Buna-N	No coil
E Twist (Extended) Manual Override	E 25 - 250 psi (1,7 - 18 bar)	E EPDM	212 DIN 43650-Form A, 12 VDC
L Standard Screw Adjustment	B 100 - 1125 psi (7 - 77,5 bar)	V Viton	224 DIN 43650-Form A, 24 VDC
X No Manual Override	S 10 - 100 psi (0,7 - 7 bar)		224NX01 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
			224NX02 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver
			912 Bosch DT04-2P, 12 VDC
			912NX01 Bosch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
			912NX02 Bosch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver

driver

- 924** Deutsch DT04-2P, 24 VDC
- 924NX01** Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
- 924NX02** Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver

* Additional coil options are available



This electro-proportional, direct-acting reducer/reliever valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The valve is biased to the reducing mode, connecting port 2 to port 1 at a customer specified pressure setting. Increasing the current to the coil will proportionally decrease the reduced pressure at port 1. If pressure at port 1 exceeds the setting induced by the coil, pressure at port 1 is relieved to port 3. This valve is open in the transition from reducing to relieving. It provides good pressure control and dynamic response.

TECHNICAL DATA

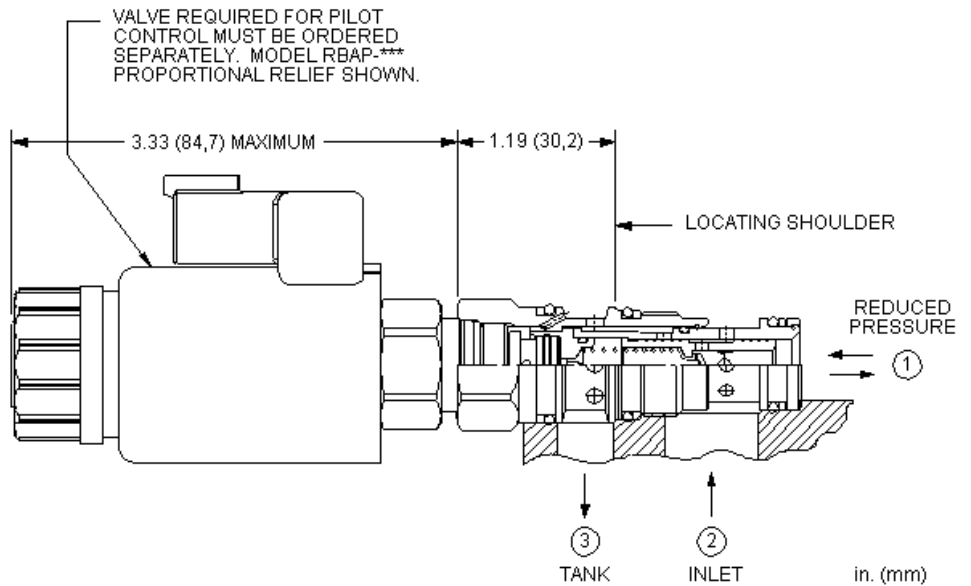
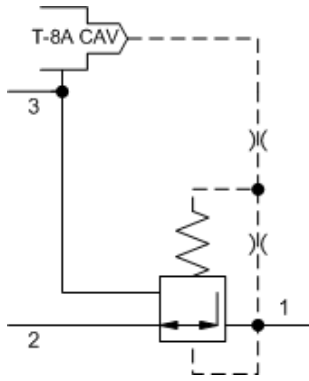
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	20 in ³ /min.
Seal kit - Cartridge	Buna: 990511007
Seal kit - Cartridge	Viton: 990511006

CONFIGURATION OPTIONS
Model Code Example: PRDMXDN

CONTROL	(X) ADJUSTMENT RANGE	(D) SEAL MATERIAL	(N) COIL *
X No Manual Override	D 400 - 200 psi (14 - 28 bar) B 1000 - 400 psi (28 - 70 bar) E 200 - 100 psi (7 - 14 bar) S 100 - 10 psi (0,7 - 7 bar)	N Buna-N V Viton	No coil 212 DIN 43650-Form A, 12 VDC 224 DIN 43650-Form A, 24 VDC 912 Deutsch DT04-2P, 12 VDC 924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available



This valve is a 3-way, normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the tank (port 3).

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

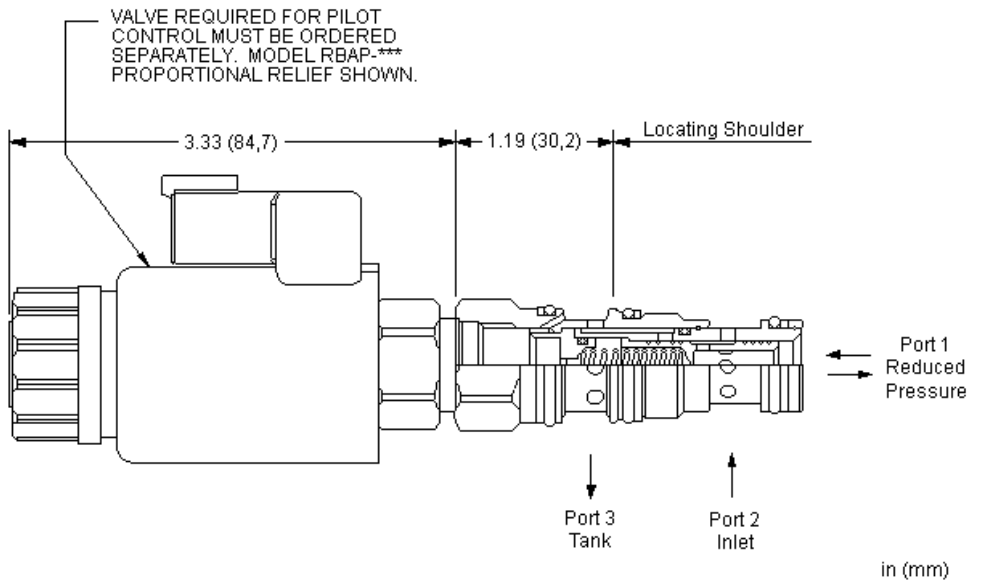
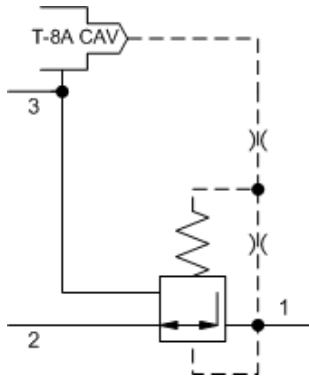
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PPDB8WN

MINIMUM CONTROL PRESSURE (W) SEAL MATERIAL (N)

W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



This valve is a 3-way, normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the tank (port 3).

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES

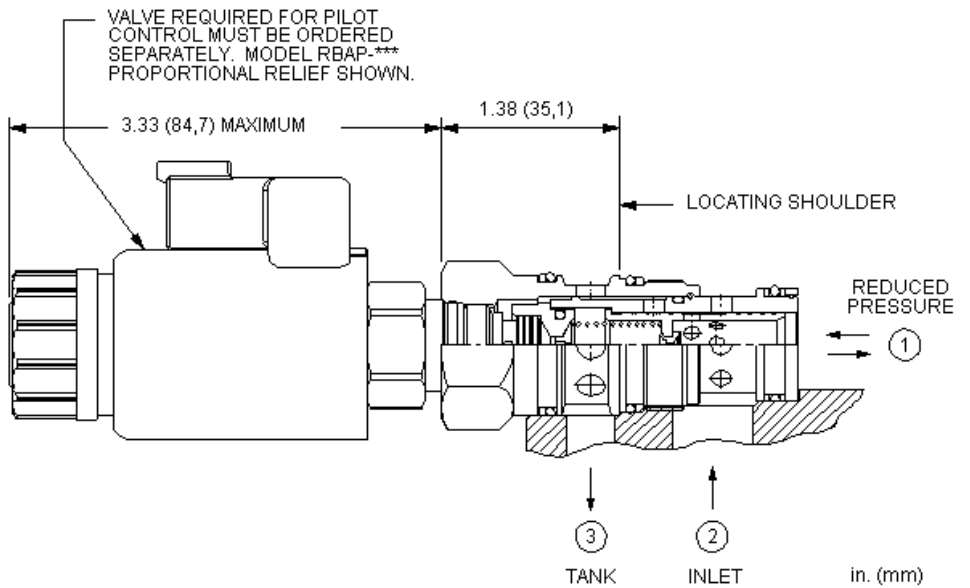
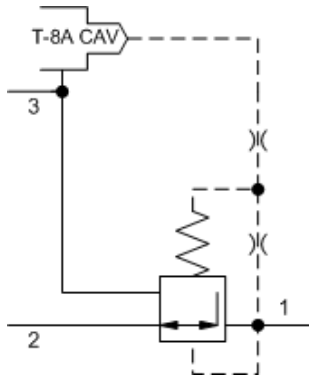
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PPDF8WN

MINIMUM CONTROL PRESSURE (W) SEAL MATERIAL (N)

W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



This valve is a 3-way, normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the tank (port 3).

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

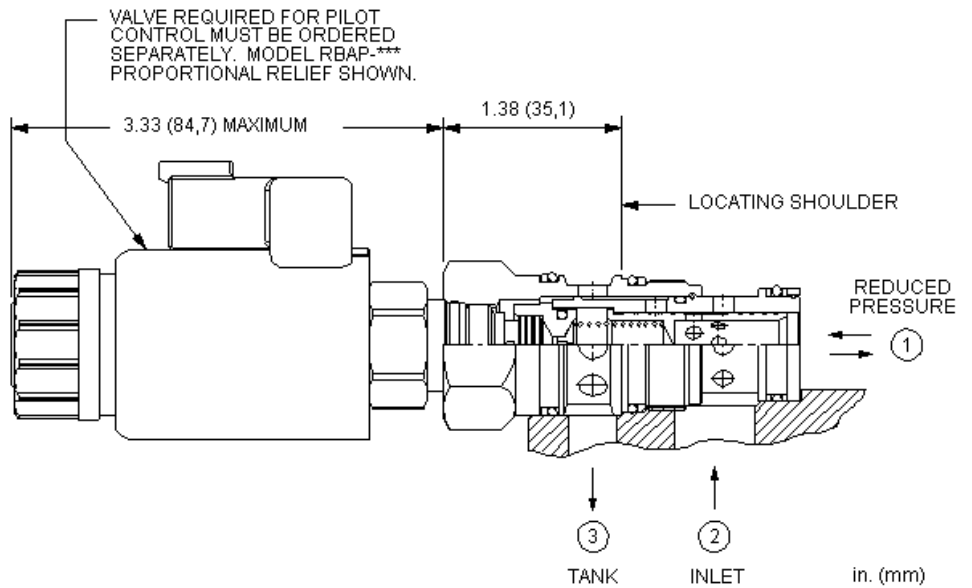
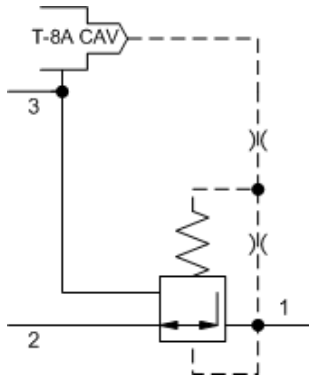
NOTES

Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PPFB8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL	(N) MATERIAL/COATING
W 100 psi (7 bar)	N Buna-N	Standard Material/Coating
D 25 psi (1,7 bar)	E EPDM	/AP Stainless Steel, Passivated
	V Viton	



This valve is a 3-way, normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the tank (port 3).

TECHNICAL DATA

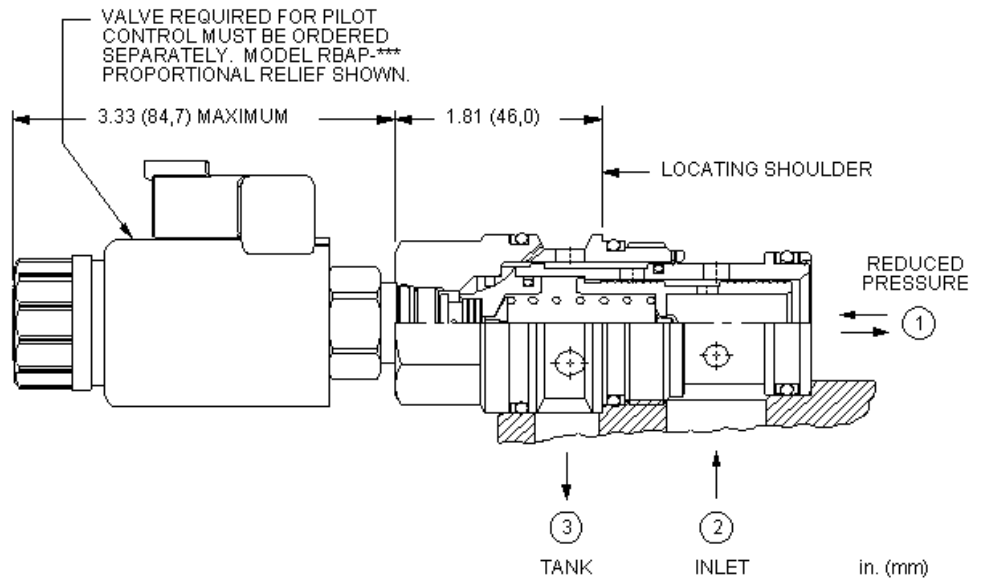
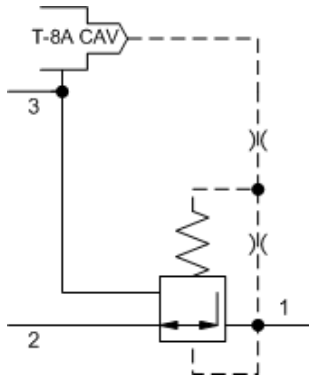
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: PPFF8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



This valve is a 3-way, normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the tank (port 3).

TECHNICAL DATA

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

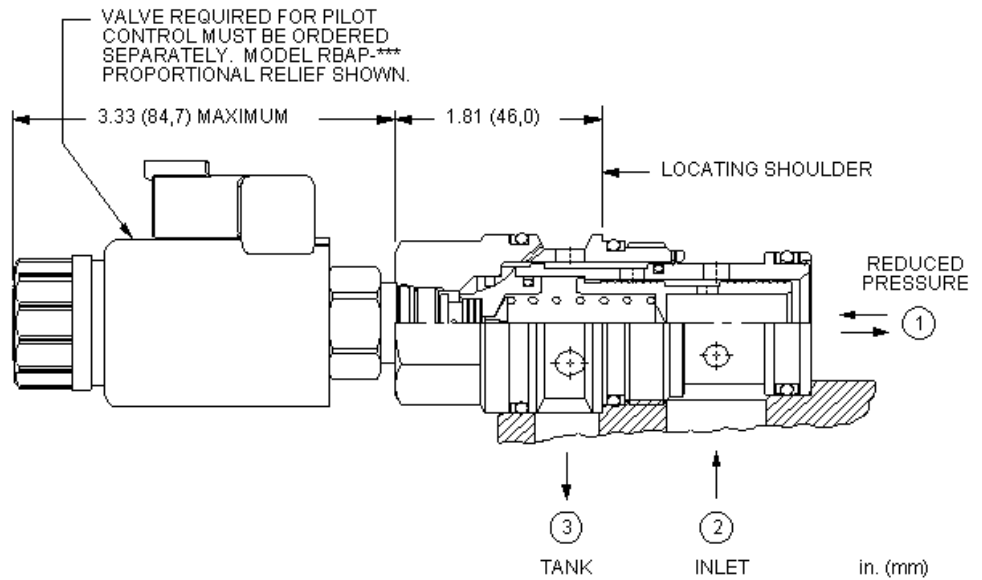
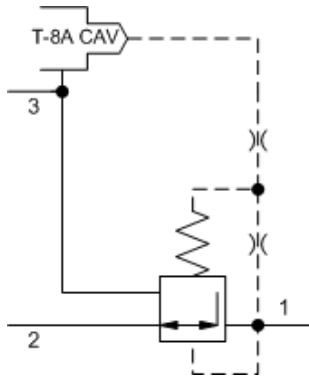
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PPHB8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM
	V Viton



This valve is a 3-way, normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the tank (port 3).

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

NOTES

Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PPHF8WN

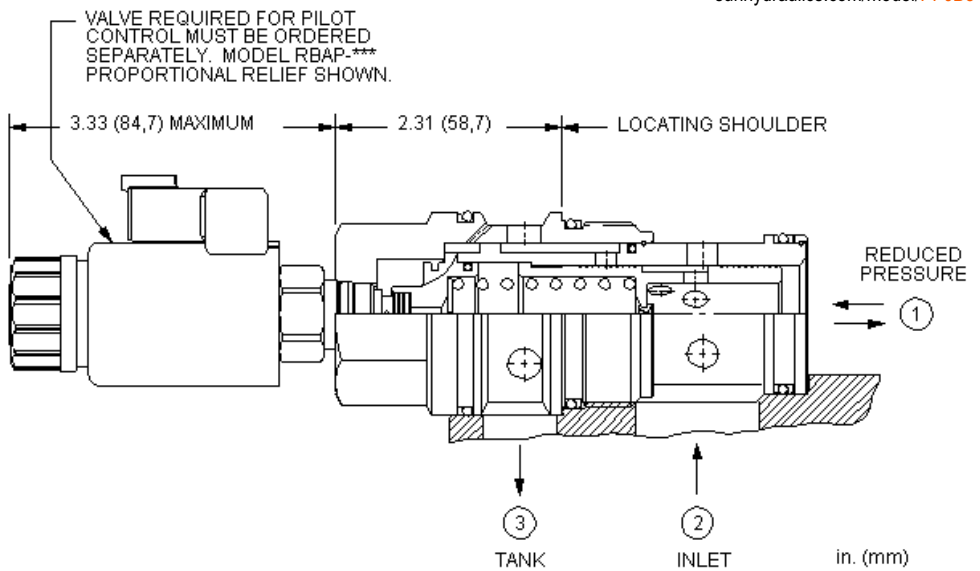
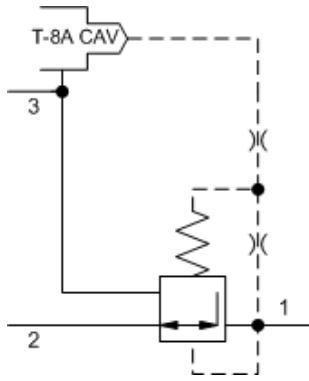
MINIMUM CONTROL PRESSURE (W) SEAL MATERIAL (N)

W 100 psi (7 bar)

N Buna-N

D 25 psi (1,7 bar)

V Viton



This valve is a 3-way, normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the tank (port 3).

TECHNICAL DATA

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

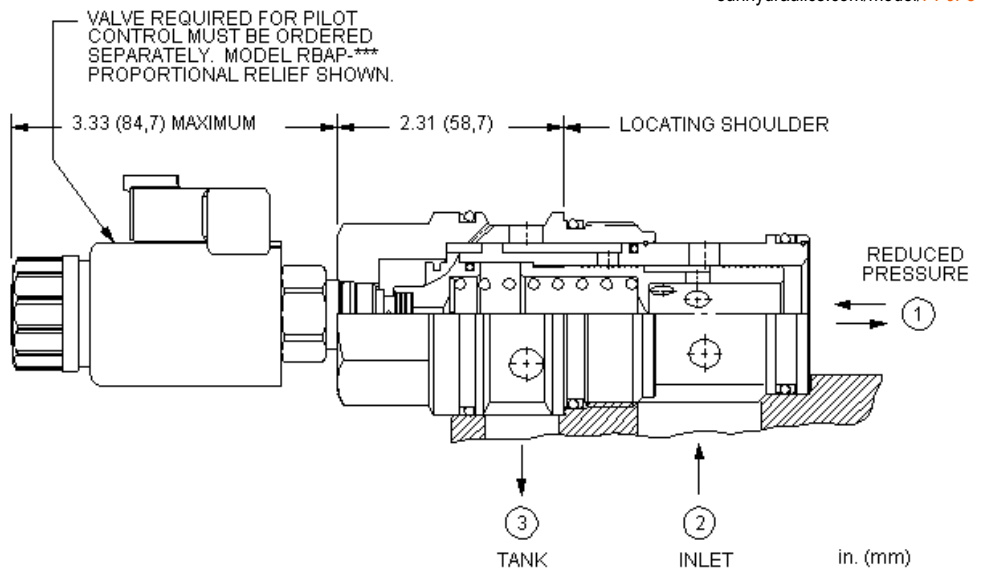
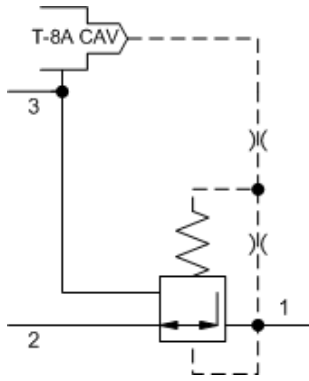
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PPJB8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



This valve is a 3-way, normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the tank (port 3).

TECHNICAL DATA

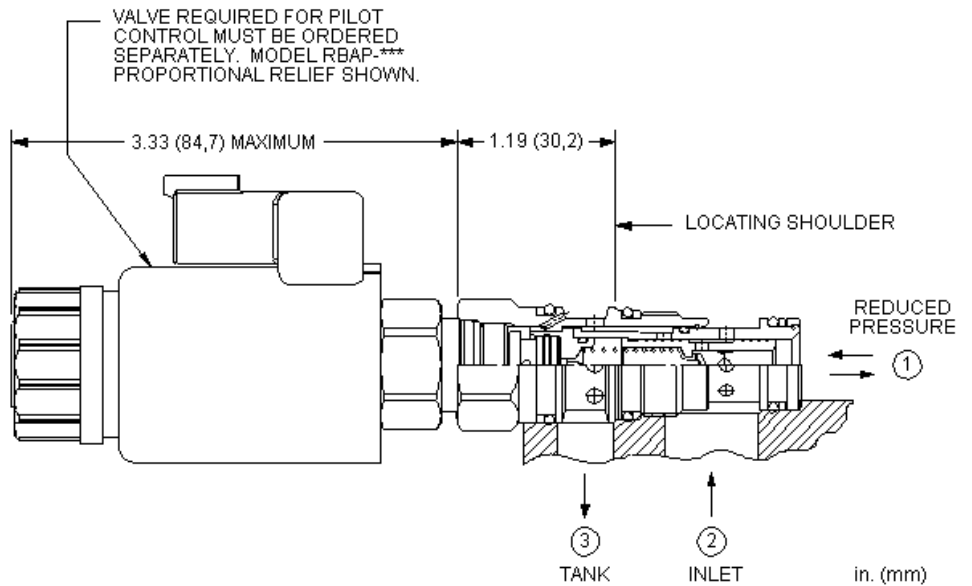
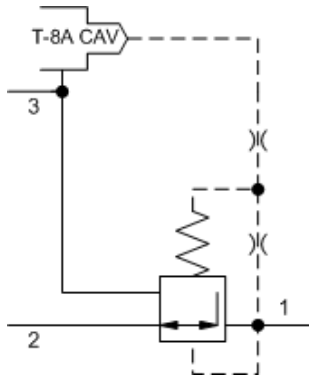
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS
Model Code Example: PPJF8WN
MINIMUM CONTROL PRESSURE (W) SEAL MATERIAL (N)

W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



This valve is a 3-way, normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the tank (port 3).

This valve is open in the transition from reducing to relieving which provides good pressure control and dynamic response at the expense of higher pilot flow in the deadheaded condition.

TECHNICAL DATA

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

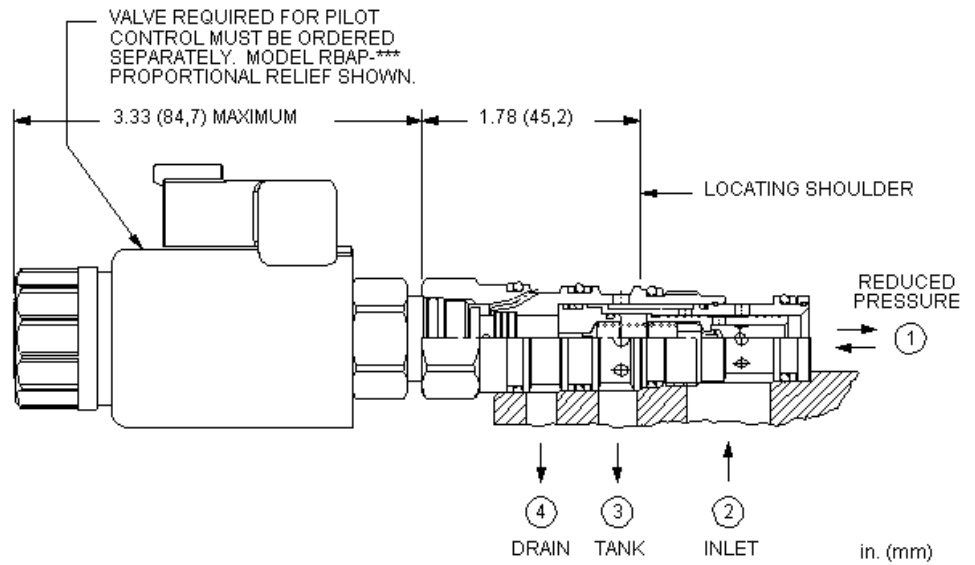
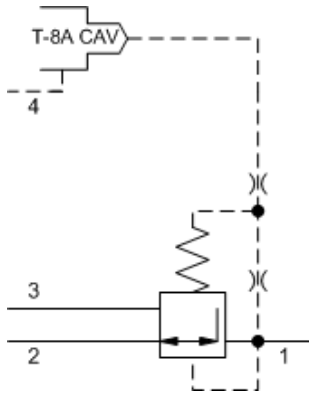
Maximum Operating Pressure	5000 psi
Control Pilot Flow	25 - 30 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PPDL8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 150 psi (10,5 bar)	N Buna-N
D 100 psi (7 bar)	E EPDM
	V Viton



This valve is a 3-way, normally open modulating element, externally drained, that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 4).

TECHNICAL DATA

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

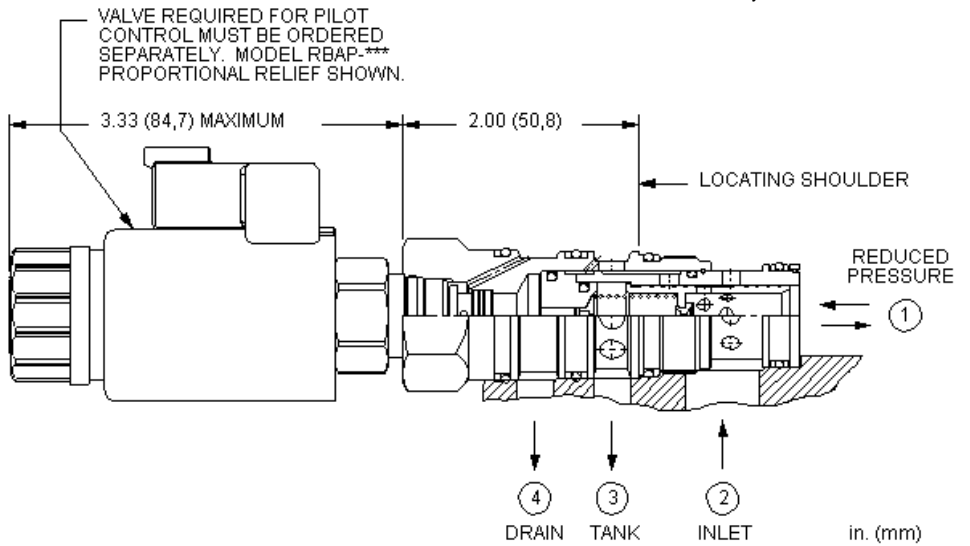
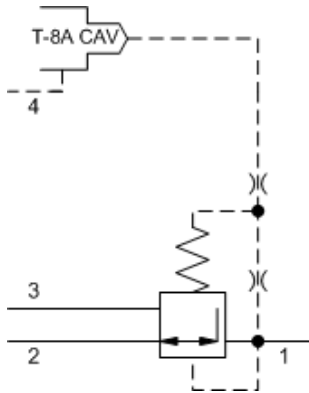
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PVDA8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



This valve is a 3-way, normally open modulating element, externally drained, that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 4).

TECHNICAL DATA

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

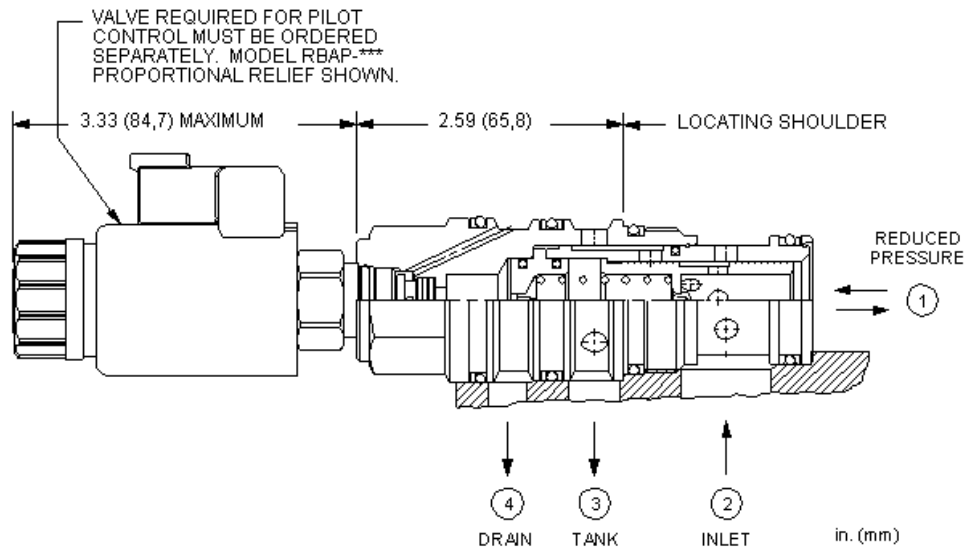
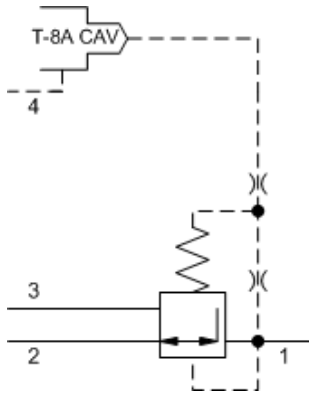
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PVFA8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM
	V Viton



This valve is a 3-way, normally open modulating element, externally drained, that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 4).

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

NOTES

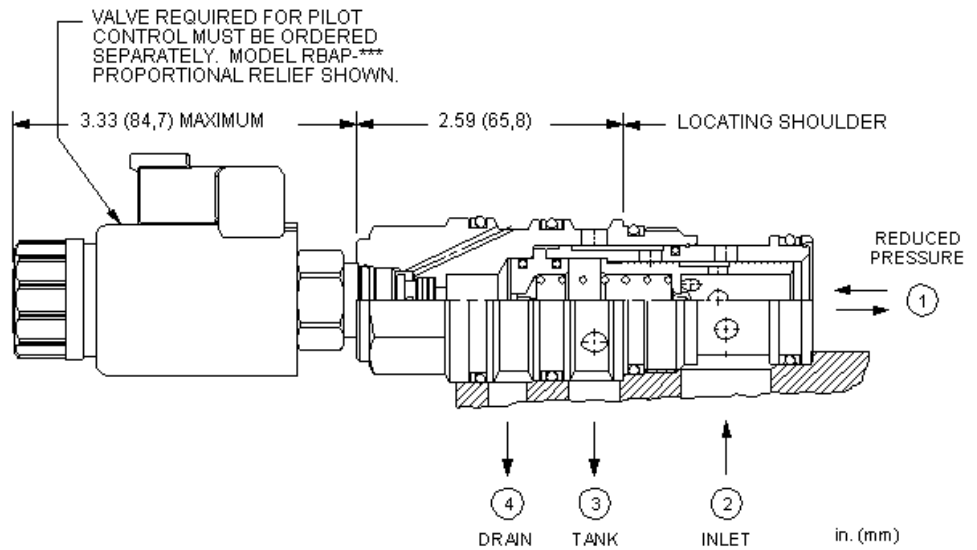
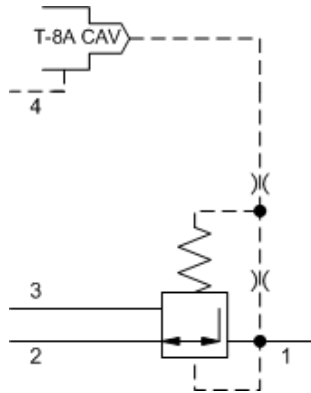
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PVHA8WN

MINIMUM CONTROL PRESSURE (W) SEAL MATERIAL (N)

- W** 100 psi (7 bar) **N** Buna-N
- D** 25 psi (1,7 bar) **E** EPDM
- V** Viton



This valve is a 3-way, normally open modulating element, externally drained, that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 4).

This valve is open in the transition from reducing to relieving which provides good pressure control and dynamic response at the expense of higher pilot flow in the deadheaded condition.

TECHNICAL DATA

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

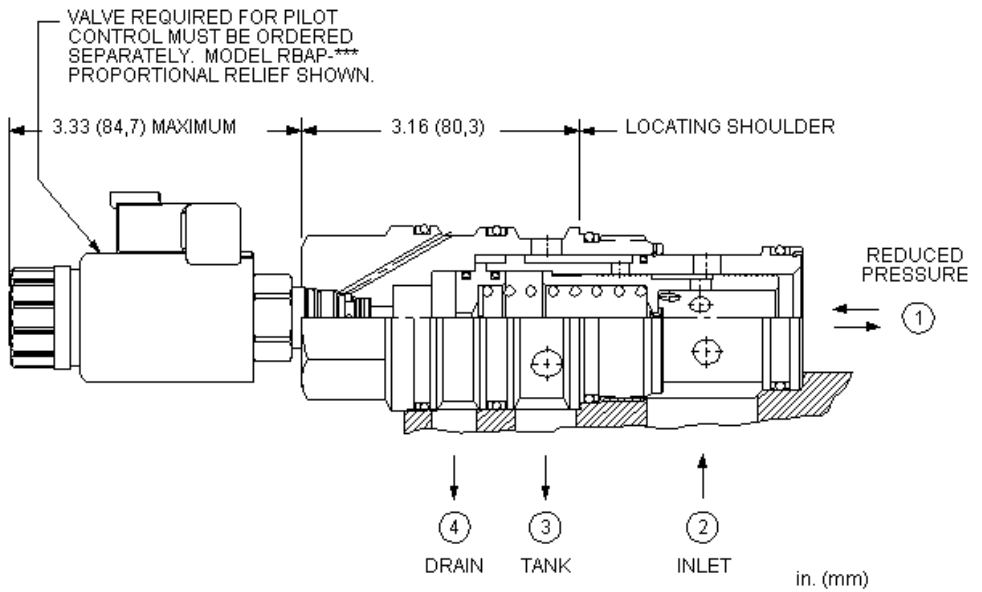
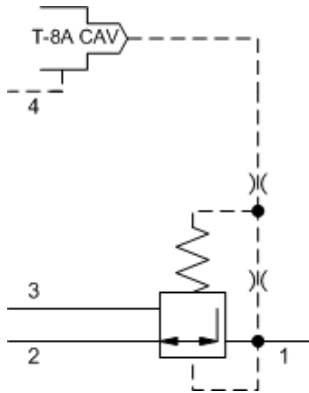
Maximum Operating Pressure	5000 psi
Control Pilot Flow	25 - 30 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PVHL8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 150 psi (10,5 bar)	N Buna-N
D 100 psi (7 bar)	E EPDM
	V Viton



This valve is a 3-way, normally open modulating element, externally drained, that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 4).

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

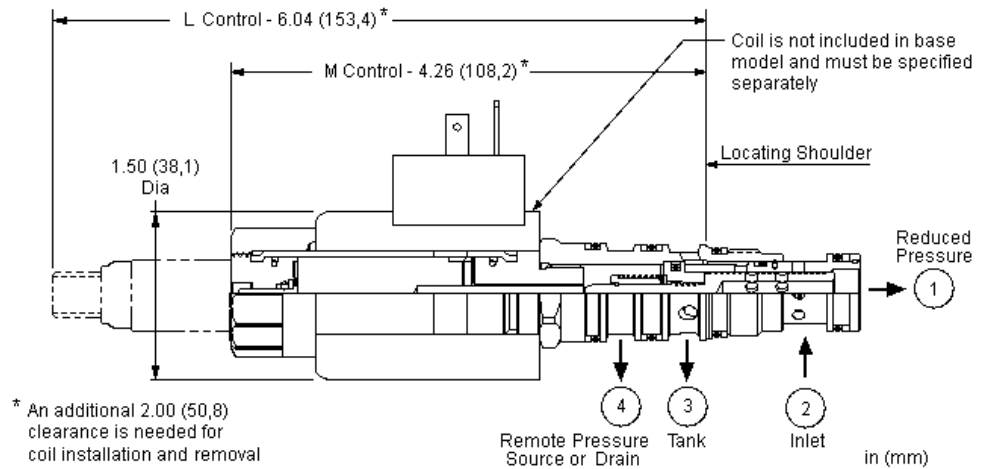
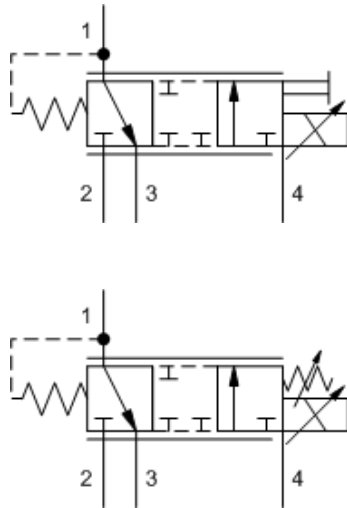
NOTES

Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PVJA8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM
	V Viton



This electro-proportional, direct-acting reducer/reliever valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The valve is biased to the relieving mode. Energizing the coil connects port 2 to port 1. Increasing the current to the coil will proportionally increase the reduced pressure at port 1. If pressure at port 1 exceeds the setting induced by the coil, pressure at port 1 is relieved to port 3. Draining port 4 makes the valve insensitive to pressure at port 3. This valve is closed in the transition between reducing and relieving resulting in very low consumption of oil. Optional full manual control is available.

TECHNICAL DATA

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

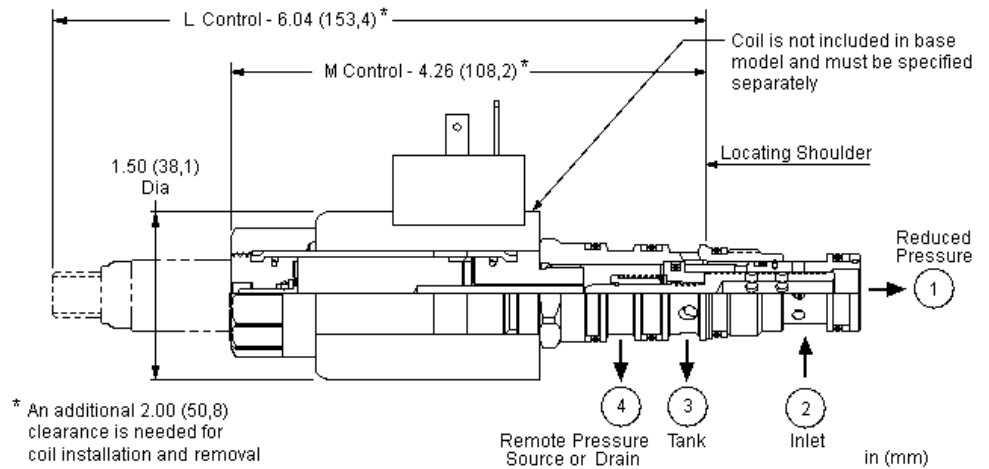
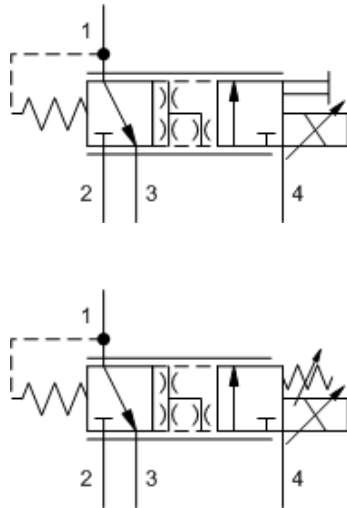
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2.5 in ³ /min.
Optimum Inlet Pressure	3000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

CONFIGURATION OPTIONS
Model Code Example: PSDPMDN

CONTROL	(M) OPERATING RANGE	(D) SEAL MATERIAL	(N) COIL *
M Manual Override (Standard)	D 50 - 485 psi (3,5 - 33,5 bar)	N Buna-N	No coil
L Standard Screw Adjustment	B 100 - 1125 psi (7 - 77,5 bar)	V Viton	212 DIN 43650-Form A, 12 VDC
	E 25 - 250 psi (1,7 - 18 bar)		224 DIN 43650-Form A, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available



This electro-proportional, direct-acting reducer/reliever valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The valve is biased to the relieving mode. Energizing the coil connects port 2 to port 1. Increasing the current to the coil will proportionally increase the reduced pressure at port 1. If pressure at port 1 exceeds the setting induced by the coil, pressure at port 1 is relieved to port 3. Draining port 4 makes the valve insensitive to pressure at port 3. This valve is open in the transition from reducing to relieving which provides good pressure control and dynamic response. Optional full manual control is available.

TECHNICAL DATA

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

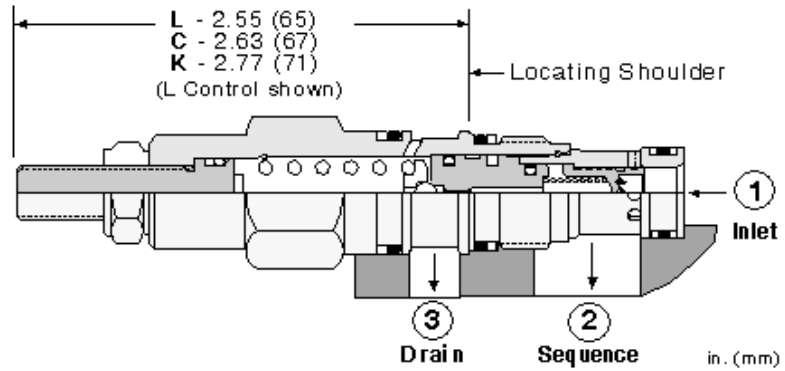
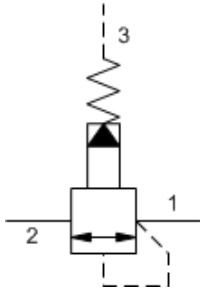
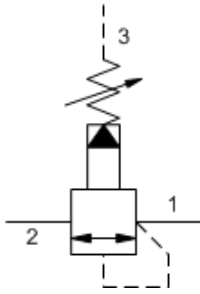
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

CONFIGURATION OPTIONS
Model Code Example: PSDLMDN

CONTROL	(M) OPERATING RANGE	(D) SEAL MATERIAL	(N) COIL *
M Manual Override (Standard)	D 50 - 485 psi (3,5 - 33,5 bar)	N Buna-N	No coil
L Standard Screw Adjustment	B 100 - 1125 psi (7 - 77,5 bar)	V Viton	212 DIN 43650-Form A, 12 VDC
	E 25 - 250 psi (1,7 - 18 bar)		224 DIN 43650-Form A, 24 VDC
	S 10 - 100 psi (0,7 - 7 bar)		912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available



Pilot-operated, balanced piston sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

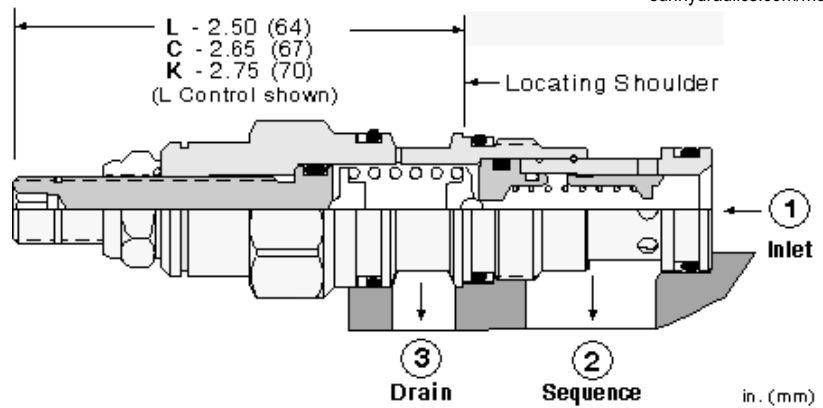
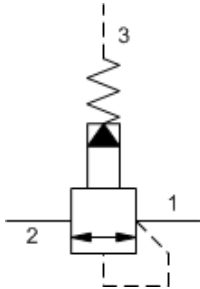
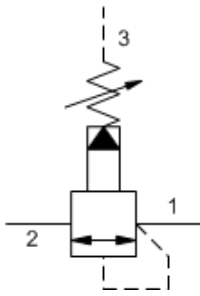
TECHNICAL DATA

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

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS
Model Code Example: RSBCLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 75 - 3000 psi (5 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 75 - 4500 psi (5 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	B 75 - 1500 psi (5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 75 - 6000 psi (5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	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		



Pilot-operated, balanced piston sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

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

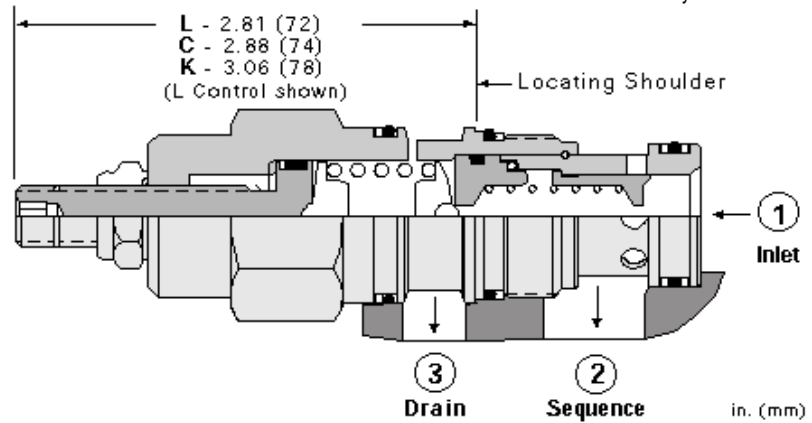
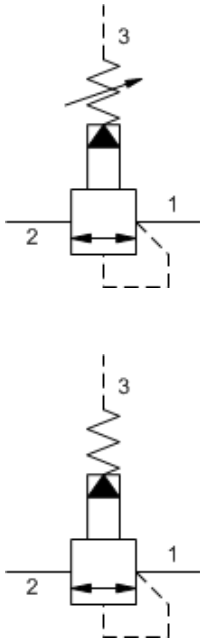
Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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.

CONFIGURATION OPTIONS
Model Code Example: RSDCLAN

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		



Pilot-operated, balanced piston sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

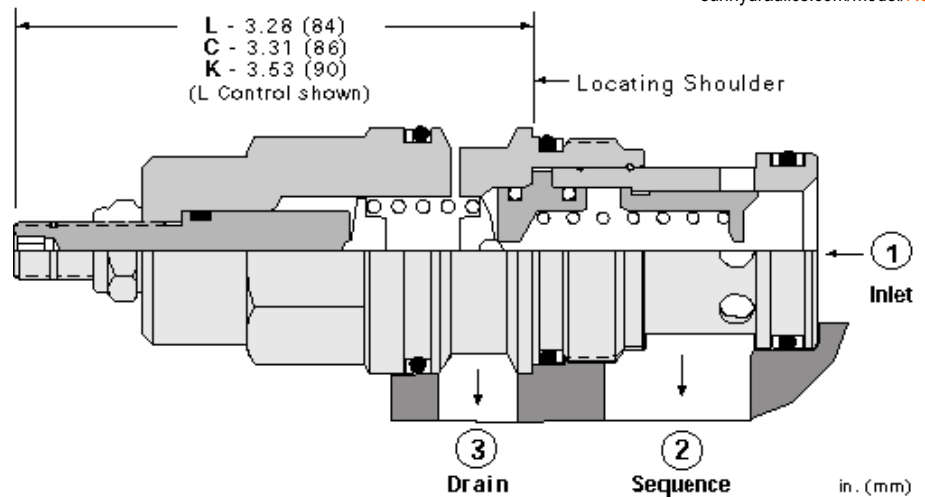
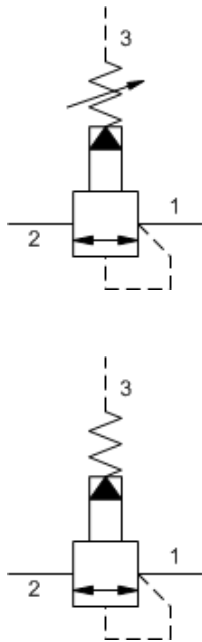
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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.

CONFIGURATION OPTIONS
Model Code Example: RSFCLAN

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			E EPDM		/AP Stainless Steel, Passivated
J Capped Screw Adjustment	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		V Viton		/LH Mild Steel, Zinc-Nickel
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting				
O Handknob with Panel Mount	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting				
W Hex Wrench Adjustment	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting				
Y Tri-Grip Handknob	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting				
	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				



Pilot-operated, balanced piston sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

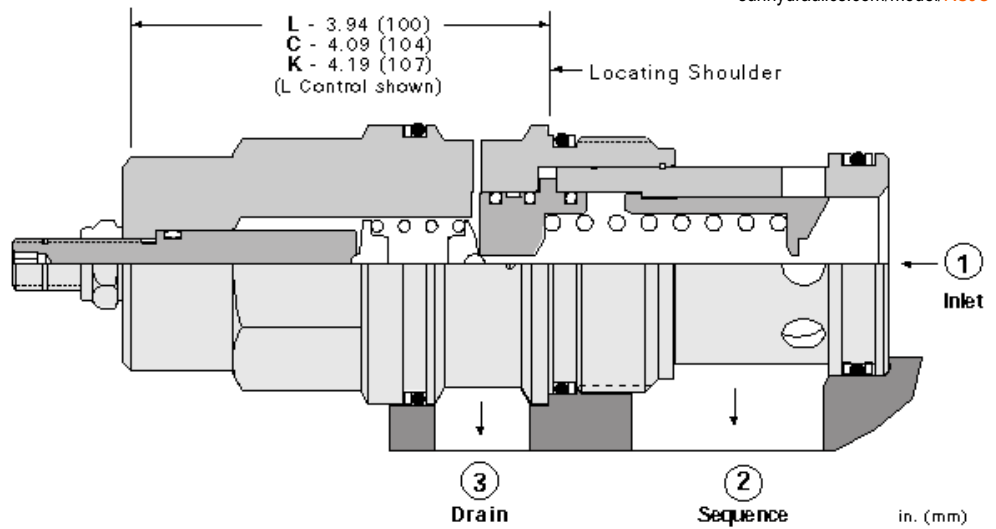
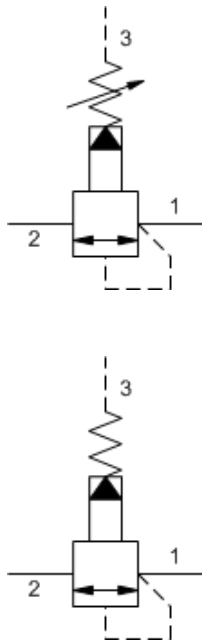
TECHNICAL DATA

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

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS
Model Code Example: RSHCLAN

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
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	N 60 - 800 psi (4 - 55 bar), 400 psi (28 bar) Standard Setting		



Pilot-operated, balanced piston sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

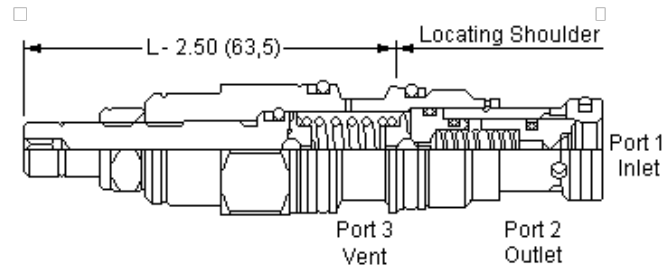
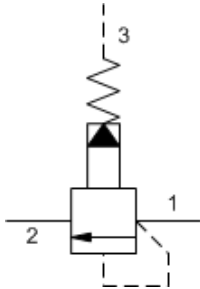
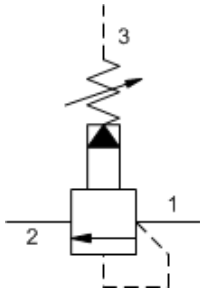
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: RSJCLAN

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	V Viton	/LH Mild Steel, Zinc-Nickel
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting		
Y Tri-Grip Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		



Pilot-operated, balanced poppet sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

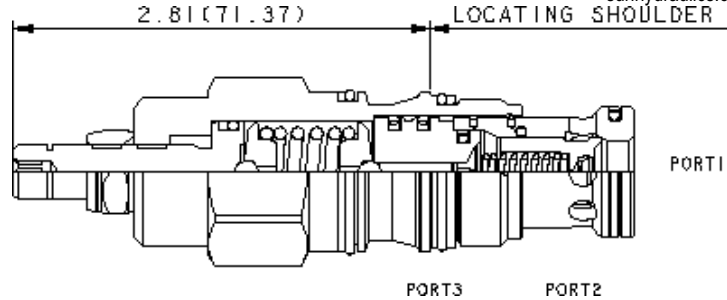
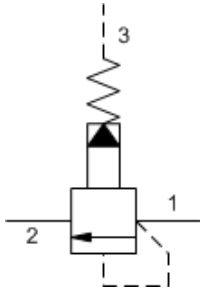
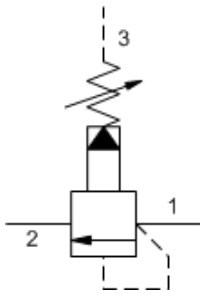
TECHNICAL DATA

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

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
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

CONFIGURATION OPTIONS
Model Code Example: RSDSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	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		
	W 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, balanced poppet sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

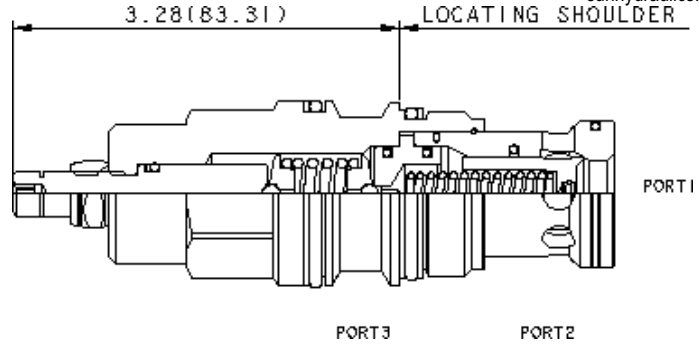
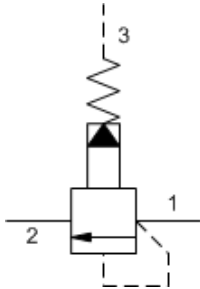
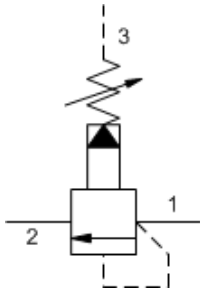
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990402007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990402006

CONFIGURATION OPTIONS

Model Code Example: RSFSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting		
	Q 60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, balanced poppet sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

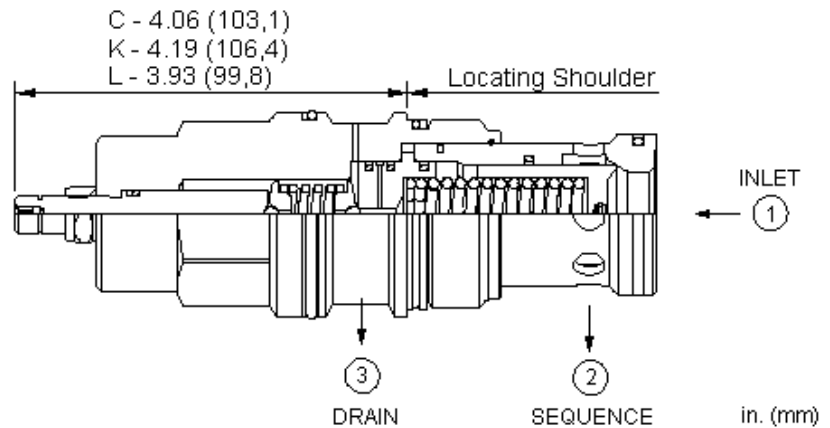
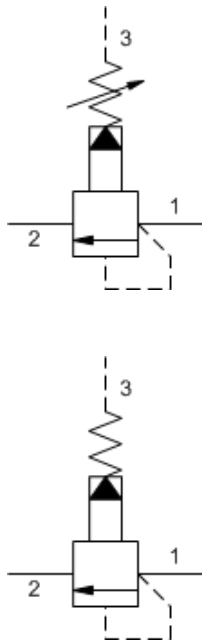
TECHNICAL DATA

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

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990217007
Seal kit - Cartridge	Polyurethane: 990217002
Seal kit - Cartridge	Viton: 990217006

CONFIGURATION OPTIONS
Model Code Example: RSHSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, balanced poppet sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

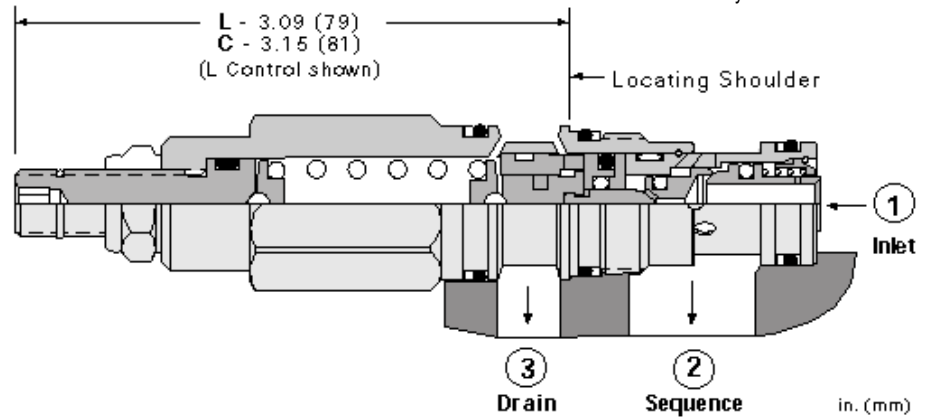
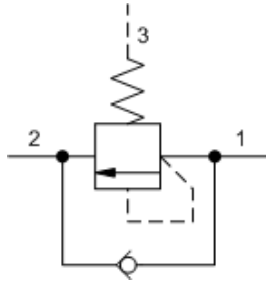
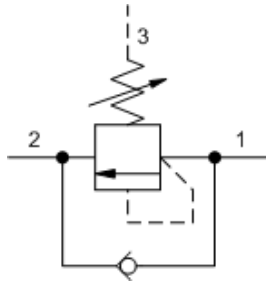
TECHNICAL DATA

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

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990219007
Seal kit - Cartridge	Viton: 990219006

CONFIGURATION OPTIONS
Model Code Example: RSJSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Direct-acting sequence valves with reverse-flow check will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. Additionally, these valves incorporate an integral check valve to provide reverse flow from port 2 (sequence) to port 1 (inlet). The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3).

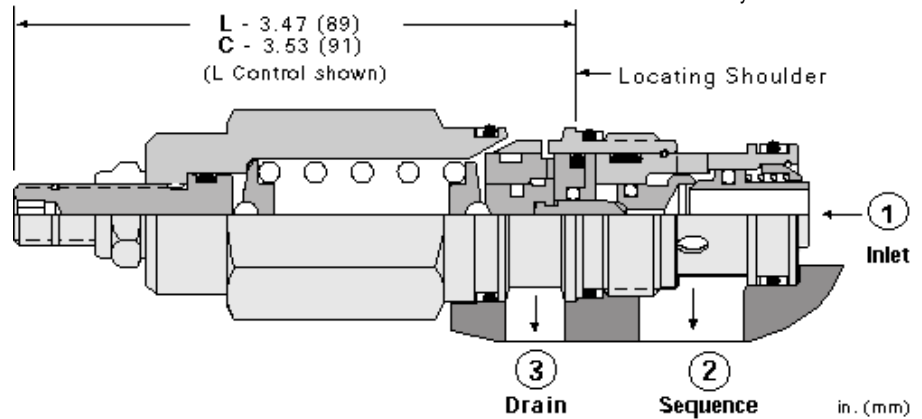
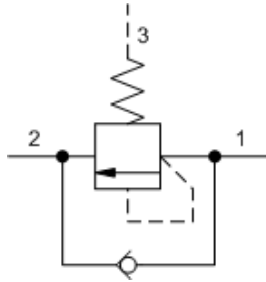
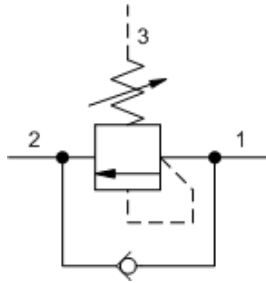
TECHNICAL DATA

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

Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Check Cracking Pressure	40 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS
Model Code Example: SCCALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 2000 - 6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		



Direct-acting sequence valves with reverse-flow check will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. Additionally, these valves incorporate an integral check valve to provide reverse flow from port 2 (sequence) to port 1 (inlet). The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3).

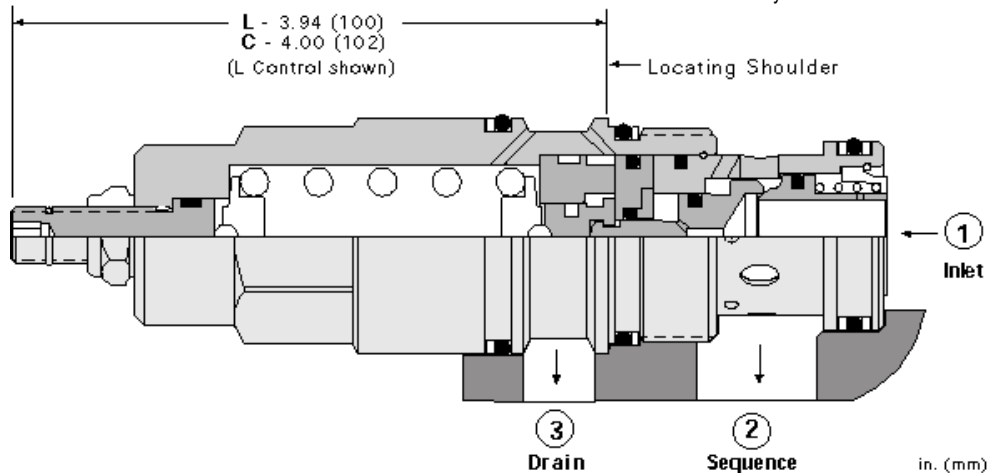
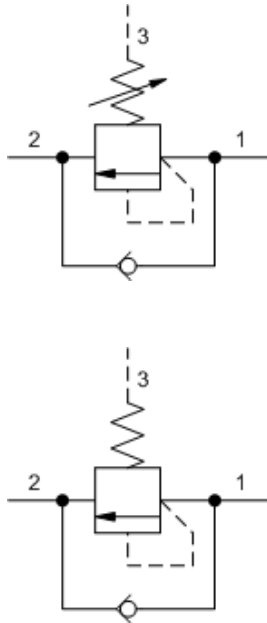
TECHNICAL DATA

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

Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Check Cracking Pressure	25 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: SCEALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting		
	C 2000 - 6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		



Direct-acting sequence valves with reverse-flow check will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. Additionally, these valves incorporate an integral check valve to provide reverse flow from port 2 (sequence) to port 1 (inlet). The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3).

TECHNICAL DATA

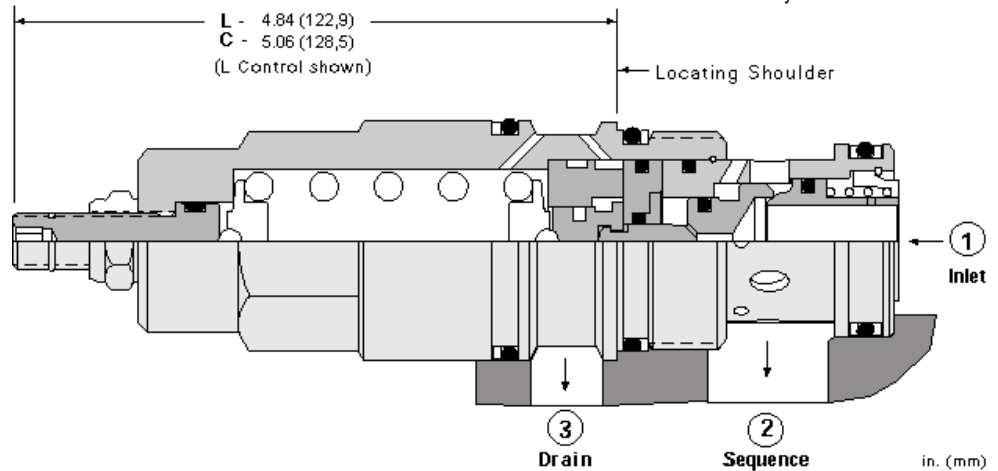
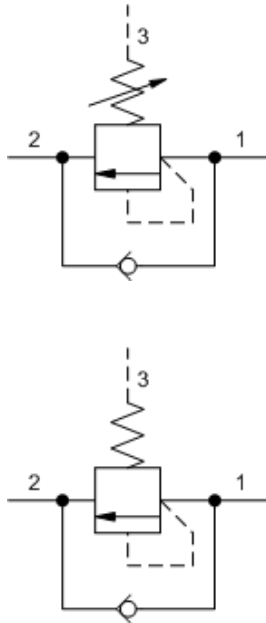
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Check Cracking Pressure	25 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: SCGALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting C 2000 - 6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Direct-acting sequence valves with reverse-flow check will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. Additionally, these valves incorporate an integral check valve to provide reverse flow from port 2 (sequence) to port 1 (inlet). The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3).

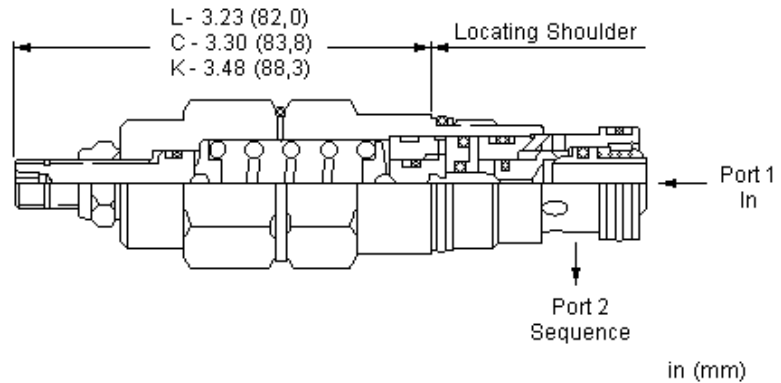
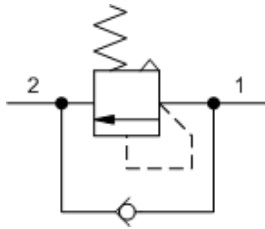
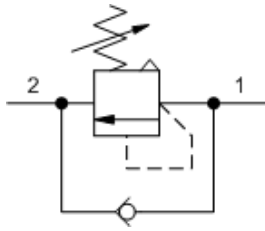
TECHNICAL DATA

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

Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Check Cracking Pressure	25 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS
Model Code Example: SCIALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
	C 2000 - 6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		



Atmospherically referenced, direct-acting sequence valves with reverse-flow check will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. Additionally, these valves incorporate an integral check valve to provide reverse flow from port 2 (sequence) to port 1 (inlet). The pressure setting of this sequence valve controls the pressure at port 1 relative to the atmospheric vent.

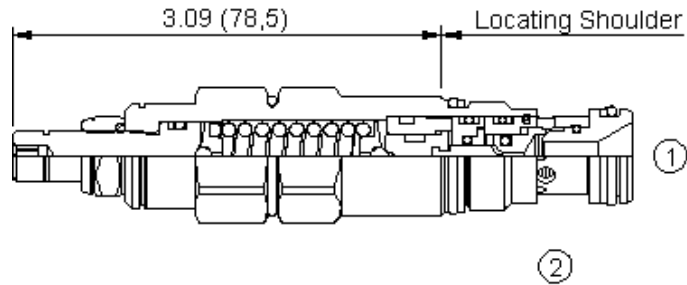
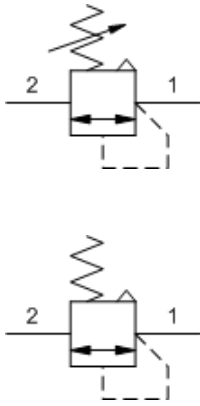
TECHNICAL DATA

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

Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Check Cracking Pressure	25 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

CONFIGURATION OPTIONS
Model Code Example: SCEBLAN

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	B	300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V	Viton	
	C	2000 - 6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting			
	D	200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting			
	E	100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting			
	W	800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting			



Atmospherically referenced, direct-acting sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of this sequence valve controls the pressure at port 1 relative to the atmospheric vent.

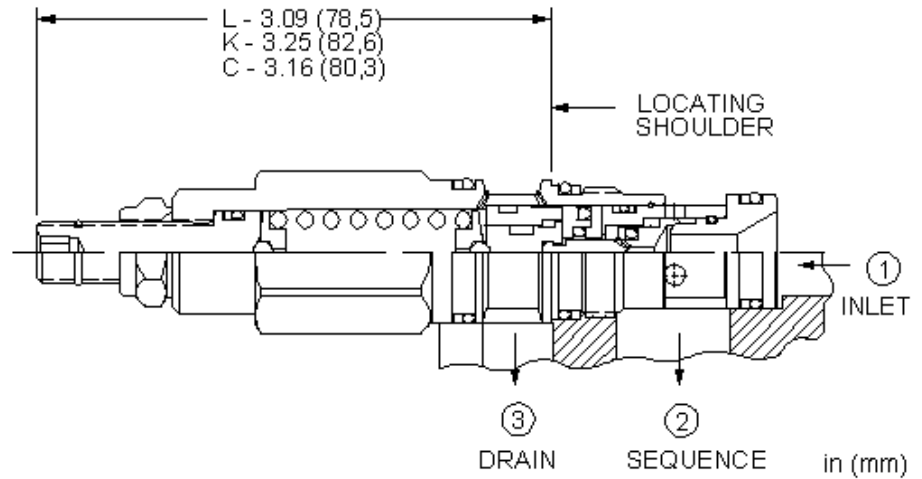
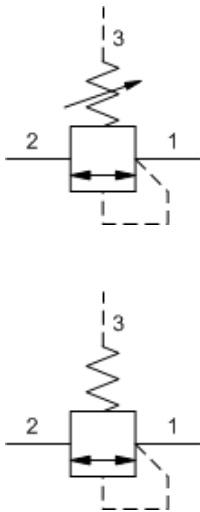
TECHNICAL DATA

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

Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS
Model Code Example: SXCBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 2000 - 6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting	V Viton	
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting		



Direct-acting sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3).

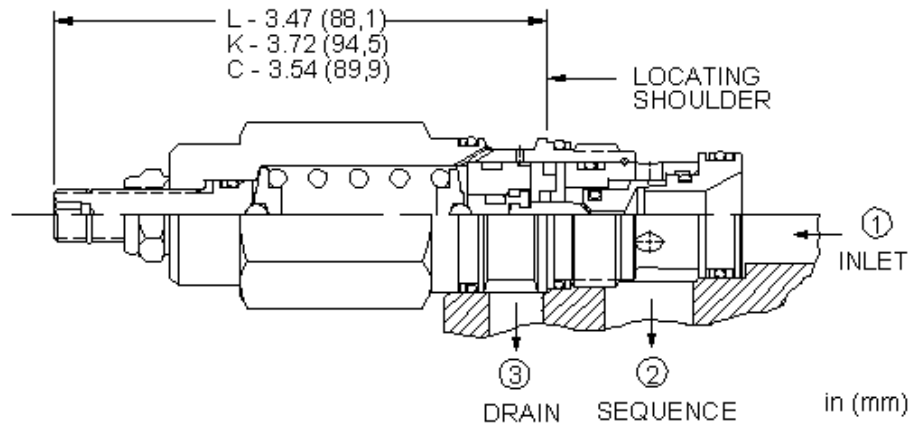
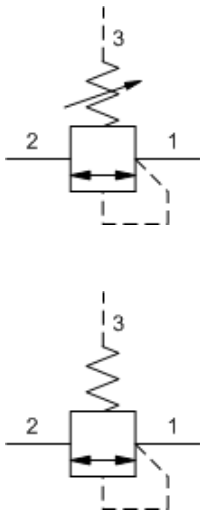
TECHNICAL DATA

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

Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4
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

CONFIGURATION OPTIONS
Model Code Example: SXCALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
	C 2000 - 6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting		



Direct-acting sequence valves will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3).

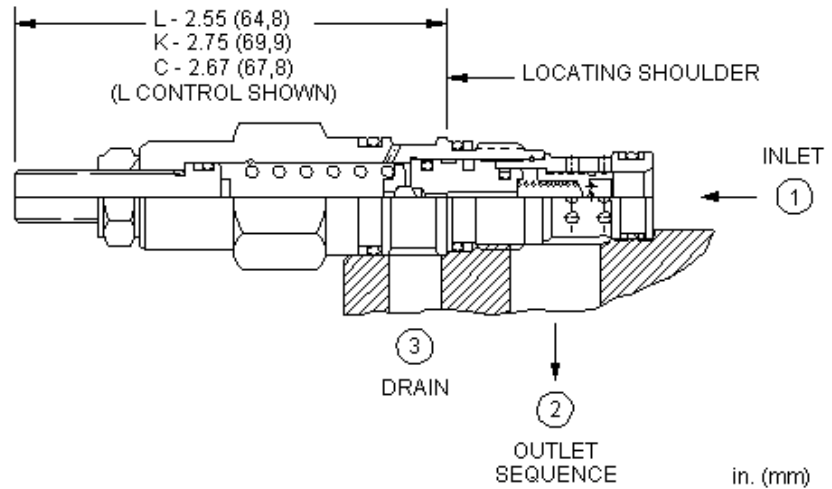
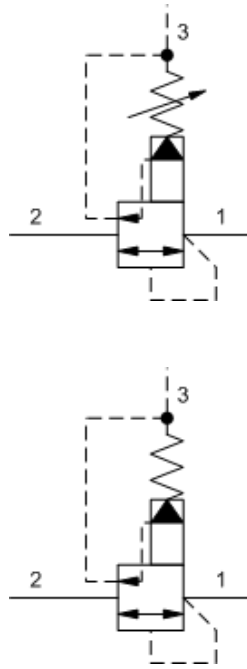
TECHNICAL DATA

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

Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: SXEALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
	C 2000 - 6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting		



Kick-down sequence valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to port 2 (sequence). The pressure setting at port 1 is relative to the drain (port 3). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, pressure at port 1 must fall below the setting of the valve, flow from port 1 to port 2 must cease, and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

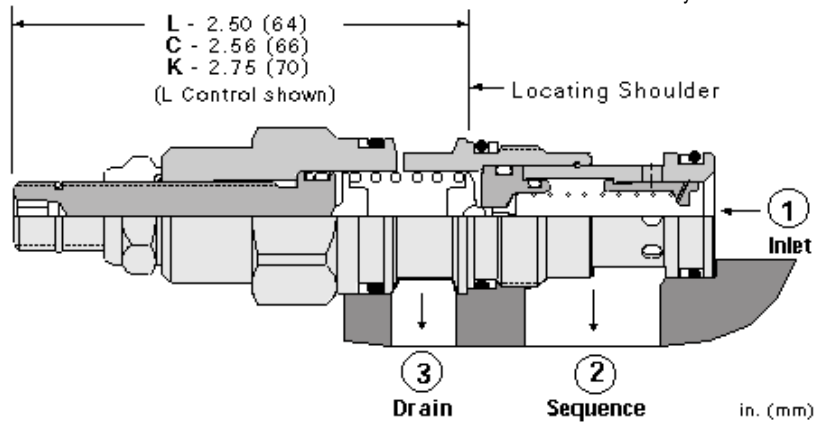
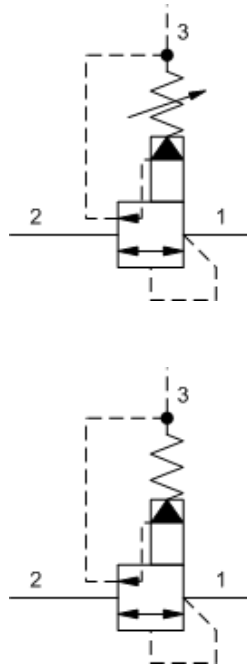
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	Kick down point
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS

Model Code Example: SQBBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 75 - 3000 psi (5 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 75 - 1500 psi (5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
K Handknob	C 75 - 6000 psi (5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	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		



Kick-down sequence valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to port 2 (sequence). The pressure setting at port 1 is relative to the drain (port 3). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, pressure at port 1 must fall below the setting of the valve, flow from port 1 to port 2 must cease, and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

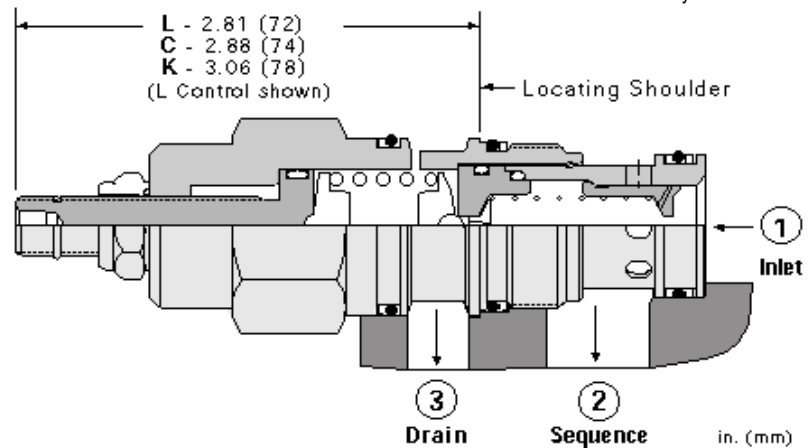
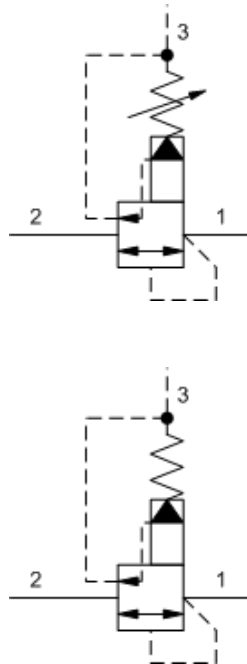
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	Kick down point
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
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

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.

CONFIGURATION OPTIONS
Model Code Example: SQDBLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
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		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Kick-down sequence valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to port 2 (sequence). The pressure setting at port 1 is relative to the drain (port 3). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, pressure at port 1 must fall below the setting of the valve, flow from port 1 to port 2 must cease, and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

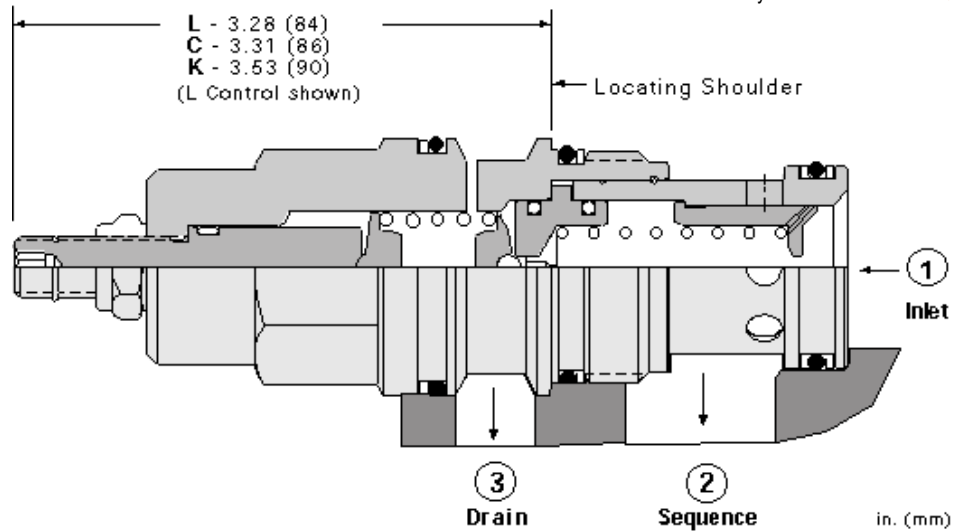
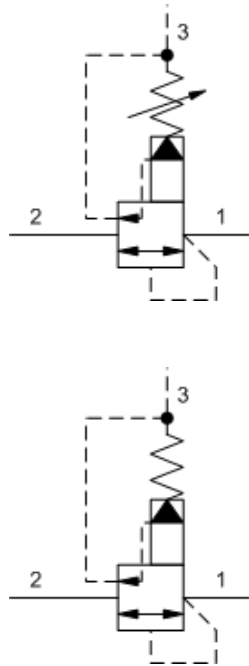
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	Kick down point
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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.

CONFIGURATION OPTIONS
Model Code Example: SQFBLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
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		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Kick-down sequence valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to port 2 (sequence). The pressure setting at port 1 is relative to the drain (port 3). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, pressure at port 1 must fall below the setting of the valve, flow from port 1 to port 2 must cease, and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

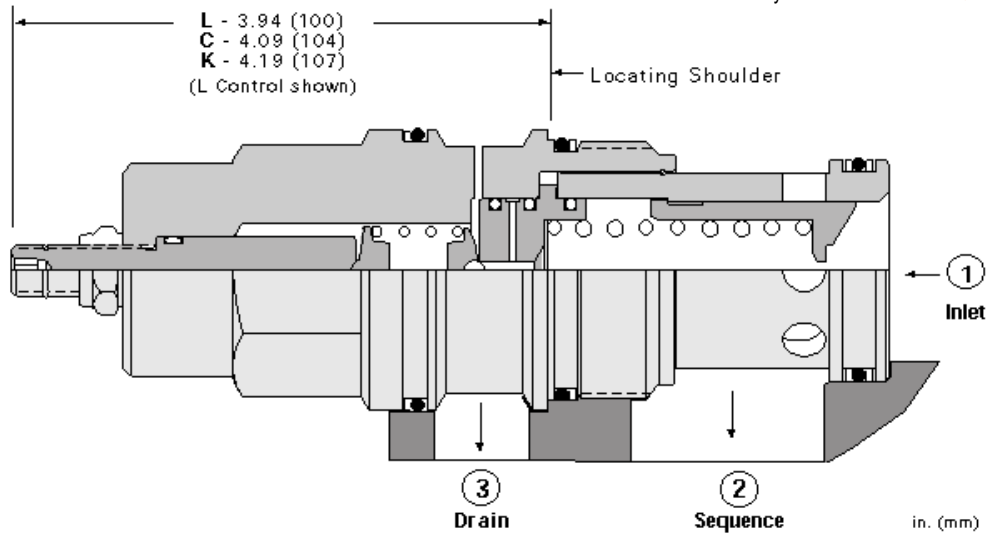
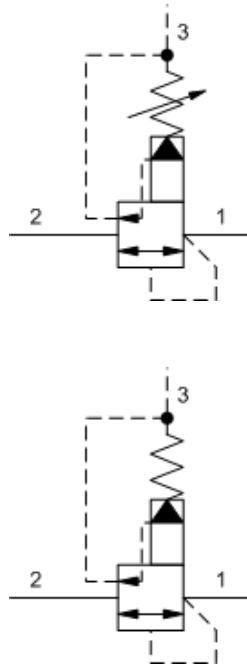
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	Kick down point
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: SQHBLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment	A	100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N	Buna-N	
C Tamper Resistant - Factory Set	B	50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V	Viton	
K Handknob	C	150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting			
	D	25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting			
	E	25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting			
	W	150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting			



Kick-down sequence valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to port 2 (sequence). The pressure setting at port 1 is relative to the drain (port 3). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, pressure at port 1 must fall below the setting of the valve, flow from port 1 to port 2 must cease, and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

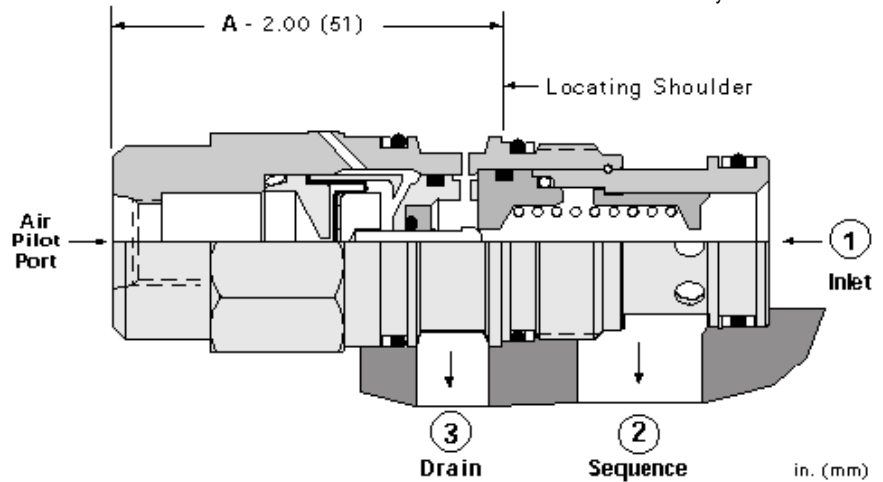
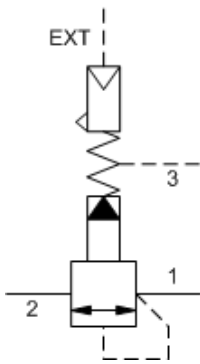
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	Kick down point
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: SQJBLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment	A	100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N	Buna-N	
C Tamper Resistant - Factory Set	B	50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V	Viton	
K Handknob	C	150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting			
	D	25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting			
	E	25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting			
	W	100 - 1500 psi (7 - 105 bar), 1000 psi (70 bar) Standard Setting			



Air-controlled, pilot-operated, balanced piston sequence valves use compressed air over a diaphragm instead of an adjustable spring to control the pressure setting of the valve. The air signal is supplied through a port in the hex-end of the cartridge. They will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

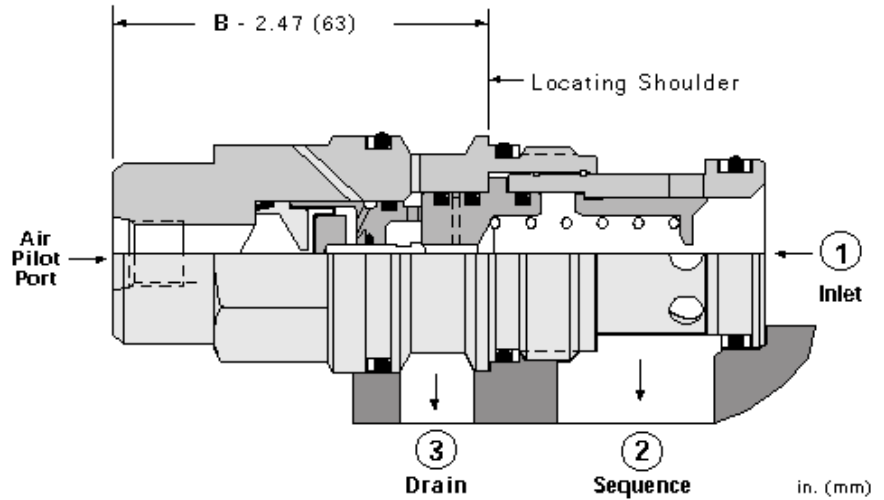
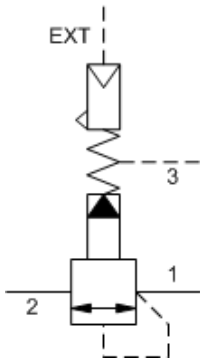
TECHNICAL DATA

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

Pilot Ratio	20:1
Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	2000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.
Maximum Air Pressure	150 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: RSFEABN

CONTROL	(A) ADJUSTMENT RANGE	(B) SEAL MATERIAL	(N)
A External 1/4 NPTF Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N V Viton	



Air-controlled, pilot-operated, balanced piston sequence valves use compressed air over a diaphragm instead of an adjustable spring to control the pressure setting of the valve. The air signal is supplied through a port in the hex-end of the cartridge. They will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

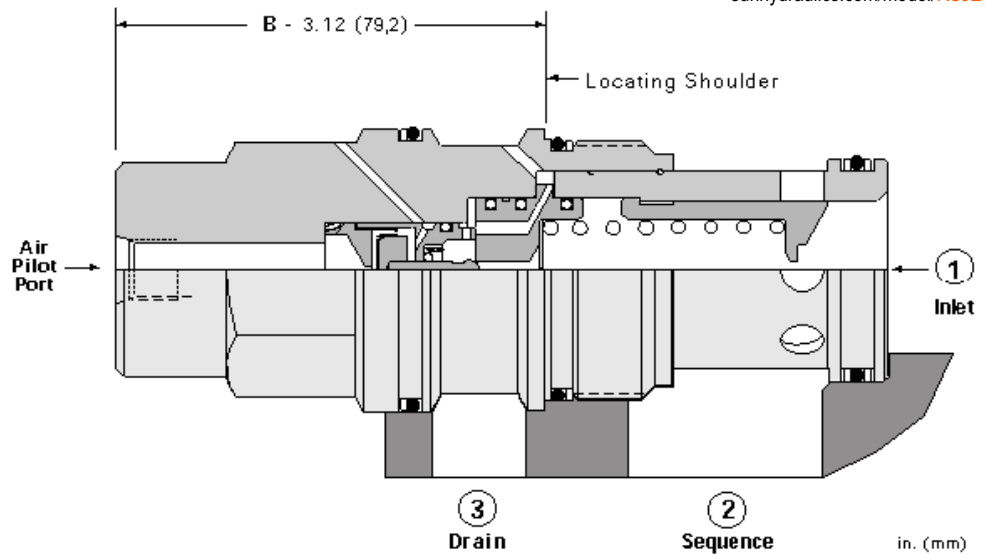
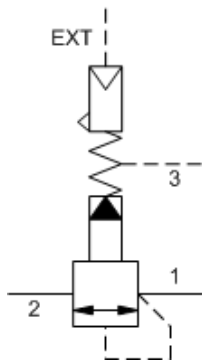
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	20:1
Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	2000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.
Maximum Air Pressure	150 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: RSHEBBN

CONTROL	(B) ADJUSTMENT RANGE	(B) SEAL MATERIAL	(N)
B External 4-SAE Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N	V Viton



Air-controlled, pilot-operated, balanced piston sequence valves use compressed air over a diaphragm instead of an adjustable spring to control the pressure setting of the valve. The air signal is supplied through a port in the hex-end of the cartridge. They will supply a secondary circuit with flow once the pressure at the inlet (port 1) has exceeded the valve setting. The pressure setting of a sequence valve controls the pressure at port 1 relative to the pressure at the drain (port 3). These valves are insensitive to back pressure at port 2 (sequence), up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

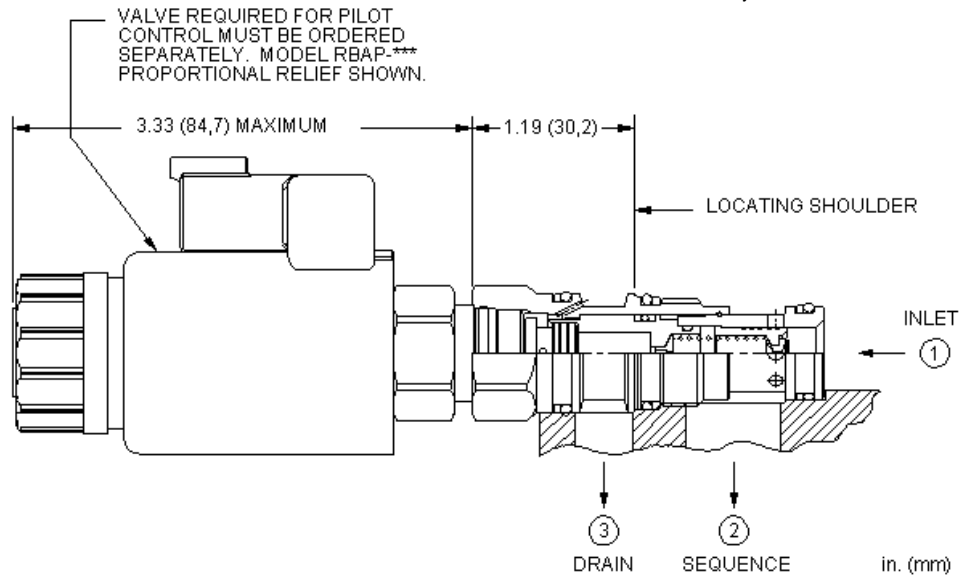
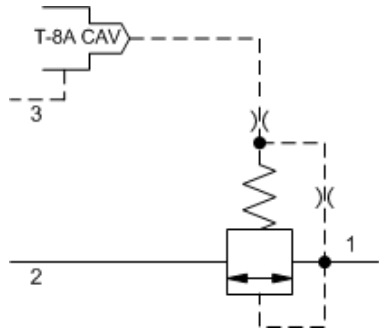
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	20:1
Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	2000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.
Maximum Air Pressure	150 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: **RSJE**BBN

CONTROL	(B) ADJUSTMENT RANGE	(B) SEAL MATERIAL	(N)
B External 4- SAE Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N	V Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to port 2, throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 3). These valves are insensitive to back pressure at port 2, up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

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

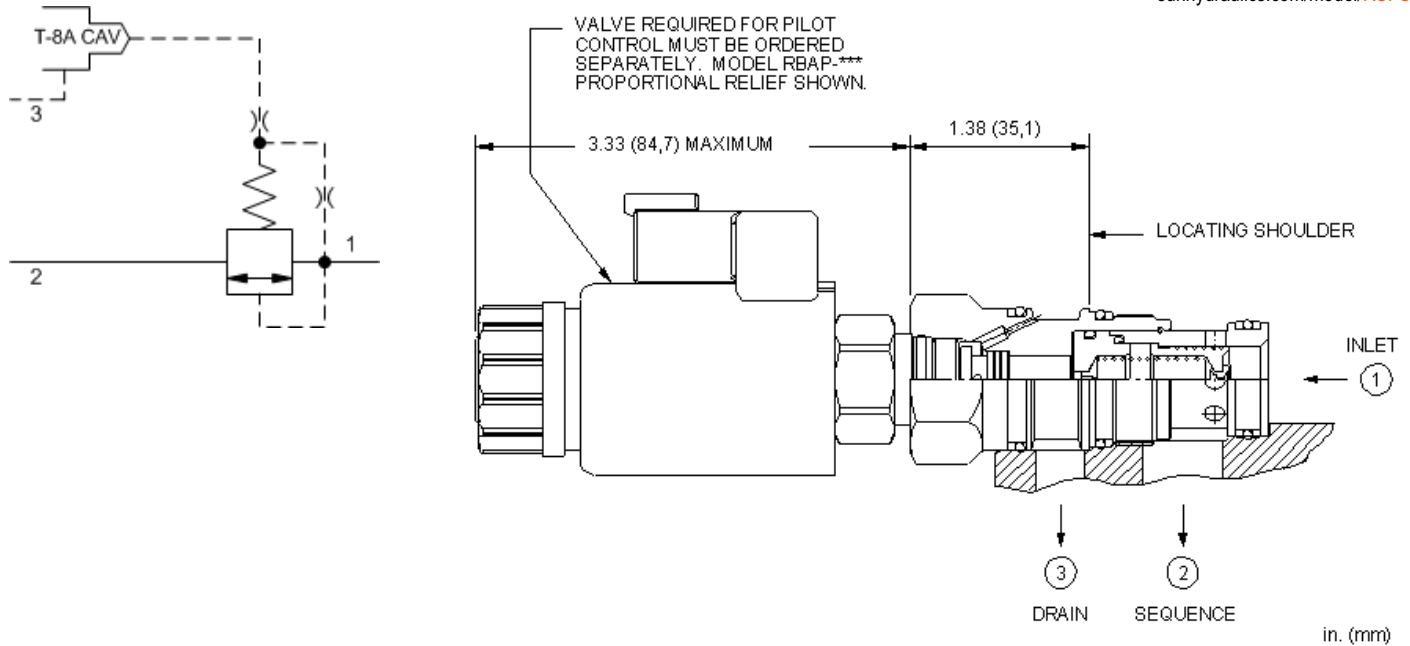
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RSDC8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM
	V Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to port 2, throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 3). These valves are insensitive to back pressure at port 2, up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

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

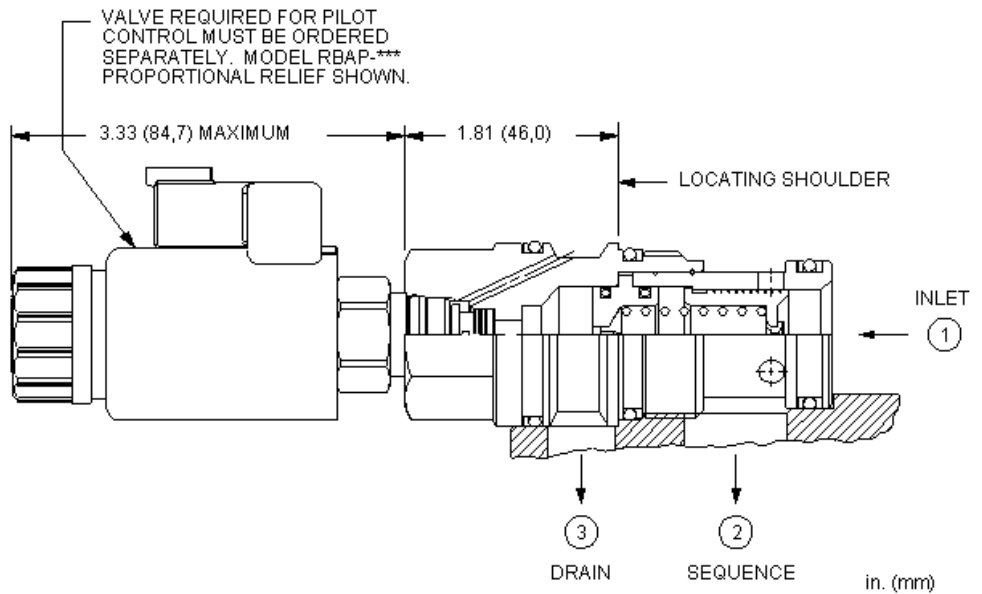
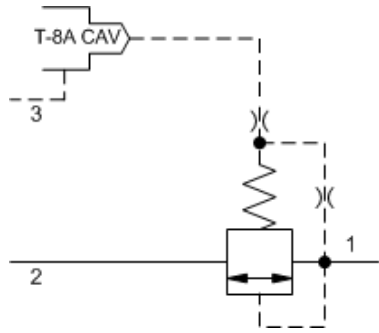
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RSFC8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to port 2, throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 3). These valves are insensitive to back pressure at port 2, up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

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

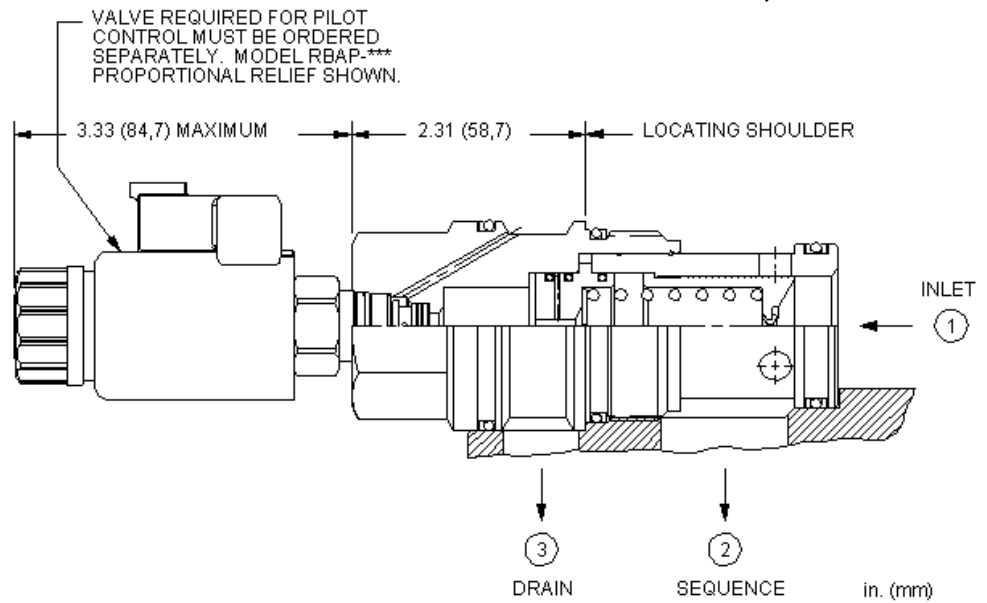
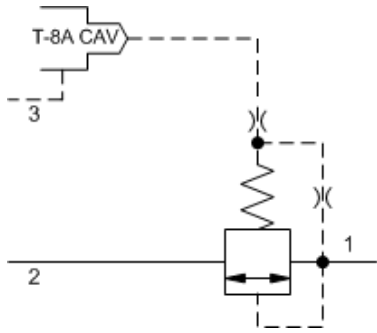
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RSHC8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to port 2, throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 3). These valves are insensitive to back pressure at port 2, up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

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

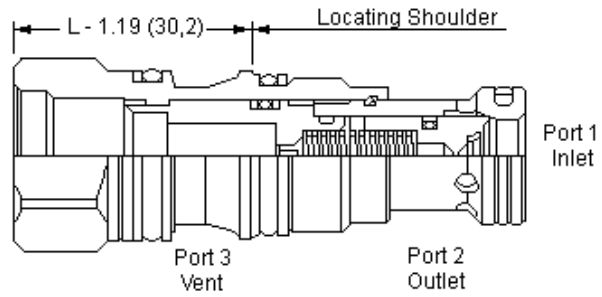
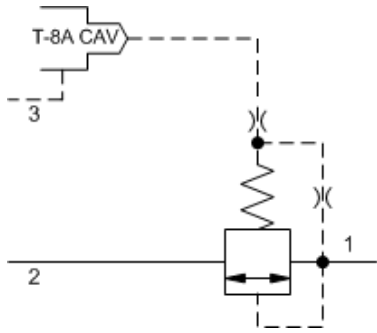
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RSJC8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



in (mm)

This valve is a normally closed poppet element that incorporates an integral pilot control cavity. It is externally drained, and is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to port 2, throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 3). These valves are insensitive to back pressure at port 2, up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

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

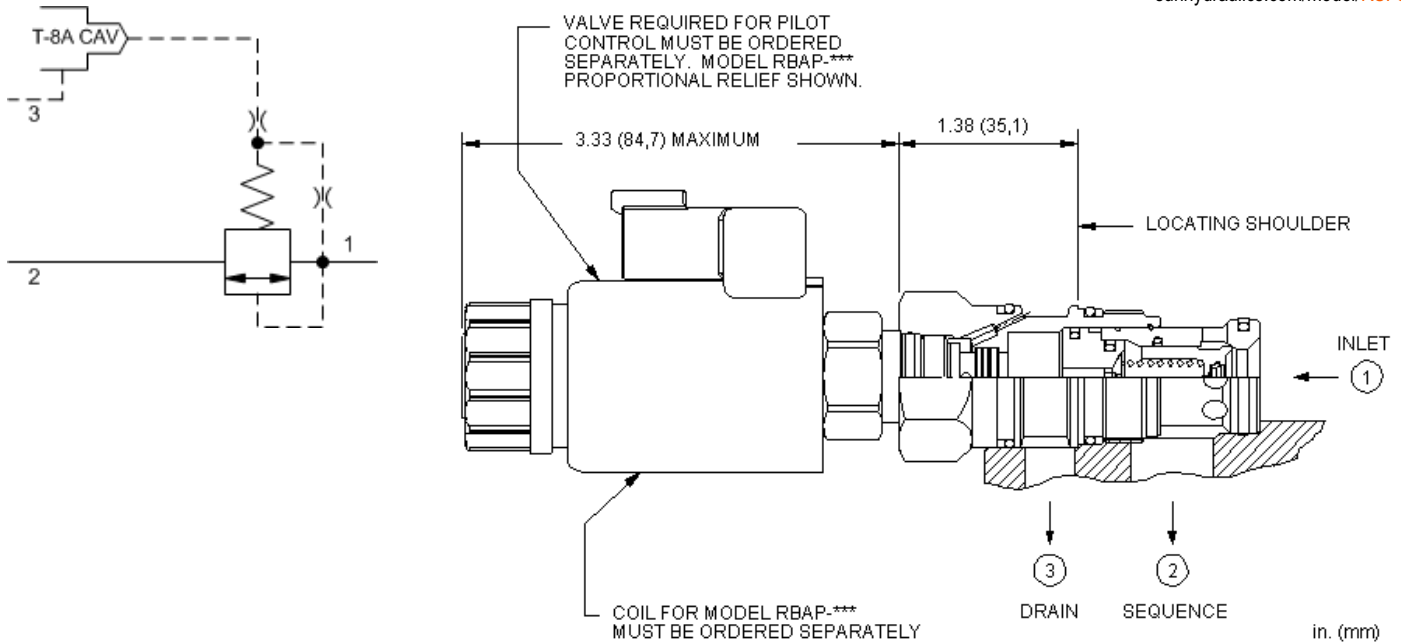
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseal	10 drops/min.
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RSDS8WN

BIAS PRESSURE	(W)	SEAL MATERIAL	(N)
W 100 psi (7 bar)		N Buna-N	
D 50 psi (3,5 bar)		V Viton	



This valve is a normally closed poppet element that incorporates an integral pilot control cavity. It is externally drained, and is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to port 2, throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 3). These valves are insensitive to back pressure at port 2, up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseal	10 drops/min.
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990402007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990402006

NOTES

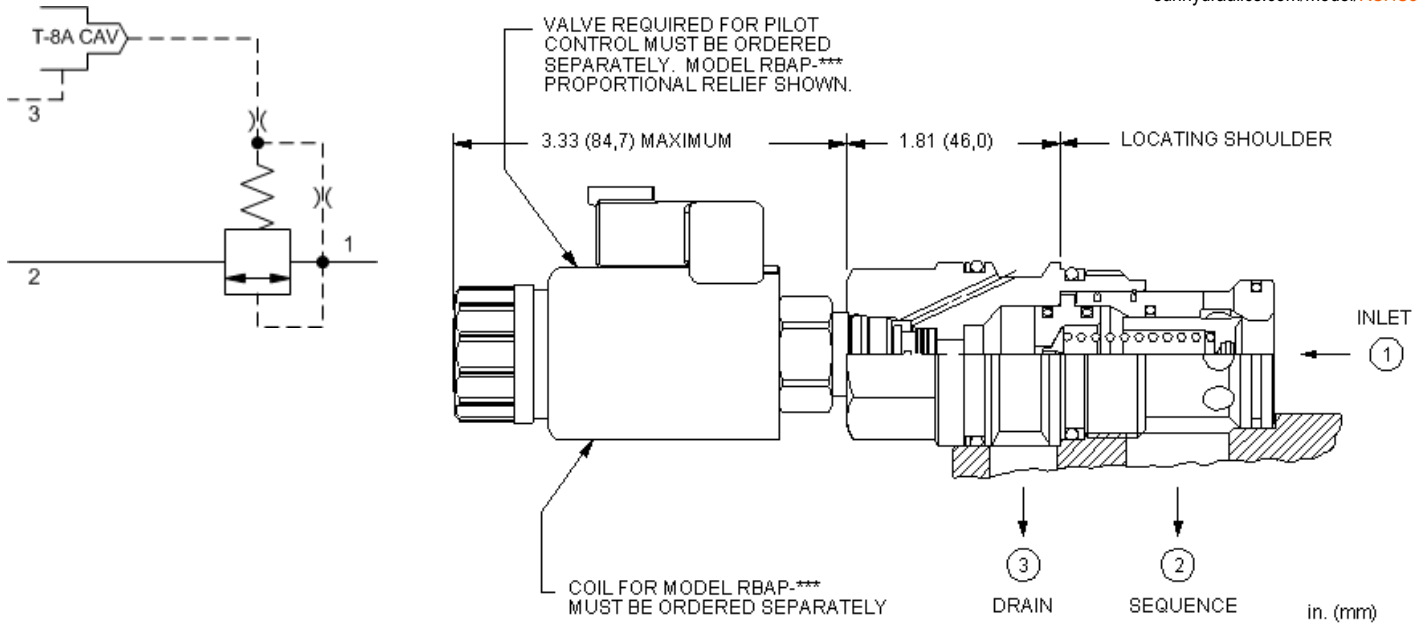
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RSFS8WN

MINIMUM CONTROL PRESSURE (W) SEAL MATERIAL (N)

- W** 100 psi (7 bar) **N** Buna-N
- B** 50 psi (3,5 bar) **V** Viton



This valve is a normally closed poppet element that incorporates an integral pilot control cavity. It is externally drained, and is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to port 2, throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 3). These valves are insensitive to back pressure at port 2, up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reset	10 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990217007
Seal kit - Cartridge	Polyurethane: 990217002
Seal kit - Cartridge	Viton: 990217006

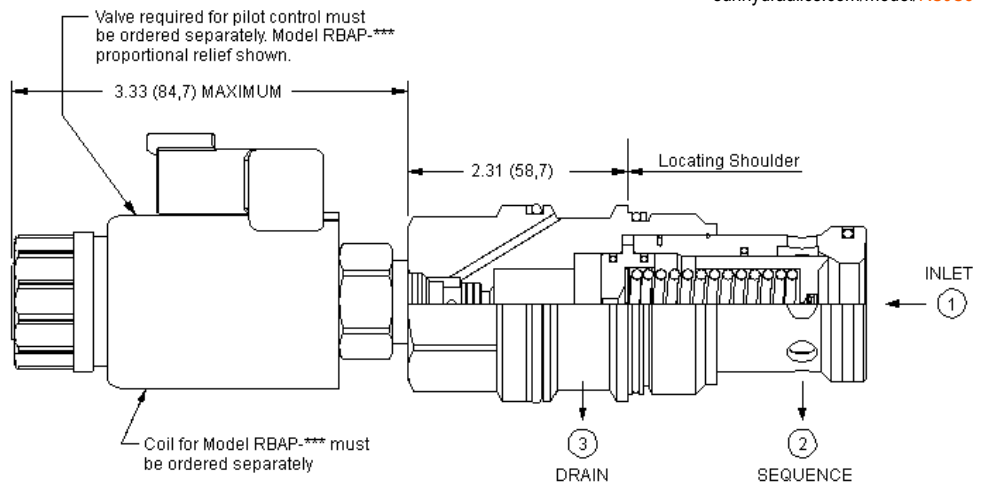
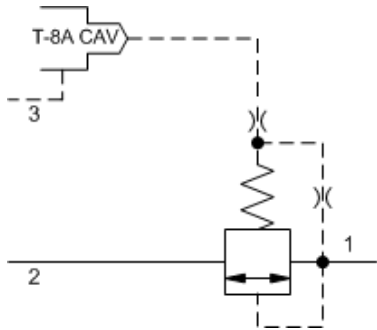
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RSHS8WN

MINIMUM CONTROL PRESSURE (W) SEAL MATERIAL (N)

B	V
50 psi (3,5 bar)	Viton



This valve is a normally closed poppet element that incorporates an integral pilot control cavity. It is externally drained, and is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to port 2, throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 3). These valves are insensitive to back pressure at port 2, up to the valve setting. They may be used to regulate pressure in place of 2-port relief valves if there is pressure in the return line.

TECHNICAL DATA

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

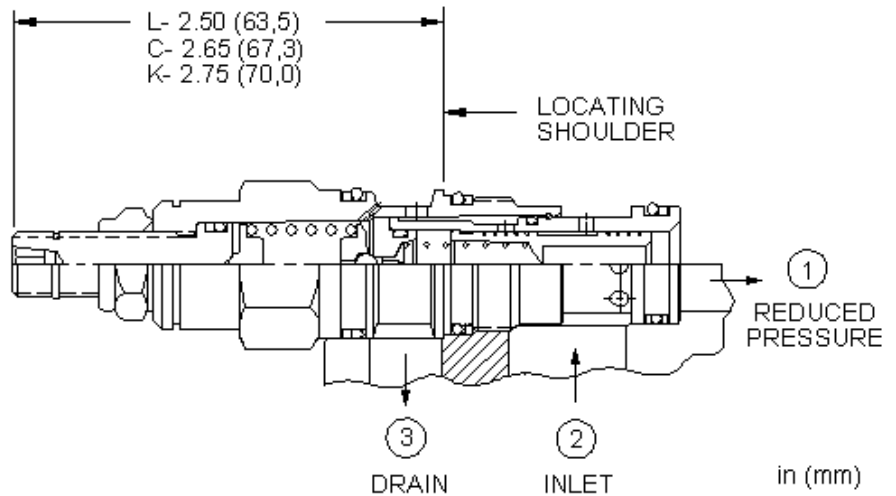
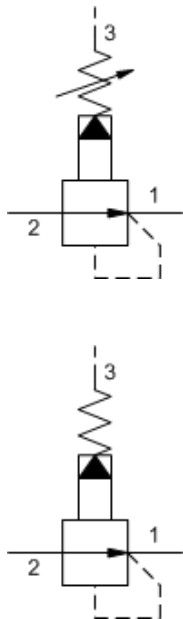
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseal	10 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990219007
Seal kit - Cartridge	Viton: 990219006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RSJS8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
B 50 psi (3,5 bar)	V Viton



Pilot-operated, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, allowing circuits with multiple pressure requirements to be operated using a single pump.

TECHNICAL DATA

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

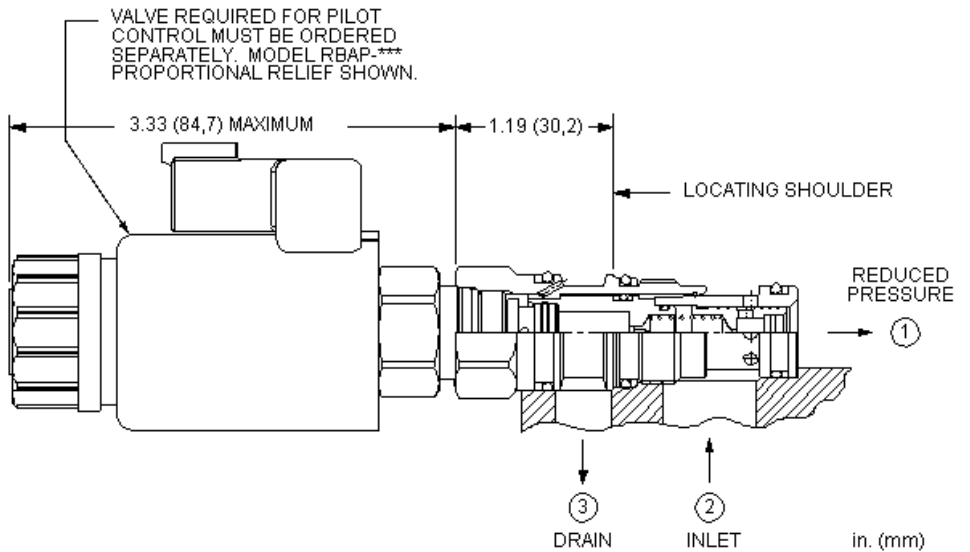
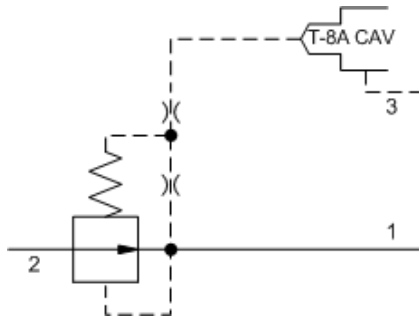
Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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.

CONFIGURATION OPTIONS

Model Code Example: PBDFLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment	A	100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N	Buna-N	
C Tamper Resistant - Factory Set	B	50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V	Viton	
K Handknob	D	25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting			
	E	25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting			
	G	60 - 3000 psi (4 - 210 bar), 200 psi (14 bar) Standard Setting			
	K	75 - 1500 psi (5 - 105 bar), 200 psi (14 bar) Standard Setting			
	N	60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting			
	P	40 - 400 psi (2,8 - 28 bar), 200 psi (14 bar) Standard Setting			
	Q	60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting			
	W	150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting			



This valve is a normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 3).

TECHNICAL DATA

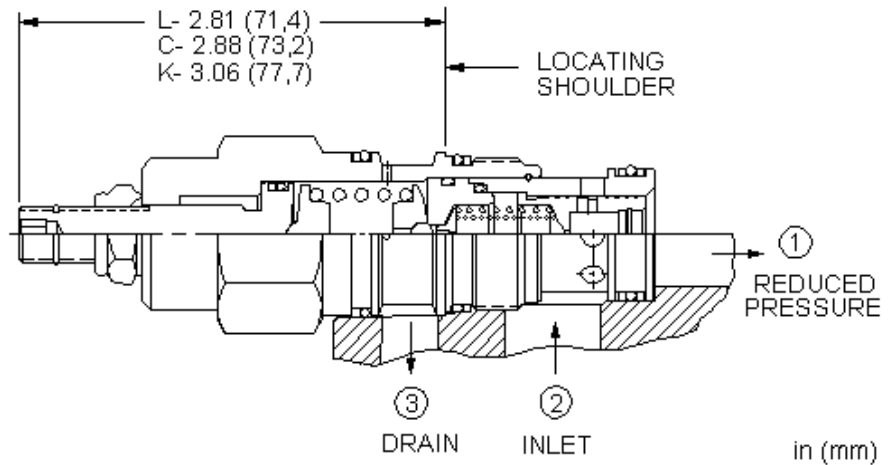
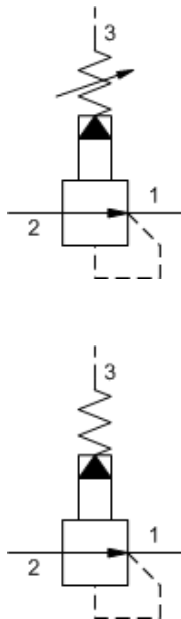
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: **PBDF8WN**

BIAS PRESSURE	(W)	SEAL MATERIAL	(N)
W 100 psi (7 bar)		N Buna-N	
D 25 psi (1,7 bar)		V Viton	



Pilot-operated, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, allowing circuits with multiple pressure requirements to be operated using a single pump.

TECHNICAL DATA

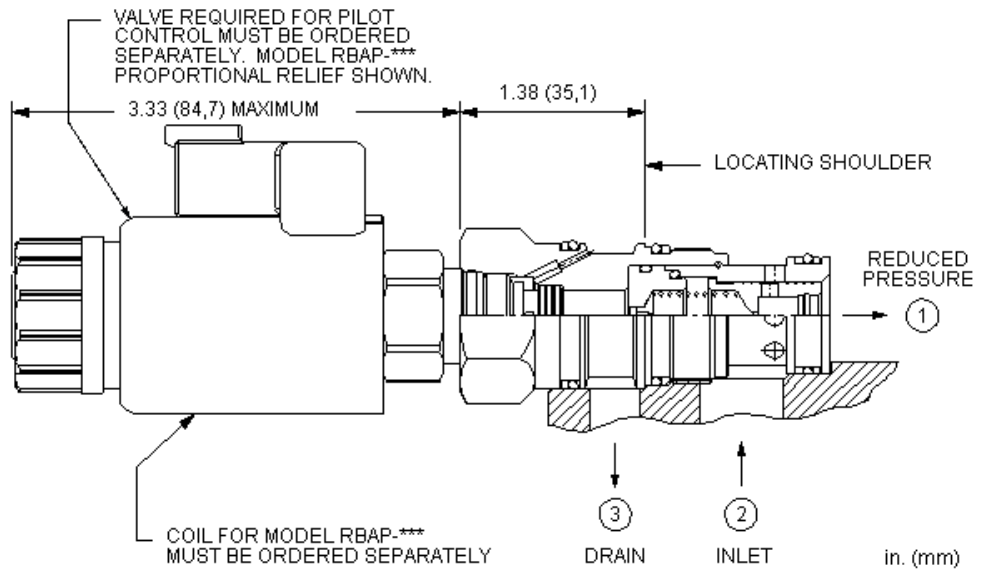
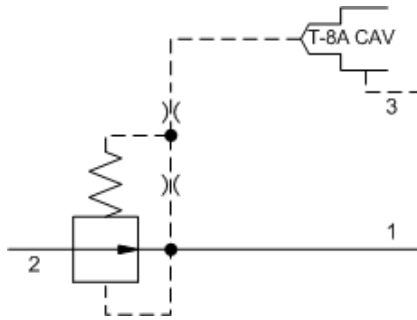
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Control Pilot Flow	10 - 15 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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.

CONFIGURATION OPTIONS
Model Code Example: PBFFLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	E EPDM	/LH Mild Steel, Zinc-Nickel
K Handknob	N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting	V Viton	
	Q 60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting		



This valve is a normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 3).

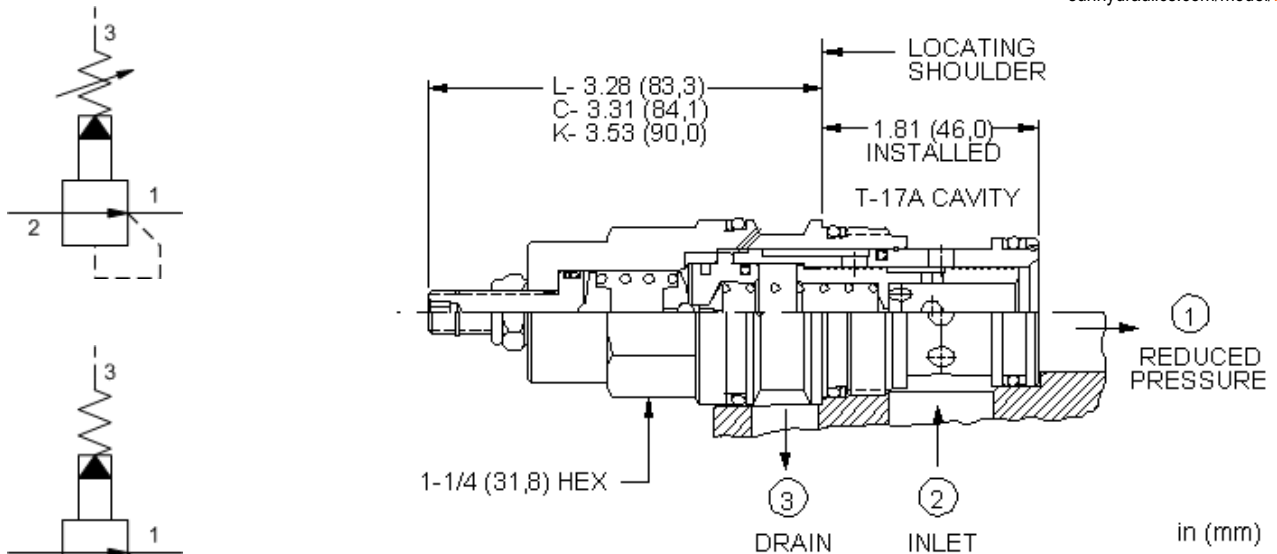
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: PBFF8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM
	V Viton



Pilot-operated, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, allowing circuits with multiple pressure requirements to be operated using a single pump.

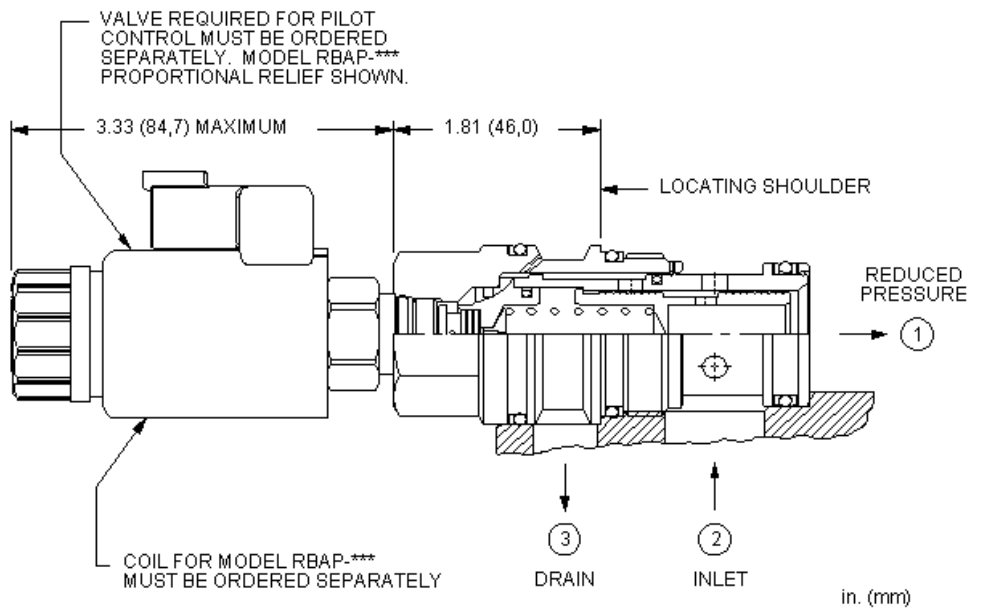
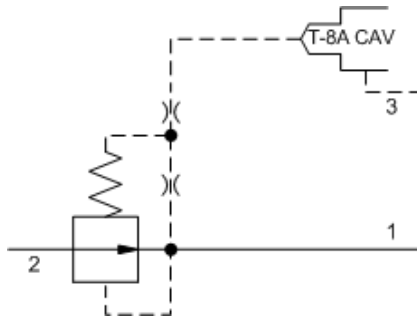
TECHNICAL DATA

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

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS
Model Code Example: PBHFLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set		V Viton	
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting		
M Capped Screw Adjustment with Lockwire Holes	C 150 - 6000 psi (10,5 - 420 bar), 200 psi (14 bar) Standard Setting		
Q Capped and Lockwired	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 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), 200 psi (14 bar) Standard Setting		
	Q 60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting		



This valve is a normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 3).

TECHNICAL DATA

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

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

NOTES

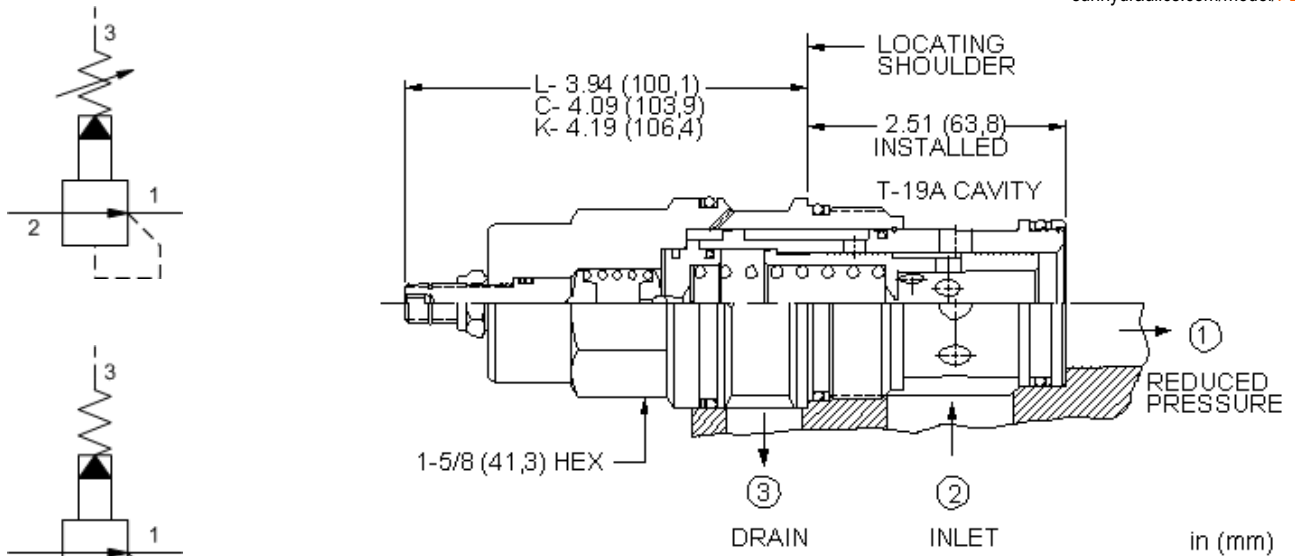
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: PBHF8WN

MINIMUM CONTROL PRESSURE (W) SEAL MATERIAL (N)

W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM
	V Viton



Pilot-operated, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, allowing circuits with multiple pressure requirements to be operated using a single pump.

TECHNICAL DATA

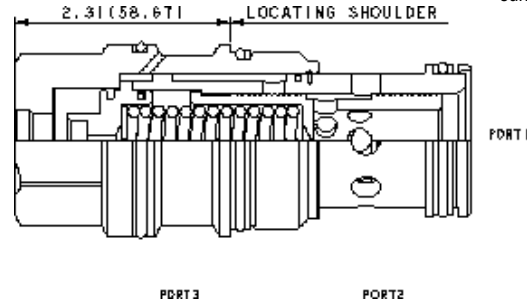
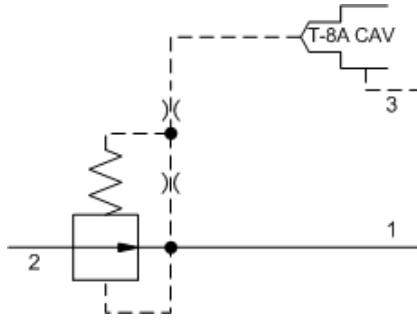
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: PBJFLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	E EPDM	
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 200 psi (14 bar) Standard Setting	V Viton	
N Capped Screw Adjustment with Lockwire Holes	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting		
	Q 60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 100 - 4500 psi (7 - 315 bar), 200 psi (14 bar) Standard Setting		



This valve is a normally open modulating element that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 3).

TECHNICAL DATA

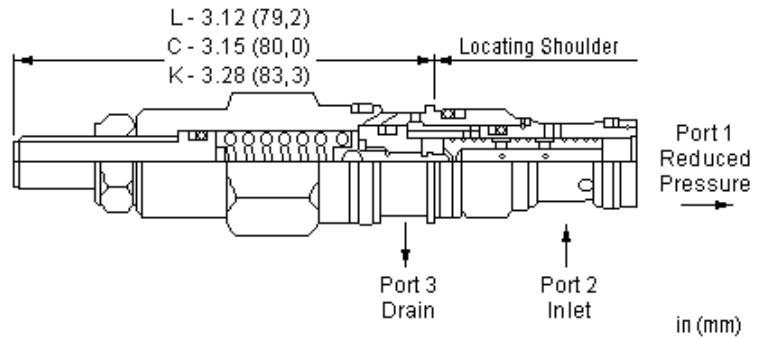
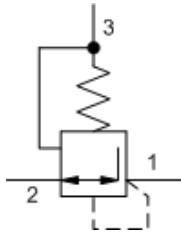
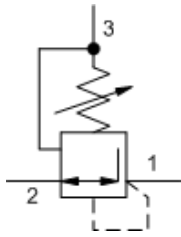
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: PBJF8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



Direct-acting, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

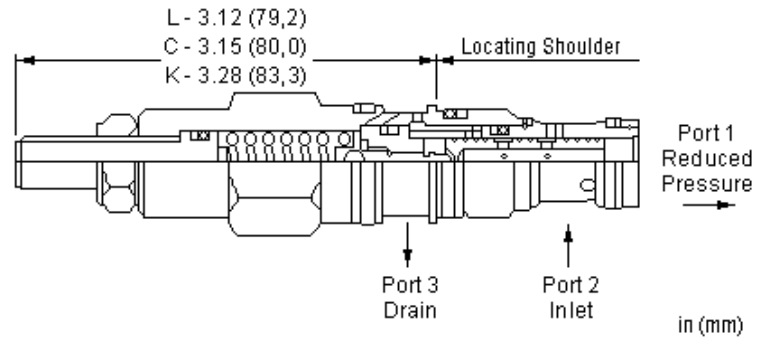
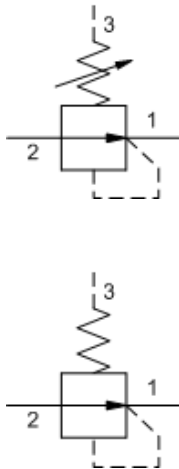
TECHNICAL DATA

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

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	7
Locknut Hex Size	1/2 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	EPDM: 990163014
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS
Model Code Example: PRBBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 700 psi (50 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting		



Direct-acting, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1. These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.

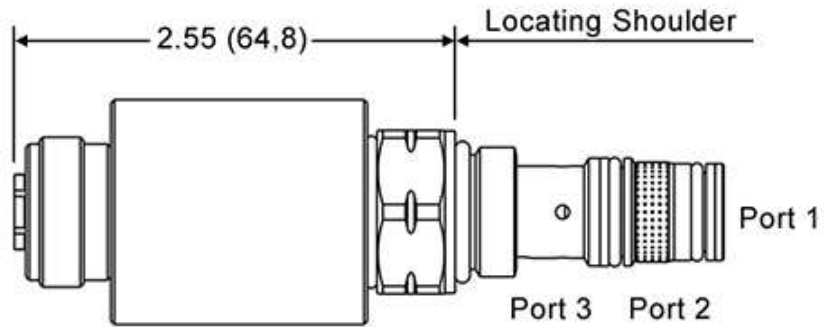
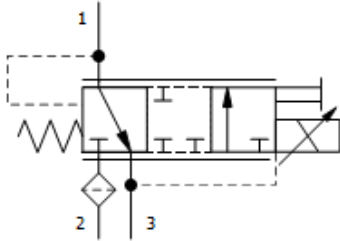
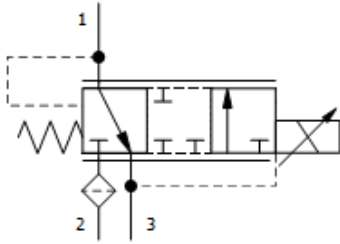
TECHNICAL DATA

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

Factory Pressure Settings Established at	0.25 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	1/2 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	EPDM: 990163014
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS
Model Code Example: PRBRLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment		A 500 - 3000 psi (35 - 210 bar), 700 psi (50 bar) Standard Setting		N Buna-N		Standard Material/Coating
C Tamper Resistant - Factory Set		B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting		E EPDM		/AP Stainless Steel, Passivated
K Handknob		D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		V Viton		/LH Mild Steel, Zinc-Nickel
		E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting				
		S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting				
		W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting				



* An additional 2.00 (50,8) clearance needed for coil installation and removal

* Coil code is appended to the cartridge base model code. See CONFIGURATION section.

in (mm)

This electro-proportional, direct-acting reducer/reliever valve reduces a high primary pressure at the inlet port (Port 2) to a constant reduced pressure at Port 1, with a relief function from Port 1 to tank (Port 3). The valve is biased to the relieving mode. Energizing the coil connects Port 2 to Port 1. Increasing the current to the coil will proportionally increase the reduced pressure at Port 1. If pressure at Port 1 exceeds the setting induced by the coil, pressure at port 1 is relieved to port 3. This valve is closed in the transition between reducing and relieving resulting in very low consumption of oil.

TECHNICAL DATA

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

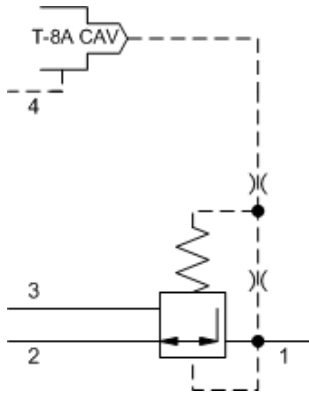
Maximum Operating Pressure	3000 psi
Coil Nut Torque	3.5 - 3.9 lbf ft

CONFIGURATION OPTIONS

Model Code Example: PRTSXD^N

CONTROL	(X) ADJUSTMENT RANGE	(D) SEAL MATERIAL	(N) COIL *
X - M -	D 0 - 435 psi E 0 - 290 psi	N Buna-N	No coil

* Additional coil options are available



This valve is a 3-way, normally open modulating element, externally drained, that incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. The valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The pilot cartridge's setting determines the difference in pressure between reduced pressure (port 1) and the drain (port 4).

TECHNICAL DATA

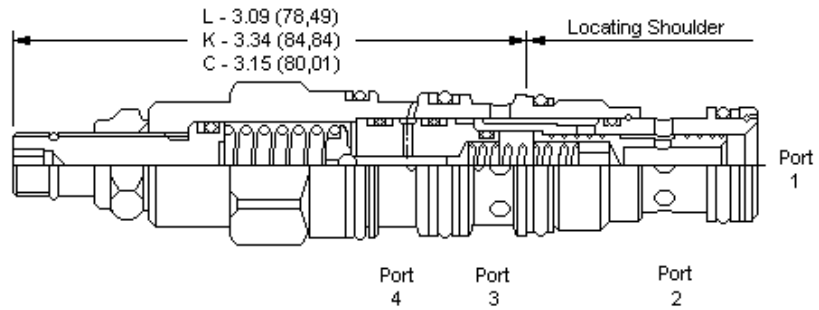
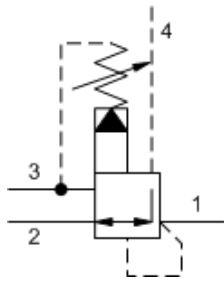
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: PVDC8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



in (mm)

Ventable, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The vent port (port 4) can be used as a means for remote control by pilot or 2-way valves.

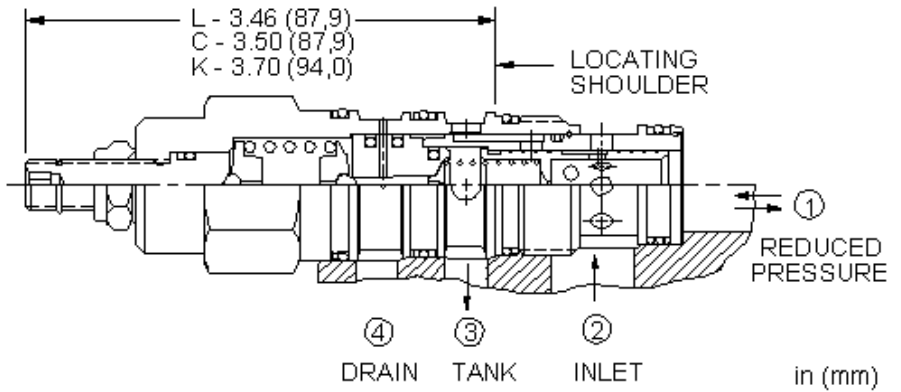
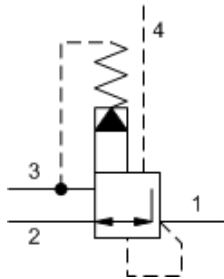
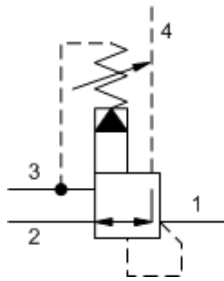
TECHNICAL DATA

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

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS
Model Code Example: PVDDLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment	A	100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N	Buna-N	
C Tamper Resistant - Factory Set	B	50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V	Viton	
K Handknob	D	25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting			
	E	25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting			
	W	150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting			



Ventable, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The vent port (port 4) can be used as a means for remote control by pilot or 2-way valves.

TECHNICAL DATA

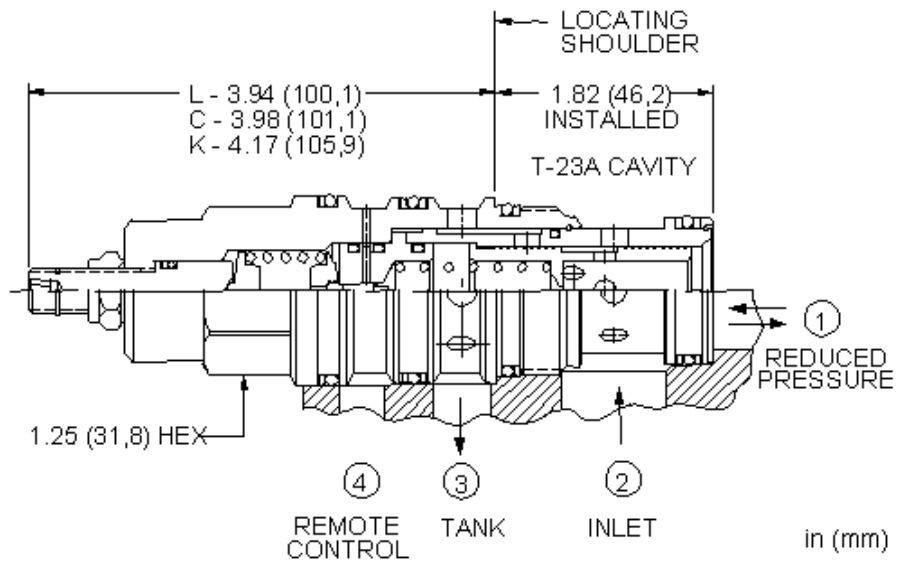
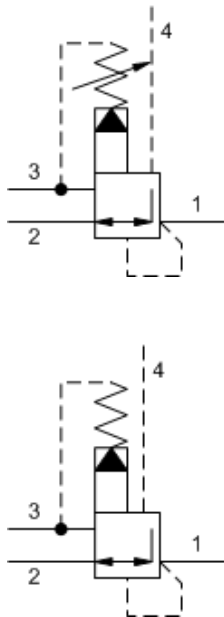
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS

Model Code Example: PVFDLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting		



Ventable, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The vent port (port 4) can be used as a means for remote control by pilot or 2-way valves.

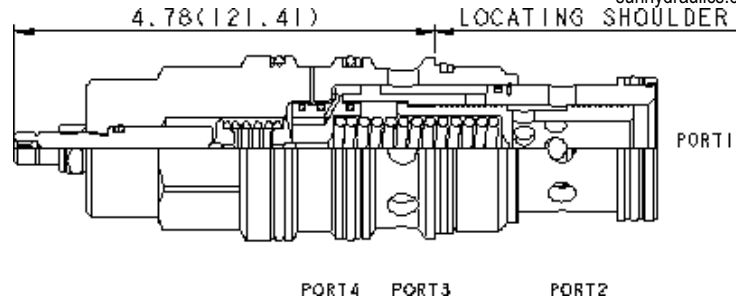
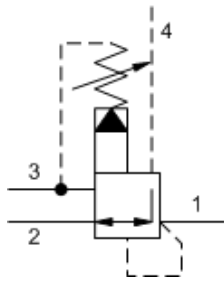
TECHNICAL DATA

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

Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS
Model Code Example: PVHDLAN

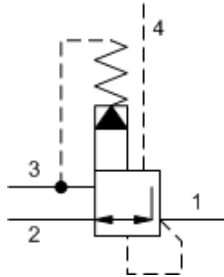
CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	H 30 - 3000 psi (2 - 210 bar), 200 psi (14 bar) Standard Setting		
	J 25 - 1500 psi (1,7 - 105 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,3 - 315 bar), 200 psi (14 bar) Standard Setting		



Ventable, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The vent port (port 4) can be used as a means for remote control by pilot or 2-way valves.

TECHNICAL DATA

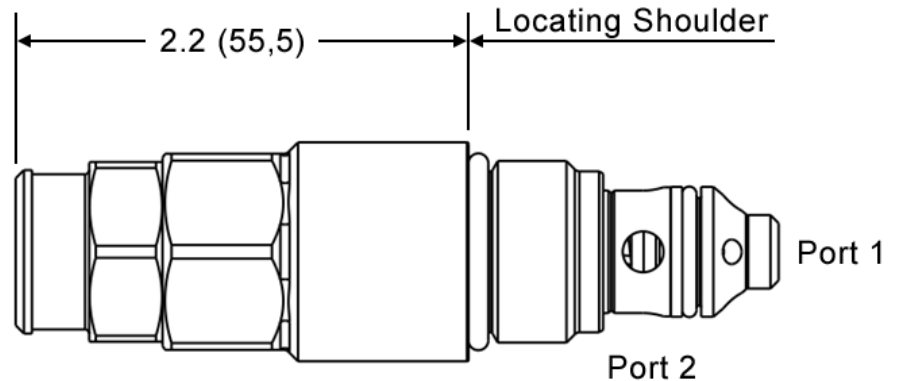
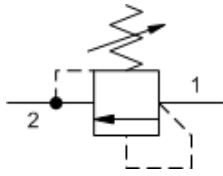
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.



Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS
Model Code Example: PVJDLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 200 psi (14 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	H 30 - 3000 psi (2 - 210 bar), 200 psi (14 bar) Standard Setting		
	J 25 - 1500 psi (1,7 - 105 bar), 200 psi (14 bar) Standard Setting		
	W 100 - 4500 psi (7 - 315 bar), 200 psi (14 bar) Standard Setting		



in (mm)

This direct-acting relief cartridge is a normally closed, pressure-limiting device used to protect hydraulic systems from over pressurization. When the pressure at the inlet (Port 1) reaches the valve setting, the valve opens to tank (Port 2) to prevent over pressurization. This valve is dirt-tolerant and is designed to be very fast-acting with a low rate of pressure rise, but at the expense of smoothness.

TECHNICAL DATA

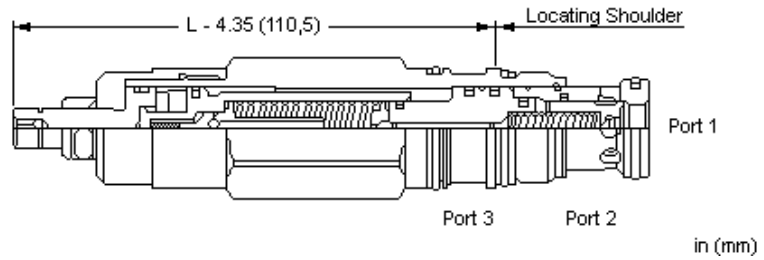
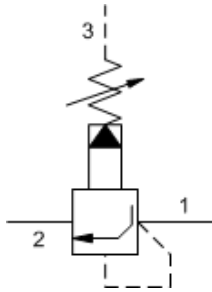
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	6000 psi
Factory Pressure Settings Established at	1 gpm
Typical valve leakage at 110 SUS (24cSt) at 90% of valve setting	.6 in ³ /min.
Cap Hex Size	22 mm
Cap Torque	31 - 35 lbf ft
Response Time - Typical	2 ms

CONFIGURATION OPTIONS

Model Code Example: RDUALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Tamper Resistant - Factory Set	A 1750 - 3625 psi (120-250 bar), 2200 psi (152 bar) Standard Setting B 580 - 2030 psi (40-140 bar), 725 psi (50 bar) Standard Setting C 3200 - 5950 psi (220-410 bar), 3600 psi (250 bar) Standard Setting	N Buna-N	



Pilot-operated, anti shock sequence cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

The external drain makes the valve insensitive to pressure at port 2.

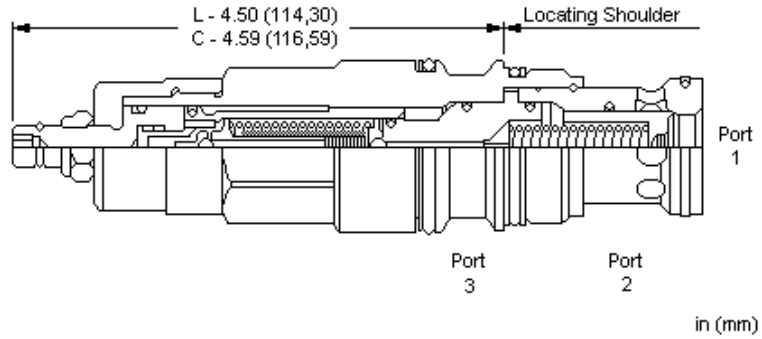
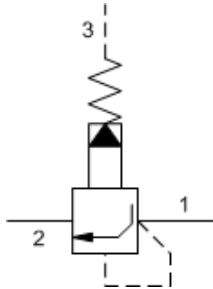
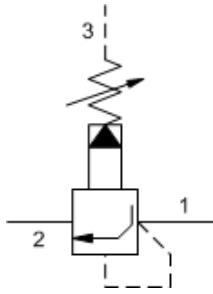
TECHNICAL DATA

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

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	200 - 400 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990402007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990402006

CONFIGURATION OPTIONS
Model Code Example: SDFTLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 2000 - 3000 psi (140 - 210 bar), 2000 psi (140 bar) Standard Setting C 4500 - 6000 psi (315 - 420 bar), 4500 psi (315 bar) Standard Setting W 3000 - 4500 psi (210 - 315 bar), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	



Pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

The external drain makes the valve insensitive to pressure at port 2.

TECHNICAL DATA

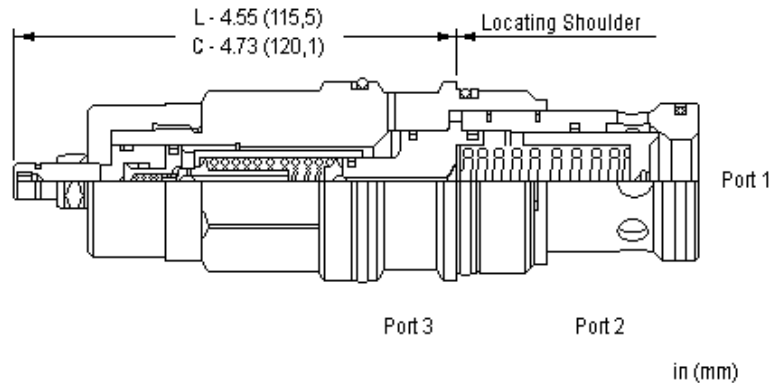
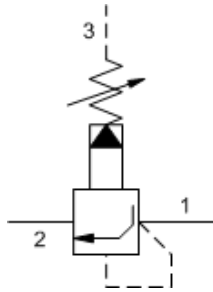
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	10 drops/min.
Pressure Ramp Up Time	300 - 500 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990217007
Seal kit - Cartridge	Polyurethane: 990217002
Seal kit - Cartridge	Viton: 990217006

CONFIGURATION OPTIONS

Model Code Example: SDHTLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 2000 - 3000 psi (140 - 210 bar), 2000 psi (140 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	C 4500 - 6000 psi (315 - 420 bar), 4500 psi (315 bar) Standard Setting	V Viton	
	W 3000 - 4500 psi (210 - 315 bar), 3000 psi (210 bar) Standard Setting		



Pilot-operated, anti shock sequence cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

The external drain makes the valve insensitive to pressure at port 2.

TECHNICAL DATA

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

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	200 - 400 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990219007
Seal kit - Cartridge	Viton: 990219006

CONFIGURATION OPTIONS
Model Code Example: SDJTLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 2000 - 3000 psi (140 - 210 bar), 2000 psi (140 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Concealed Manual Override	C 4500 - 6000 psi (315 - 420 bar), 4500 psi (315 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	W 3000 - 4500 psi (210 - 315 bar), 3000 psi (210 bar) Standard Setting		

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RPEI	Electro-proportional relief valve - high pressure setting with no command	1
RVCK	FLeX Series 2-stage, solenoid-operated adjustable relief valve, normally vented	2
RVCL	FLeX Series 2-stage, solenoid-operated adjustable relief valve, energize to vent	3
RVCM	FLeX Series 2-stage, solenoid-operated adjustable relief valve, energize to block	4
RVCN	FLeX Series 2-stage, solenoid-operated adjustable relief valve, normally blocked	5
RPCC	Pilot-operated, balanced piston relief valve	6
RPEC	Pilot-operated, balanced piston relief valve	7
RPGC	Pilot-operated, balanced piston relief valve	8
RPIC	Pilot-operated, balanced piston relief valve	9
RPKC	Pilot-operated, balanced piston relief valve	11
RDBA	Direct-acting relief valve	12
RDDA	Direct-acting relief valve	13
RDFA	Direct-acting relief valve	14
RDHA	Direct-acting relief valve	15
RDJA	Direct-acting relief valve	16
RBDA	Bi-directional, direct-acting relief valve	17
RBFA	Bi-directional direct-acting relief valve	18
RGFA	Low-pressure-range, direct-acting relief valve	19
RDDA3	Non-adjustable direct-acting relief valve	20
RDFA3	Non-adjustable direct-acting relief valve	21
RDDT	Direct-acting relief valve, CE marked	22

RPEE	Fast-acting, pilot-operated, balanced piston relief valve	.....23
RPGE	Fast-acting, pilot-operated, balanced piston relief valve	.....24
RPIE	Fast-acting, pilot-operated, balanced piston relief valve	.....25
RPKE	Fast-acting, pilot-operated, balanced piston relief valve	.....26
RPES	Pilot-operated, balanced poppet relief valve	.....27
RPGS	Pilot-operated, balanced poppet relief valve	.....28
RPIS	Pilot-operated, balanced poppet relief valve	.....29
RPKS	Pilot-operated, balanced poppet relief valve	.....30
RPET	Anti-Shock, pilot-operated, balanced poppet relief valve	.....31
RPGT	Anti-Shock, pilot-operated, balanced poppet relief valve	.....32
RPIT	Anti-Shock, pilot-operated, balanced poppet relief valve	.....33
RPKT	Anti-Shock, pilot-operated, balanced poppet relief valve	.....34
RBAA	Direct-acting relief valve - pilot capacity	.....35
RBAC	Direct-acting relief valve - pilot capacity	.....36
RBAE	Direct-acting relief valve - pilot capacity	.....37
RQCB	Kick-down, pilot-operated, balanced piston relief valve	.....38
RQEB	Kick-down, pilot-operated, balanced piston relief valve	.....39
RQGB	Kick-down, pilot-operated, balanced piston relief valve	.....40
RQIB	Kick-down, pilot-operated, balanced piston relief valve	.....41
RQKB	Kick-down, pilot-operated, balanced piston relief valve	.....42
RPGD	Air-controlled, pilot-operated, balanced piston relief valve	.....43

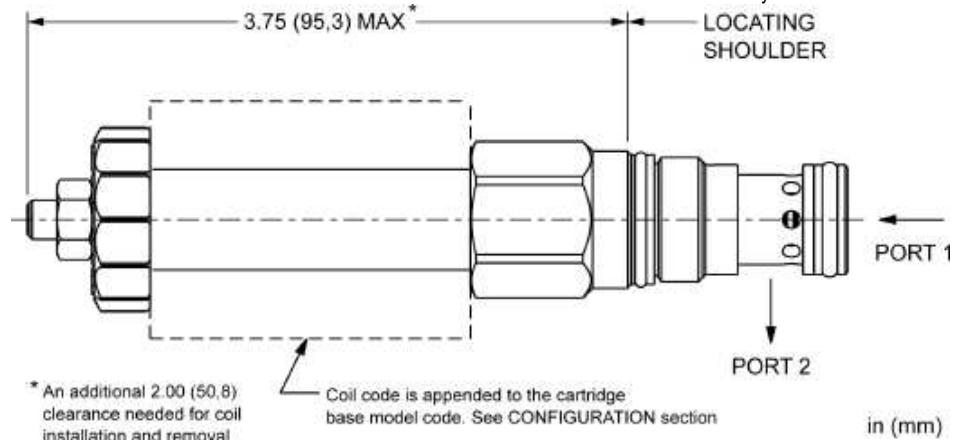
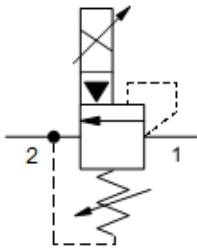
RPID	Air-controlled, pilot-operated, balanced piston relief valve	.....44
RPKD	Air-controlled, pilot-operated, balanced piston relief valve	.....45
RBAB	Air-controlled, direct-acting relief valve - pilot capacity	.....46
RBAR	Air-controlled, direct-acting relief valve - pilot capacity	.....47
RVBA	Ventable, pilot-operated, balanced piston relief valve	.....48
RVCA	Ventable, pilot-operated, balanced piston relief valve	.....49
RVEA	Ventable, pilot-operated, balanced piston relief valve	.....50
RVGA	Ventable, pilot-operated, balanced piston relief valve	.....51
RVIA	Ventable, pilot-operated, balanced piston relief valve	.....52
RVCS	Ventable, pilot-operated, balanced poppet relief valve	.....53
RVES	Ventable, pilot-operated, balanced poppet relief valve	.....54
RVGS	Ventable, pilot-operated, balanced poppet relief valve	.....55
RVIS	Ventable, pilot-operated, balanced poppet relief valve	.....56
RVET	Anti-Shock, ventable, pilot-operated, balanced poppet relief valve	.....57
RVGT	Anti-Shock, ventable, pilot-operated, balanced poppet relief valve	.....58
RVIT	Anti-Shock, ventable, pilot-operated, balanced poppet relief valve	.....59
RBAD	Dual, direct-acting relief valve - pilot capacity	.....60
HRDA	Direct-acting relief valve - before check	.....61
HRDB	Direct-acting relief valve - after check	.....62
HVCA	Ventable, pilot-operated, balanced piston relief valve - before check	.....63
HVCA8	Ventable, pilot-operated, balanced piston relief main stage with integral T-8A control cavity - before check	.....64

RVCD	Ventable, pilot-operated, balanced piston relief valve with drain to port 4	.....65
RVED	Ventable, pilot-operated, balanced piston relief valve with drain to port 4	.....66
RVGD	Ventable, pilot-operated, balanced piston relief valve with drain to port 4	.....67
RVID	Ventable, pilot-operated, balanced piston relief valve with drain to port 4	.....68
RPEC8	Pilot-operated, balanced piston relief main stage with integral T-8A control cavity	.....69
RPGC8	Pilot-operated, balanced piston relief main stage with integral T-8A control cavity	.....70
RPIC8	Pilot-operated, balanced piston relief main stage with integral T-8A control cavity	.....71
RPKC8	Pilot-operated, balanced piston relief main stage with integral T-8A control cavity	.....72
RPES8	Pilot-operated, balanced poppet relief main stage with integral T-8A control cavity	.....73
RPGS8	Pilot-operated, balanced poppet relief main stage with integral T-8A control cavity	.....74
RPIS8	Pilot-operated, balanced poppet relief main stage with integral T-8A control cavity	.....75
RPKS8	Pilot-operated, balanced poppet relief main stage with integral T-8A control cavity	.....76
RVCD8	Ventable, pilot-operated, balanced piston relief main stage with integral T-8A control cavity and drain to port 4	.....77
RVED8	Ventable, pilot-operated, balanced piston relief main stage with integral T-8A control cavity and drain to port 4	.....78
RVGD8	Ventable, pilot-operated, balanced piston relief main stage with integral T-8A control cavity and drain to port 4	.....79
RVID8	Ventable, pilot-operated, balanced piston relief main stage with integral T-8A control cavity and drain to port 4	.....80
RBAP	Electro-proportional relief valve - pilot capacity	.....82
RBAN	Electro-proportional relief valve - pilot capacity, high pressure setting with no command	.....84
RDUA	Direct-acting relief valve, 6000 psi (420 bar) - common cavity	.....85

Series	Ports	Cavities
Series Z Cartridges 3/8-24 UNF Cartridge Thread 5 mm Valve Hex Size 11 - 14 Nm Valve Installation Torque	3-Port	T-382A
Series P Cartridges M16 Cartridge Thread 22,2 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port	T-8A T-8DP T-9A
Series O Cartridges M16 Cartridge Thread 19,1 mm Valve Hex Size 25,4 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port 3-Port 4-Port	T-162A T-162DP T-150A T-163A T-30A
Series OC Cartridges 3/4-16 UNF Cartridge Thread 22,2 mm Valve Hex Size 19-22 lbf ft Valve Installation Torque	4-Port (Common)	SC-08-04
Series 1 Cartridges M20 Cartridge Thread 22,2 mm Valve Hex Size 41 - 47 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 6-Port	T-10A T-13A T-11A T-21A T-31A T-61A
Series 1C Cartridges 7/8-14 UNF Cartridge Thread 25,4 mm Valve Hex Size 23-26 lbf ft Valve Installation Torque	2-Port (Common) 4-Port (Common)	SC-10-02 SC-10-04
Series 2 Cartridges 1"-14 UNS Cartridge Thread 28,6 mm Valve Hex Size 61 - 68 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 4-Port (Dual path) 6-Port 6-Port	T-3A T-5A T-2A T-22A T-32A T-52AD T-52A T-62A
Series 3 Cartridges M36 Cartridge Thread 31,8 mm Valve Hex Size 203 - 217 Nm Valve Installation Torque	2-Port 3-Port 4-Port 4-Port 4-Port (Dual path) 6-Port 6-Port	T-16A T-17A T-23A T-33A T-53AD T-53A T-63A
Series 4 Cartridges M48 Cartridge Thread	2-Port 2-Port (Undercut)	T-18A T-18AU

41,3 mm Valve Hex Size
474 - 508 Nm Valve Installation Torque

3-Port	T-19A
3-Port (Undercut)	T-19AU
4-Port	T-24A
4-Port (Undercut)	T-24AU
4-Port	T-34A
4-Port (Dual path)	T-54AD
6-Port	T-54A
6-Port	T-64A



This 2-port, pilot-operated relief cartridge is an electro-proportionally controlled, normally-closed pressure regulating valve. The valve is spring biased closed to its highest setting (customer specified). Increasing current to the coil will proportionally decrease the pressure setting. When the pressure at port 1 (inlet) is sufficient to overcome the spring force minus the solenoid force, as determined by the analog input signal, the poppet lifts and allows flow from port 1 to port 2 (outlet).

TECHNICAL DATA

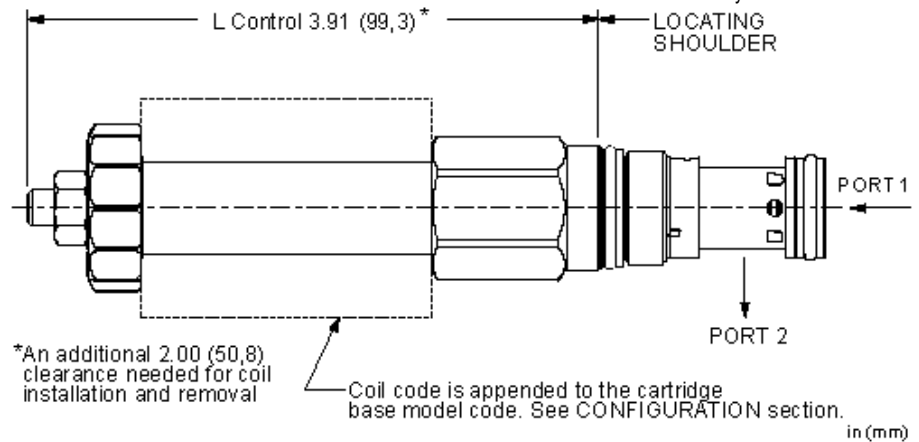
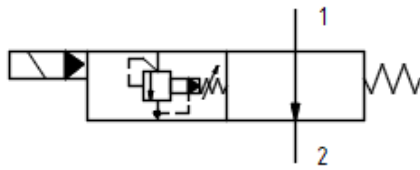
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Locknut Hex Size	7/16 in.
Locknut Torque	45 - 55 lbf in.
U.S. Patent #	10,775,812
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Viton: 990010006

- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS
Model Code Example: RPEILAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	COIL *
L Standard Screw Adjustment	A	1500 - 3000 psi (105 - 210 bar), 3000 psi (210 bar) Standard Setting	N	Buna-N	No coil	
C Concealed Manual Override	W	3000 - 5000 psi (210 - 350 bar), 5000 psi (350 bar) Standard Setting	V	Viton		* Additional coil options are available



This FLeX Series solenoid-operated, 2-stage, balanced relief cartridge is a pressure regulating valve.

The valve is normally vented. When vented (de-energized), the pressure drop from the inlet (port 1) to tank (port 2) is typically 100 psi (see performance curves).

Energizing the solenoid activates the relief function. In relief mode, the valve opens to tank (port 2), throttling flow to regulate the pressure when the pressure at the inlet (port 1) reaches the valve setting. The setting is adjustable with an adjust screw.

TECHNICAL DATA

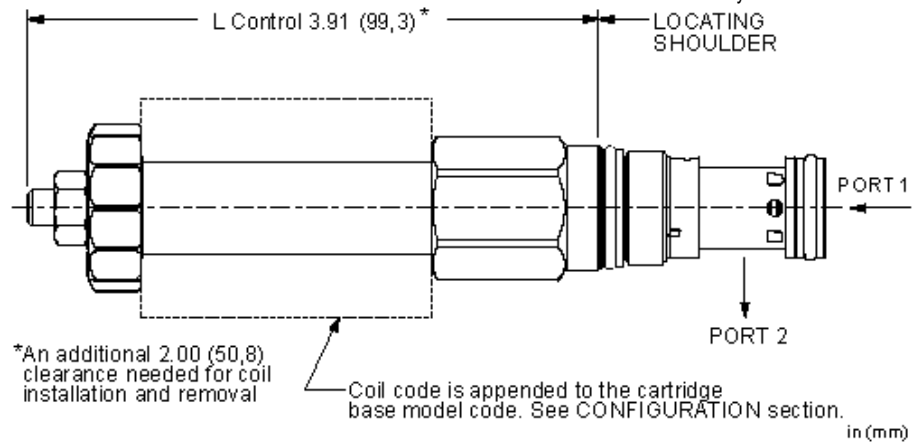
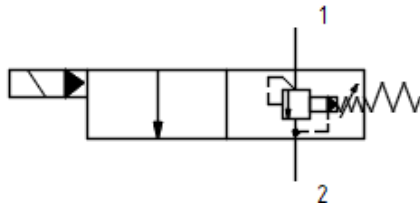
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@2000 psi
Response Time - Typical	50 ms
Adjustment - No. of CW Turns from Min. to Max. setting	3.5
Locknut Hex Size	7/16 in.
Locknut Torque	45 - 55 lbf in.
U.S. Patent #	10,533,584
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: RVCKLJN

CONTROL	(L) ADJUSTMENT RANGE	(J) SEAL MATERIAL	(N) COIL *
L Standard Screw Adjustment	J 300 - 5000 psi (20 - 350 bar), 1000 psi (70 bar) Standard Setting	N Buna-N E EPDM V Viton	No coil * Additional coil options are available



This FLeX Series solenoid-operated, 2-stage, balanced relief cartridge is a pressure regulating valve.

The valve is normally in relief mode. In relief mode, the valve is open to tank (port 2), throttling flow to regulate the pressure when the pressure at the inlet (port 1) reaches the valve setting. The setting is adjustable with an adjust screw.

Energizing the solenoid opens the main chamber to tank and the valve becomes vented. The pressure drop from the inlet (port 1) to tank (port 2) is typically 100 psi (see performance curves).

TECHNICAL DATA

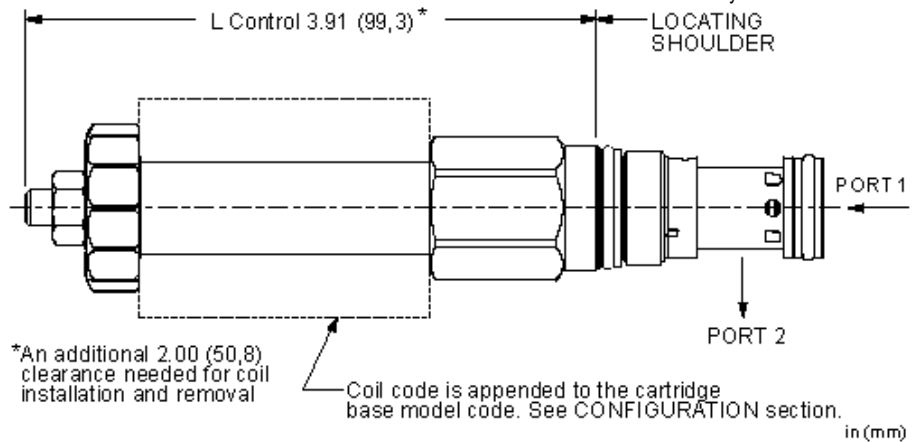
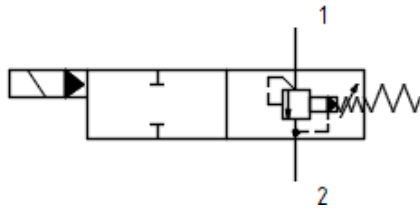
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@2000 psi
Response Time - Typical	50 ms
Adjustment - No. of CW Turns from Min. to Max. setting	3.5
Locknut Hex Size	7/16 in.
Locknut Torque	45 - 55 lbf in.
U.S. Patent #	10,557,483
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: RVCLLJN

CONTROL	(L) ADJUSTMENT RANGE	(J) SEAL MATERIAL	(N) COIL *
L Standard Screw Adjustment	J 300 - 5000 psi (20 - 350 bar), 1000 psi (70 bar) Standard Setting	N Buna-N E EPDM V Viton	No coil * Additional coil options are available



This FLeX Series solenoid-operated, 2-stage, balanced relief cartridge is a pressure regulating valve.

The valve is normally in relief mode. In relief mode, the valve is open to tank (port 2), throttling flow to regulate the pressure when the pressure at the inlet (port 1) reaches the valve setting. The setting is adjustable with an adjust screw.

Energizing the solenoid blocks pilot flow. The valve blocks the flow path from inlet (port 1) to tank (port 2) similar to a spool-type directional valve.

TECHNICAL DATA

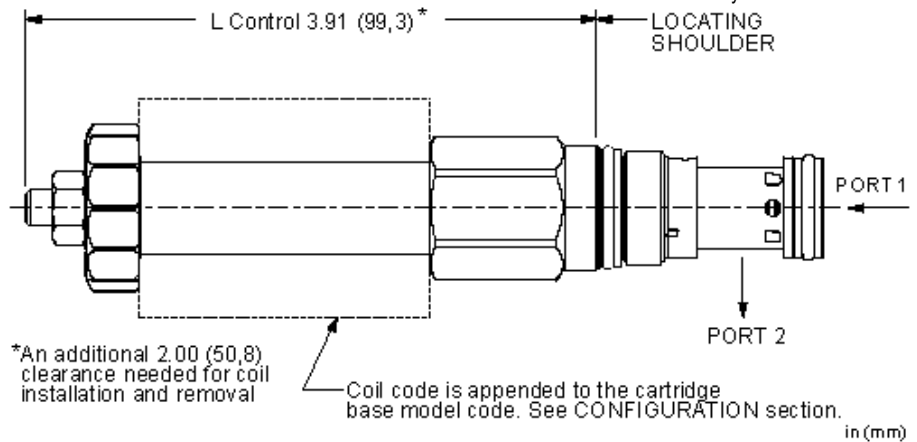
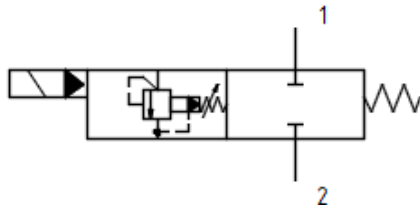
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@3000 psi
Response Time - Typical	50 ms
Adjustment - No. of CW Turns from Min. to Max. setting	3.5
Locknut Hex Size	7/16 in.
Locknut Torque	45 - 55 lbf in.
U.S. Patent #	10,570,932
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: RVCMLJN

CONTROL	(L) ADJUSTMENT RANGE	(J) SEAL MATERIAL	(N) COIL *
L Standard Screw Adjustment	J 300 - 5000 psi (20 - 350 bar), 1000 psi (70 bar) Standard Setting	N Buna-N E EPDM V Viton	No coil * Additional coil options are available



This FLeX Series solenoid-operated, 2-stage, balanced relief cartridge is a pressure regulating valve.

The valve is normally blocked. De-energized, the valve blocks the flow path from inlet (port 1) to tank (port 2) similar to a spool-type directional valve.

Energizing the solenoid activates the relief function. In relief mode, the valve opens to tank (port 2), throttling flow to regulate the pressure when the pressure at the inlet (port 1) reaches the valve setting. The setting is adjustable with an adjust screw.

TECHNICAL DATA

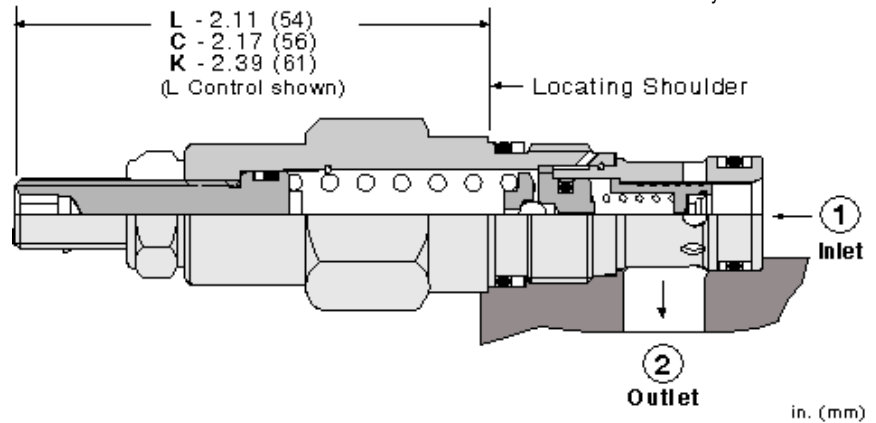
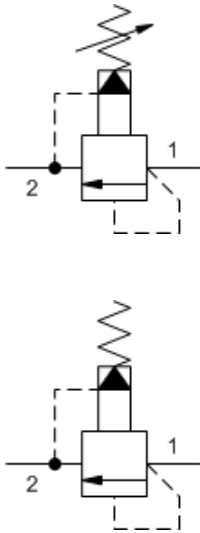
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@3000 psi
Response Time - Typical	50 ms
Adjustment - No. of CW Turns from Min. to Max. setting	3.5
Locknut Hex Size	7/16 in.
Locknut Torque	45 - 55 lbf in.
U.S. Patent #	10,774,853
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: RVCNLJN

CONTROL	(L) ADJUSTMENT RANGE	(J) SEAL MATERIAL	(N) COIL *
L Standard Screw Adjustment	J 300 - 5000 psi (20 - 350 bar), 1000 psi (70 bar) Standard Setting	N Buna-N E EPDM V Viton	No coil * Additional coil options are available



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.

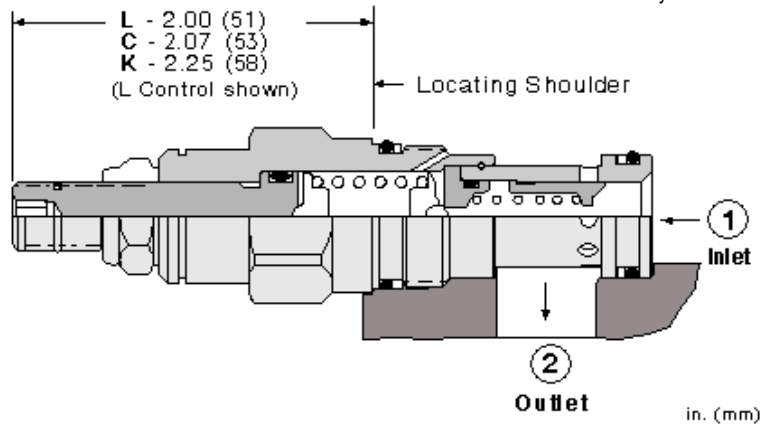
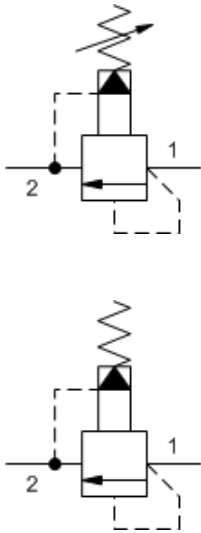
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
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
Locknut Hex Size	1/2 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS
Model Code Example: RPCCLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 75 - 3000 psi (5 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 75 - 4500 psi (5 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	B 75 - 1500 psi (5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 75 - 6000 psi (5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	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		



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

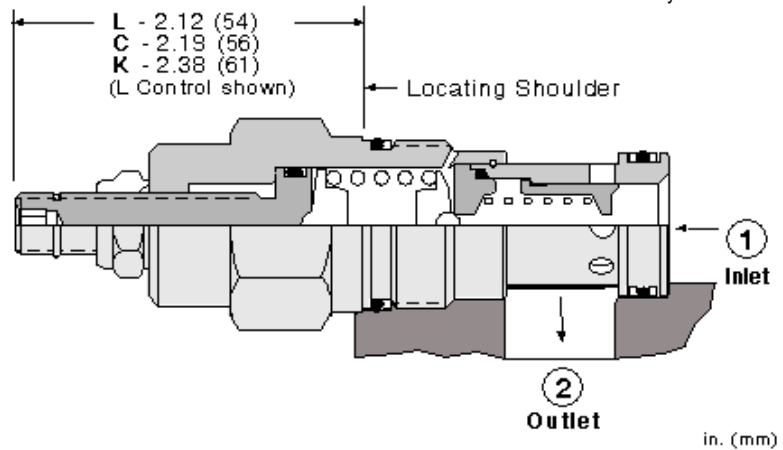
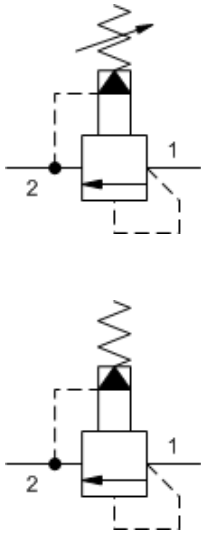
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
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
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

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.

CONFIGURATION OPTIONS
Model Code Example: RPECLAN

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		E EPDM	/AP Stainless Steel, Passivated
K Handknob	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting		
W Hex Wrench Adjustment	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 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		



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.

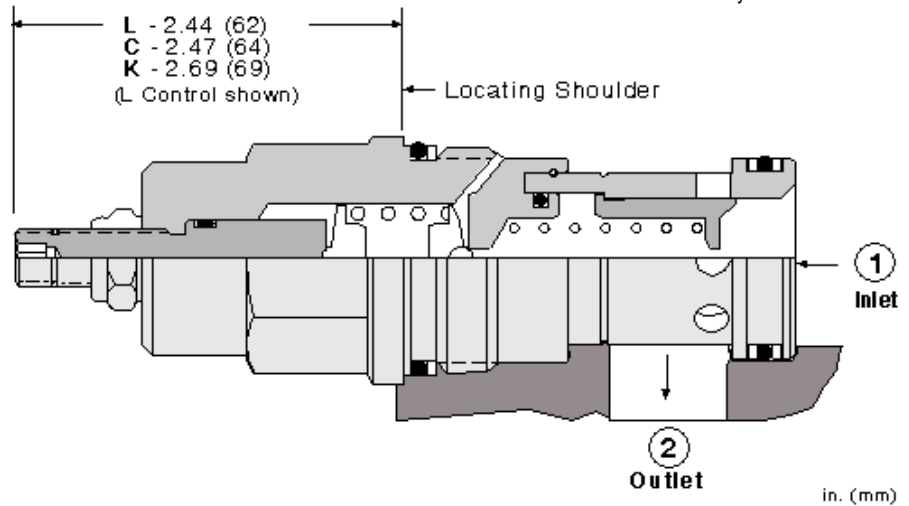
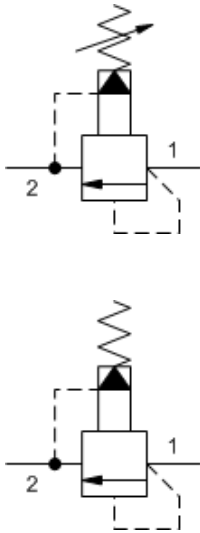
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Polyurethane: 990003002
Seal kit - Cartridge	Viton: 990203006

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.

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		



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.

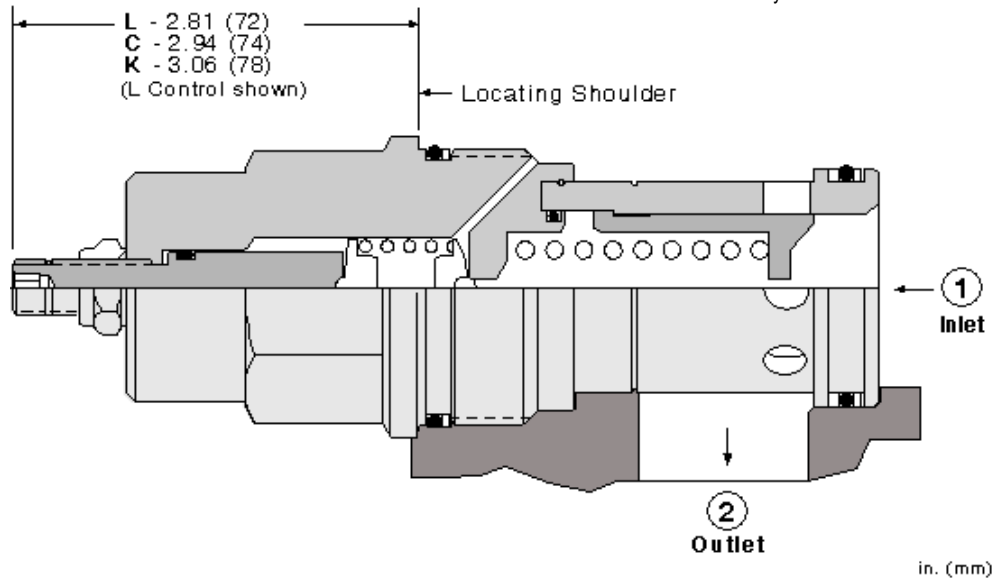
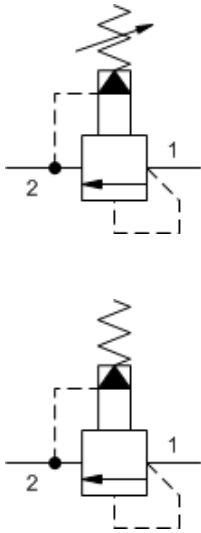
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

CONFIGURATION OPTIONS
Model Code Example: RPICLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
W Hex Wrench Adjustment	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	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		



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.

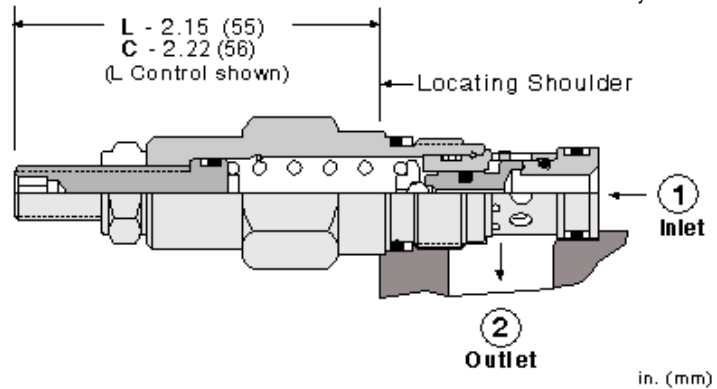
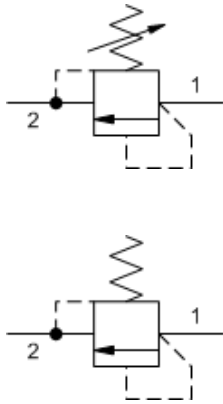
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

CONFIGURATION OPTIONS
Model Code Example: RPKCLAN

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
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
Q Capped and Lockwired	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
W Hex Wrench Adjustment	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
Y Tri-Grip Handknob	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	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		



Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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.

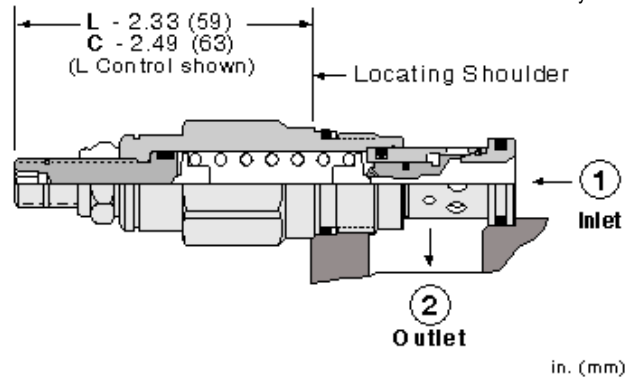
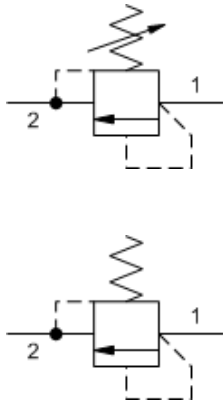
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>85% of crack setting
Adjustment - No. of CW Turns from Min. to Max. setting	6
Locknut Hex Size	1/2 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS
Model Code Example: RDBALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		



Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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.

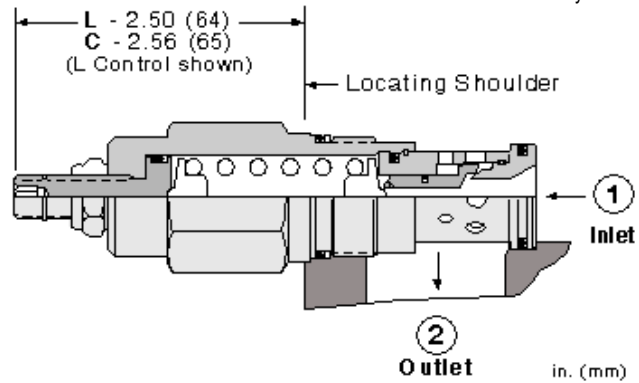
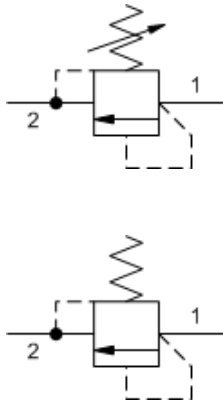
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Adjustment - No. of CW Turns from Min. to Max. setting	6
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990310014
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS
Model Code Example: RDDALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
Y Tri-Grip Handknob	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		



Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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.

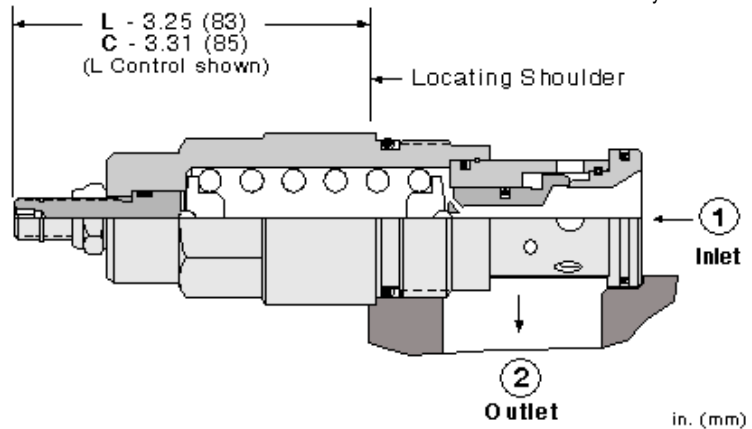
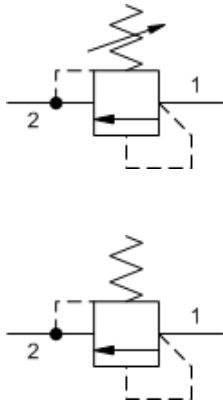
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Adjustment - No. of CW Turns from Min. to Max. setting	6
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	EPDM: 990303014
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

CONFIGURATION OPTIONS
Model Code Example: RDFALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
Q Capped and Lockwired	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		



Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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

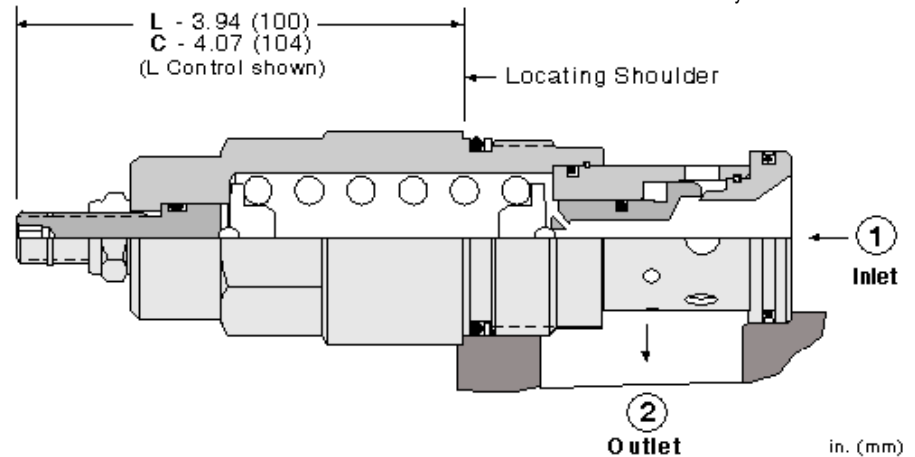
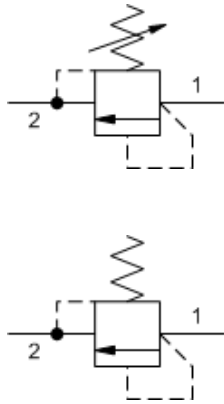
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Adjustment - No. of CW Turns from Min. to Max. setting	6
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990316007
Seal kit - Cartridge	Viton: 990316006

NOTES U.S. Patent #4,742,846; European Patent Pending

CONFIGURATION OPTIONS
Model Code Example: RDHALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3.5 - 14 bar), 100 psi (7 bar) Standard Setting		



Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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.

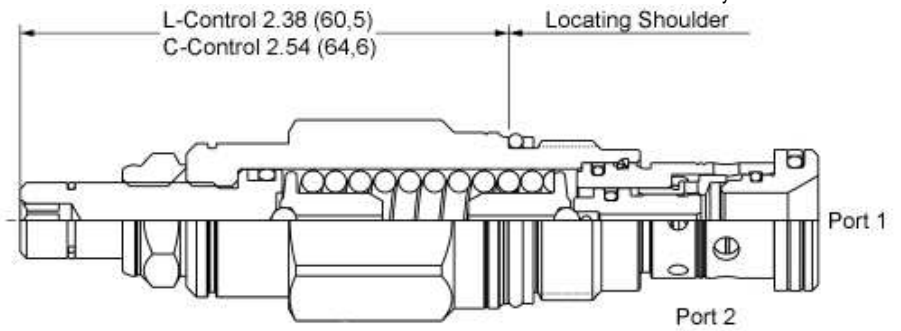
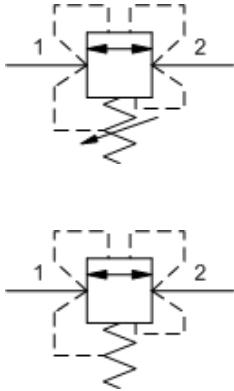
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Adjustment - No. of CW Turns from Min. to Max. setting	6
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990318007
Seal kit - Cartridge	EPDM: 990318014
Seal kit - Cartridge	Viton: 990318006

CONFIGURATION OPTIONS
Model Code Example: RDJALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
Q Capped and Lockwired	B 300 - 1500 psi (20 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting		



in (mm)

The bi-directional, direct-acting relief cartridge is a normally closed, pressure-limiting valve used to protect hydraulic components from pressure transients. When the pressure differential between ports 1 and 2 exceeds the valve setting, the valve starts to open, throttling flow to limit the pressure rise, regardless of the direction.

TECHNICAL DATA

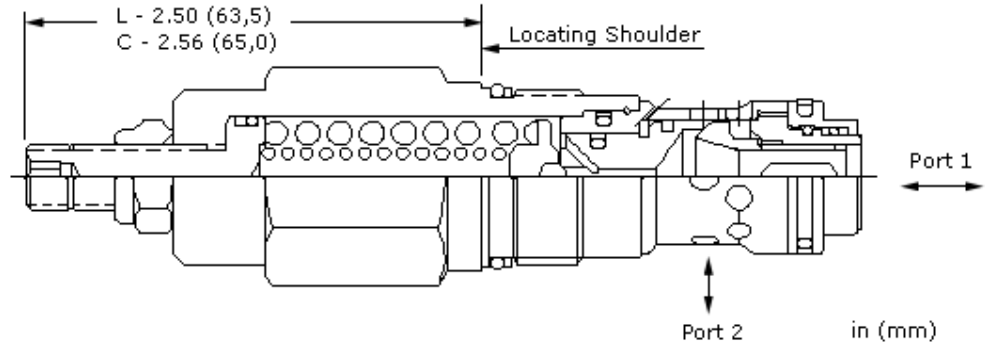
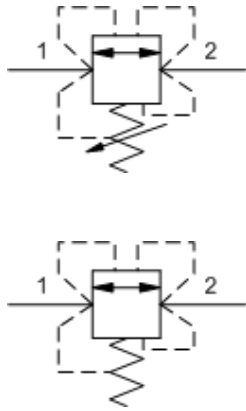
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>85% of setting
Hysteresis	≤ 3 %
Adjustment - No. of CW Turns from Min. to Max. setting	5
U.S. Patent #	11,384,857
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS

Model Code Example: RBDALAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment		A 1200 - 3000 psi (85-210 bar), 1500 psi (105 bar) Standard Setting		N Buna-N	
C Tamper Resistant - Factory Set		W 3000 - 5000 psi (210 - 350 bar), 4000 psi (280 bar) Standard Setting		V Viton	



The bi-directional, direct-acting relief cartridge is a normally closed, pressure-limiting valve used to protect hydraulic components from pressure transients. When the pressure differential between ports 1 and 2 exceeds the valve setting, the valve starts to open, throttling flow to limit the pressure rise, regardless of the direction.

Both directions have very similar setting and performance.

TECHNICAL DATA

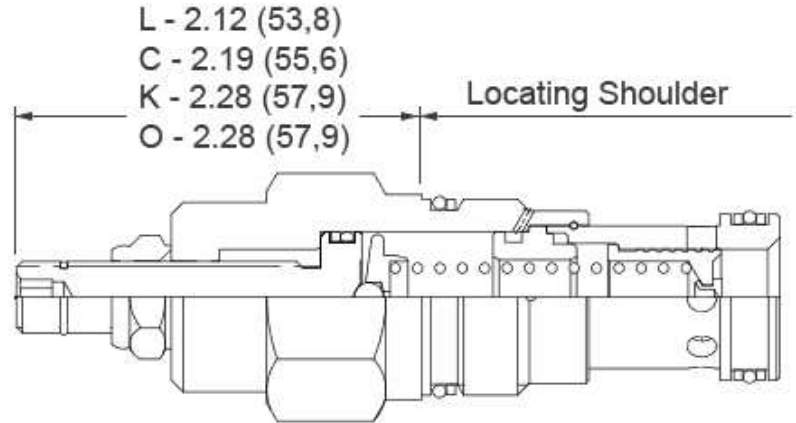
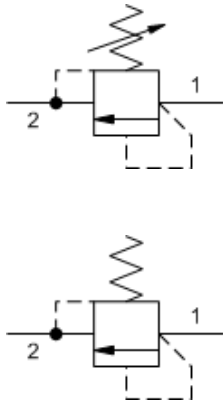
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	30 drops/min.
Response Time - Typical	2 ms
Reseat	>85% of setting
Hysteresis	≤ 3 %
Adjustment - No. of CW Turns from Min. to Max. setting	5
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

CONFIGURATION OPTIONS

Model Code Example: **RBFALWN**

CONTROL	(L) ADJUSTMENT RANGE	(W) SEAL MATERIAL	(N)
L Standard Screw Adjustment	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	C 1500 - 6000 psi (105 - 420 bar), 1500 psi (105 bar) Standard Setting	V Viton	



in (mm)

Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to limit the pressure rise.

TECHNICAL DATA

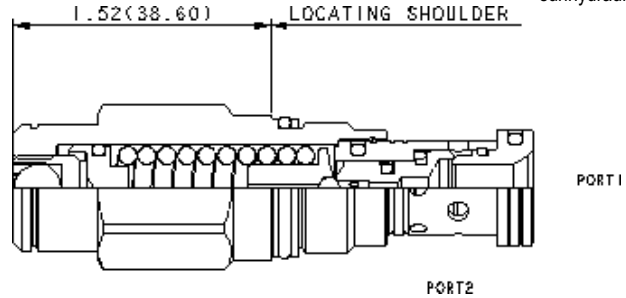
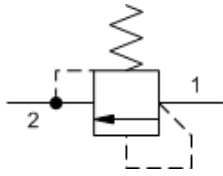
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	6
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

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.

CONFIGURATION OPTIONS
Model Code Example: RGFALCN

CONTROL	(L) ADJUSTMENT RANGE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	C 18 - 50 psi (1,2 - 3,5 bar), 50 psi (3,5 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	E 20 - 75 psi (1,4 - 5 bar), 75 psi (5 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	F 35 - 80 psi (2,4 - 5,5 bar), 80 psi (5,5 bar) Standard Setting	V Viton	
O Handknob with Panel Mount	G 50 - 150 psi (3,5 - 10,5 bar), 150 psi (10,5 bar) Standard Setting		



Non-adjustable direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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

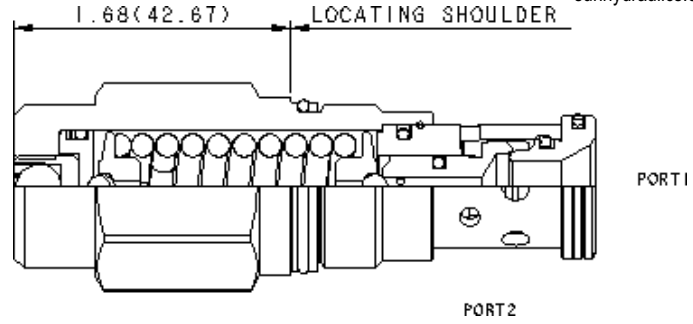
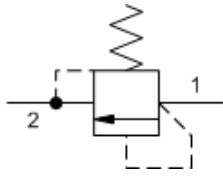
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS

Model Code Example: RDDA3AN

ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
A 500 - 3000 psi (35 - 210 bar)		N Buna-N		Standard Material/Coating
C 1000 - 6000 psi (70 - 420 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
D 200 - 800 psi (14 - 55 bar)				



Non-adjustable direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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

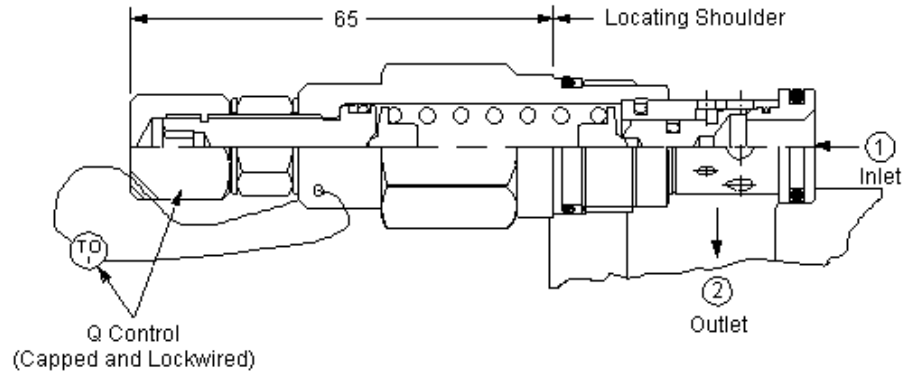
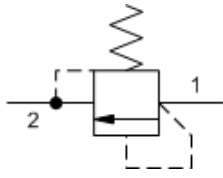
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	EPDM: 990303014
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

CONFIGURATION OPTIONS

Model Code Example: RDFA3AN

ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
A 500 - 3000 psi (35 - 210 bar)		N Buna-N	
C 1000 - 6000 psi (70 - 420 bar)		V Viton	
D 200 - 800 psi (14 - 55 bar)			



Dimensions in mm

Direct-acting relief cartridges are normally closed, pressure-limiting valves used to protect hydraulic components from pressure transients. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), 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.

The CE marked valve is a safety valve that meets the requirements of the European Directive for Pressurized Devices (PED) 2014/68/EU. The valve setting represents the excess operating pressure at which the valve opens. Valve capacity can be determined from the performance curve. It shows an approved flow which depends on the excess operating pressure. As a requirement of the PED, the system pressure at the maximum approved flow is a maximum of 10% above the excess operating pressure.

TECHNICAL DATA

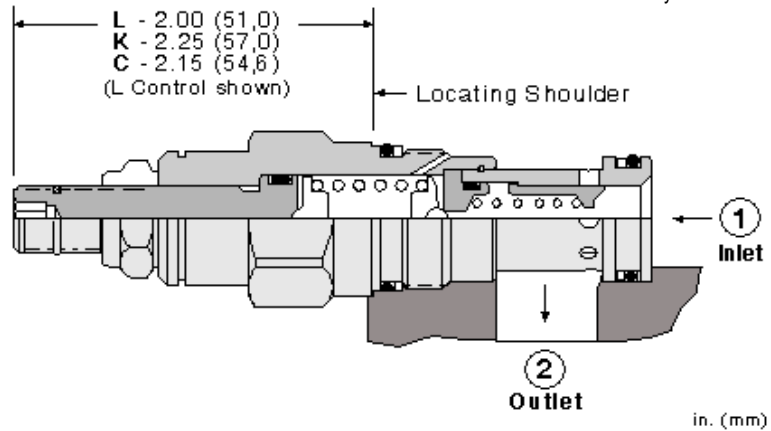
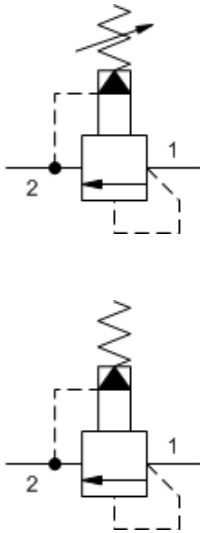
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Reseat	>90% of setting
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS

Model Code Example: **RDDTQAN**

CONTROL	(Q) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
Q Capped and Lockwired	A 100 - 210 bar (100 - 210 bar) B 90 - 99 bar (90 - 99 bar) C 315 - 422 bar (315 - 422 bar) W 211 - 314 bar (211 - 314 bar)	N Buna-N V Viton	



Fast-acting, pilot-operated, balanced piston relief cartridges are normally closed, pressure-limiting valves used to protect hydraulics components from pressure transients. Fast opening and closing is gained at the expense of smoothness. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to limit the pressure rise. These valves have low pressure rise vs. flow and are very fast.

TECHNICAL DATA

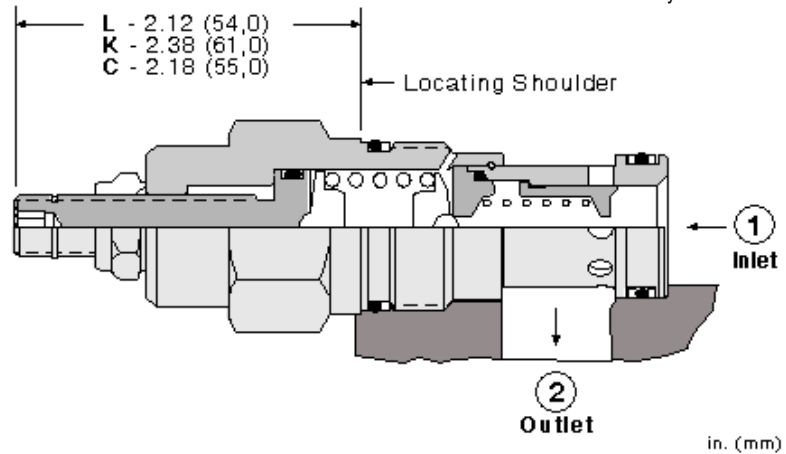
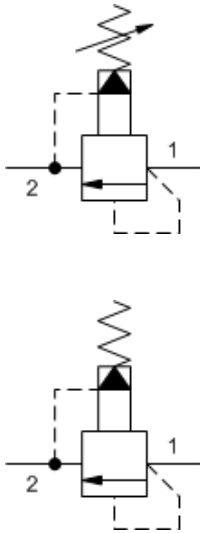
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min. @1000 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

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.

CONFIGURATION OPTIONS
Model Code Example: RPEELAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /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		
Y Tri-Grip Handknob	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Fast-acting, pilot-operated, balanced piston relief cartridges are normally closed, pressure-limiting valves used to protect hydraulics components from pressure transients. Fast opening and closing is gained at the expense of smoothness. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to limit the pressure rise. These valves have low pressure rise vs. flow and are very fast.

TECHNICAL DATA

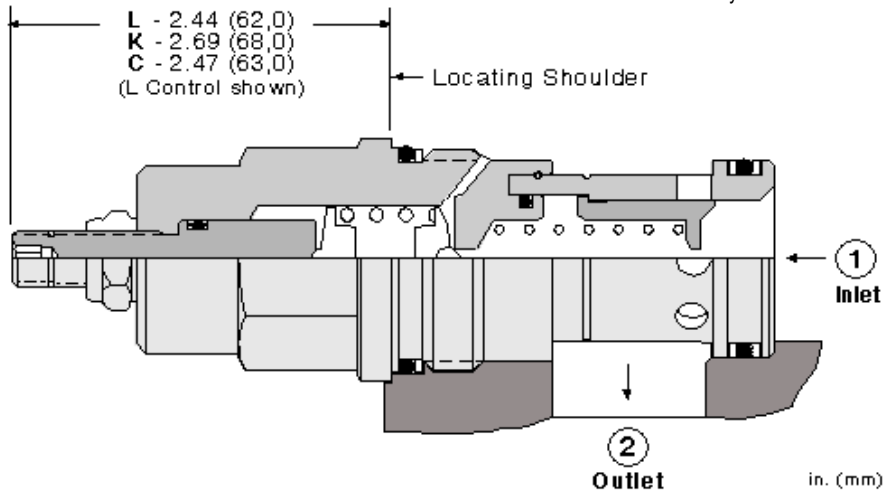
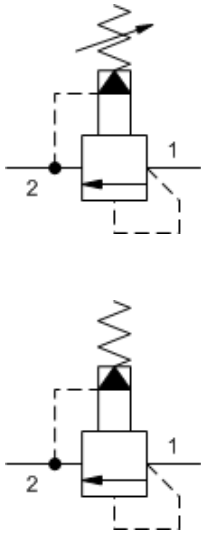
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
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

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.

CONFIGURATION OPTIONS
Model Code Example: RPGE LAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 100 - 1500 psi (7,0 - 105 bar), 1000 psi (70 bar) Standard Setting		



Fast-acting, pilot-operated, balanced piston relief cartridges are normally closed, pressure-limiting valves used to protect hydraulics components from pressure transients. Fast opening and closing is gained at the expense of smoothness. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to limit the pressure rise. These valves have low pressure rise vs. flow and are very fast.

TECHNICAL DATA

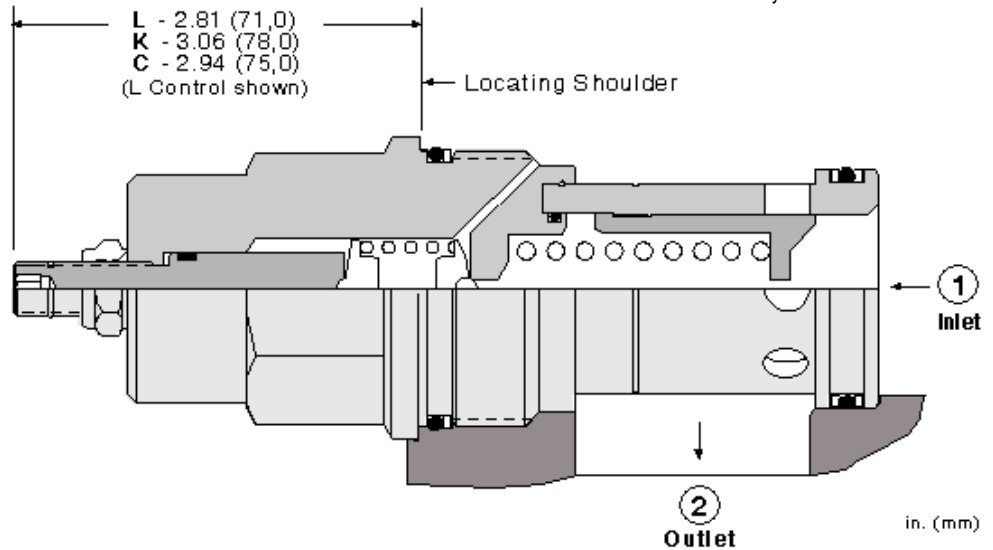
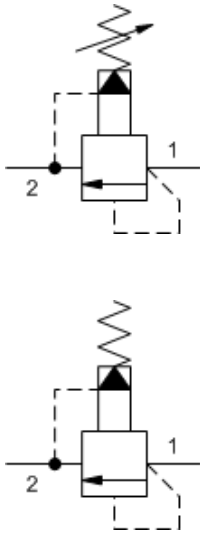
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

CONFIGURATION OPTIONS

Model Code Example: RPIELAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Fast-acting, pilot-operated, balanced piston relief cartridges are normally closed, pressure-limiting valves used to protect hydraulics components from pressure transients. Fast opening and closing is gained at the expense of smoothness. When the pressure at the inlet (port 1) reaches the valve setting, the valve starts to open to tank (port 2), throttling flow to limit the pressure rise. These valves have low pressure rise vs. flow and are very fast.

TECHNICAL DATA

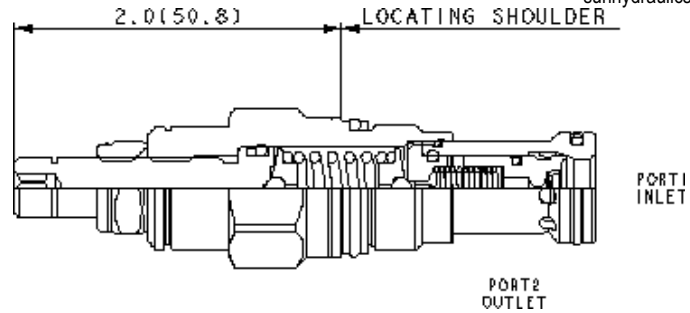
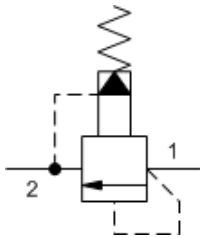
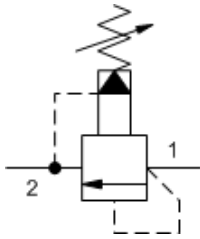
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

CONFIGURATION OPTIONS

Model Code Example: RPKELAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 100 - 1500 psi (7 - 105 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, balanced-poppet 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, smooth, quiet, fast, and have low pressure rise vs. flow.

TECHNICAL DATA

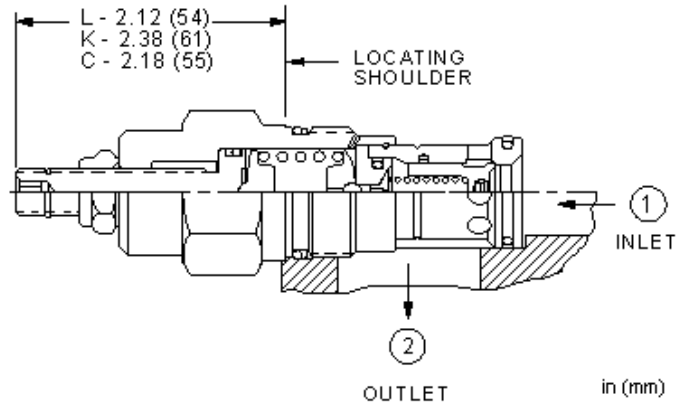
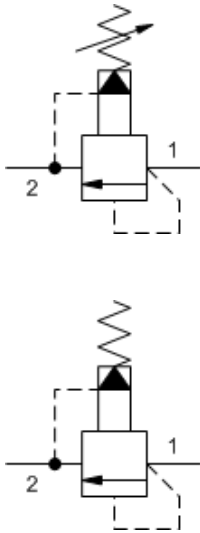
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Response Time - Typical	7 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS

Model Code Example: RPESLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
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		
	W 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, balanced-poppet 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, smooth, quiet, fast, and have low pressure rise vs. flow.

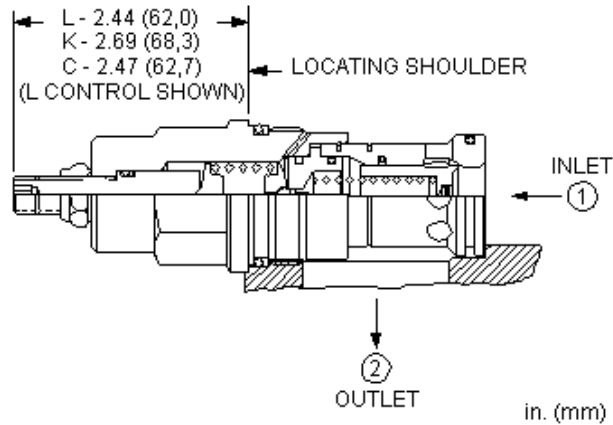
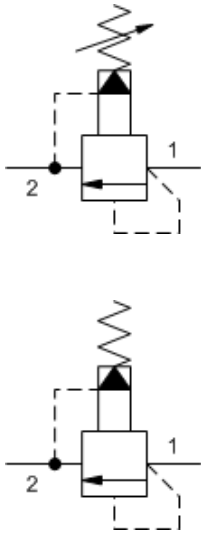
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	7 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	EPDM: 990303014
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

CONFIGURATION OPTIONS
Model Code Example: RPGSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
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		
	W 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, balanced-poppet 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, smooth, quiet, fast, and have low pressure rise vs. flow.

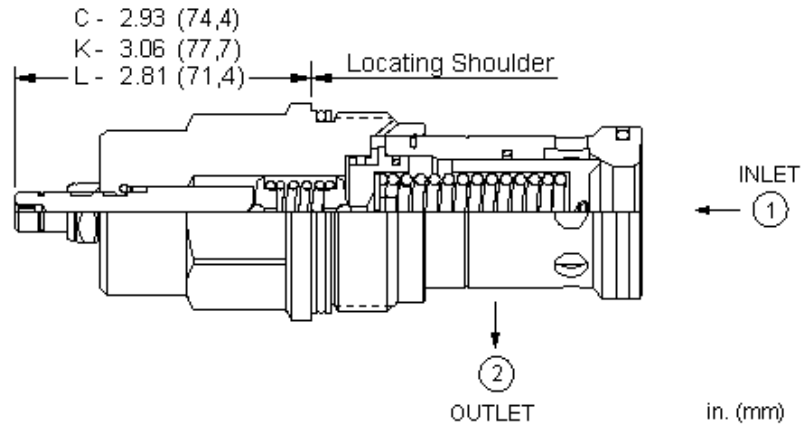
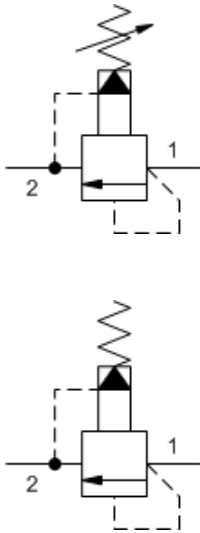
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	7 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990316007
Seal kit - Cartridge	EPDM: 990316014
Seal kit - Cartridge	Viton: 990316006

CONFIGURATION OPTIONS
Model Code Example: RPISLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, balanced-poppet 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, smooth, quiet, fast, and have low pressure rise vs. flow.

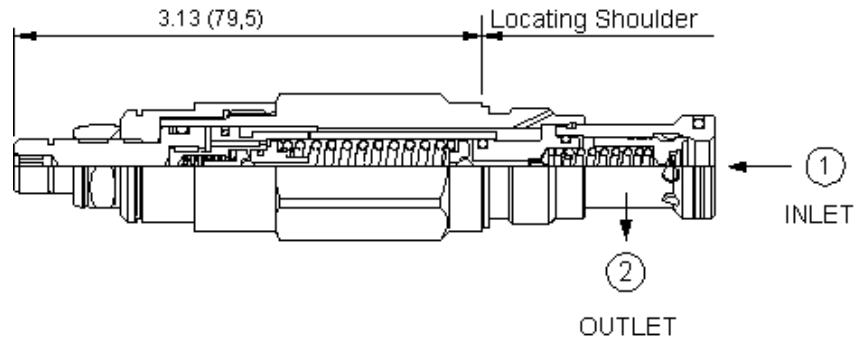
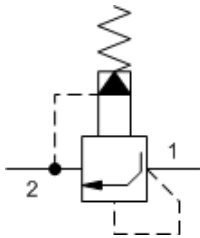
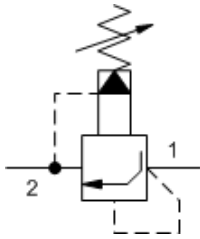
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	7 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990318007
Seal kit - Cartridge	EPDM: 990318014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990318006

CONFIGURATION OPTIONS
Model Code Example: RPKSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
W Hex Wrench Adjustment	N 60 - 800 psi (4 - 55 bar), 400 psi (28 bar) Standard Setting		
Y Tri-Grip Handknob	Q 60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



in (mm)

Pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

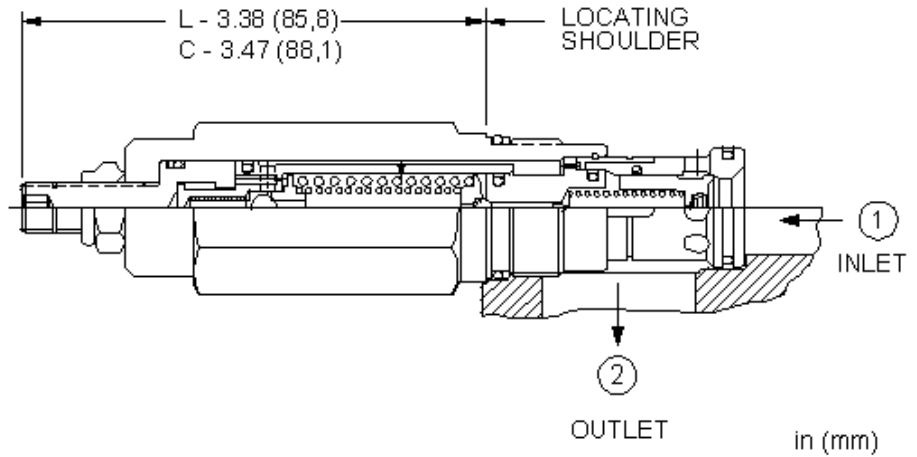
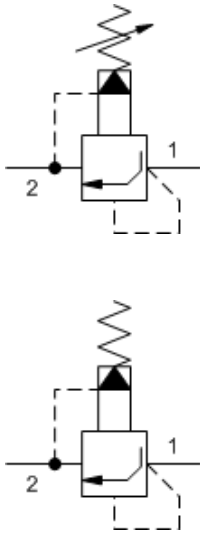
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	100 - 300 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

CONFIGURATION OPTIONS
Model Code Example: RPETLWN

CONTROL	(L) ADJUSTMENT RANGE	(W) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set	W 3000 - 4500 psi (210 - 315 bar), 3000 psi (210 bar) Standard Setting A 2000 - 3000 psi (140 - 210 bar), 2000 psi (140 bar) Standard Setting C 4500 - 6000 psi (315 - 420 bar), 4500 psi (315 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

TECHNICAL DATA

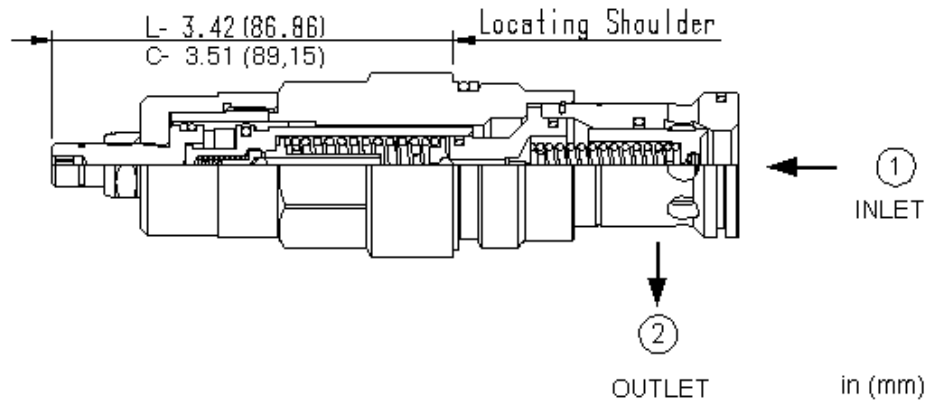
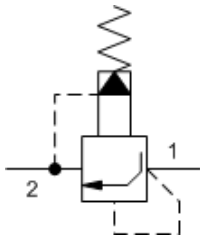
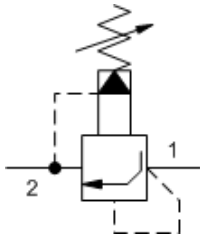
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	200 - 400 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

NOTES Patents: US#6,039,070; Germany EP 1 001 197; Japan #3,119,230

CONFIGURATION OPTIONS
Model Code Example: RPGLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 2000 - 3000 psi (140 - 210 bar), 2000 psi (140 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 4500 - 6000 psi (315 - 420 bar), 4500 psi (315 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
	W 3000 - 4500 psi (210 - 315 bar), 3000 psi (210 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel



Pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

TECHNICAL DATA

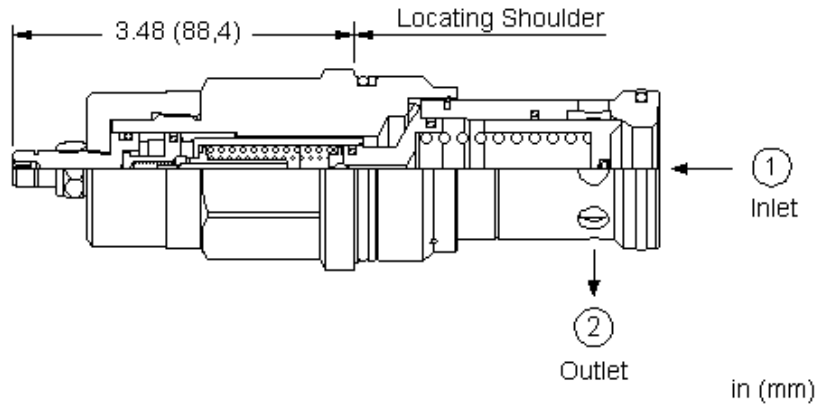
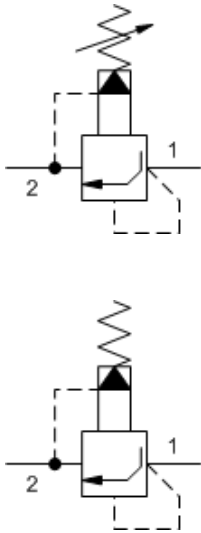
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	300 - 500 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990316007
Seal kit - Cartridge	Viton: 990316006

- NOTES**
- Patents: US#6,039,070; Germany EP 1 001 197; Japan #3,119,230
 - Patents: US#6,039,070; Germany EP 1 001 197; Japan #3,119,230

CONFIGURATION OPTIONS
Model Code Example: RPITLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 2000 - 3000 psi (140 - 210 bar), 2000 psi (140 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 4500 - 6000 psi (315 - 420 bar), 4500 psi (315 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
	W 3000 - 4500 psi (210 - 315 bar), 3000 psi (210 bar) Standard Setting		



Pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

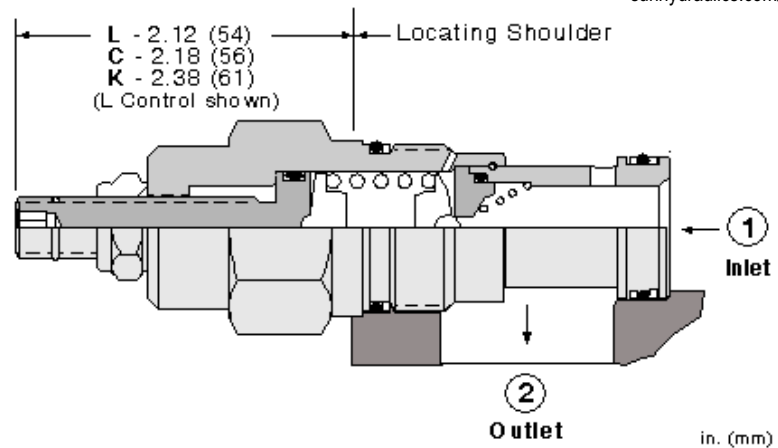
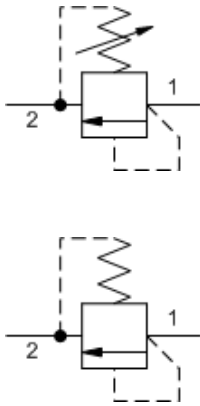
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	400 - 600 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990318007
Seal kit - Cartridge	Viton: 990318006

CONFIGURATION OPTIONS
Model Code Example: RPKTLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 2000 - 3000 psi (140 - 210 bar), 2000 psi (140 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 4500 - 6000 psi (315 - 420 bar), 4500 psi (315 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
	W 3000 - 4500 psi (210 - 315 bar), 3000 psi (210 bar) Standard Setting		



Direct-acting, pilot relief cartridges are used to remotely control the pressure setting of other pilot-operated valves. Because capacity is limited to pilot flow, these valves should be used with other higher flow valves.

TECHNICAL DATA

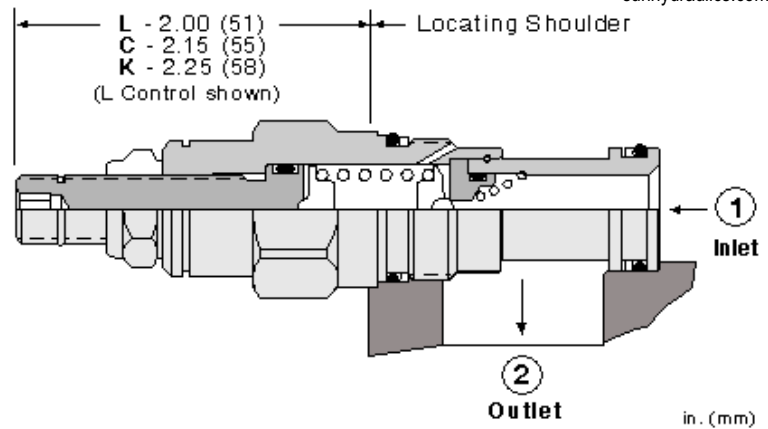
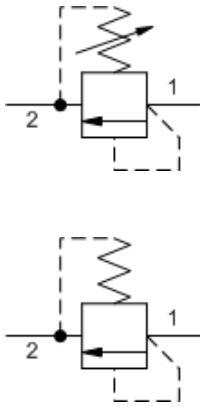
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
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

NOTES For Series 2 cartridges configured with an O control (panel mount handknob), a 1.00 in. (25,4 mm) diameter hole is required in the panel.

CONFIGURATION OPTIONS
Model Code Example: RBAALAN

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



Direct-acting, pilot relief cartridges are used to remotely control the pressure setting of other pilot-operated valves. Because capacity is limited to pilot flow, these valves should be used with other higher flow valves.

TECHNICAL DATA

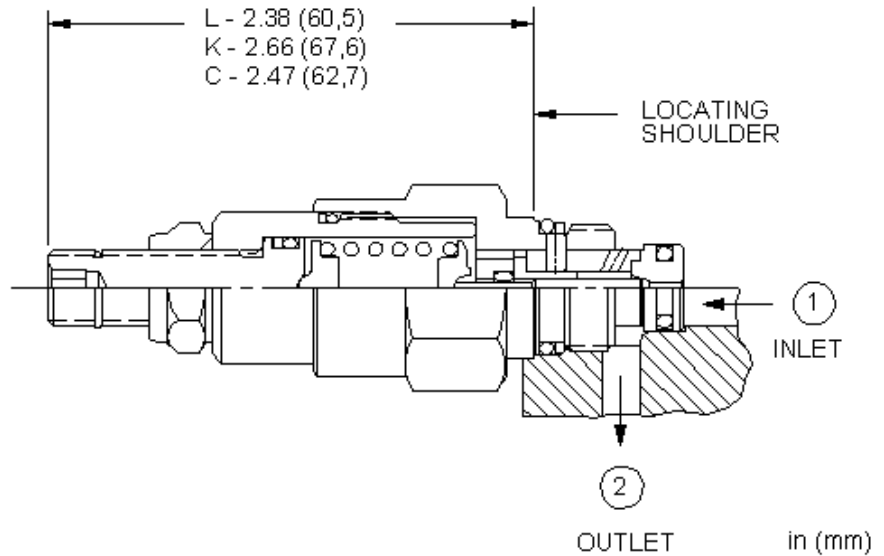
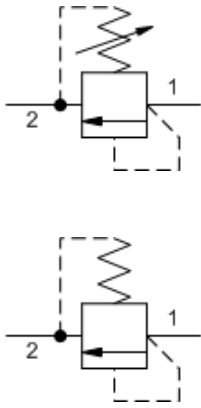
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

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.

CONFIGURATION OPTIONS
Model Code Example: RBACLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 25 - 3000 psi (1,7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 25 - 4500 psi (1,7 - 315 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
J Capped Screw Adjustment	B 25 - 1500 psi (1,7 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
K Handknob	C 25 - 6000 psi (1,7 - 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		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		



Two-port, pilot-stage, direct-acting relief cartridges are fully adjustable, normally closed pressure regulating valves. When the pressure at port 1 (inlet) is sufficient to overcome the spring force (valve setting), a flow path is opened from port 1 to port 2 (tank).

TECHNICAL DATA

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

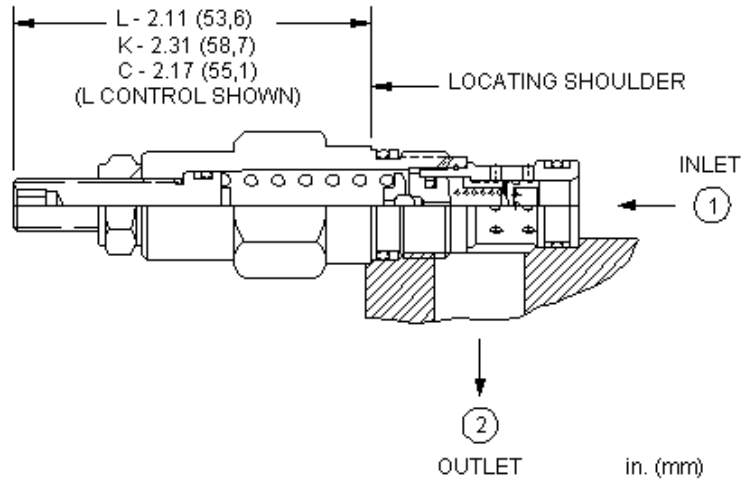
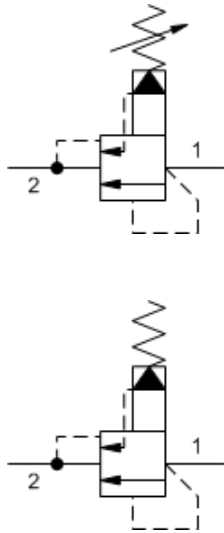
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 drops/min.
Response Time - Typical	2 ms
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990608007
Seal kit - Cartridge	EPDM: 990608014
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990608006

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.

CONFIGURATION OPTIONS

Model Code Example: RBAELAN

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



Kick-down relief cartridges act similar to a circuit breaker in an electrical system. The valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to tank (port 2). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, flow from port 1 to port 2 must cease and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

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

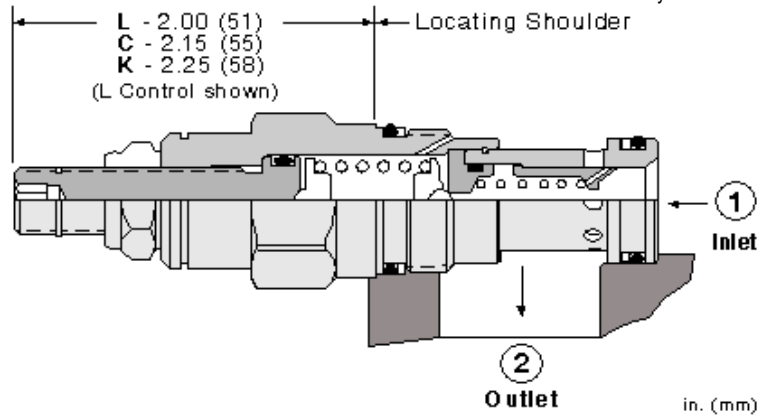
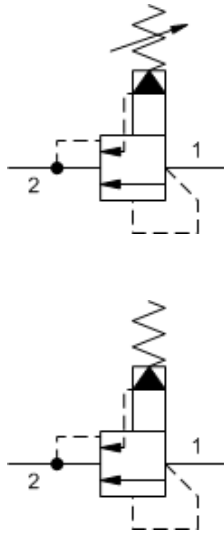
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	Kick down point
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

NOTES Do not use in load holding applications.

CONFIGURATION OPTIONS

Model Code Example: RQCBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 75 - 3000 psi (5 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 75 - 1500 psi (5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
K Handknob	C 75 - 6000 psi (5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	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		



Kick-down relief cartridges act similar to a circuit breaker in an electrical system. The valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to tank (port 2). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, flow from port 1 to port 2 must cease and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

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

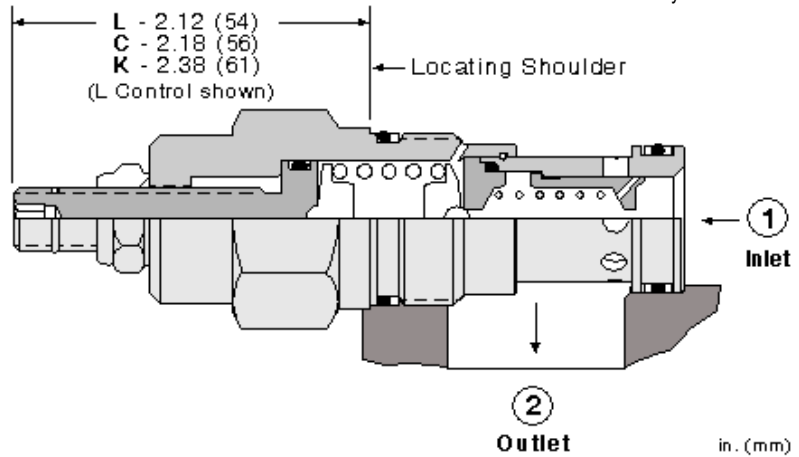
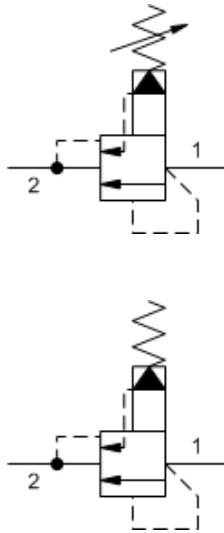
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	Kick down point
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

- NOTES**
- Do not use in load holding applications.
 - For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

CONFIGURATION OPTIONS

Model Code Example: RQEBLAN

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		V Viton	/AP Stainless Steel, Passivated
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting		
O Handknob with Panel Mount	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Kick-down relief cartridges act similar to a circuit breaker in an electrical system. The valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to tank (port 2). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, flow from port 1 to port 2 must cease and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

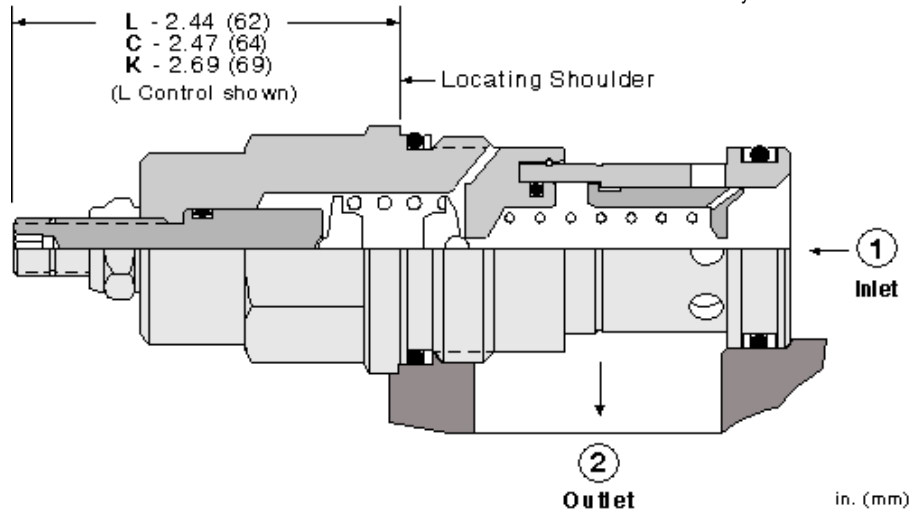
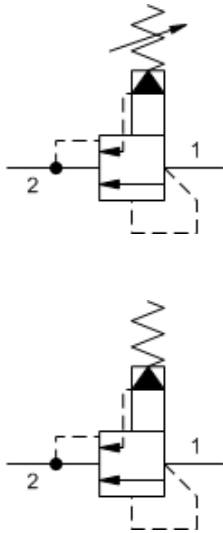
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	Kick down point
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Polyurethane: 990003002
Seal kit - Cartridge	Viton: 990203006

- NOTES**
- Do not use in load holding applications.
 - For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

CONFIGURATION OPTIONS
Model Code Example: RQGBLAN

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		V Viton	/AP Stainless Steel, Passivated
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
W Hex Wrench Adjustment	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Kick-down relief cartridges act similar to a circuit breaker in an electrical system. The valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to tank (port 2). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, flow from port 1 to port 2 must cease and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

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

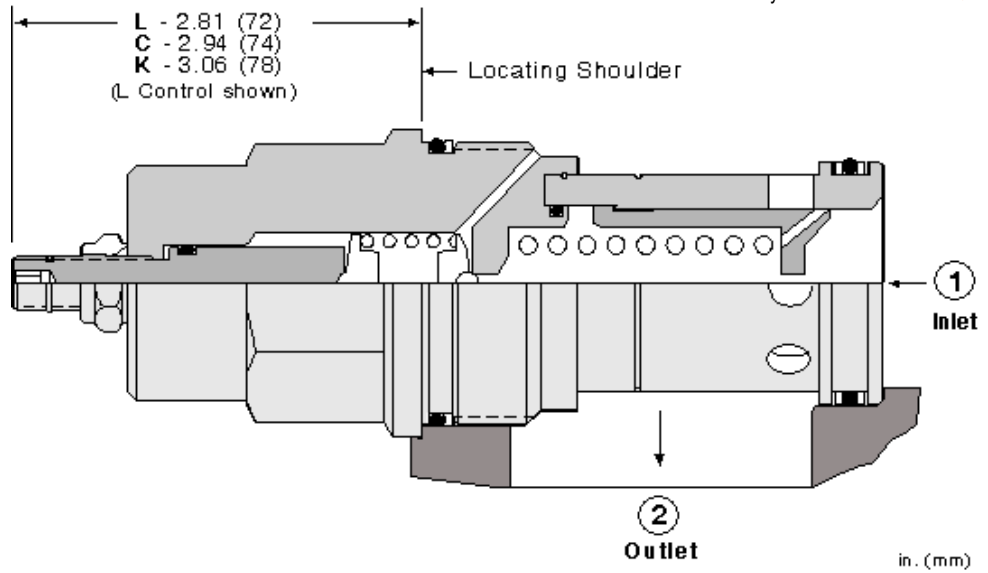
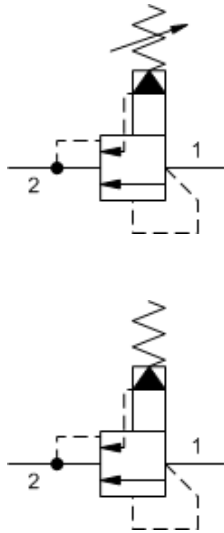
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	Kick down point
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

NOTES Do not use in load holding applications.

CONFIGURATION OPTIONS

Model Code Example: RQIBLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Kick-down relief cartridges act similar to a circuit breaker in an electrical system. The valves will kick completely open and remain open once the pressure at the inlet (port 1) exceeds the valve setting, creating an unrestricted flow path from port 1 to tank (port 2). The valve remains open as long as the pressure at port 1 exceeds the pressure at port 2. To reset the valve, flow from port 1 to port 2 must cease and pressure at port 2 must be equal to or greater than the pressure at port 1.

TECHNICAL DATA

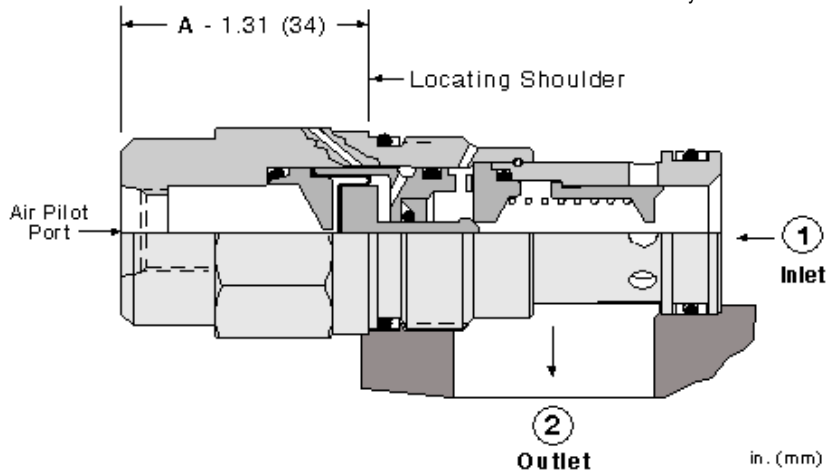
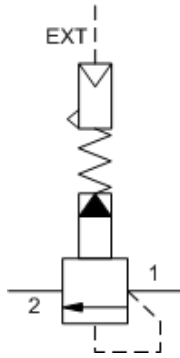
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	Kick down point
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	25 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

NOTES Do not use in load holding applications.

CONFIGURATION OPTIONS
Model Code Example: RQKBLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Air-controlled, pilot-operated, balanced piston relief cartridges use compressed air over a diaphragm instead of an adjustable spring to control pressure setting. The air signal is supplied through a port in the hex-end of the cartridge. They 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

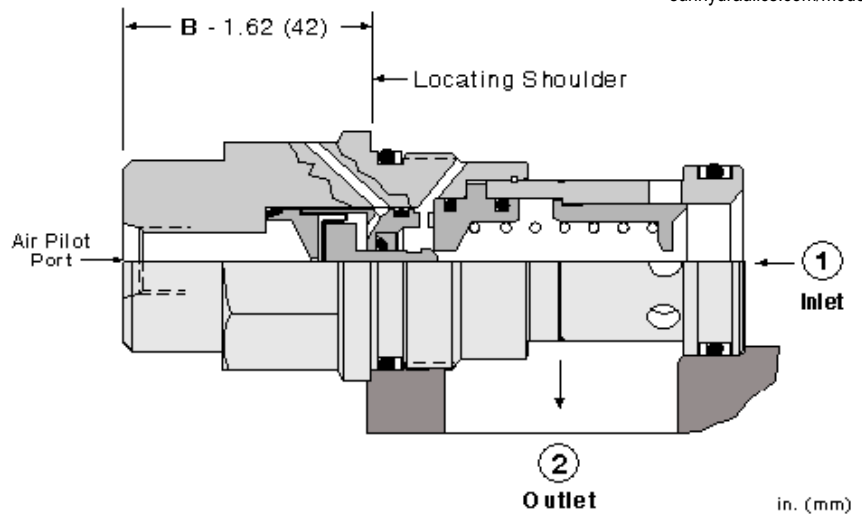
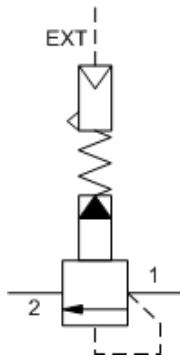
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	2000 psi
Pilot Ratio	20:1
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Maximum Air Pressure	150 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Polyurethane: 990003002
Seal kit - Cartridge	Viton: 990203006

CONFIGURATION OPTIONS

Model Code Example: RPGDABN

CONTROL	(A) OPERATING RANGE	(B) SEAL MATERIAL	(N)
A External 1/4 NPTF Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N	V Viton



Air-controlled, pilot-operated, balanced piston relief cartridges use compressed air over a diaphragm instead of an adjustable spring to control pressure setting. The air signal is supplied through a port in the hex-end of the cartridge. They 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.

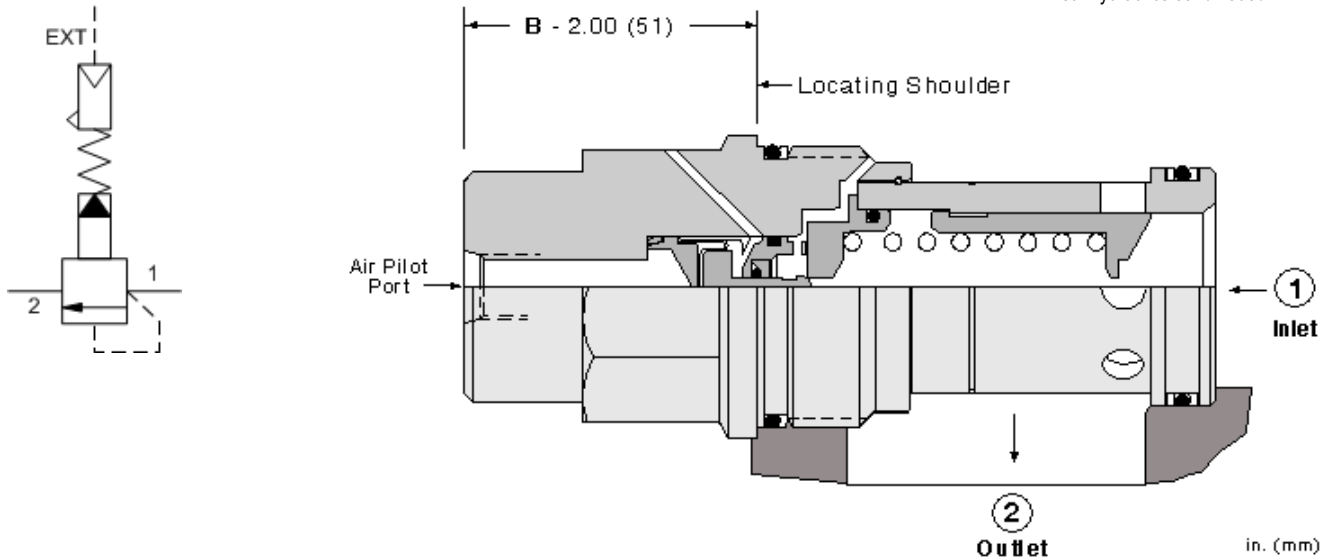
TECHNICAL DATA

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

Maximum Operating Pressure	2000 psi
Pilot Ratio	20:1
Hysteresis (with dither)	<4%
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Maximum Air Pressure	150 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

CONFIGURATION OPTIONS
Model Code Example: RPIDBBN

CONTROL	(B) OPERATING RANGE	(B) SEAL MATERIAL	(N)
B External 4- SAE Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N V Viton	



Air-controlled, pilot-operated, balanced piston relief cartridges use compressed air over a diaphragm instead of an adjustable spring to control pressure setting. The air signal is supplied through a port in the hex-end of the cartridge. They 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

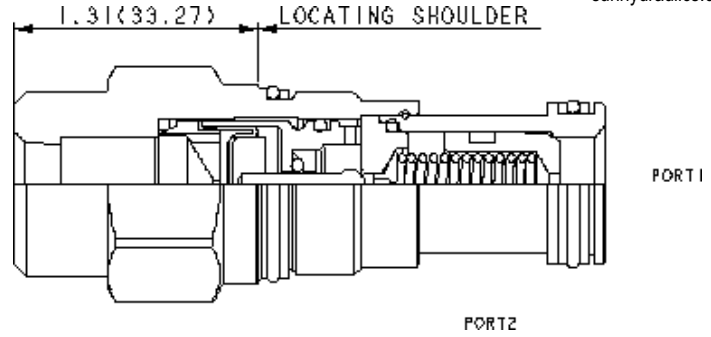
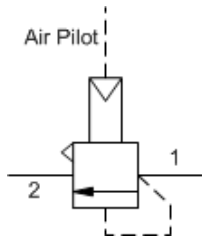
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	2000 psi
Pilot Ratio	20:1
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min. @1000 psi
Maximum Air Pressure	150 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

CONFIGURATION OPTIONS

Model Code Example: **RPKD**BBN

CONTROL	(B) OPERATING RANGE	(B) SEAL MATERIAL	(N)
B External 4-SAE Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N	V Viton



Air-controlled, pilot relief cartridges are used to remotely control the pressure setting of other pilot operated valves. Because capacity is limited to pilot flow, these valves should be used with valves with compatible pilot flows. They use compressed air over a diaphragm instead of an adjustable spring to control pressure setting, the air signal is supplied through a port in the hex-end of the cartridge.

TECHNICAL DATA

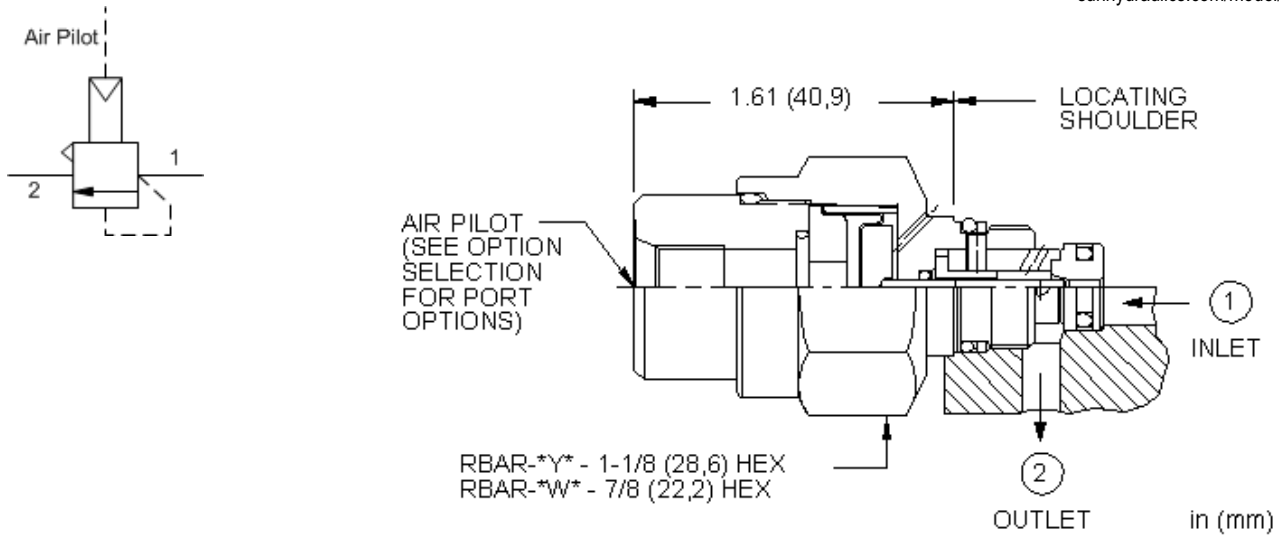
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	2000 psi
Pilot Ratio	20:1
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

CONFIGURATION OPTIONS

Model Code Example: RBABABN

CONTROL	(A) OPERATING RANGE	(B) SEAL MATERIAL	(N)
A External 1/4 NPTF Port	B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N V Viton	



Two-port, pilot-stage, air-controlled, direct-acting relief cartridges are normally closed pressure regulating valves. When the pressure at port 1 (inlet) is sufficient to overcome the force due to the air signal, a flow path is opened from port 1 to port 2 (tank). These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves.

TECHNICAL DATA

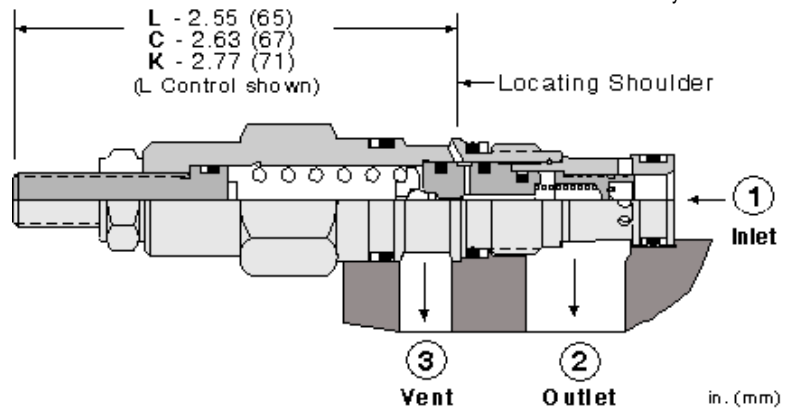
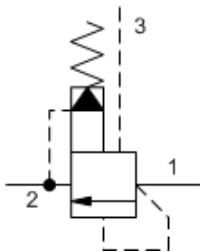
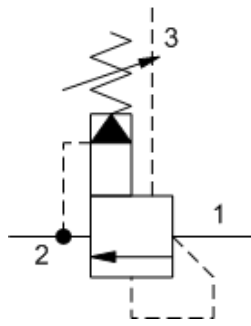
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	15 drops/min.
Maximum Pilot Pressure	150 psi
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990608007
Seal kit - Cartridge	EPDM: 990608014
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990608006

CONFIGURATION OPTIONS

Model Code Example: **RBARBWN**

CONTROL	(B) AIR PILOT RATIO	(W) SEAL MATERIAL	(N)
B External 4- <small>SAE</small> Port	W 50:1	N Buna-N	
A External 1/8 <small>NPTF</small> Port	Y 75:1	E EPDM	
D External 1/8 <small>BSPP</small> Port		V Viton	



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

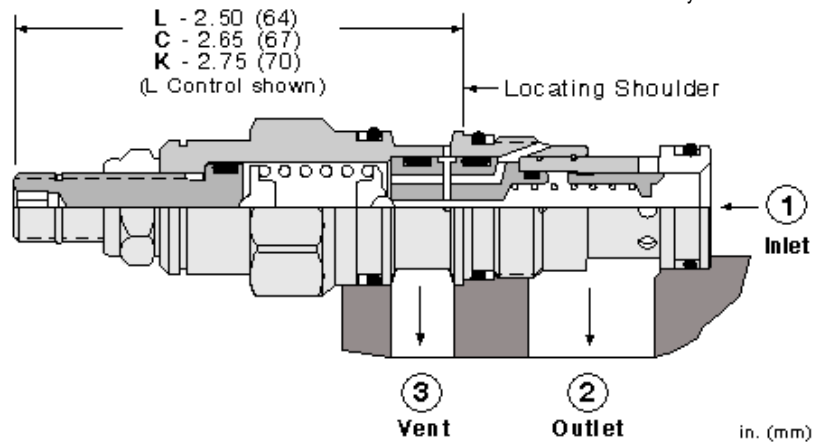
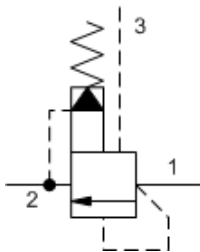
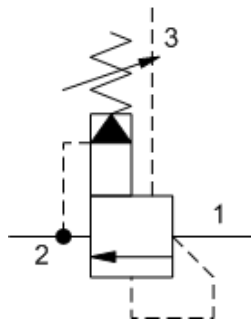
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	7 - 10 in ³ /min.
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
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	EPDM: 990163014
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS

Model Code Example: RVBALAN

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



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

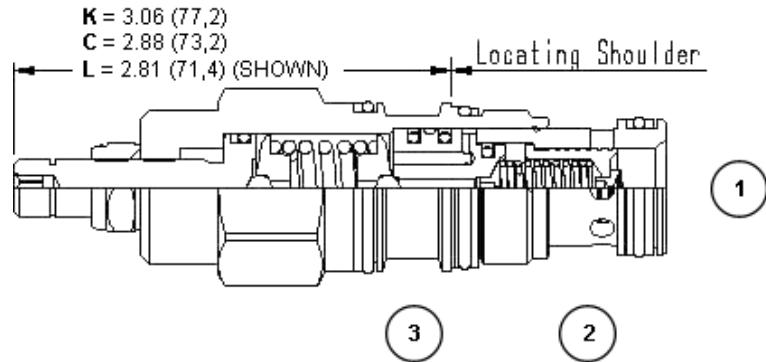
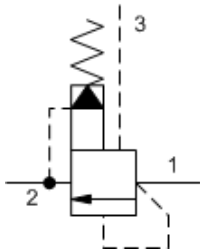
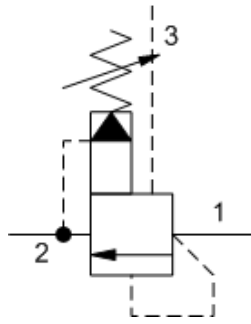
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	7 - 10 in ³ /min.
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
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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.

CONFIGURATION OPTIONS
Model Code Example: RVCALAN

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
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		



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.

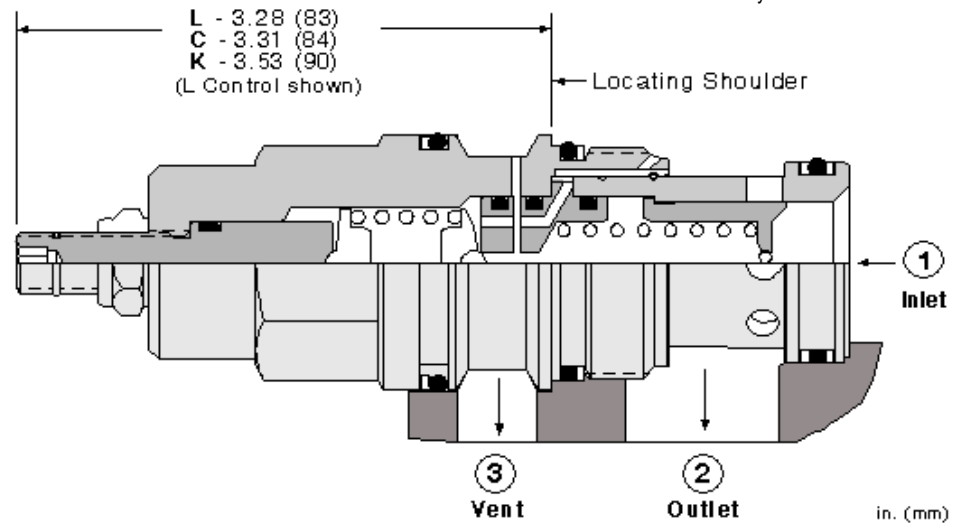
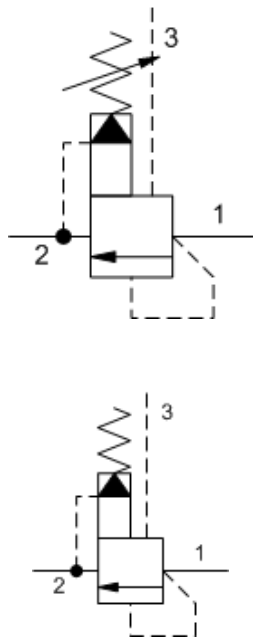
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 15 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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.

CONFIGURATION OPTIONS
Model Code Example: RVEALAN

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
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
W Hex Wrench Adjustment	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
Y Tri-Grip Handknob	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		



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

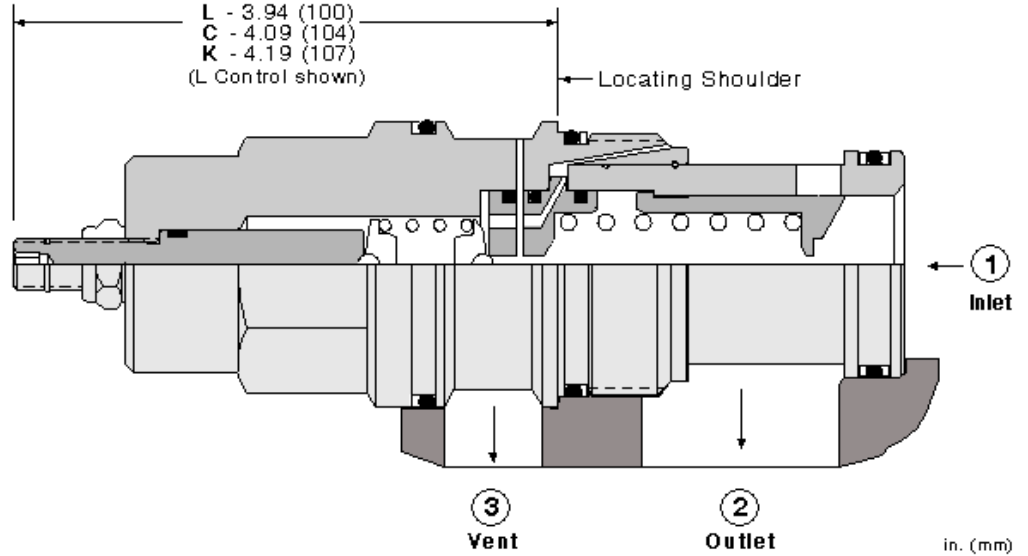
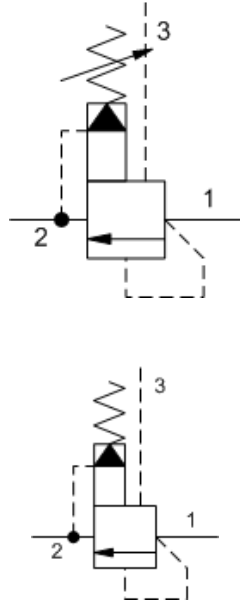
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: RVGALAN

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
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		



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

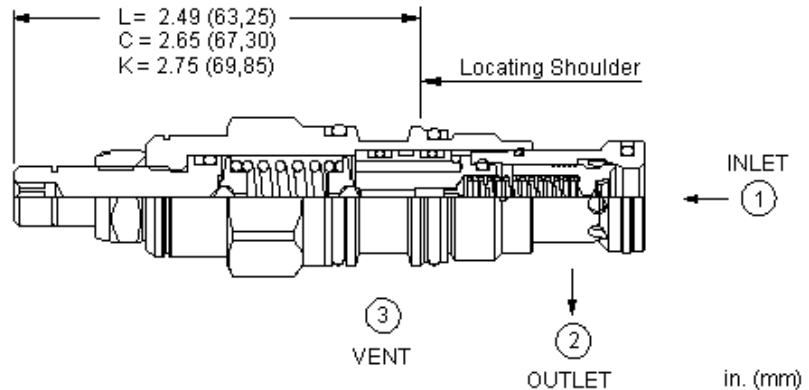
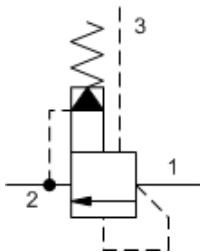
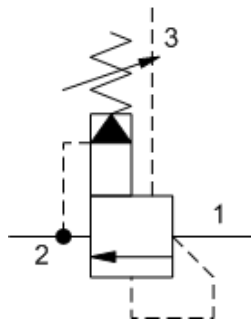
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min. @1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: RVIALAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	N 60 - 800 psi (4 - 55 bar), 400 psi (28 bar) Standard Setting		



Ventable, pilot-operated, balanced-poppet 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.

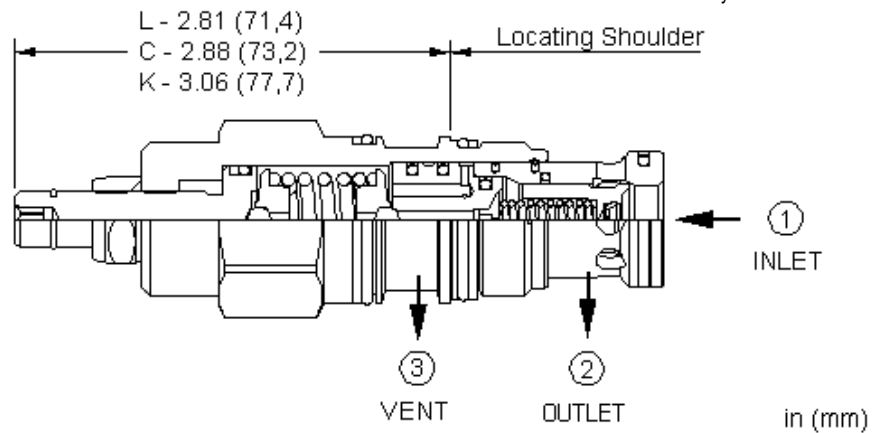
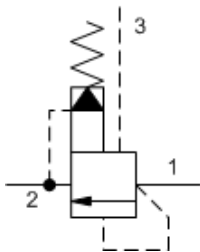
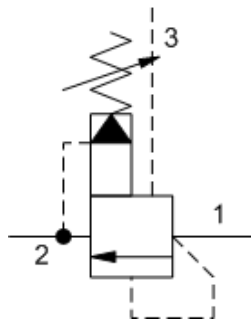
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	7 - 10 in ³ /min.
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990611007
Seal kit - Cartridge	Viton: 990611006

CONFIGURATION OPTIONS
Model Code Example: RVCSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, balanced-poppet 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.

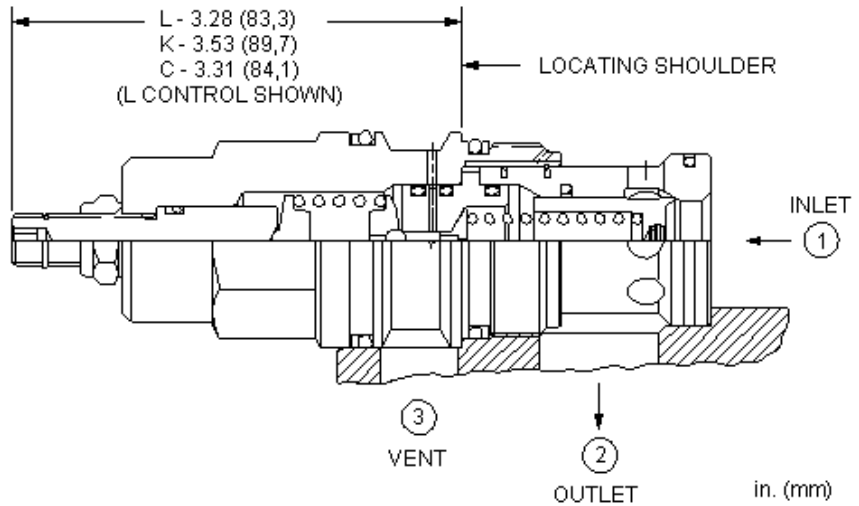
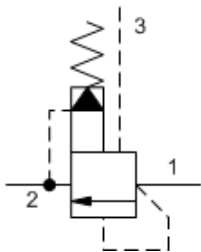
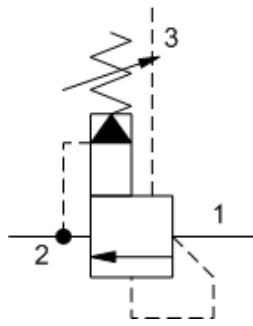
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NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990402007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990402006

CONFIGURATION OPTIONS
Model Code Example: RVESLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, balanced-poppet 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.

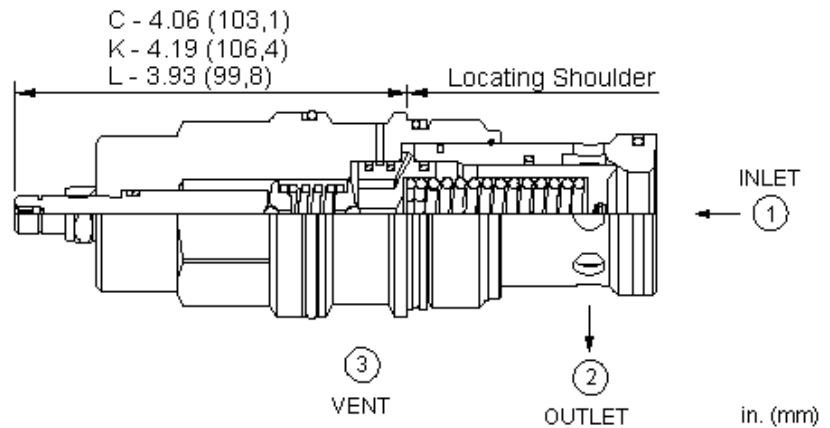
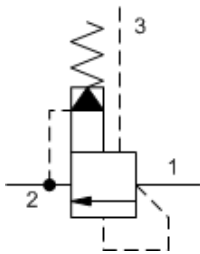
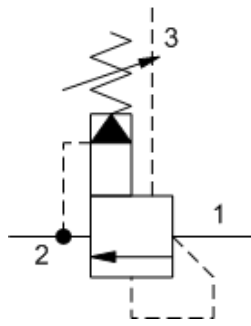
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990217007
Seal kit - Cartridge	Polyurethane: 990217002
Seal kit - Cartridge	Viton: 990217006

CONFIGURATION OPTIONS
Model Code Example: RVGSLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, balanced-poppet 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.

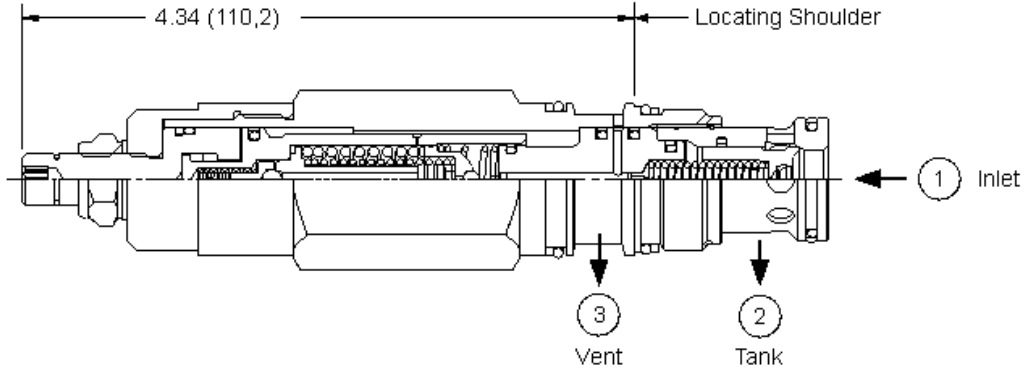
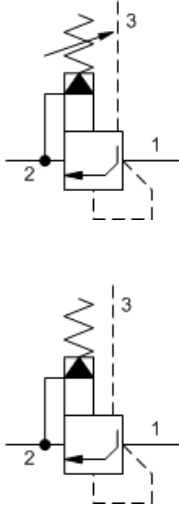
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at Reseat	10 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990219007
Seal kit - Cartridge	Viton: 990219006

CONFIGURATION OPTIONS
Model Code Example: RVISLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	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		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. These 3 port valves include a vent port (port 3) that connects between the main piston and the pilot stage to provide for remote control by other pilot or 2-way valves. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

TECHNICAL DATA

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

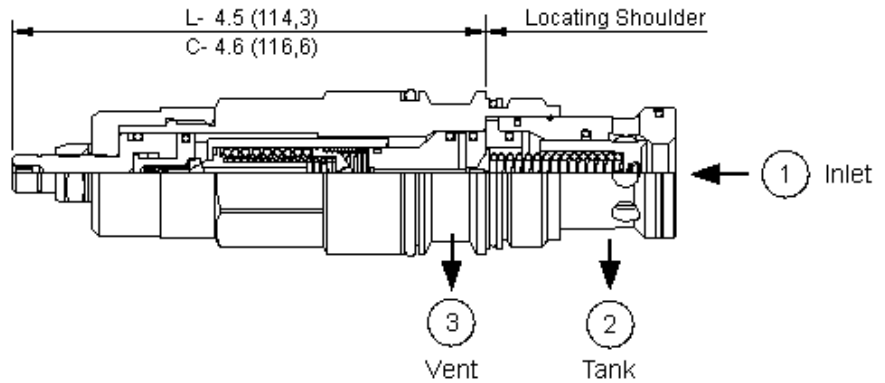
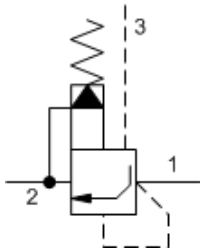
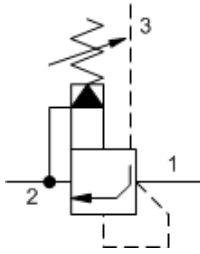
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pressure Ramp Up Time	200 - 400 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990402007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990402006

NOTES Patents are pending for this product.

CONFIGURATION OPTIONS

Model Code Example: RVETLAN

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	B 500 - 1500 psi (35 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting		
	W 1000 - 4500 psi (70 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. These 3 port valves include a vent port (port 3) that connects between the main piston and the pilot stage to provide for remote control by other pilot or 2-way valves. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

TECHNICAL DATA

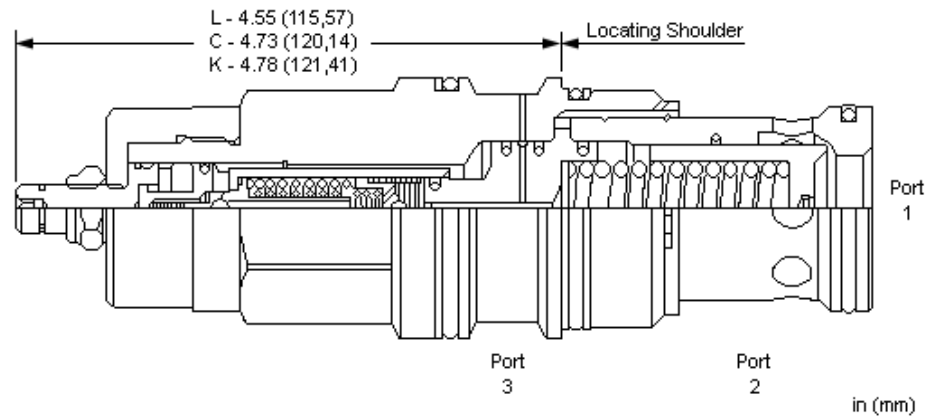
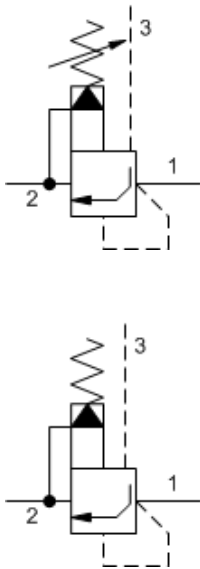
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Pressure Ramp Up Time	300 - 500 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	4.5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
U.S. Patent #	6,039,070
Seal kit - Cartridge	Buna: 990217007
Seal kit - Cartridge	Polyurethane: 990217002
Seal kit - Cartridge	Viton: 990217006

NOTES Patents are pending for this product.

CONFIGURATION OPTIONS
Model Code Example: RVGTLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 500 - 1500 psi (35 - 105 bar), 1000 psi (70 bar) Standard Setting C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting W 1000 - 4500 psi (70 - 315 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated



Ventable, pilot-operated, anti shock relief cartridges limit maximum system pressure and also limit the rate of pressure rise. The valve opens and then ramps closed at a constant speed, independent of settings and flows. These 3 port valves include a vent port (port 3) that connects between the main piston and the pilot stage to provide for remote control by other pilot or 2-way valves. The adjust screw determines the maximum (relief) setting and the minimum (threshold) setting.

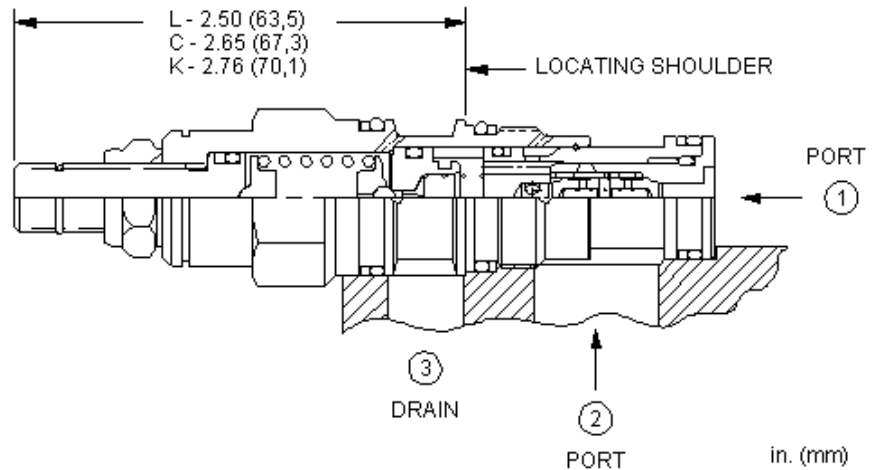
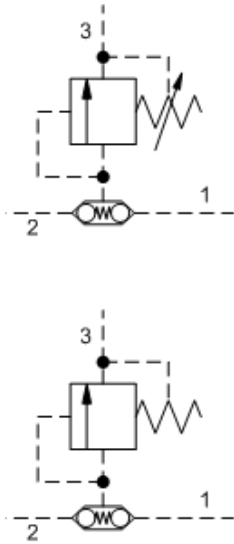
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Pressure Ramp Up Time	400 - 850 ms
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990219007
Seal kit - Cartridge	Viton: 990219006

CONFIGURATION OPTIONS
Model Code Example: RVITLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 1000 - 6000 psi (70 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	W 1000 - 4500 psi (70 - 315 bar), 1000 psi (70 bar) Standard Setting		



This direct-acting, pilot relief cartridge incorporates back-to-back check valves. This allows it to remotely control 2 other pilot-operated valves or act as a thermal relief for both ends of an actuator. Because capacity is limited to pilot flow, this valve should be used with other valves with comparable pilot flows.

TECHNICAL DATA

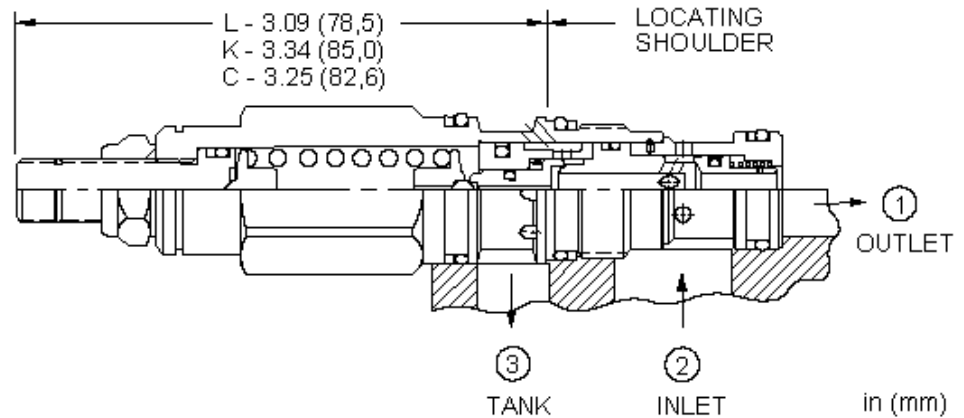
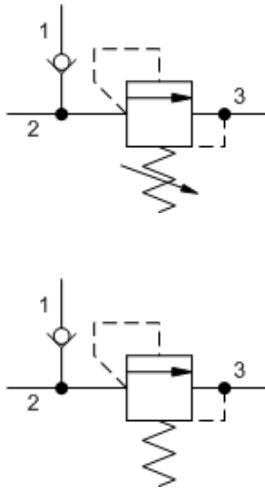
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Response Time - Typical	2 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
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

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.

CONFIGURATION OPTIONS
Model Code Example: RBADLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 25 - 3000 psi (1,7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 25 - 1500 psi (1,7 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 25 - 6000 psi (1,7 - 420 bar), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
O Handknob with Panel Mount	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 25 - 4500 psi (1,7 - 315 bar), 1000 psi (70 bar) Standard Setting		



The relief-before-check cartridge is a CavitySaver™ (multi-function) valve incorporating a direct-acting relief tee'd in 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.

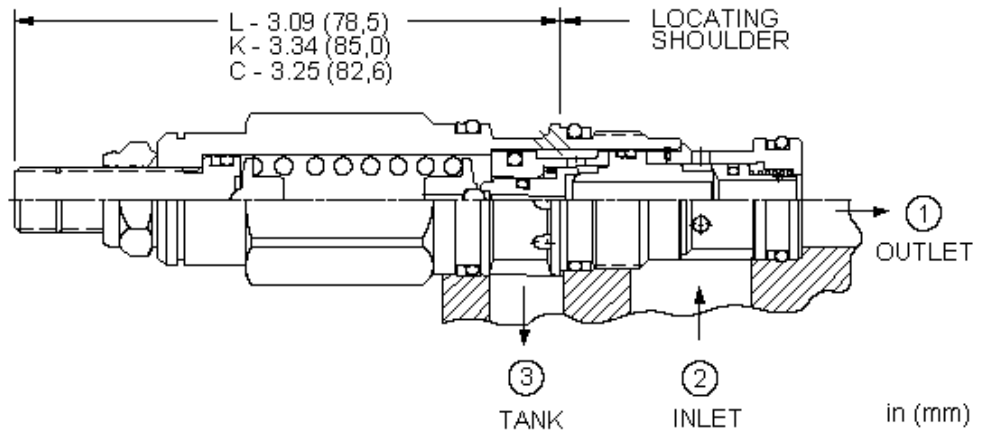
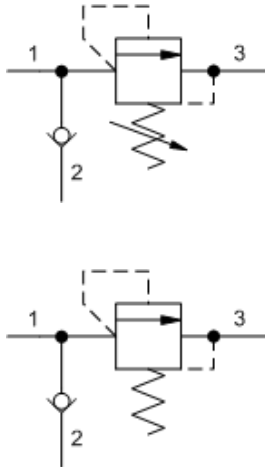
TECHNICAL DATA

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

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
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

CONFIGURATION OPTIONS
Model Code Example: HRDALAN

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



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 (port 1). 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

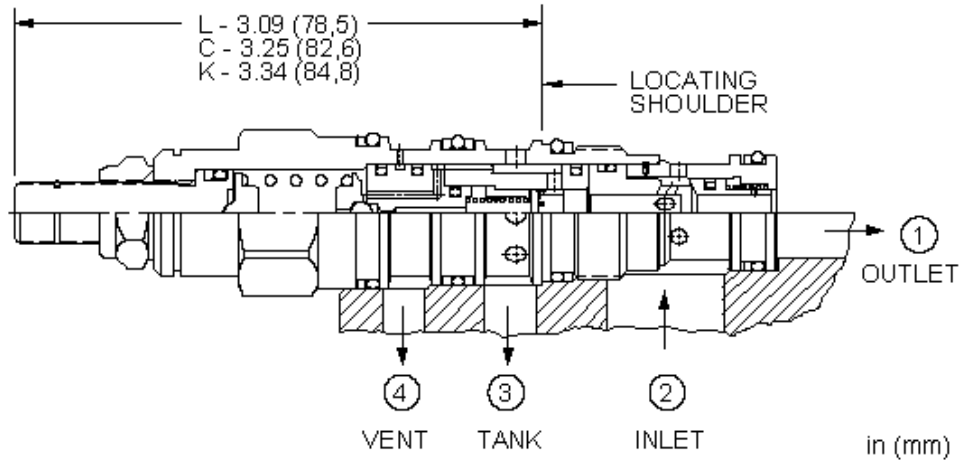
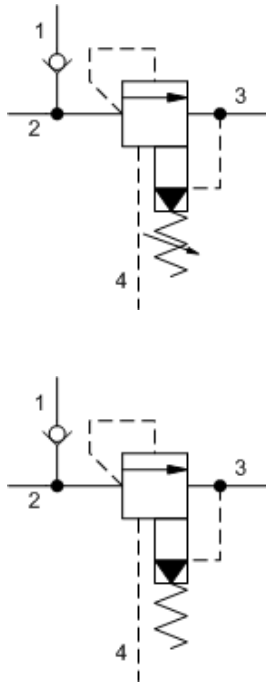
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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
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

CONFIGURATION OPTIONS

Model Code Example: HRDBLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	W 800 - 4500 psi (55 - 315 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob			/LH Mild Steel, Zinc-Nickel



The ventable relief-before-check cartridge is a CavitySaver™ (multi-function) valve incorporating a ventable, pilot-operated, balanced piston relief tee'd in 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 regulate the pressure. The check valve flow is from the inlet (port 2) to the system port (port 1). The valve includes a vent port (port 4) 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, are smooth, quiet, and are moderately fast.

TECHNICAL DATA

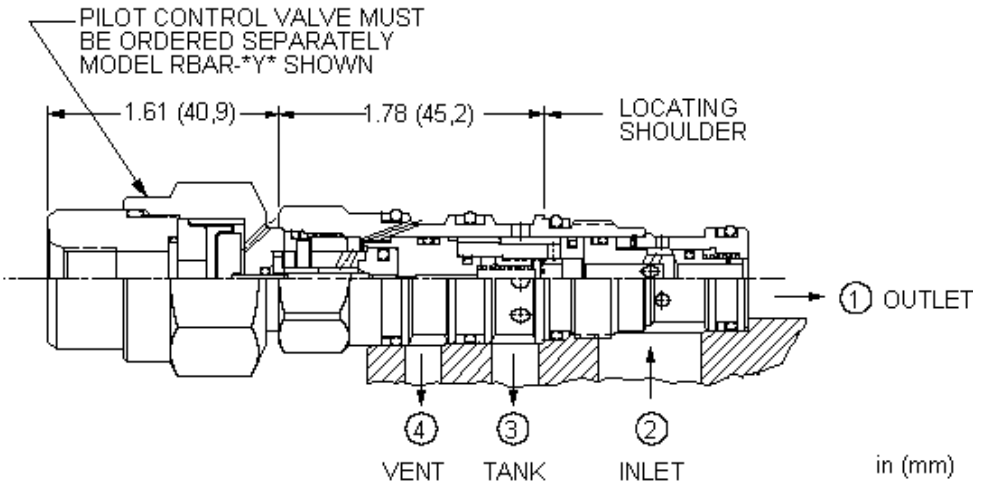
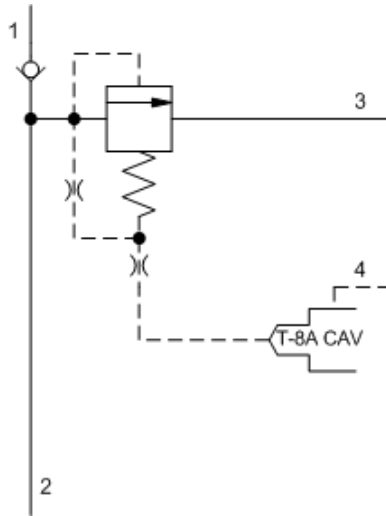
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Check Cracking Pressure	25 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: HVCALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 75 - 3000 psi (5 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 75 - 1500 psi (5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
K Handknob	D 75 - 800 psi (5 - 55 bar), 400 psi (28 bar) Standard Setting		
	W 75 - 4500 psi (5 - 315 bar), 1000 psi (70 bar) Standard Setting		



The relief-before-check cartridge is a CavitySaver™ (multi-function) valve incorporating a normally closed, balanced piston modulating element tee'd in before a check function. The valve incorporates an integral pilot control cavity. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 2) reaches the pilot control valve setting, the modulating element starts to open to tank (port 3), throttling flow to regulate the pressure. The T-8A pilot section is drained to port 4. The check valve flow is from the inlet (port 2) to the system port (port 1).

TECHNICAL DATA

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

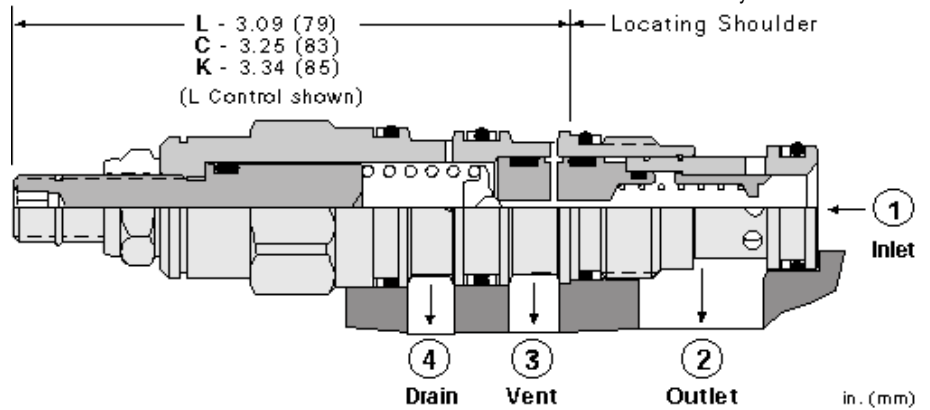
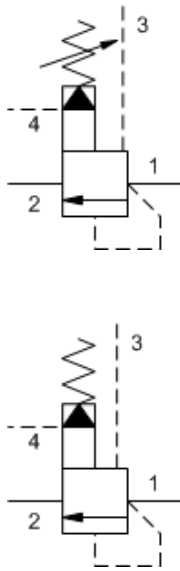
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Check Cracking Pressure	25 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: HVCA8DN

BIAS PRESSURE	(D)	SEAL MATERIAL	(N)
D 75 psi (5 bar)		N Buna-N	
		E EPDM	
		V Viton	



Ventable, pilot-operated, balanced piston relief cartridges with external drain 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 and a drain (port 4) that makes them insensitive to back pressure. These valves are accurate, have low pressure rise vs. flow, they are smooth and quiet, and are moderately fast.

TECHNICAL DATA

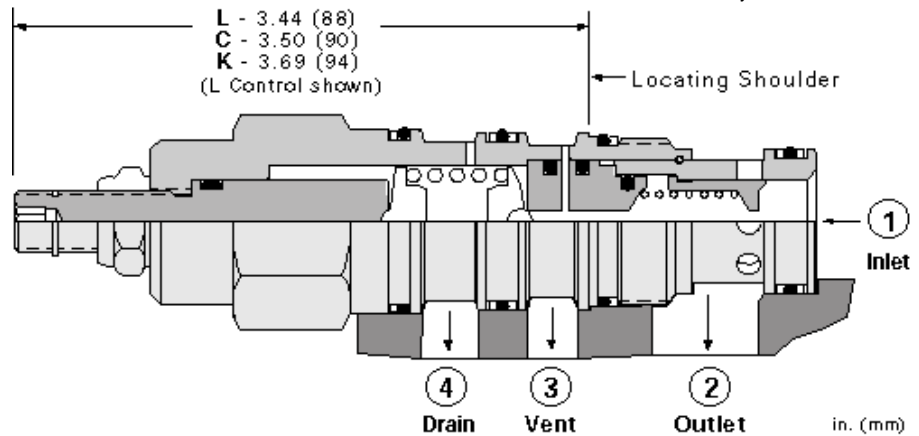
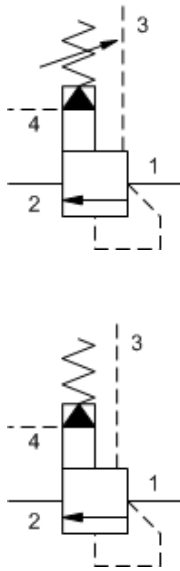
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	7 - 10 in ³ /min.
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
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: RVCDLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, balanced piston relief cartridges with external drain 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 and a drain (port 4) that makes them insensitive to back pressure. These valves are accurate, have low pressure rise vs. flow, they are smooth and quiet, and are moderately fast.

TECHNICAL DATA

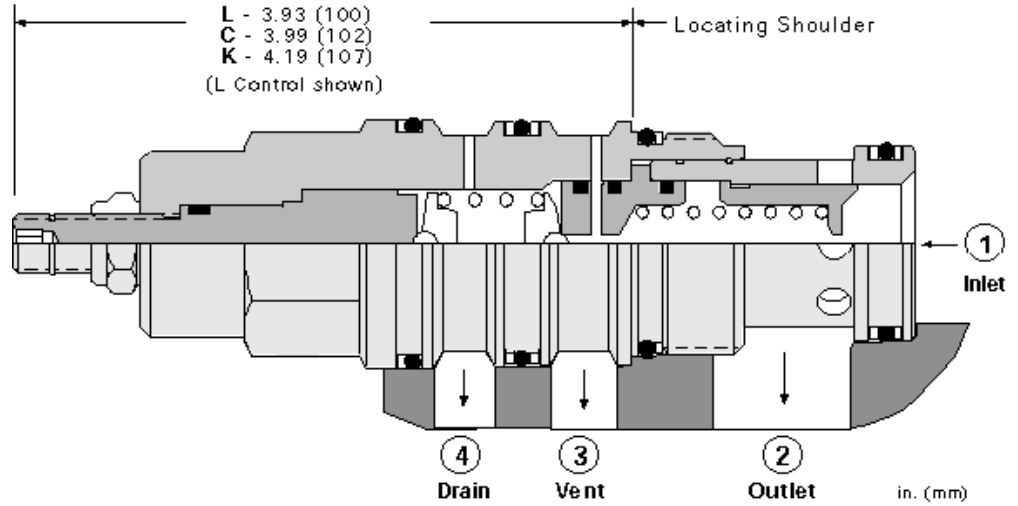
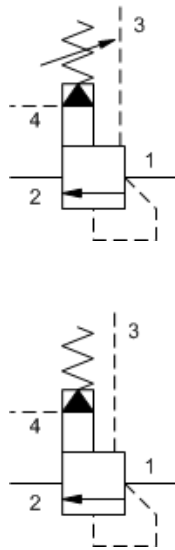
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 15 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS

Model Code Example: RVEDLAN

CONTROL	(L) ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting		N Buna-N	
C Tamper Resistant - Factory Set			E EPDM	
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting		V Viton	
W Hex Wrench Adjustment	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting			
Y Tri-Grip Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting			
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting			
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting			



Ventable, pilot-operated, balanced piston relief cartridges with external drain 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 and a drain (port 4) that makes them insensitive to back pressure. These valves are accurate, have low pressure rise vs. flow, they are smooth and quiet, and are moderately fast.

TECHNICAL DATA

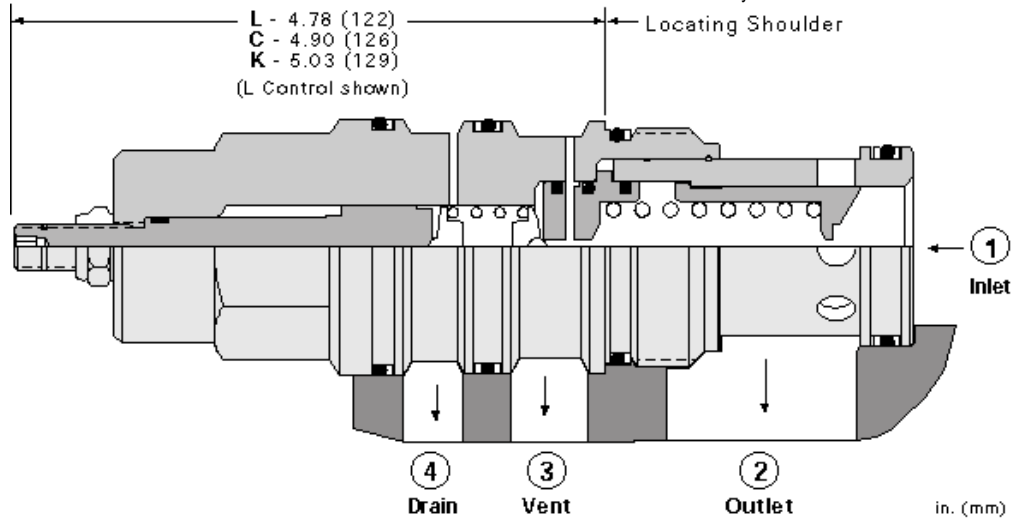
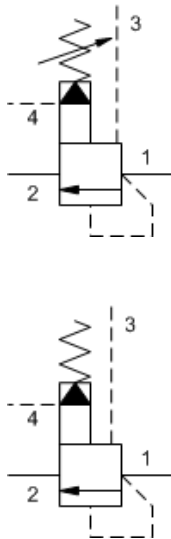
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in ³ /min. @1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: RVGDLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Ventable, pilot-operated, balanced piston relief cartridges with external drain 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 and a drain (port 4) that makes them insensitive to back pressure. These valves are accurate, have low pressure rise vs. flow, they are smooth and quiet, and are moderately fast.

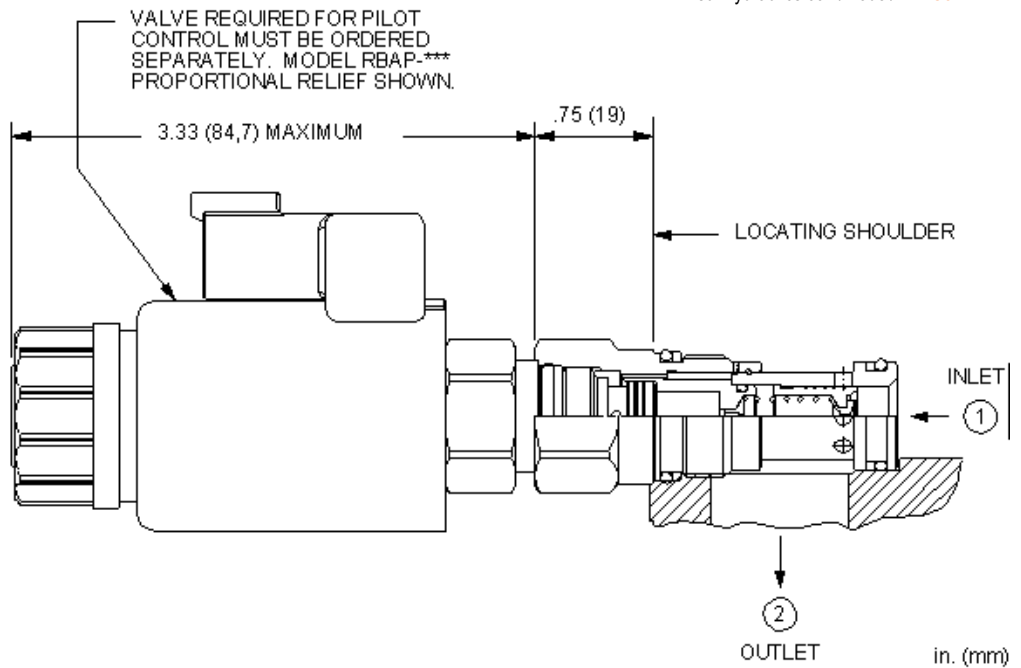
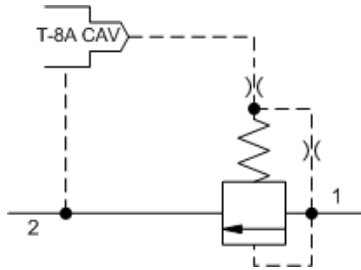
TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS
Model Code Example: RVIDLAN

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	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

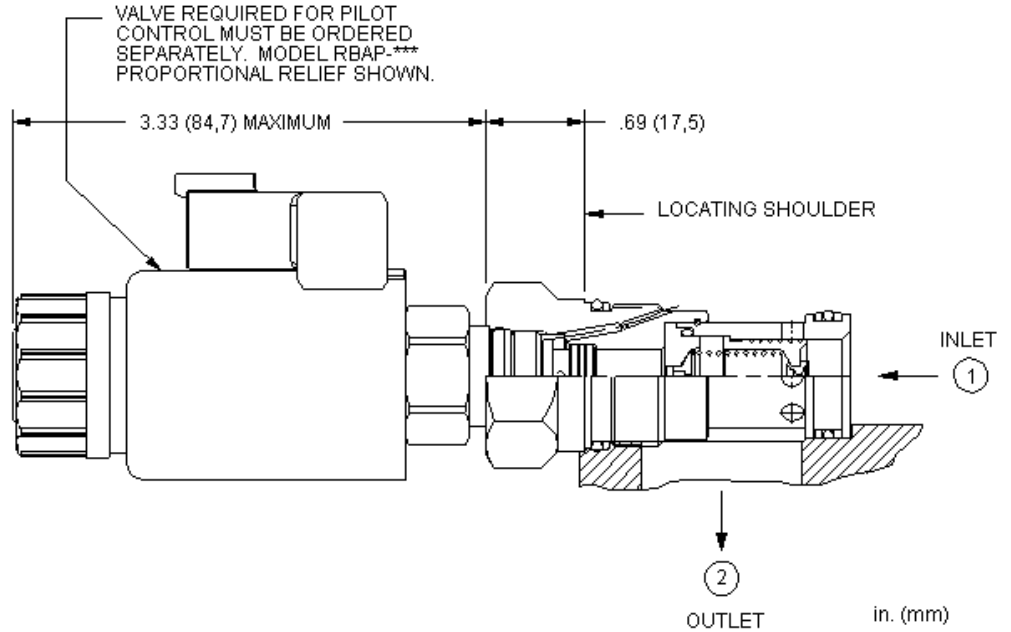
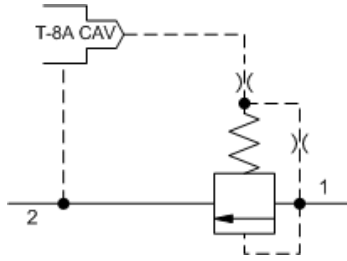
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at 110 SUS (24 cSt)	2 in ³ /min. @1000 psi
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPEC8WN

ADJUSTMENT RANGE	(W)	SEAL MATERIAL	(N)
W 100 - 5000 psi (7 - 350 bar)		N Buna-N	
D 25 - 3000 psi (1,7 - 210 bar)		E EPDM	
		V Viton	



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

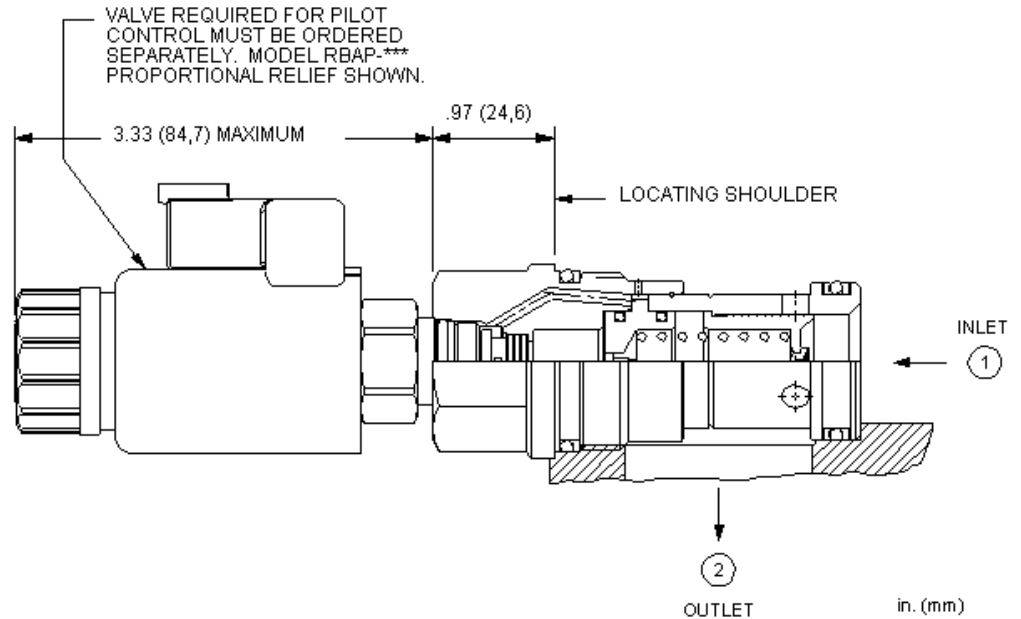
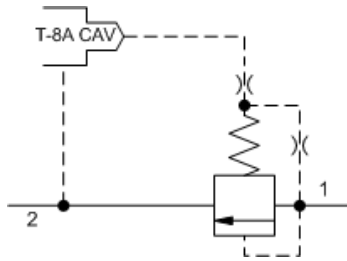
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	3 in ³ /min. @1000 psi
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Polyurethane: 990003002
Seal kit - Cartridge	Viton: 990203006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPGC8WN

ADJUSTMENT RANGE	(W)	SEAL MATERIAL	(N)
W 100 - 5000 psi (7 - 350 bar)		N Buna-N	
D 25 - 3000 psi (1,7 - 210 bar)		E EPDM	
		V Viton	



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

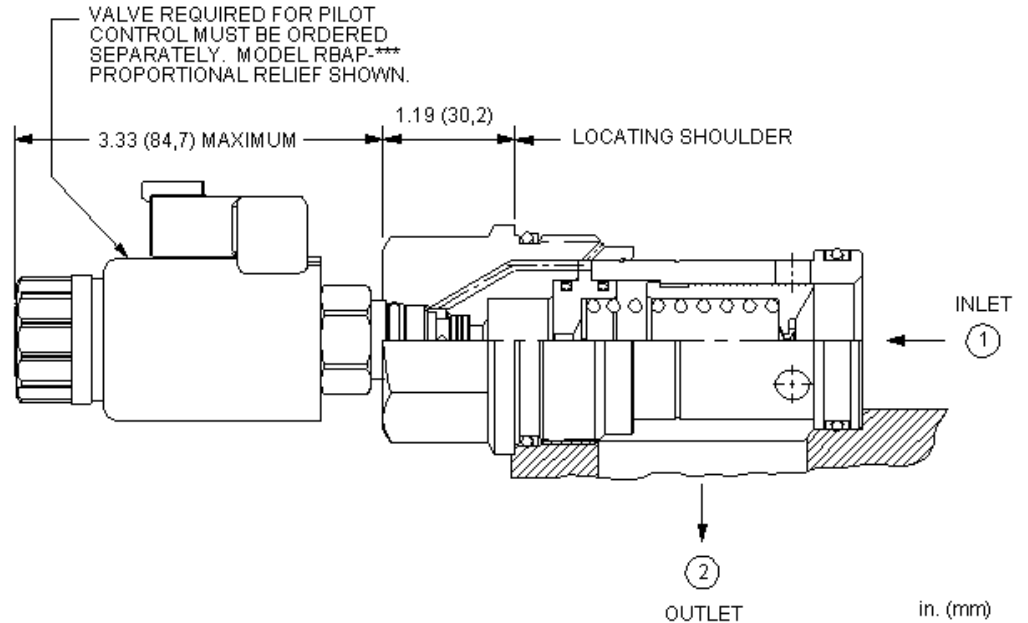
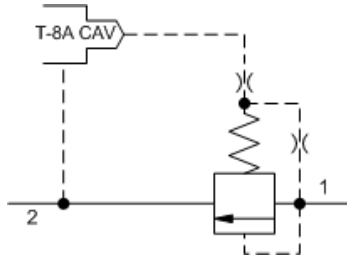
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	4 in ³ /min. @1000 psi
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPIC8WN

ADJUSTMENT RANGE	(W)	SEAL MATERIAL	(N)
W 100 - 5000 psi (7 - 350 bar)		N Buna-N	
D 25 - 3000 psi (1,7 - 210 bar)		E EPDM	
		V Viton	



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

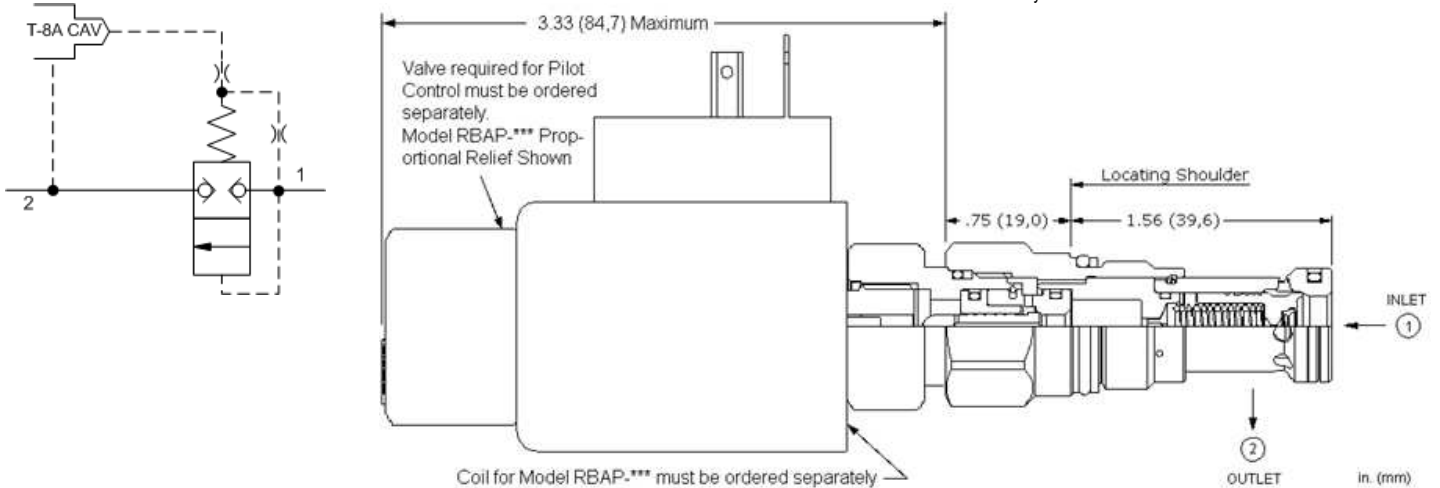
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	5 in ³ /min. @1000 psi
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPKC8WN

ADJUSTMENT RANGE	(W)	SEAL MATERIAL	(N)
W 100 - 5000 psi (7 - 350 bar)		N Buna-N	
D 25 - 3000 psi (1,7 - 210 bar)		E EPDM	
		V Viton	



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

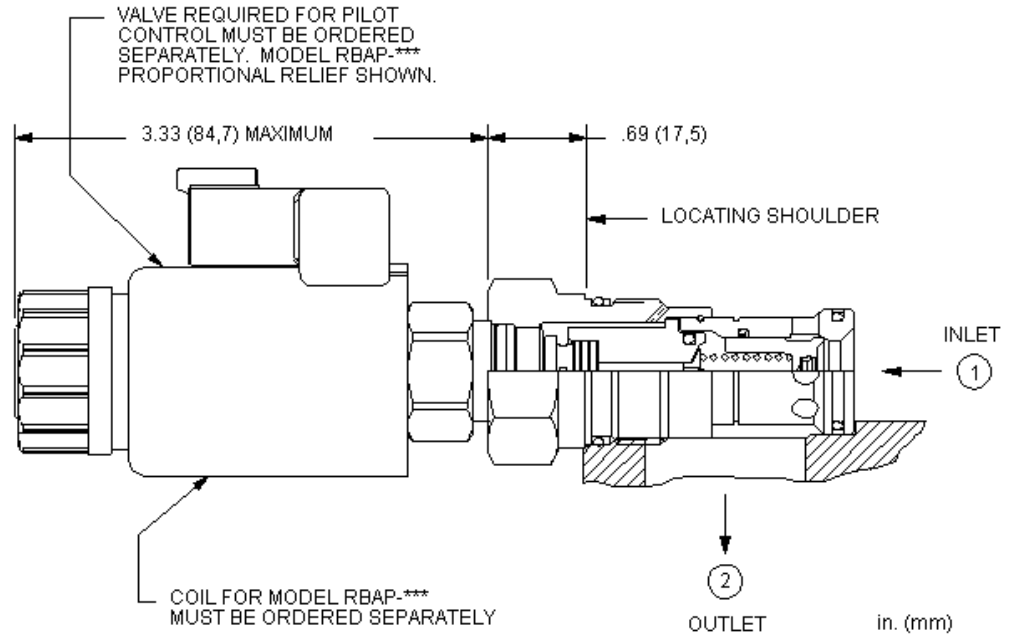
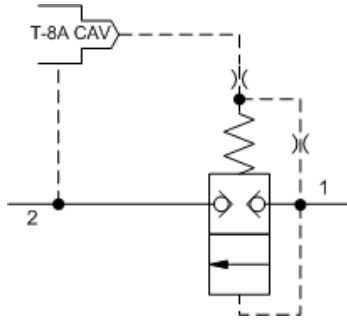
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseal	10 drops/min.
Response Time - Typical	7 ms
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990310014
Seal kit - Cartridge	Viton: 990310006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPES8WN

ADJUSTMENT RANGE	(W)	SEAL MATERIAL	(N)	MATERIAL/COATING
W 1000 - 5000 psi (70 - 350 bar)	N Buna-N			Standard Material/Coating
D 50 - 1500 psi (3,5 - 105 bar)	E EPDM			/LH Mild Steel, Zinc-Nickel
	V Viton			



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseal	10 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990303007
Seal kit - Cartridge	EPDM: 990303014
Seal kit - Cartridge	Polyurethane: 990303002
Seal kit - Cartridge	Viton: 990303006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

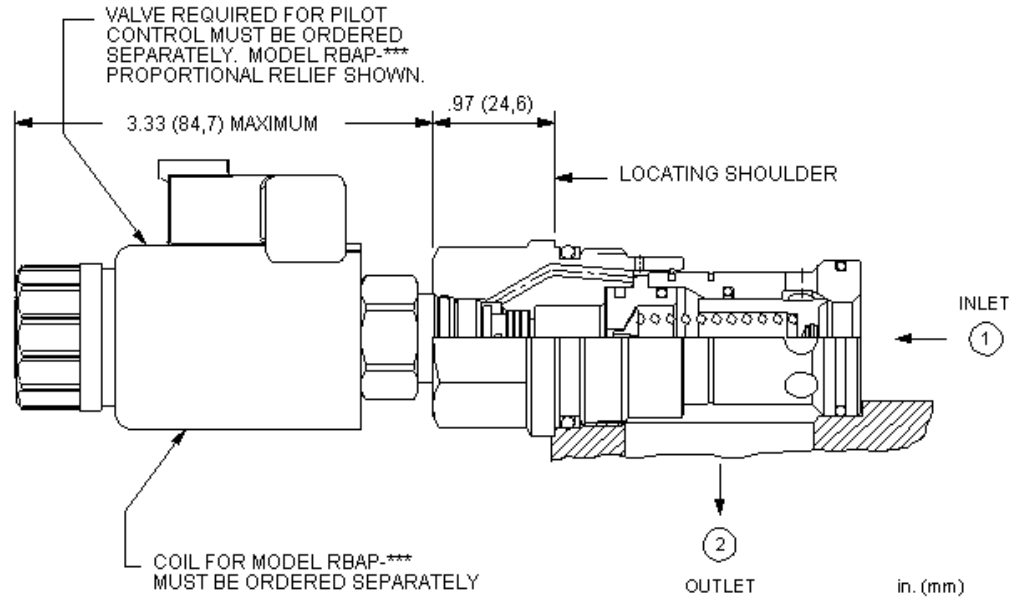
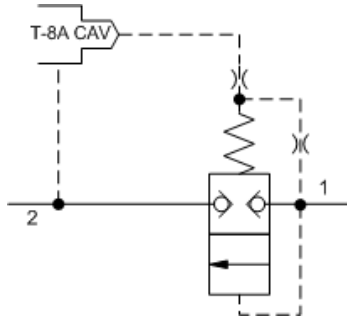
Model Code Example: RPGS8N

ADJUSTMENT RANGE

- B** 50 - 1500 psi (3,5 - 105 bar)
- W** 100 - 5000 psi (7 - 350 bar)

SEAL MATERIAL

- E** EPDM
- N** Buna-N
- V** Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at reseal	10 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990316007
Seal kit - Cartridge	EPDM: 990316014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990316006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

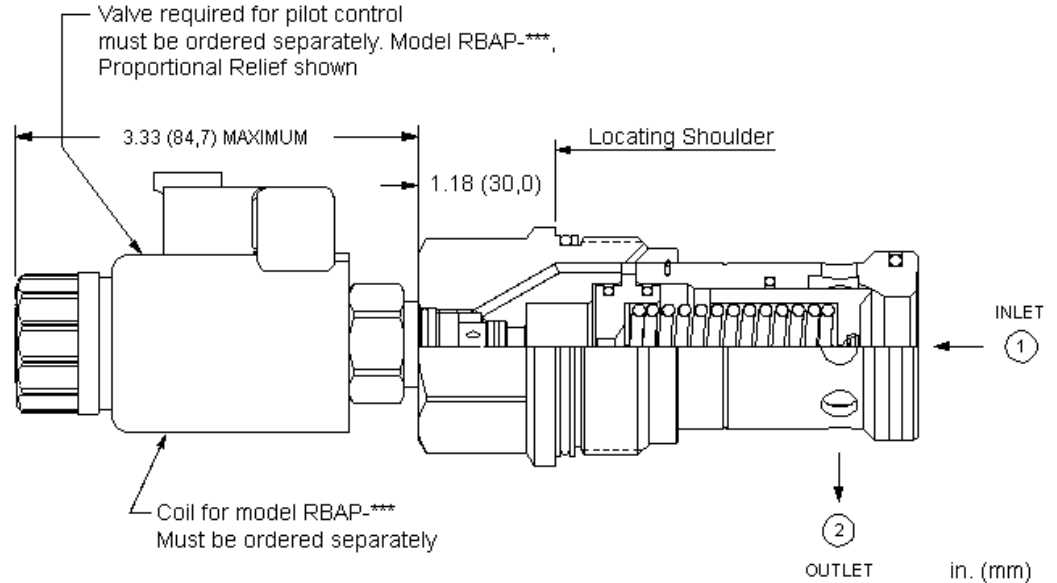
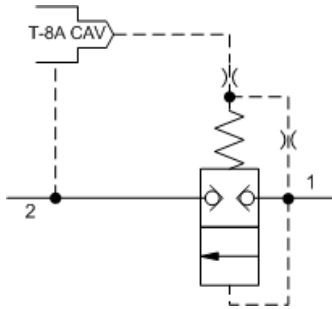
Model Code Example: RPIS8N

ADJUSTMENT RANGE

- B** 50 - 1500 psi (3,5 - 105 bar)
- W** 100 - 5000 psi (7 - 350 bar)

SEAL MATERIAL

- E** EPDM
- N** Buna-N
- V** Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is a balanced poppet design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge's setting, the poppet element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between port 1 and port 2.

TECHNICAL DATA

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

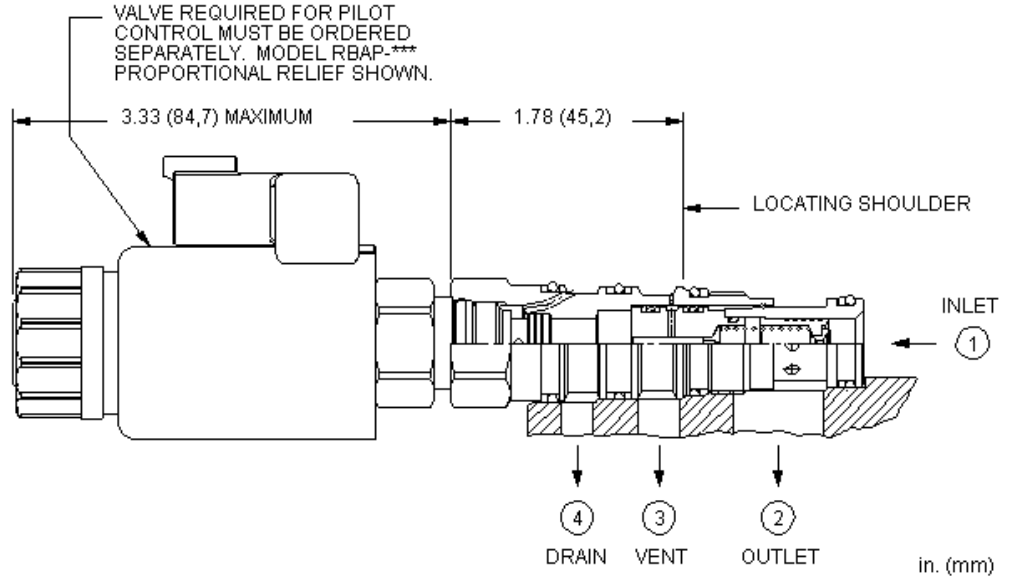
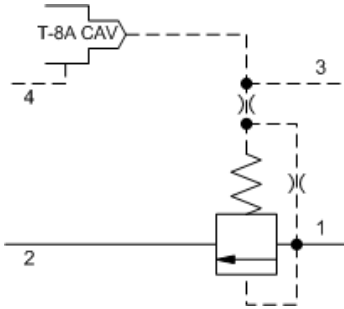
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseal	10 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990318007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990318006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RPKS8N

ADJUSTMENT RANGE	SEAL MATERIAL
B 50 - 1500 psi (3,5 - 105 bar)	N Buna-N
W 100 - 5000 psi (7 - 350 bar)	V Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is ventable, externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 4). The vent port (port 3) that tees in between the main piston and pilot control cartridge, allows the modulating element to also be controlled by remote pilot or 2-way valves.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

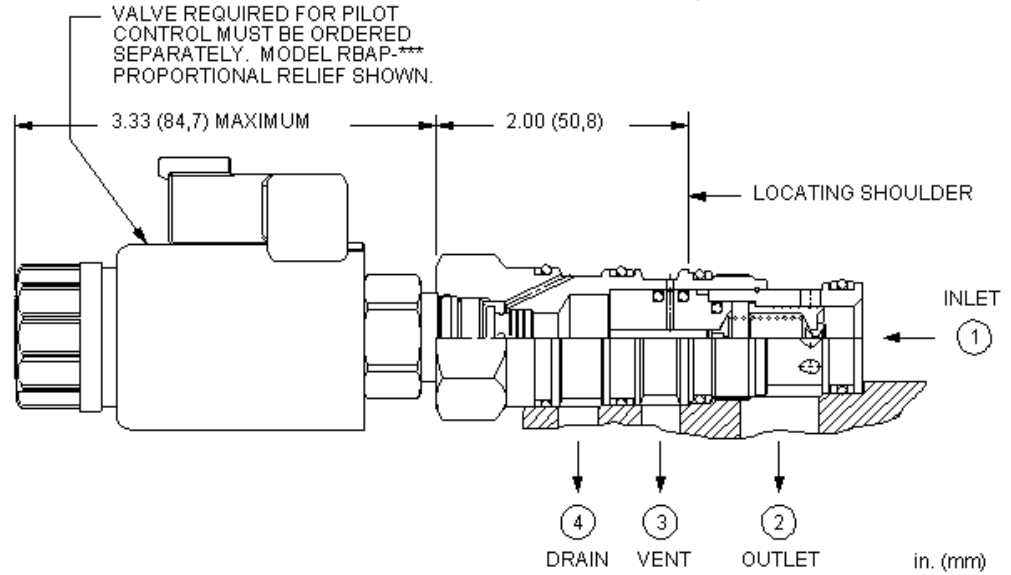
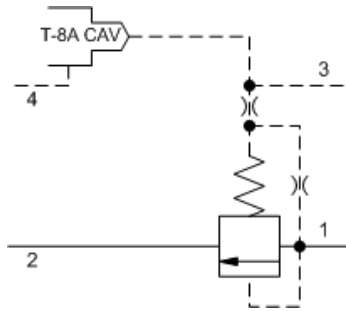
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RVCD8WN

MINIMUM CONTROL PRESSURE (W) SEAL MATERIAL (N)

- W** 100 psi (7 bar) **N** Buna-N
- D** 25 psi (1,7 bar) **V** EPDM



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is ventable, externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 4). The vent port (port 3) that tees in between the main piston and pilot control cartridge, allows the modulating element to also be controlled by remote pilot or 2-way valves.

TECHNICAL DATA

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

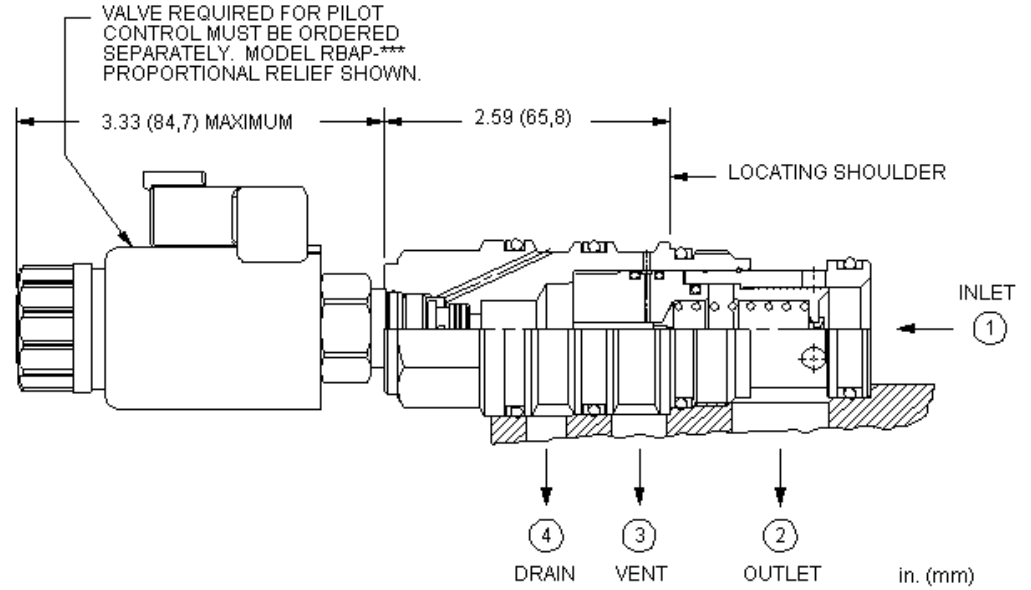
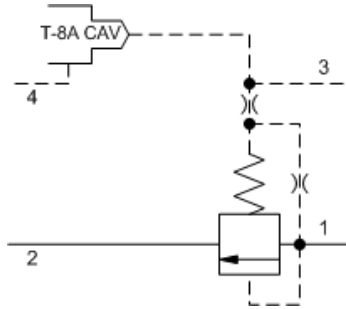
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in ³ /min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at 110 SUS (24 cSt)	3 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RVED8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM
	V Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is ventable, externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 4). The vent port (port 3) that tees in between the main piston and pilot control cartridge, allows the modulating element to also be controlled by remote pilot or 2-way valves.

TECHNICAL DATA

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

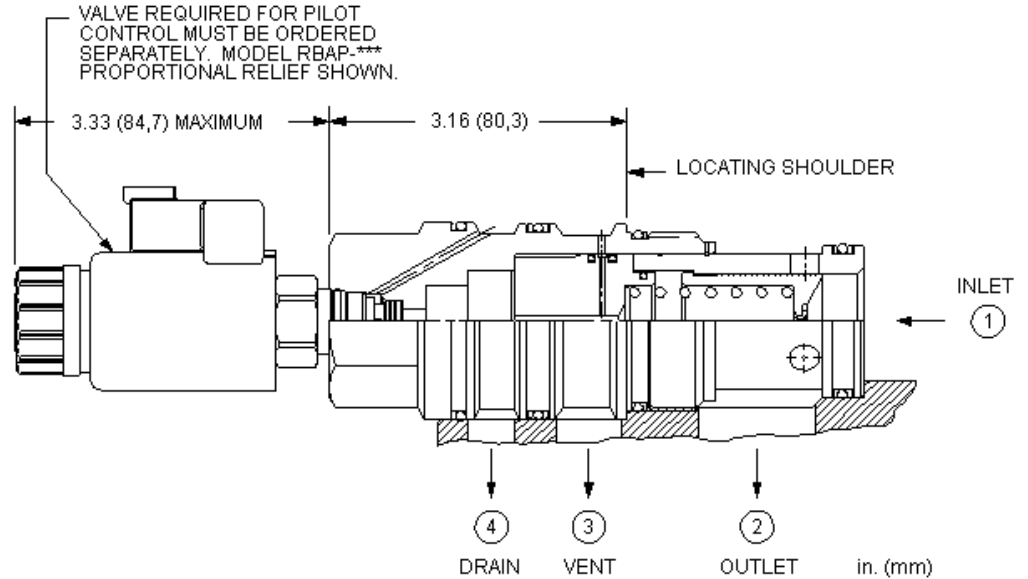
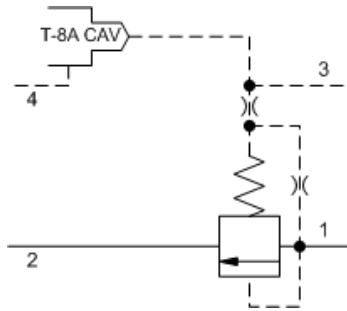
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in ³ /min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	4 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RVGD8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	E EPDM V Viton



This valve is a normally closed modulating element that incorporates an integral pilot control cavity. It is ventable, externally drained, and is a balanced piston design. The pilot control cavity will accept any T-8A pressure control cartridge. When the pressure at the inlet (port 1) reaches the pilot control cartridge setting, the modulating element starts to open to tank (port 2), throttling flow to regulate the pressure. The pilot cartridge's setting determines the difference in pressure between the inlet (port 1) and the drain (port 4). The vent port (port 3) that tees in between the main piston and pilot control cartridge, allows the modulating element to also be controlled by remote pilot or 2-way valves.

TECHNICAL DATA

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

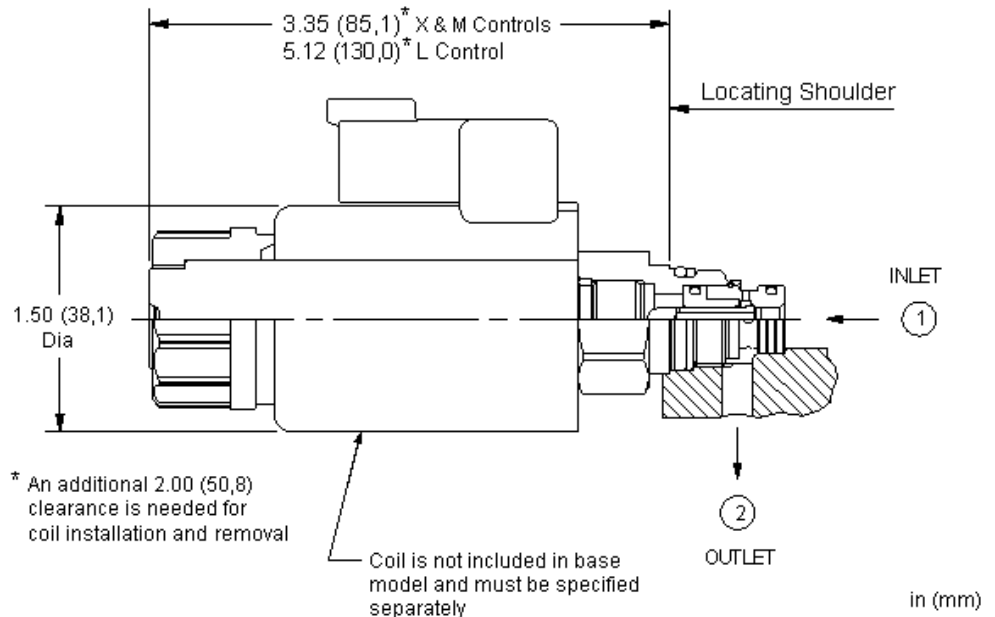
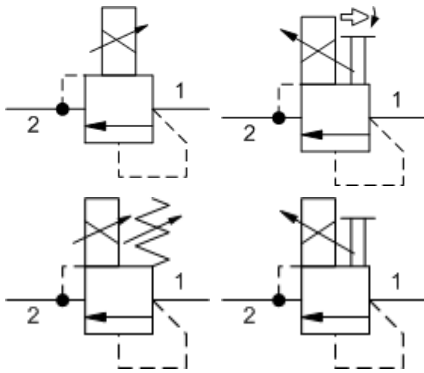
Maximum Operating Pressure	5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at 110 SUS (24 cSt)	5 in ³ /min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: RVID8WN

MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	N Buna-N
D 25 psi (1,7 bar)	V Viton



This 2-port, pilot-stage, direct-acting relief cartridge is an electro-proportionally controlled, pressure regulating valve. The proportional control allows for infinite, step-less adjustability within the selected pressure range. When the pressure at port 1 (inlet) is sufficient to overcome the solenoid forces, as determined by the analog input signal, the poppet lifts and allows flow from port 1 to port 2 (outlet). This pilot control cartridge utilizes the T-8A cavity so it can be used in conjunction with Sun's main stage, pressure control elements.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	1.5 in ³ /min.
Manual Override Force Requirement	10 lbs/1000 psi @ Port 1
Reseat	>85% of setting
Seal kit - Cartridge	Buna: 990208007
Seal kit - Cartridge	EPDM: 990008014
Seal kit - Cartridge	Viton: 990208006

NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

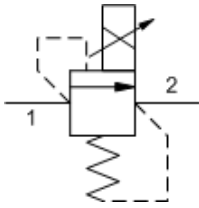
CONFIGURATION OPTIONS

Model Code Example: RBAPXAN

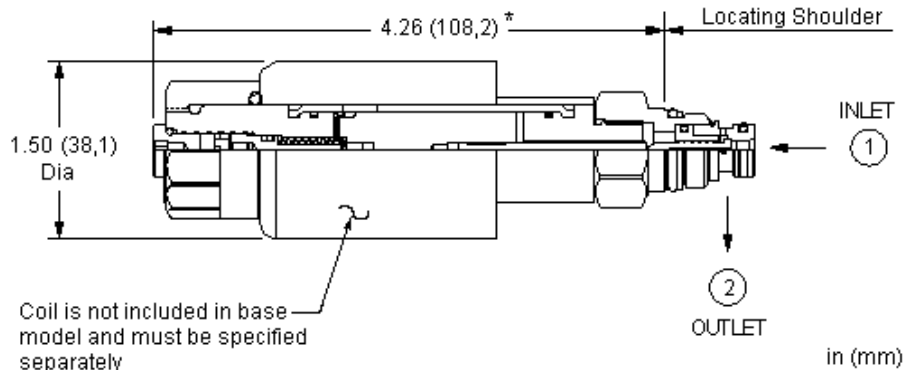
CONTROL	(X) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) COIL *
X No Manual Override	A 300 - 3000 psi (20 - 210 bar)	N Buna-N	No coil
E Twist (Extended) Manual Override	B 150 - 1500 psi (10,5 - 105 bar)	E EPDM	212 DIN 43650-Form A, 12 VDC
L Manual Override - Adjustable	D 50 - 750 psi (3,5 - 50 bar)	V Viton	224 DIN 43650-Form A, 24 VDC
T Tuning Adjustment	W 500 - 5000 psi (35 - 350 bar)		224NX01 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
			224NX02 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver
			912 Deutsch DT04-2P, 12 VDC
			912NX01 Deutsch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
			912NX02 Deutsch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver

- 924** Deutsch DT04-2P, 24 VDC
- 924NX01** Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
- 924NX02** Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver

* Additional coil options are available



* An additional 2.00 (50,8) clearance is needed for coil installation and removal



This 2-port, pilot-stage, direct-acting relief cartridge is an electro-proportionally controlled, normally-closed pressure regulating valve. The valve is spring biased closed to its highest setting (customer specified). Increasing current to the coil will proportionally decrease the pressure setting. When the pressure at port 1 (inlet) is sufficient to overcome the spring force minus the solenoid force, as determined by the analog input signal, the poppet lifts and allows flow from port 1 to port 2 (outlet). This pilot control cartridge utilizes the T-8A cavity so it can be used in conjunction with Sun's main stage, pressure control elements.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	1.5 in ³ /min.
Reseat	>85% of setting
Seal kit - Cartridge	Buna: 990208007
Seal kit - Cartridge	Viton: 990208006

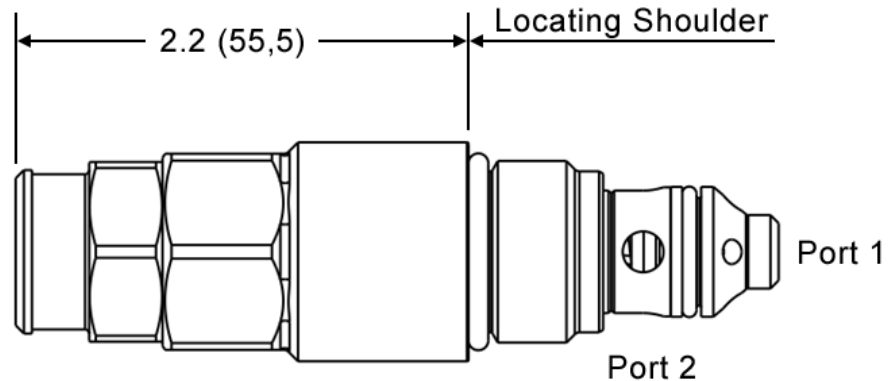
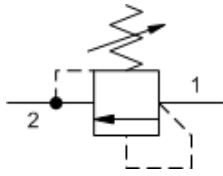
CONFIGURATION OPTIONS

Model Code Example: RBANXAN

CONTROL	(X) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) COIL *
X No Manual Override	A 3000 - 1500 psi (105 - 210 bar) B 1500 - 800 psi (55 - 105 bar) D 800 - 300 psi (20 - 55 bar) W 5000 - 3000 psi (210 - 350 bar)	N Buna-N V Viton	No coil 212 DIN 43650-Form A, 12 VDC 224 DIN 43650-Form A, 24 VDC 224NX01 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver 224NX02 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver 912 Deutsch DT04-2P, 12 VDC 912NX01 Deutsch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver 912NX02 Deutsch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver 924 Deutsch DT04-2P, 24 VDC 924NX01 Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver 924NX02 Deutsch DT04-2P, 24 VDC, no transient voltage suppression

transient voltage suppression
(TVS) diodes, with XMD-02
driver

* Additional coil options are available



in (mm)

This direct-acting relief cartridge is a normally closed, pressure-limiting device used to protect hydraulic systems from over pressurization. When the pressure at the inlet (Port 1) reaches the valve setting, the valve opens to tank (Port 2) to prevent over pressurization. This valve is dirt-tolerant and is designed to be very fast-acting with a low rate of pressure rise, but at the expense of smoothness.

TECHNICAL DATA

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

Maximum Operating Pressure	6000 psi
Factory Pressure Settings Established at	1 gpm
Typical valve leakage at 110 SUS (24cSt) at 90% of valve setting	.6 in ³ /min.
Cap Hex Size	22 mm
Cap Torque	31 - 35 lbf ft
Response Time - Typical	2 ms

CONFIGURATION OPTIONS

Model Code Example: RDUALAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Tamper Resistant - Factory Set	A 1750 - 3625 psi (120-250 bar), 2200 psi (152 bar) Standard Setting	N Buna-N	
	B 580 - 2030 psi (40-140 bar), 725 psi (50 bar) Standard Setting		
	C 3200 - 5950 psi (220-410 bar), 3600 psi (250 bar) Standard Setting		

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