Electro-Proportional Cartridges

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Table of Contents

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Table of Contents

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Table of Contents

Table of Contents

Cavity Information

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 0 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 0C 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

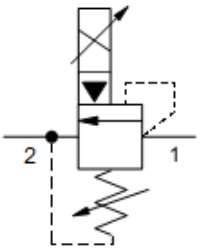
41,3 mm Valve Hex Size
474 - 508 Nm Valve Installation Torque

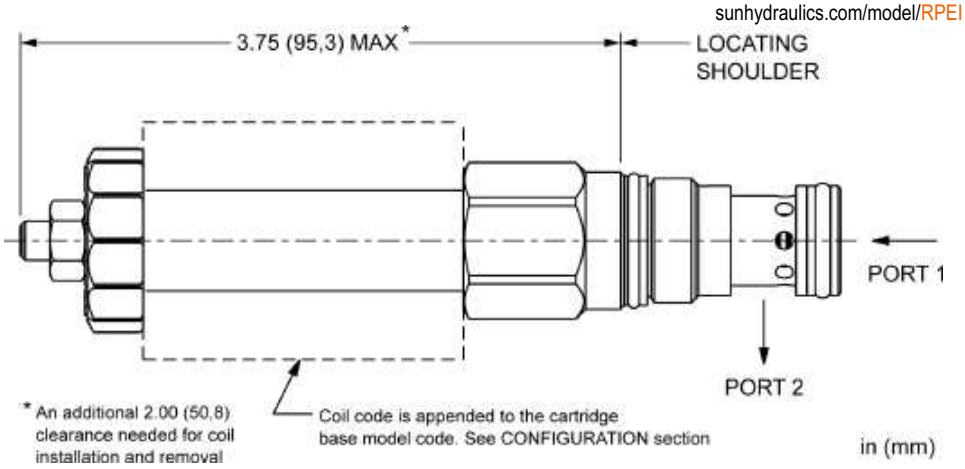
3-Port	T-19A
3-Port (Undercut)	T-19AU
4-Port	T-24A
4-Port (Undercut)	T-24AU
4-Port	T-34A
4-Port (Dual path)	T-54AD
6-Port	T-54A
6-Port	T-64A

Electro-proportional relief valve - high pressure setting with no command

SERIES 1 / CAPACITY: 25 gpm / CAVITY: T-13A

sunhydraulics.com/model/RPEI





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 in³/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)

- **L** Standard Screw Adjustment
- **C** Concealed Manual Override

ADJUSTMENT RANGE (A)

- **A** 1500 - 3000 psi (105 - 210 bar), 3000 psi (210 bar) Standard Setting
- **W** 3000 - 5000 psi (210 - 350 bar), 5000 psi (350 bar) Standard Setting

SEAL MATERIAL (N)

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

COIL *

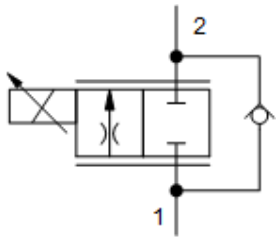
- No coil

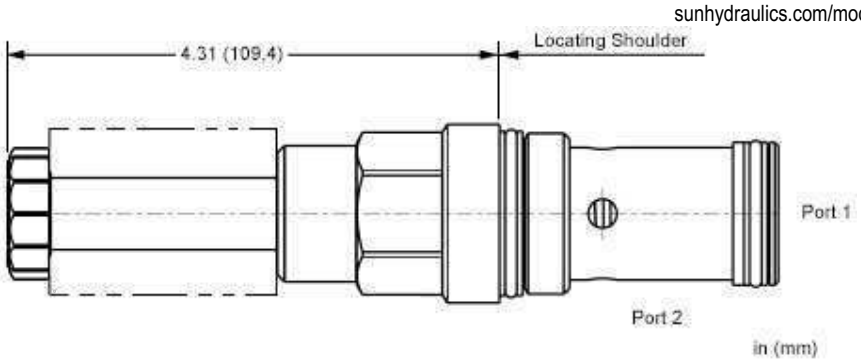
* Additional coil options are available

2-way, direct-acting electro-proportional, pressure compensated flow control valve with reverse flow check

SERIES 3 / CAPACITY: 30 gpm / CAVITY: T-16A

sunhydraulics.com/model/FDEP





Normally closed, electro-proportional pressure-compensated flow control with reverse-flow check valves provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. They are proportional from nearly closed up to the maximum flow. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Viscosity Range	35 - 2000 SUS
Response Time - Typical	50 ms
Switching Frequency	3,600 max. cycles/hr
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Viton: 990016006

CONFIGURATION OPTIONS

Model Code Example: FDEPXBN

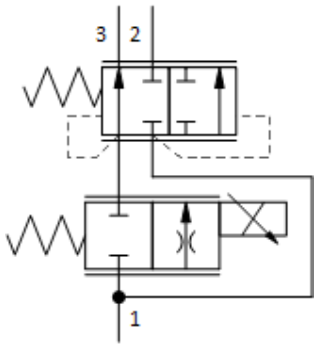
CONTROL (X)	FLOW RATE (B)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**B** 11 gpm (42 L/min.)	**N** Buna-N	No coil
	C 19 gpm (72 L/min.)	**V** Viton	

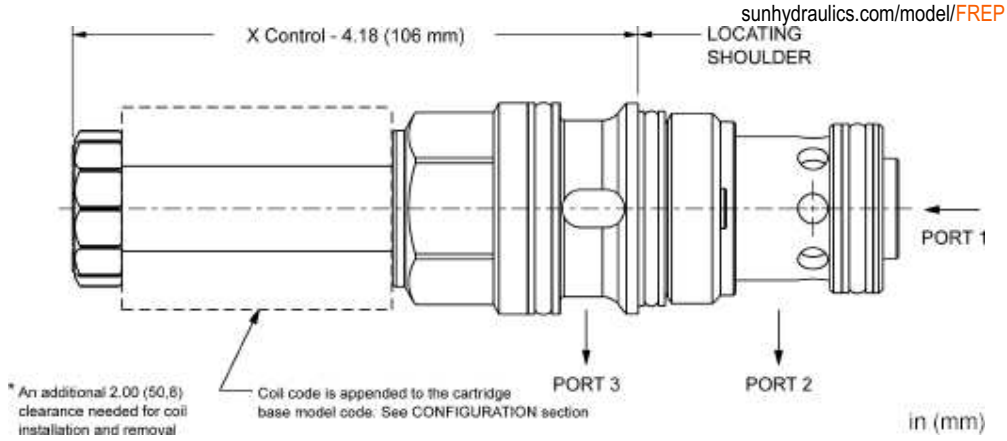
* Additional coil options are available

FLeX Series 3-way, direct-acting, electro-proportional, bypass/restrictive, priority flow control valve

SERIES 3 / CAPACITY: 30 gpm / CAVITY: T-17A

sunhydraulics.com/model/FREP





This valve is a normally closed, electro-proportional, bypass/restrictive, priority flow control valve. The valve takes an input flow at port 1 and uses it to satisfy the priority flow at port 3. If the input flow exceeds the priority requirement, the excess is bypassed out port 2.
The valve pressure compensates the priority flow for precise flow regulation for applications where there may be wide pressure fluctuations. Port 2 may also be completely blocked so that the valve can be used as a 2-way, electro-proportional pressure compensated flow control from 1 to 3.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Viscosity Range	35 - 2000 SUS
Typical Valve Leakage at 110 SUS (24 cSt) from port 1 to port 3 at 1450 psi (100 bar)	30 mL/min.
Typical Valve Leakage at 110 SUS (24 cSt) from port 1 to port 3 at 5000 psi (350 bar)	110 mL/min.
Response Time - Typical	50 ms
Switching Frequency	3,600 max. cycles/hr
U.S. Patent #	10,969,033
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Viton: 990017006

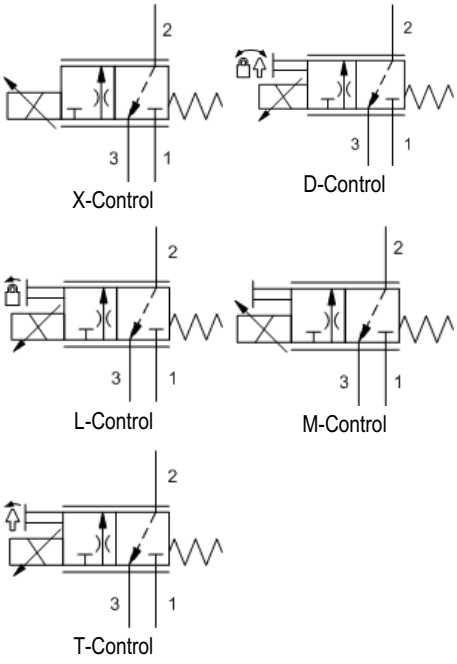
NOTES

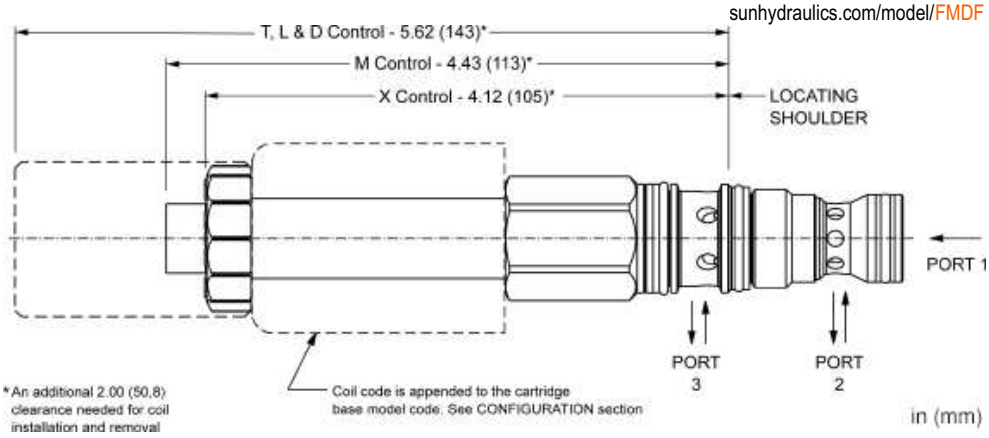
- Patents are pending for this product.
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
- An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: FREPXAN

CONTROL (X)	FLOW RATE (A)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**A** Nominal 8 gpm (30 L/min.)	**N** Buna-N	No coil
	B Nominal 16 gpm (60 L/min.)	**V** Viton	* Additional coil options are available
	C Nominal 22 gpm (88 L/min.)		





This valve is a 3-way, meter-in, electro-proportional throttle. The flow path, unenergized, has the supply blocked at port 1 and port 2 is drained to tank at port 3. Energizing the coil generates a closing force on the spool, creating a metering orifice in the 1 to 2 direction that is proportional to the coil command current. The valve self-compensates in the 1-to-2 direction and with the addition of an external compensator will provide pressure compensated flow control.

Flow in the 2-to-3 direction is not proportional and is limited in the interest of increased resolution and capacity. Flow capacity in the 2-to-3 direction is about 1.5 gpm (6 L/min). This valve is meant to be used in a circuit that has a separate passage to tank such as a cushion lock circuit. Two FMDFs in conjunction with a cushion lock circuit create a meter-in/meter-out 3-position 4-way.

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 in³/min.@1000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.

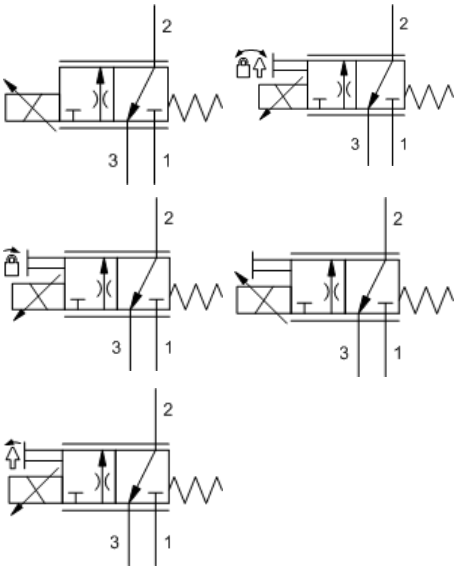
NOTES

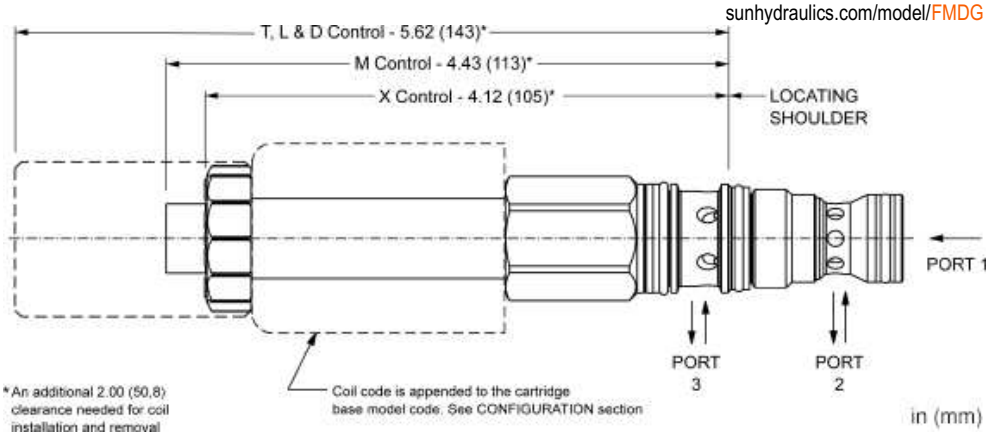
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
- An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: FMDFXDN

CONTROL (X)	FLOW RATE (D)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**D** .1 - 9 gpm (0,4 - 34 L/min.)	**N** Buna-N	No coil
D Twist/Lock (Dual) Manual Override	**A** .1 - 1.6 gpm (0,4 - 6.1 L/min.)	**V** Viton	* Additional coil options are available
L Twist/Lock (Detent) Manual Override	**B** .1 - 4 gpm (0,4 - 15 L/min.)		
M Manual Override	**C** .1 - 6 gpm (0,4 - 23 L/min.)		
T Twist (Momentary) Manual Override			





This valve is a 3-way, meter-in, electro-proportional throttle. The flow path, unenergized, has the supply blocked at port 1 and port 2 connected to tank at port 3. Energizing the coil generates a closing force on the spool, creating a metering orifice in the 1 to 2 direction that is proportional to the coil command current. The valve self-compensates in the 1 to 2 direction and with the addition of an external compensator will provide pressure compensated flow control. Flow in the 2 to 3 direction is not proportional.

TECHNICAL DATA

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

Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	Viton: 990411006

CONFIGURATION OPTIONS

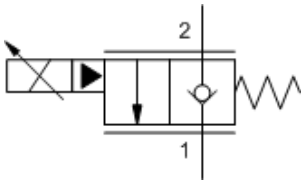
Model Code Example: FMDGXCN

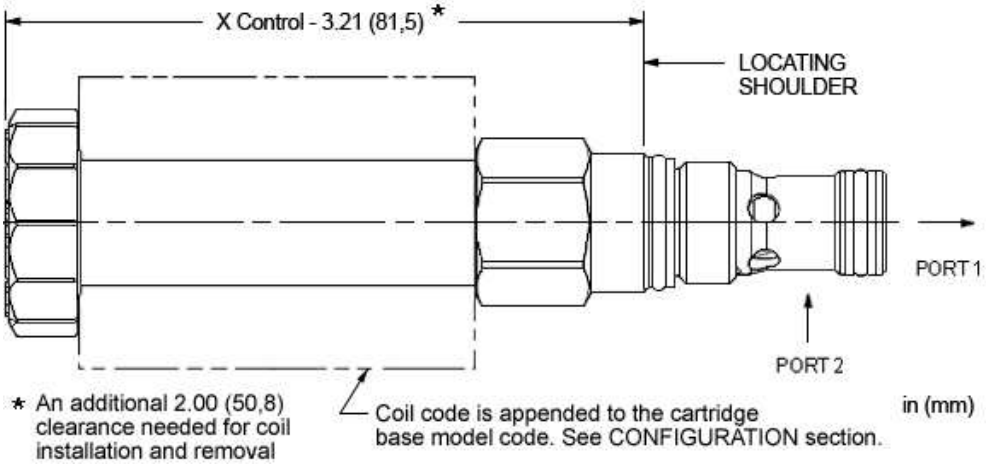
CONTROL (X)	FLOW RATE (C)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**C** .1 - 6 gpm (0,4 - 23 L/min.)	**N** Buna-N	No coil
D Twist/Lock (Dual) Manual Override	**A** .1 - 1.6 gpm (0,4 - 6.1 L/min.)	**V** Viton	* Additional coil options are available
L Twist/Lock (Detent) Manual Override	**B** .1 - 4 gpm (0,4 - 15 L/min.)		
M Manual Override			
T Twist (Momentary) Manual Override			

FLeX Series pilot-operated, normally closed, electro-proportional throttle - flow 2-1 - 3000 psi (210 bar)

CAPACITY: 5 gpm / CAVITY: T-162A

sunhydraulics.com/model/FPBD





This valve is a pilot-operated, normally closed, electro-proportional throttle with reverse free-flow check. Energizing the coil generates an opening force on the pilot stage which vents the main stage poppet to open proportionally, allowing flow from port 2 to 1. In the open condition, flow from 1 to 2 will cause the valve to auto-close and only pilot flow will pass from 1 to 2.

TECHNICAL DATA

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

Hysteresis (with dither)	15%
Linearity (with dither)	3%
Repeatability (with dither)	3%
Recommended dither frequency	140 Hz
Maximum Operating Pressure	3000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@3000 psi
Check Cracking Pressure	100 psi
Viscosity Range	35 - 2000 SUS
Deadband, nominal (as a percentage of input)	48%
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

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: FPBDXDN

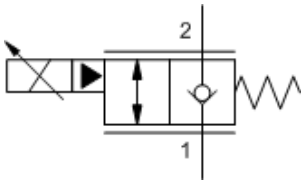
CONTROL (X)	FLOW RATE (D)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**D** Nominal 5 gpm @ 200 psi (14 bar) differential (20 L/min.)	**N** Buna-N	No coil
		V Viton	

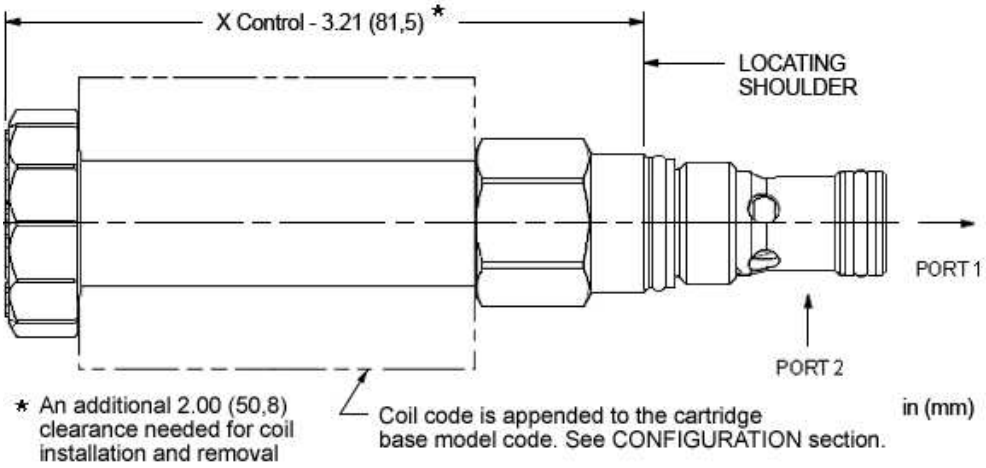
* Additional coil options are available

FLeX Series pilot-operated, normally closed, electro-proportional throttle with reverse flow check - flow 2-1 - 3000 psi (210 bar)

CAPACITY: 5 gpm / CAVITY: T-162A

sunhydraulics.com/model/FPBE





This valve is a pilot-operated, normally closed, electro-proportional throttle with reverse free-flow check. Energizing the coil generates an opening force on the pilot stage which vents the main stage poppet to open proportionally, allowing flow from port 2 to 1. The check will allow flow from 1 to 2 in either the open or closed condition.

TECHNICAL DATA

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

Hysteresis (with dither)	15%
Linearity (with dither)	3%
Recommended dither frequency	140 Hz
Maximum Operating Pressure	3000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@3000 psi
Check Cracking Pressure	100 psi
Viscosity Range	35 - 2000 SUS
Deadband, nominal (as a percentage of input)	48%
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

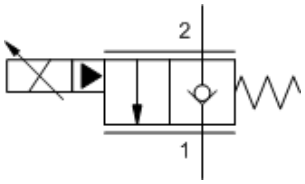
NOTES

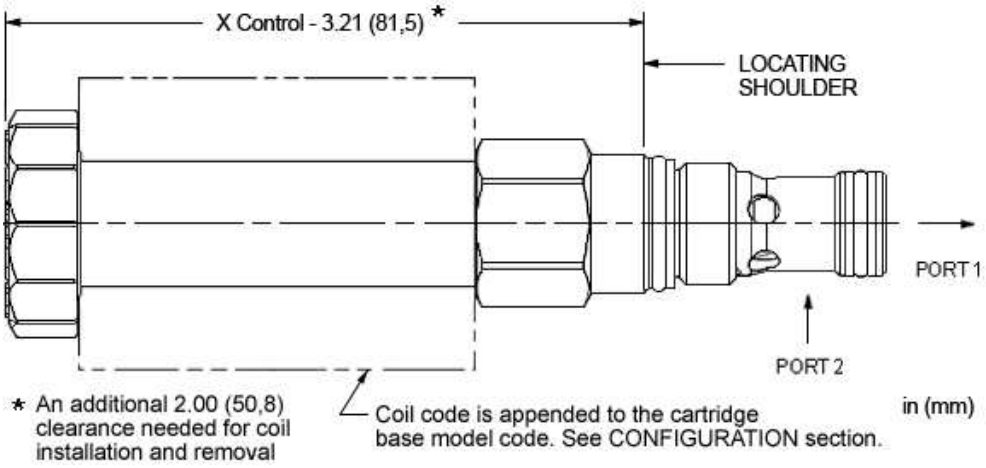
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
- An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: FPBEXDN

CONTROL (X)	FLOW RATE (D)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**D** Nominal 5 gpm @ 200 psi (14 bar) differential (20 L/min.)	**N** Buna-N	No coil
		V Viton	* Additional coil options are available





This valve is a pilot-operated, normally closed, electro-proportional throttle with reverse free-flow check. Energizing the coil generates an opening force on the pilot stage which vents the main stage poppet to open proportionally, allowing flow from port 2 to 1. In the open condition, flow from 1 to 2 will cause the valve to auto-close and only pilot flow will pass from 1 to 2.

TECHNICAL DATA

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

Hysteresis (with dither)	15%
Linearity (with dither)	3%
Repeatability (with dither)	3%
Recommended dither frequency	140 Hz
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@3000 psi
Check Cracking Pressure	100 psi
Viscosity Range	35 - 2000 SUS
Deadband, nominal (as a percentage of input)	48%
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

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: FPBFXDN

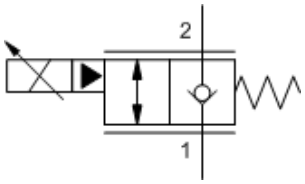
CONTROL (X)	FLOW RATE (D)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**D** Nominal 5 gpm @ 200 psi (14 bar) differential (20 L/min.)	**N** Buna-N	No coil
		V Viton	

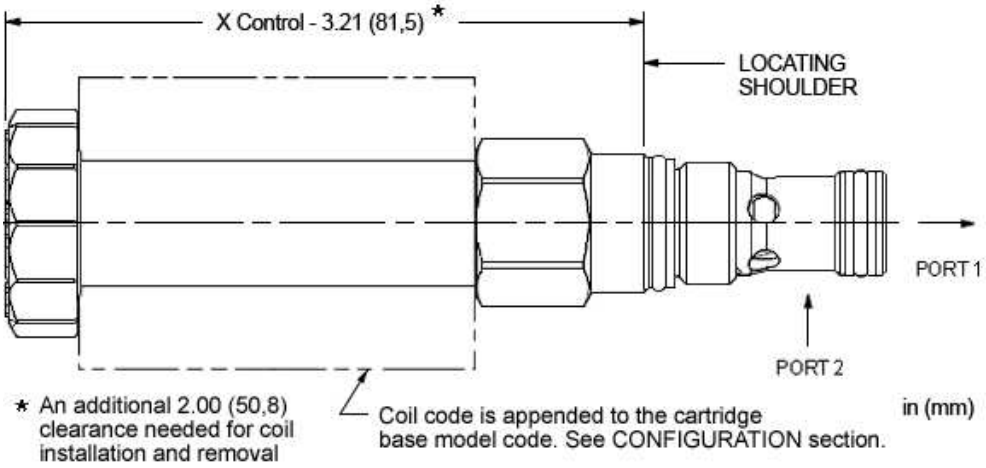
* Additional coil options are available

FLeX Series pilot-operated, normally closed, electro-proportional throttle with reverse flow check - flow 2-1

CAPACITY: 5 gpm / CAVITY: T-162A

sunhydraulics.com/model/FPBG





This valve is a pilot-operated, normally closed, electro-proportional throttle with reverse free-flow check. Energizing the coil generates an opening force on the pilot stage which vents the main stage poppet to open proportionally, allowing flow from port 2 to 1. The check will allow flow from 1 to 2 in either the open or closed condition.

TECHNICAL DATA

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

Hysteresis (with dither)	15%
Linearity (with dither)	3%
Repeatability (with dither)	3%
Recommended dither frequency	140 Hz
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@5000 psi
Check Cracking Pressure	100 psi
Viscosity Range	35 - 2000 SUS
Deadband, nominal (as a percentage of input)	48%
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

NOTES

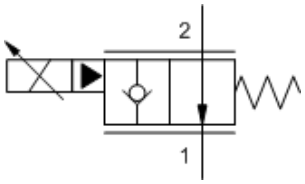
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
- An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

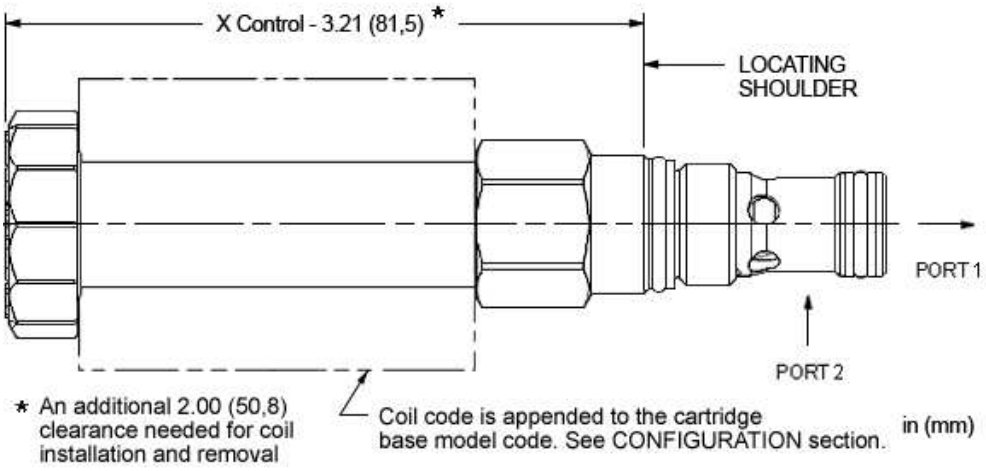
CONFIGURATION OPTIONS

Model Code Example: FPBGXDN

CONTROL (X)	FLOW RATE (D)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**D** Nominal 5 gpm @ 200 psi (14 bar) differential (20 L/min.)	**N** Buna-N	No coil
		V Viton	

* Additional coil options are available





This valve is a pilot-operated, normally open, electro-proportional throttle with reverse free-flow check. Energizing the coil generates a closing force on the pilot stage which pushes the main stage poppet against the seat, proportionally blocking flow from port 2 to 1. In the open condition, flow from 1 to 2 will cause the valve to auto-close and only pilot flow will pass from 1 to 2.

TECHNICAL DATA

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

Hysteresis (with dither)	15%
Linearity (with dither)	3%
Repeatability (with dither)	3%
Recommended dither frequency	140 Hz
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@5000 psi
Check Cracking Pressure	100 psi
Viscosity Range	35 - 2000 SUS
Deadband, nominal (as a percentage of input)	48%
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

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

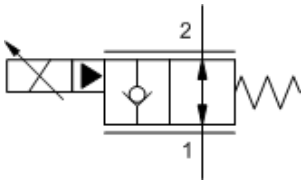
Model Code Example: FPBIXDN

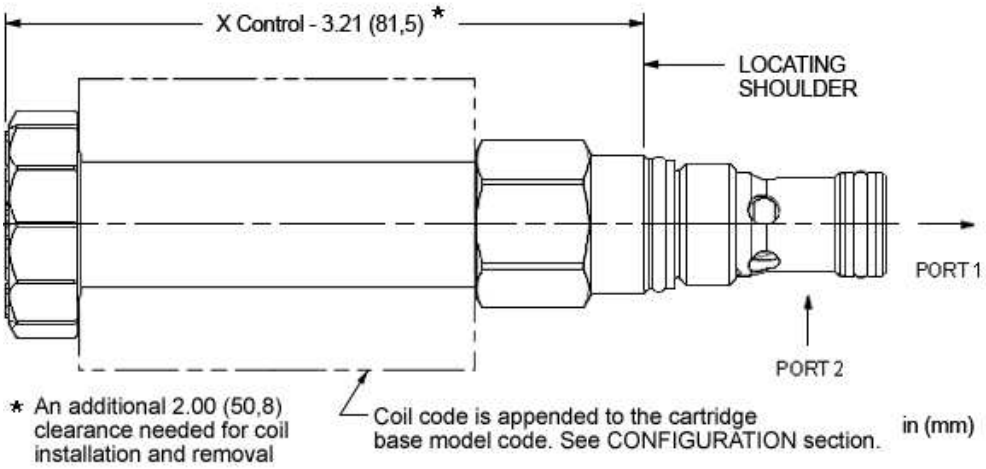
CONTROL (X)	FLOW RATE (D)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**D** Nominal 5 gpm @ 200 psi (14 bar) differential (20 L/min.)	**N** Buna-N	No coil
		V Viton	* Additional coil options are available

FLeX Series pilot-operated, normally open, electro-proportional throttle with reverse flow check - flow 2-1

CAPACITY: 5 gpm / CAVITY: T-162A

sunhydraulics.com/model/FPBJ





This valve is a pilot-operated, normally open, electro-proportional throttle with reverse free-flow check. Energizing the coil generates a closing force on the pilot stage which pushes the main stage poppet against the seat, proportionally blocking flow from port 2 to 1. The check will allow flow from 1 to 2 in either the open or closed condition.

TECHNICAL DATA

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

Hysteresis (with dither)	15%
Linearity (with dither)	3%
Repeatability (with dither)	3%
Recommended dither frequency	140 Hz
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@5000 psi
Check Cracking Pressure	100 psi
Viscosity Range	35 - 2000 SUS
Deadband, nominal (as a percentage of input)	48%
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

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

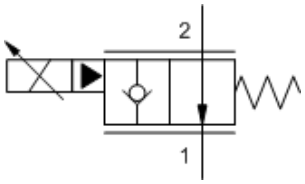
Model Code Example: FPBJXDN

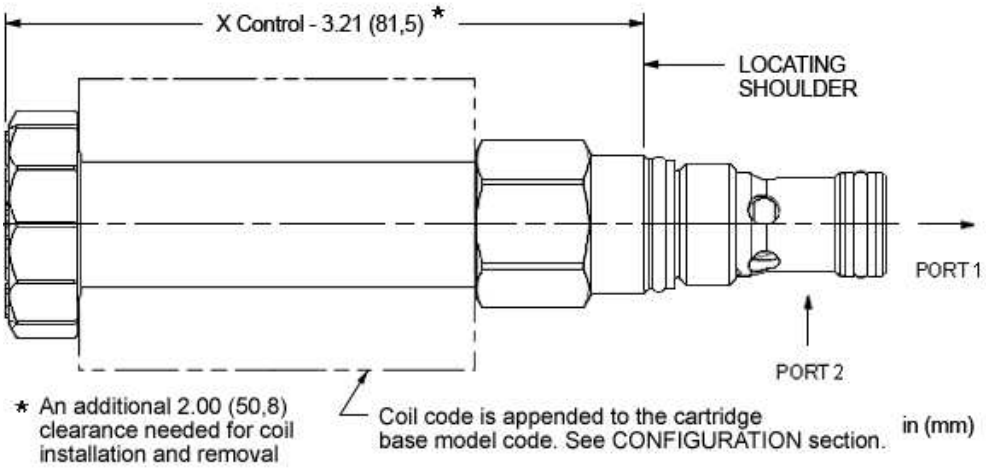
CONTROL (X)	FLOW RATE (D)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**D** Nominal 5 gpm @ 200 psi (14 bar) differential (20 L/min.)	**N** Buna-N	No coil
		V Viton	* Additional coil options are available

FLeX Series pilot-operated, normally open, electro-proportional throttle - flow 2-1 - 3000 psi (210 bar)

CAPACITY: 5 gpm / CAVITY: T-162A

sunhydraulics.com/model/FPBM





This valve is a pilot-operated, normally open, electro-proportional throttle with reverse free-flow check. Energizing the coil generates a closing force on the pilot stage which pushes the main stage poppet against the seat, proportionally blocking flow from port 2 to 1. In the open condition, flow from 1 to 2 will cause the valve to auto-close and only pilot flow will pass from 1 to 2.

TECHNICAL DATA

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

Hysteresis (with dither)	15%
Linearity (with dither)	3%
Repeatability (with dither)	3%
Recommended dither frequency	140 Hz
Maximum Operating Pressure	3000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@3000 psi
Check Cracking Pressure	100 psi
Viscosity Range	35 - 2000 SUS
Deadband, nominal (as a percentage of input)	48%
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

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

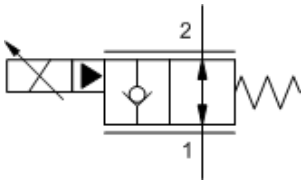
Model Code Example: FPBMXDN

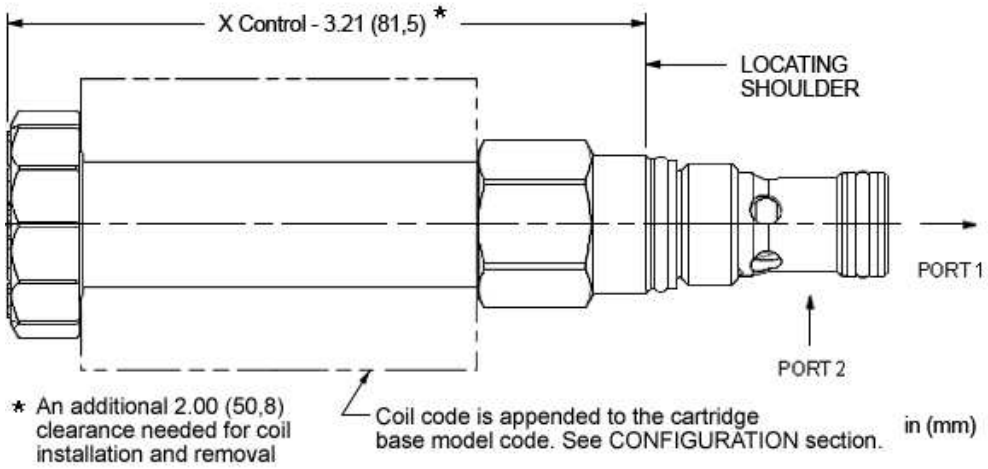
CONTROL (X)	FLOW RATE (D)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**D** Nominal 5 gpm @ 200 psi (14 bar) differential (20 L/min.)	**N** Buna-N	No coil
		V Viton	* Additional coil options are available

FLeX Series pilot-operated, normally open, electro-proportional throttle with reverse flow check - flow 2-1 - 3000 psi (210 bar)

CAPACITY: 5 gpm / CAVITY: T-162A

sunhydraulics.com/model/FPBN





This valve is a pilot-operated, normally open, electro-proportional throttle with reverse free-flow check. Energizing the coil generates a closing force on the pilot stage which pushes the main stage poppet against the seat, proportionally blocking flow from port 2 to 1. The check will allow flow from 1 to 2 in either the open or closed condition.

TECHNICAL DATA

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

Hysteresis (with dither)	15%
Linearity (with dither)	3%
Repeatability (with dither)	3%
Recommended dither frequency	140 Hz
Maximum Operating Pressure	3000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@3000 psi
Check Cracking Pressure	100 psi
Viscosity Range	35 - 2000 SUS
Deadband, nominal (as a percentage of input)	48%
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

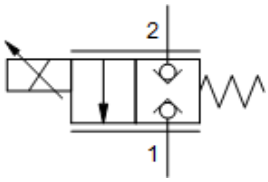
NOTES

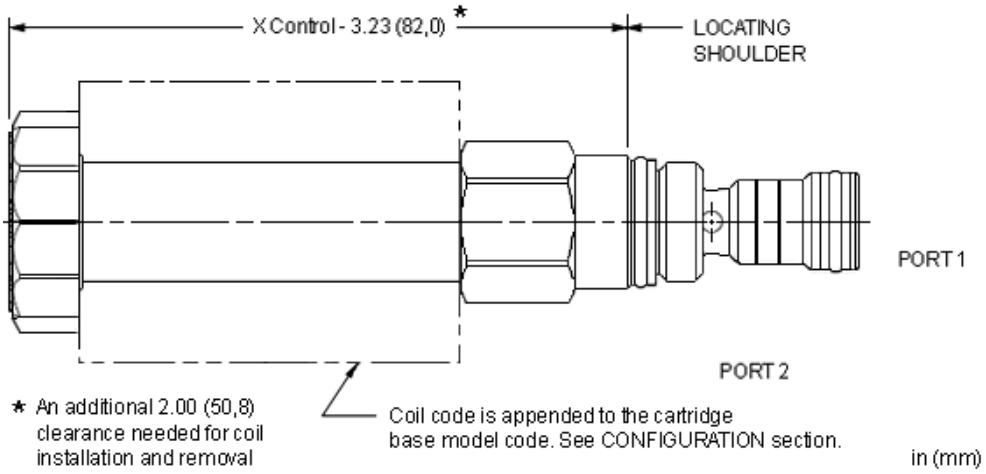
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
- An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: FPBNXDN

CONTROL (X)	FLOW RATE (D)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**D** Nominal 5 gpm @ 200 psi (14 bar) differential (20 L/min.)	**N** Buna-N	No coil
		V Viton	* Additional coil options are available





This valve is a normally closed, electro-proportional, blocking poppet throttle that is spring-biased closed. Energizing the coil generates an opening force on the poppet proportional to the command current, and this force is countered by the spring and flow forces. This force balance creates a metering orifice whose effective size is proportional to the current. The valve exhibits a large degree of self-compensation in the 2-to-1 direction and will provide proportional flow control in the 1-to-2 direction with the addition of an external compensator. Full reverse flow (1-to-2) with 100% command in the 1-to-2 direction is possible without a compensator under all conditions.

TECHNICAL DATA

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

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@5000 psi
Viscosity Range	35 - 2000 SUS
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
U.S. Patent #	10,302,201
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

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: FPBUXCN

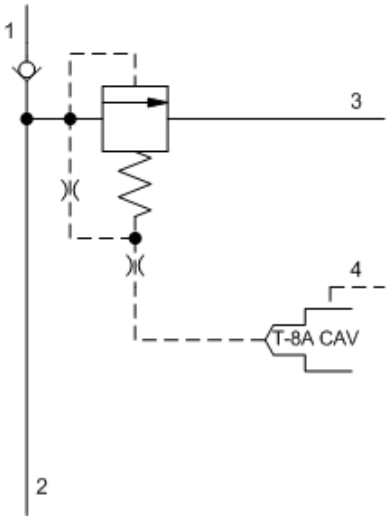
CONTROL (X)	FLOW RATE (C)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**C** Nominal 2.6 gpm @ 200 psi (14 bar) differential (9.8 L/min) (9,8 L/min.)	**N** Buna-N	No coil
M Manual Override		**V** Viton	

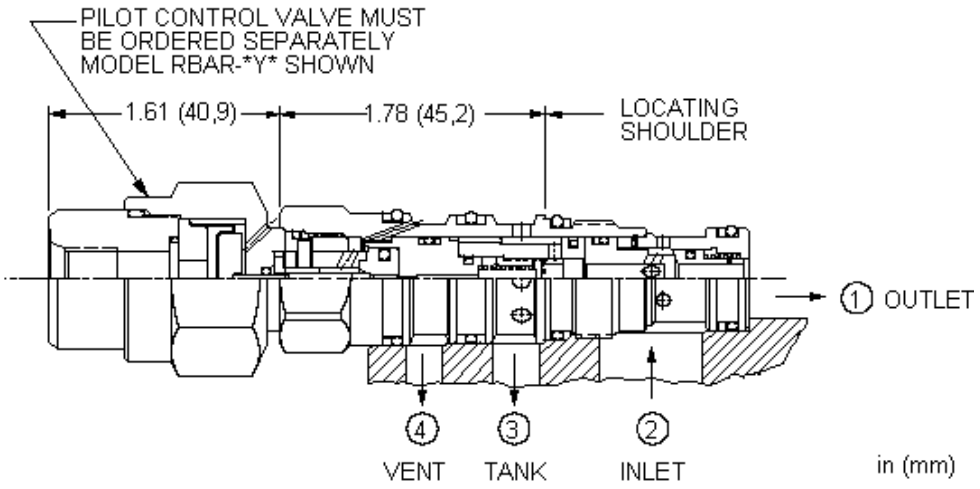
* Additional coil options are available

Ventable, pilot-operated, balanced piston relief main stage with integral T-8A control cavity - before check

SERIES 1 / CAPACITY: 10 gpm / CAVITY: T-21A

sunhydraulics.com/model/HVCA8





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 (port1).

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 in³/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

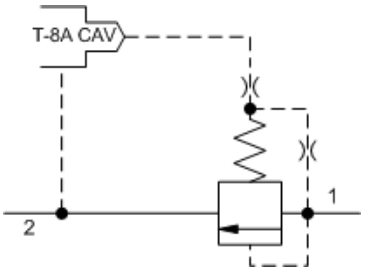
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

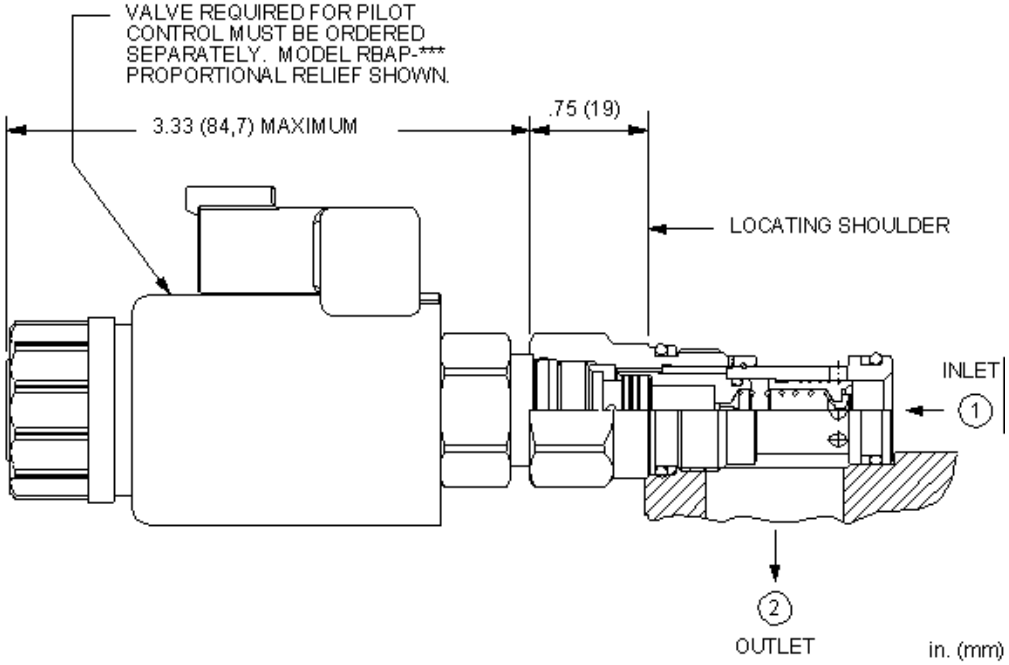
CONFIGURATION OPTIONS

Model Code Example: HVCA8DN

BIAS PRESSURE	(D)
D 75 psi (5 bar)	

SEAL MATERIAL	(N)
N Buna-N	
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	7 - 10 in³/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 in³/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

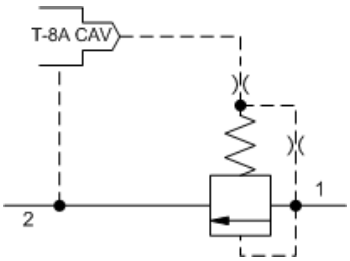
Model Code Example: RPEC8WN

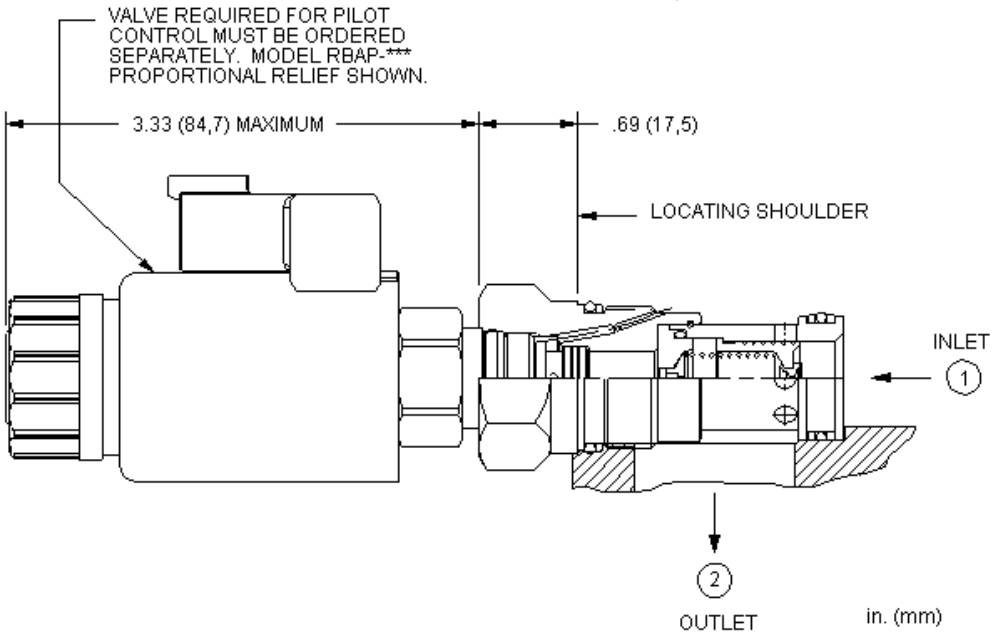
ADJUSTMENT RANGE (W)

W 100 - 5000 psi (7 - 350 bar)
D 25 - 3000 psi (1,7 - 210 bar)

SEAL MATERIAL (N)

N Buna-N
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.

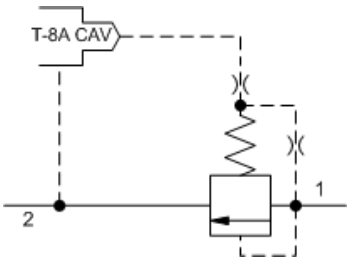
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in³/min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	3 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Polyurethane: 990003002
Seal kit - Cartridge	Viton: 990203006

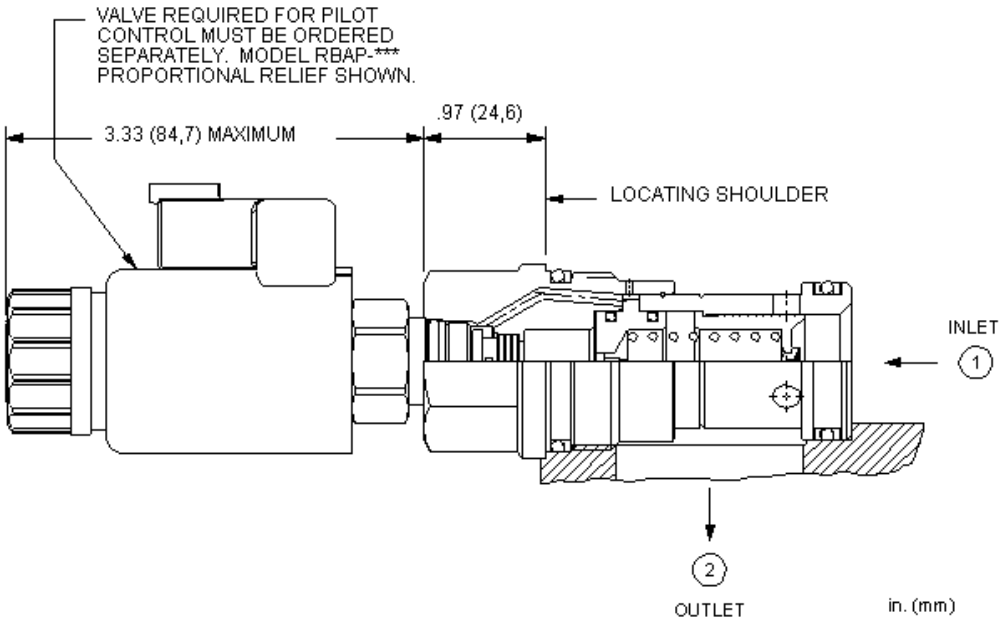
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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 in³/min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	4 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

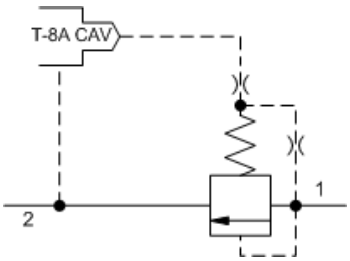
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

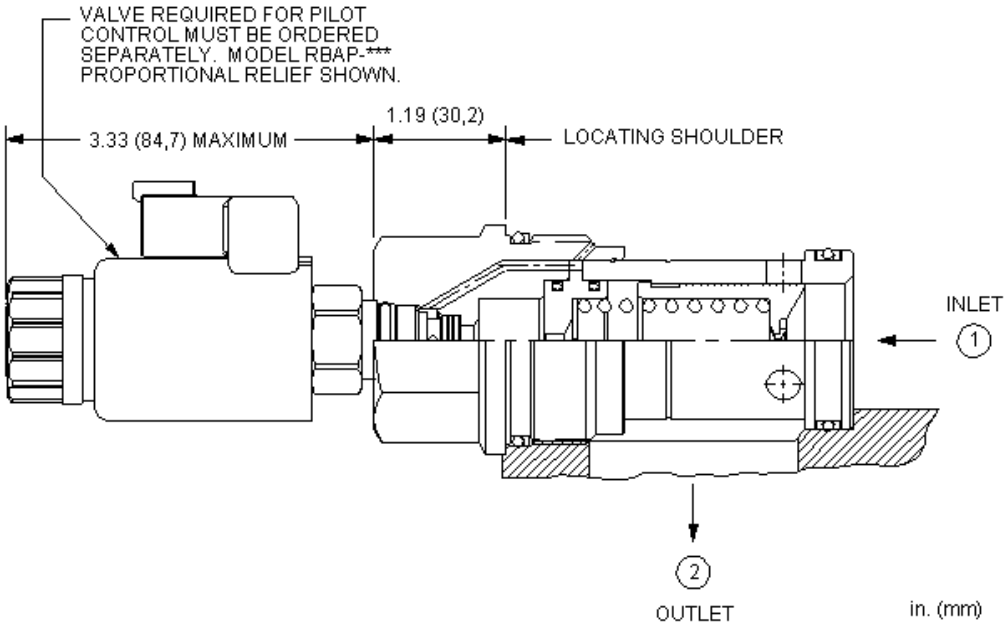
CONFIGURATION OPTIONS

Model Code Example: RPIC8WN

ADJUSTMENT RANGE	(W)
W 100 - 5000 psi (7 - 350 bar)	
D 25 - 3000 psi (1,7 - 210 bar)	

SEAL MATERIAL	(N)
N Buna-N	
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 in³/min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	5 in³/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

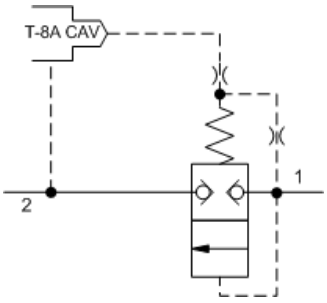
Model Code Example: RPKC8WN

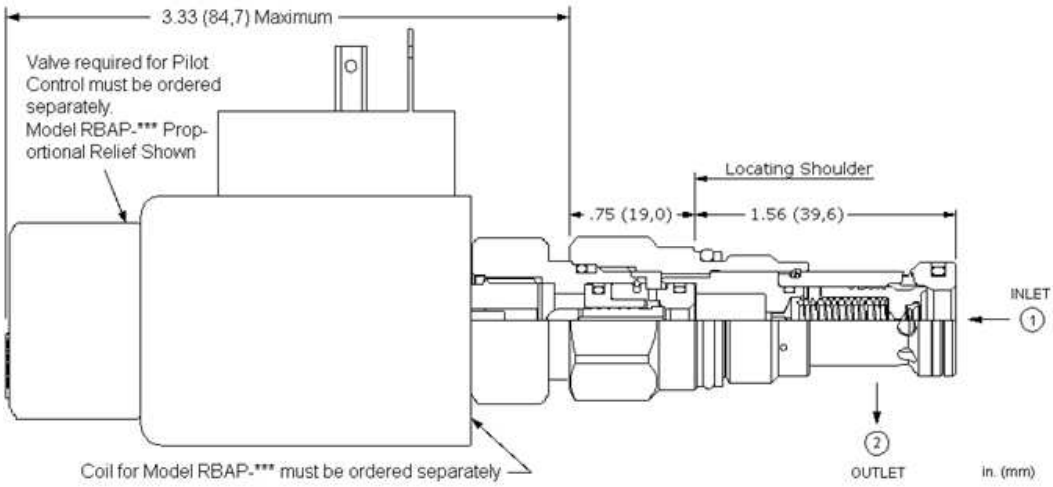
ADJUSTMENT RANGE (W)

- **W** 100 - 5000 psi (7 - 350 bar)
- **D** 25 - 3000 psi (1,7 - 210 bar)

SEAL MATERIAL (N)

- **N** Buna-N
- **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.

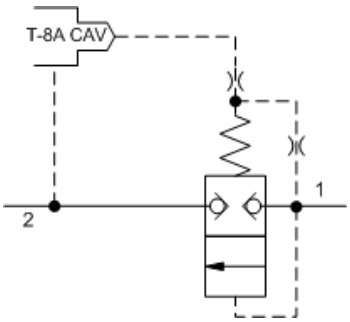
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	10 - 25 in³/min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseat	10 drops/min.
Response Time - Typical	7 ms
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990310014
Seal kit - Cartridge	Viton: 990310006

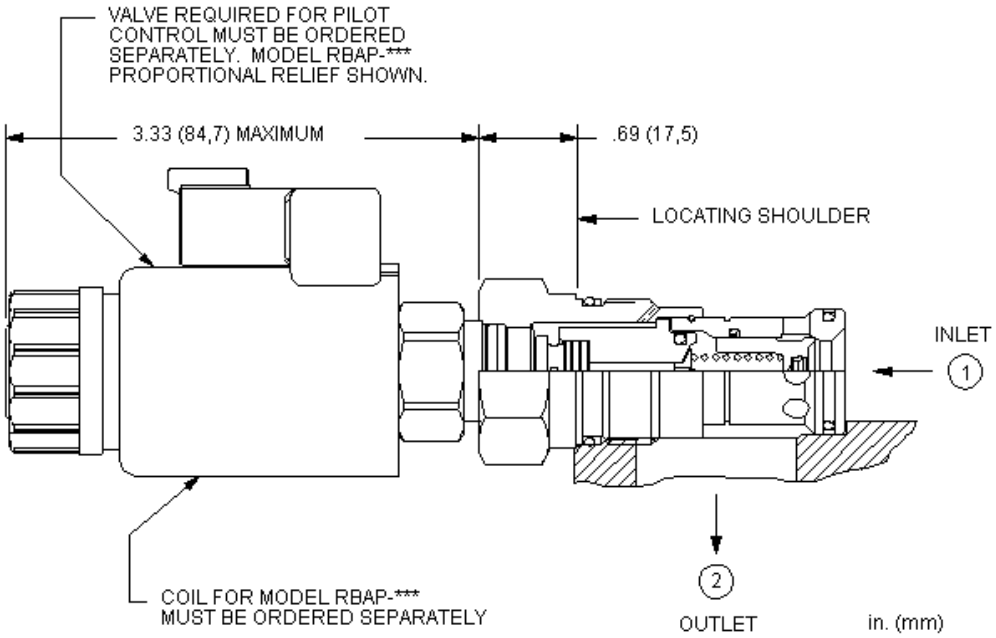
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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 in³/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 reseat	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

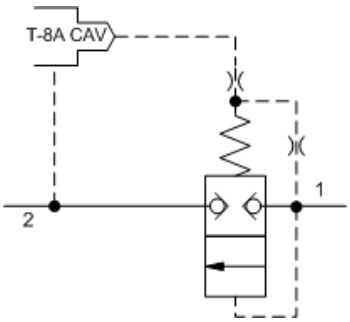
Model Code Example: RPGS8N

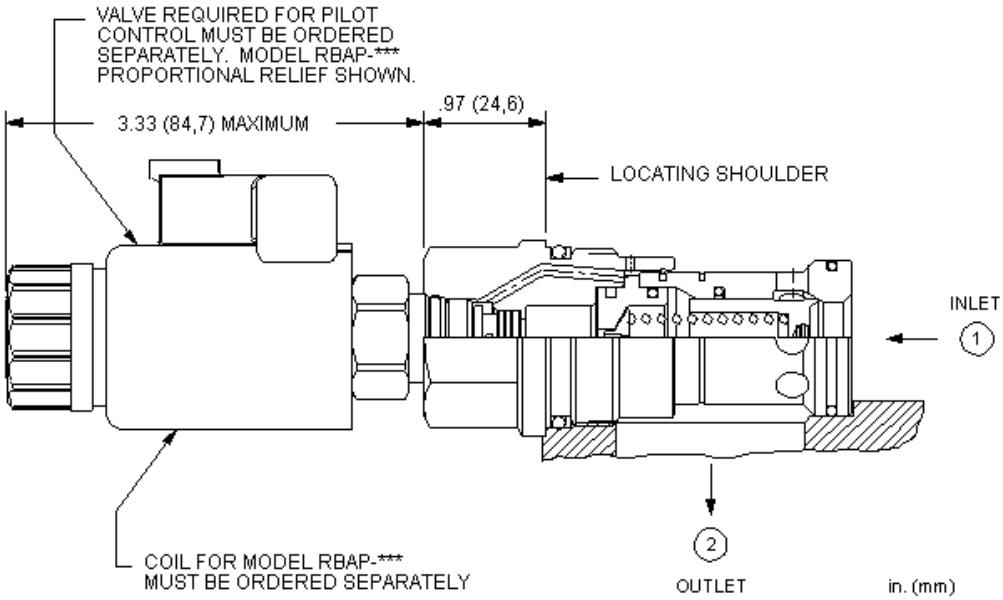
ADJUSTMENT RANGE

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 in³/min.
Pilot Control Cavity	T-8A
Main stage leakage at reseat	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

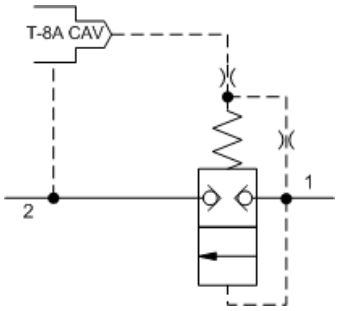
Model Code Example: RPIS8N

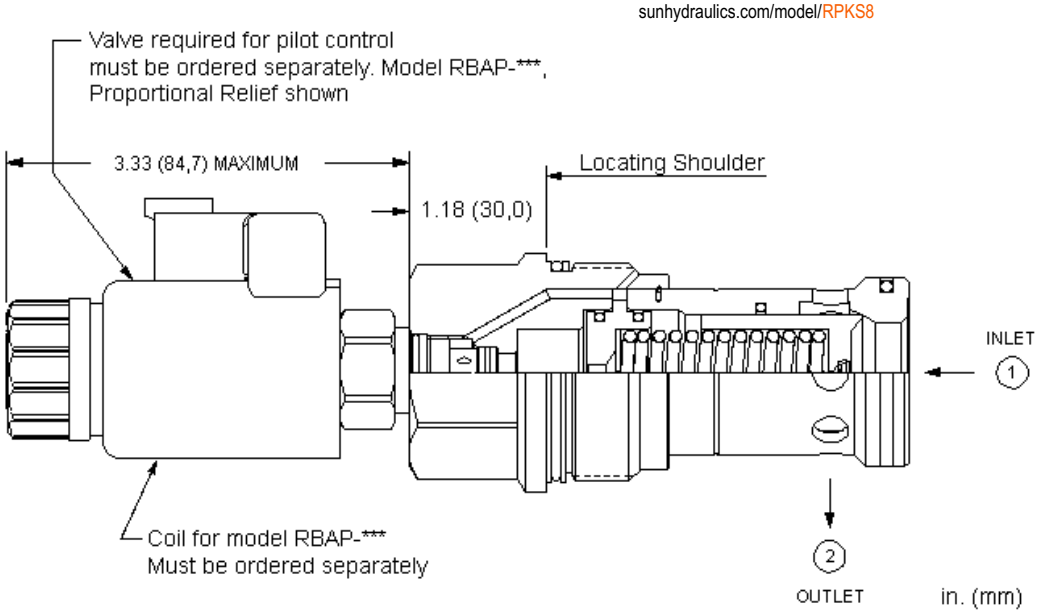
ADJUSTMENT RANGE

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.

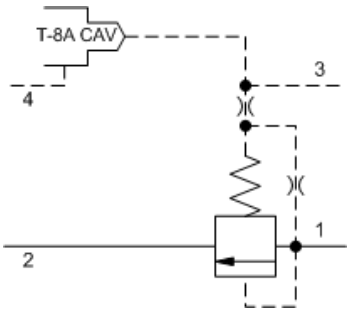
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Control Pilot Flow	15 - 20 in³/min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseat	10 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990318007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990318006

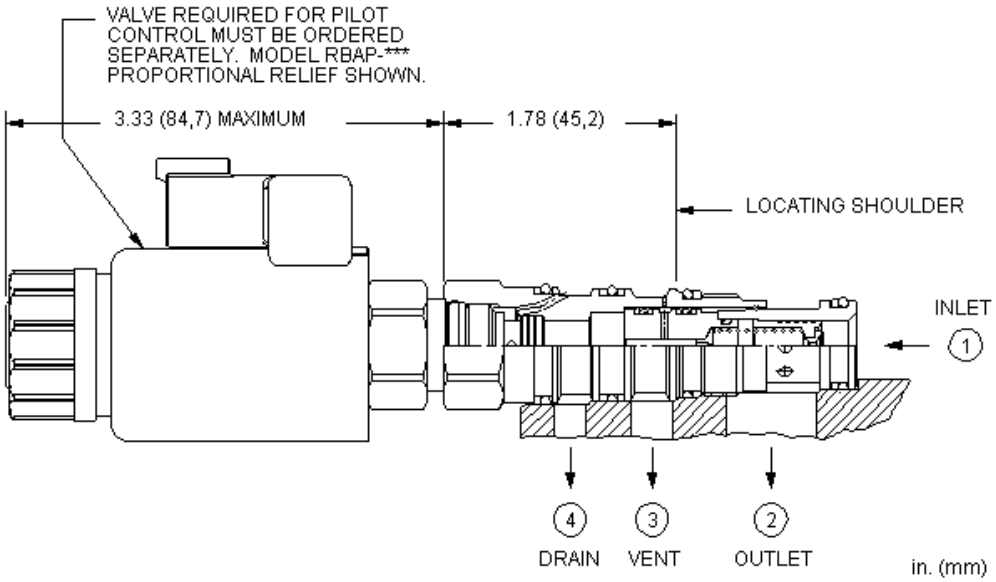
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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 in³/min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	2 in³/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

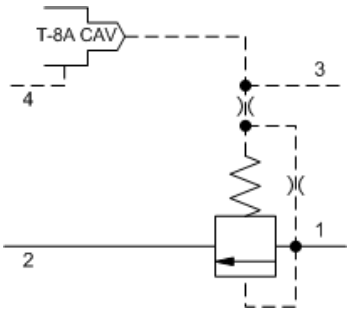
NOTES

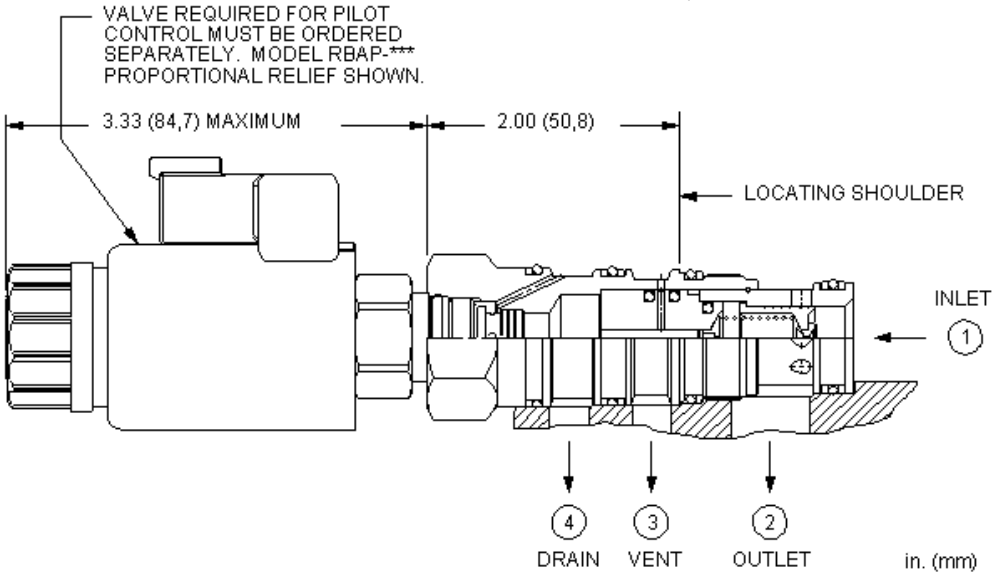
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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)	**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	10 - 15 in³/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 in³/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

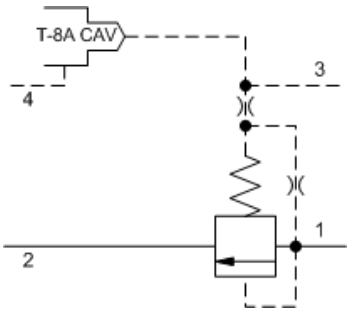
Model Code Example: RVED8WN

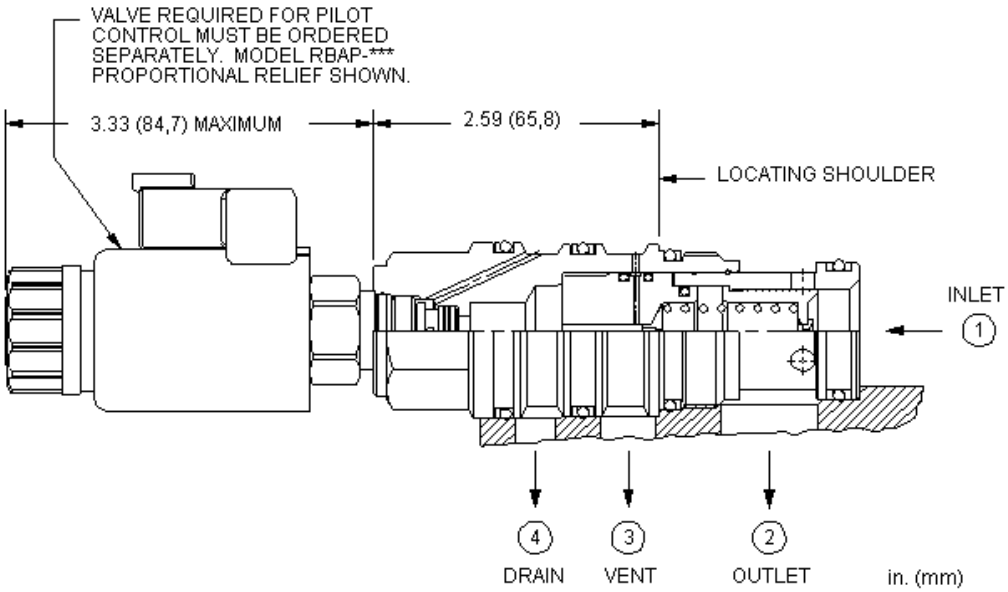
MINIMUM CONTROL PRESSURE (W)

- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

SEAL MATERIAL (N)

- **N** Buna-N
- **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 in³/min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	4 in³/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)

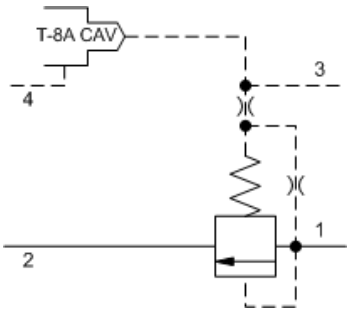
W 100 psi (7 bar)

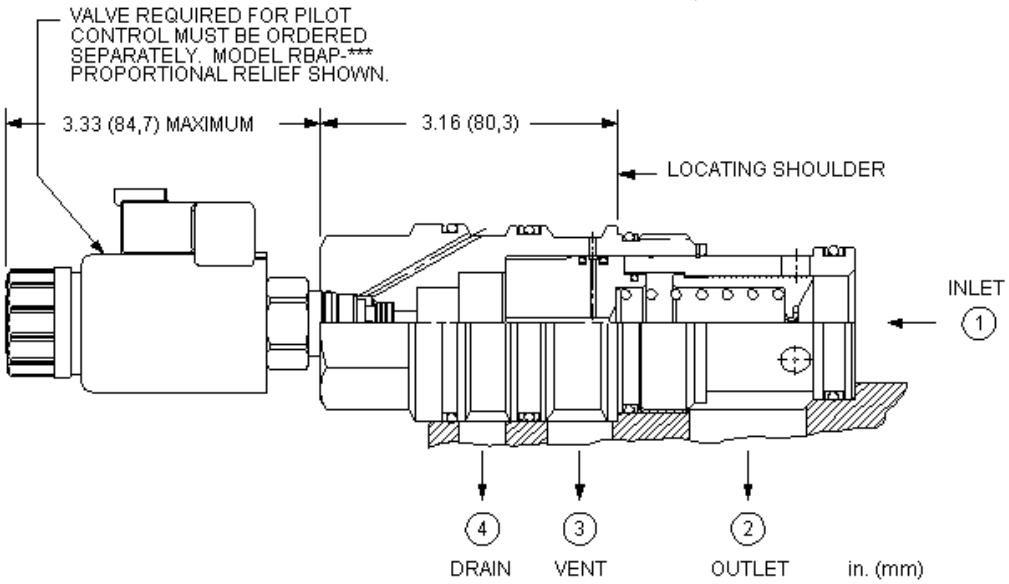
D 25 psi (1,7 bar)

SEAL MATERIAL (N)

N Buna-N

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.

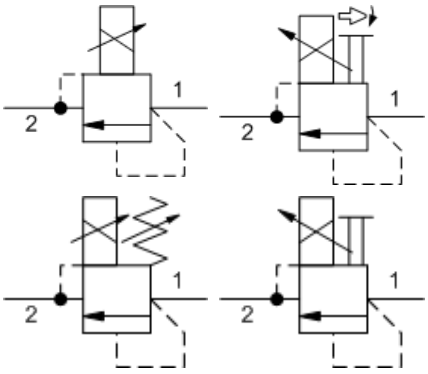
Maximum Operating Pressure	5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at 110 SUS (24 cSt)	5 in^3/min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge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

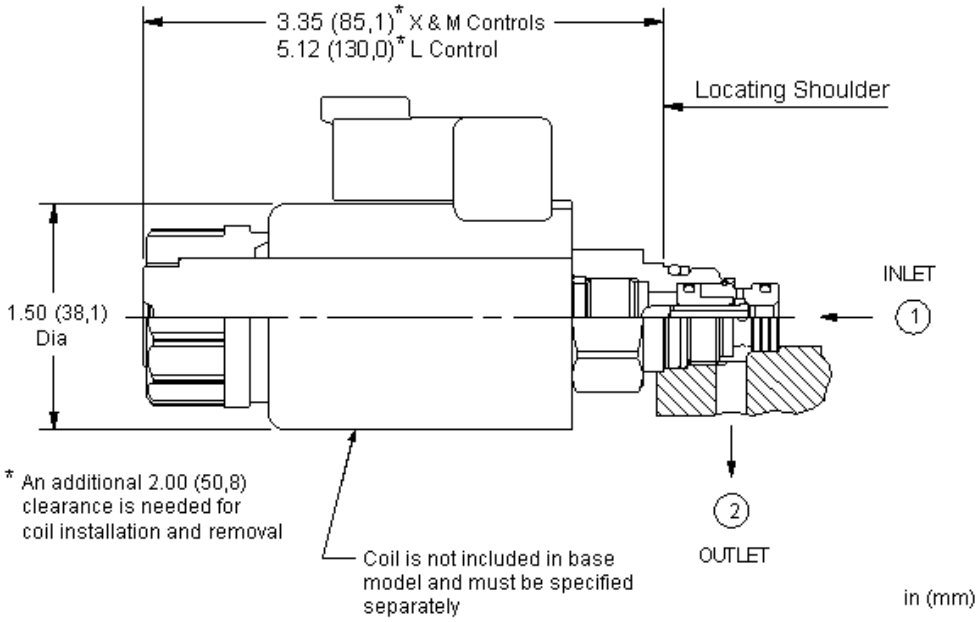
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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 in³/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.

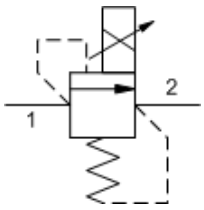
CONFIGURATION OPTIONS

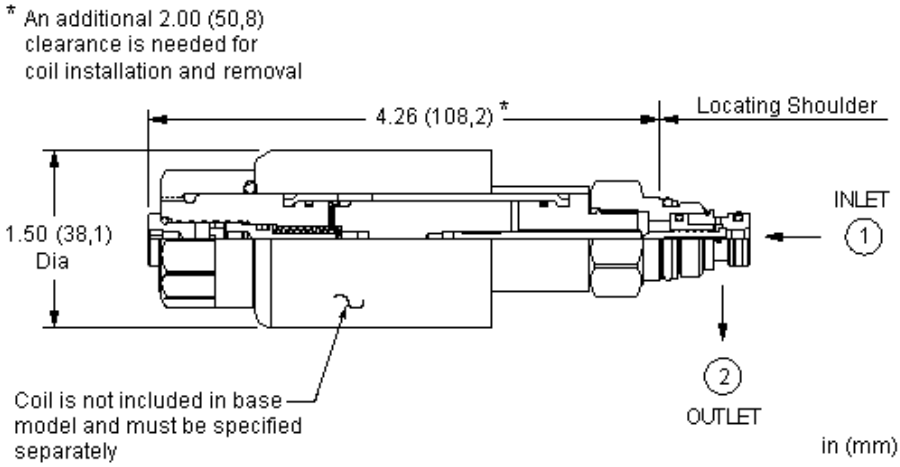
Model Code Example: RBAPXAN

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





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 in³/min.
Reseat	>85% of setting
Seal kit - Cartridge	Buna: 990208007
Seal kit - Cartridge	Viton: 990208006

CONFIGURATION OPTIONS

Model Code Example: RBANXAN

CONTROL (X)

X No Manual Override

ADJUSTMENT RANGE (A)

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)

SEAL MATERIAL (N)

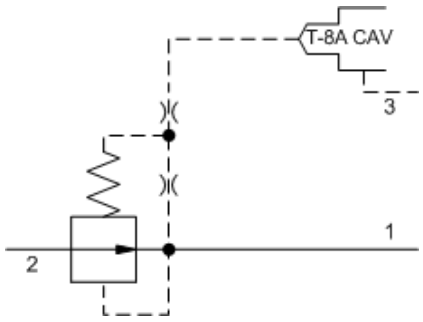
N Buna-N
V Viton

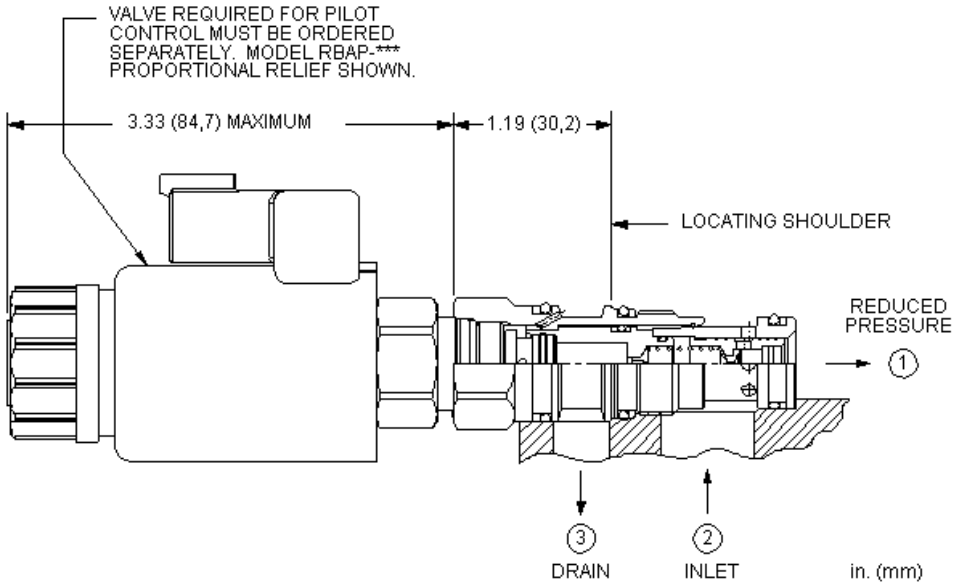
COIL *

	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 suppressor (TVS) diodes, with XMD-02 driver

* Additional coil options are available





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 in³/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

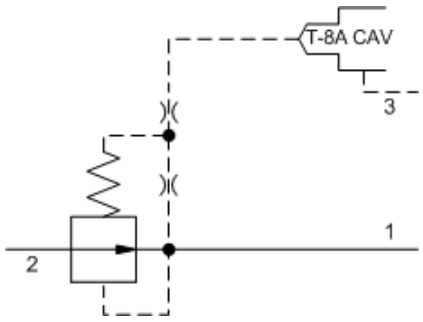
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

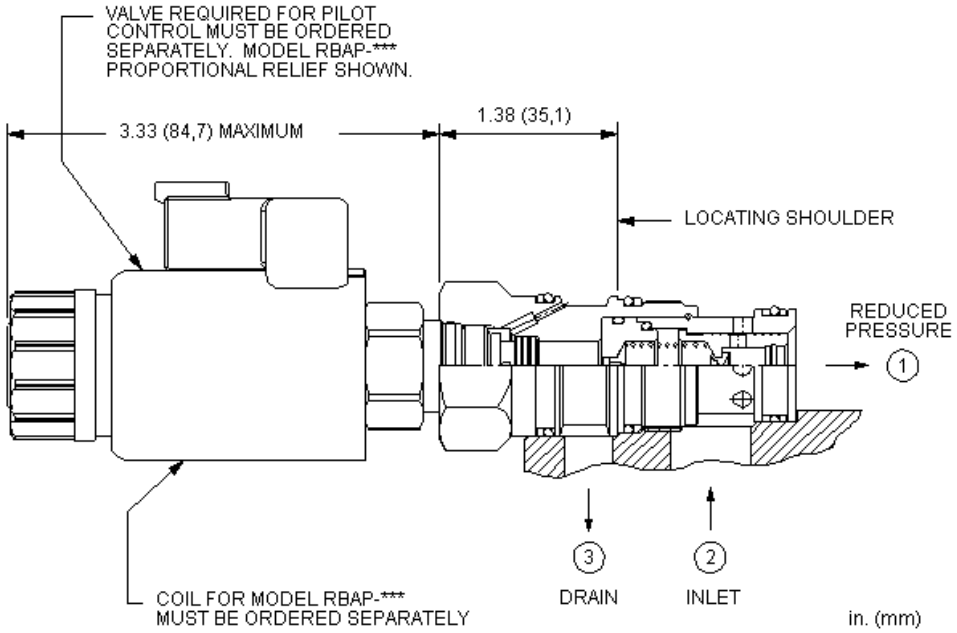
CONFIGURATION OPTIONS

Model Code Example: PBDB8WN

BIAS PRESSURE	(W)
W 100 psi (7 bar)	
D 25 psi (1,7 bar)	

SEAL MATERIAL	(N)
N Buna-N	
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 in³/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

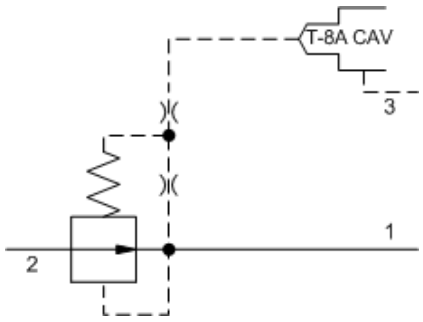
Model Code Example: PBFB8WN

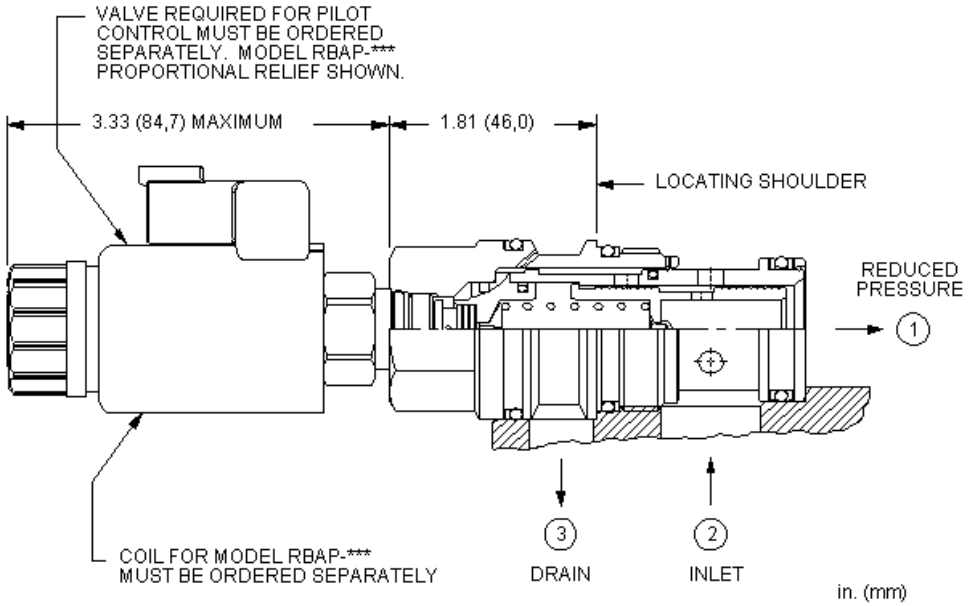
MINIMUM CONTROL PRESSURE (W)

- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

SEAL MATERIAL (N)

- **N** Buna-N
- **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 in³/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

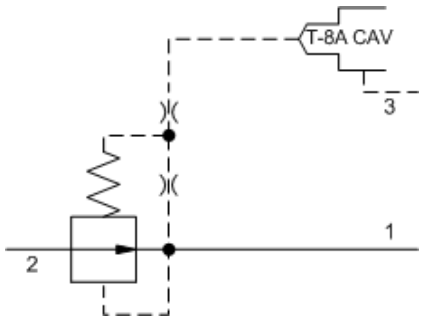
Model Code Example: PBHB8WN

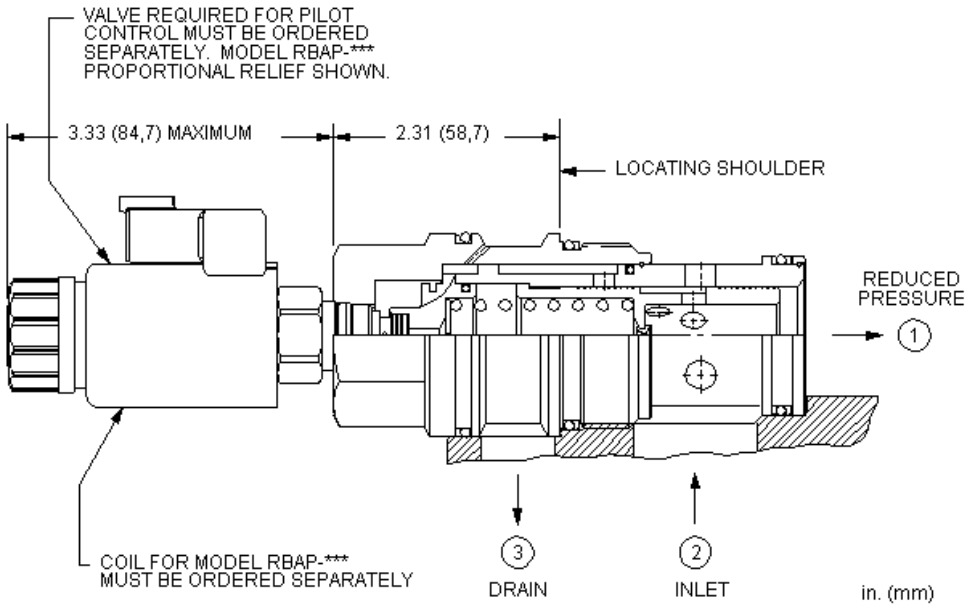
MINIMUM CONTROL PRESSURE (W)

- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

SEAL MATERIAL (N)

- **N** Buna-N
- **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 in³/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

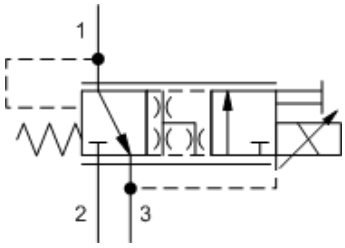
Model Code Example: PBJB8WN

MINIMUM CONTROL PRESSURE (W)

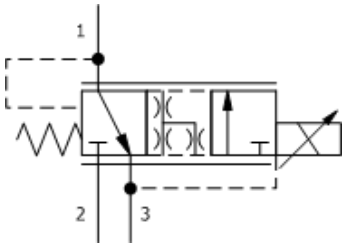
- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

SEAL MATERIAL (N)

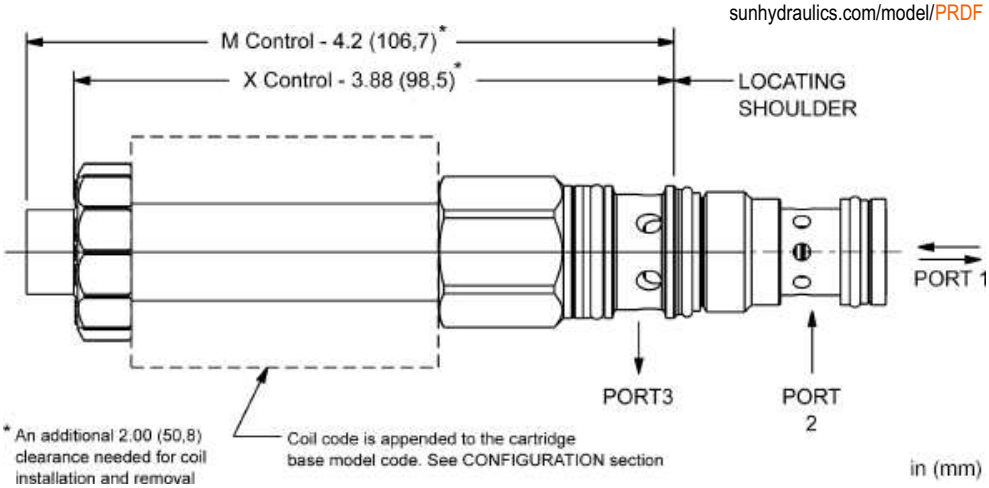
- **N** Buna-N
- **E** EPDM
- **V** Viton



M-Control



X-Control



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 in³/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

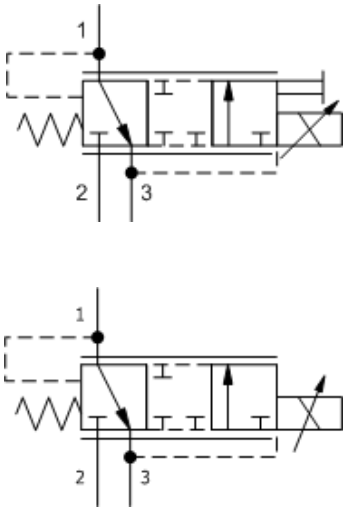
Model Code Example: PRDFMDN

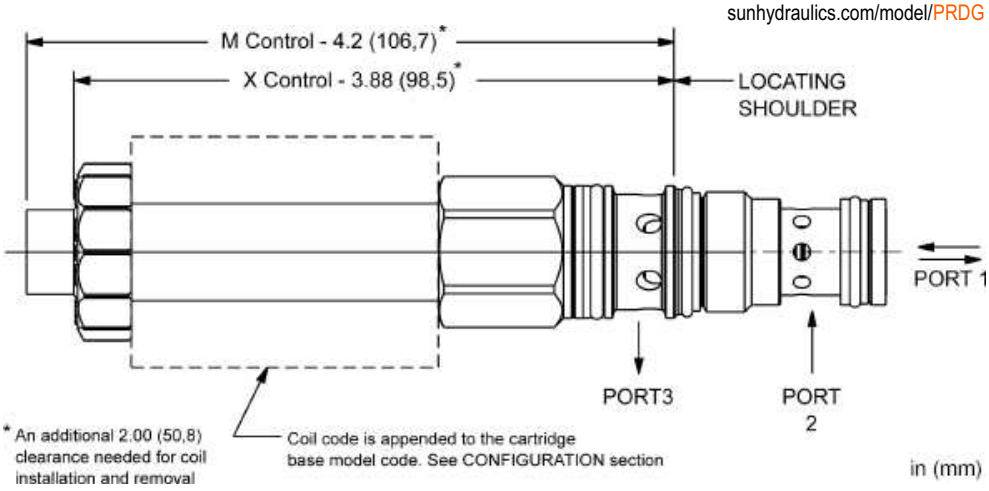
CONTROL (M)	OPERATING RANGE (D)	SEAL MATERIAL (N)	COIL *
M Manual Override (Standard)	**D** 50 - 485 psi (3,5 - 33,5 bar)	**N** Buna-N	No coil
X No Manual Override	**B** 100 - 1125 psi (7 - 77,5 bar)	**E** EPDM	* Additional coil options are available
	E 25 - 250 psi (1,7 - 18 bar)	**V** Viton	
	S 10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

Electro-proportional, direct-acting, pressure reducing/relieving valve (740 Series)

SERIES 1 / CAPACITY: 5 gpm / CAVITY: T-11A

sunhydraulics.com/model/PRDG





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 in³/min.
Seal kit - Cartridge	Buna: 990511007
Seal kit - Cartridge	Viton: 990511006

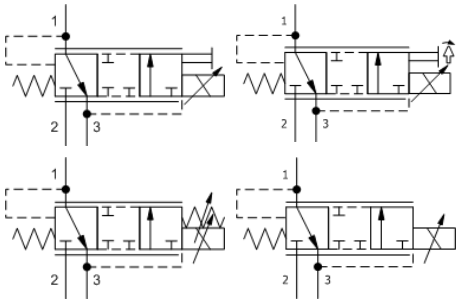
NOTES

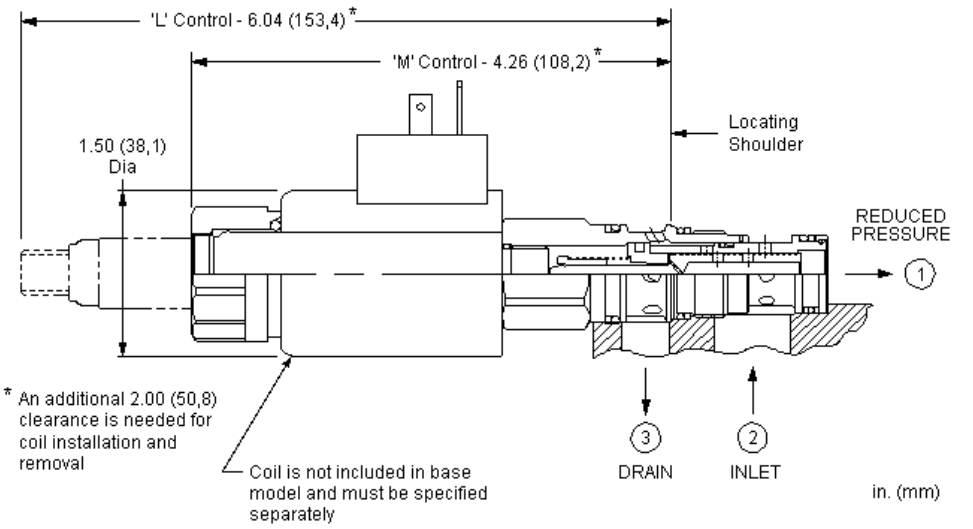
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
- An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

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)		





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 in³/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)
M	Manual Override (Standard)
E	Twist (Extended) Manual Override
L	Standard Screw Adjustment
X	No Manual Override

OPERATING RANGE	(D)
D	50 - 485 psi (3,5 - 33,5 bar)
E	25 - 250 psi (1,7 - 18 bar)
B	100 - 1125 psi (7 - 77,5 bar)

SEAL MATERIAL	(N)
N	Buna-N
E	EPDM
V	Viton

COIL *	
	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

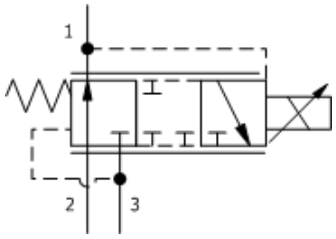
924NX02 Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver

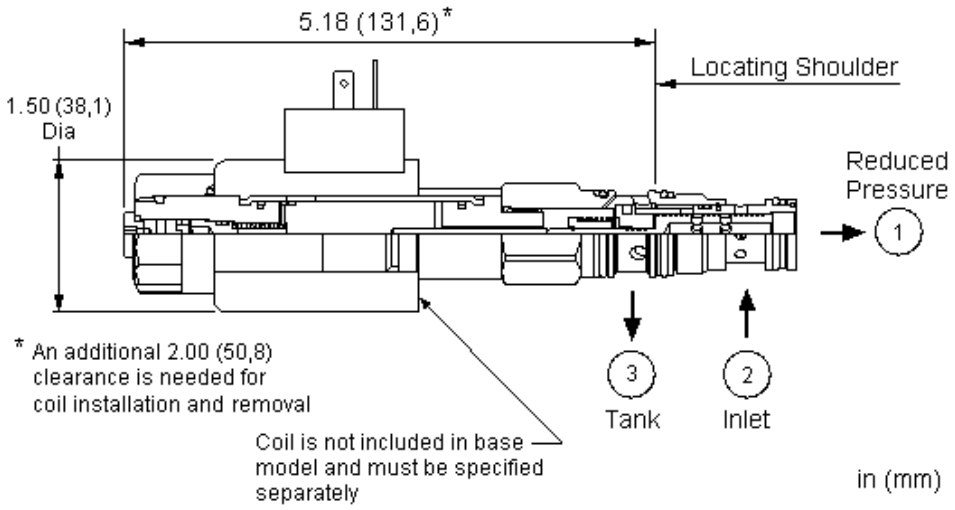
* Additional coil options are available

Electro-proportional, direct-acting, pressure reducing/relieving valve, high pressure setting with no command

SERIES 1 / CAPACITY: 5 gpm / CAVITY: T-11A

sunhydraulics.com/model/PRDN





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 in³/min.
Seal kit - Cartridge	Buna: 990511007
Seal kit - Cartridge	Viton: 990511006

CONFIGURATION OPTIONS

Model Code Example: PRDNXDN

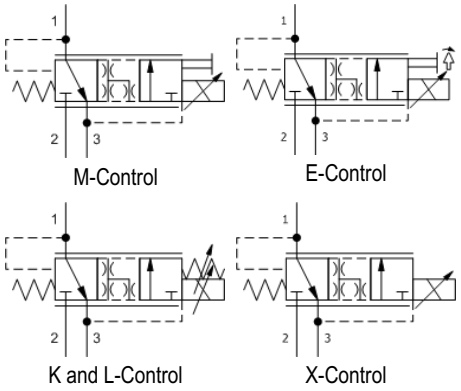
CONTROL (X)	ADJUSTMENT RANGE (D)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**D** 400 - 200 psi (14 - 28 bar)	**N** Buna-N	No coil
	B 1000 - 400 psi (28 - 70 bar)	**V** Viton	**212** DIN 43650-Form A, 12 VDC
	E 200 - 100 psi (7 - 14 bar)		**224** DIN 43650-Form A, 24 VDC
			912 Deutsch DT04-2P, 12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

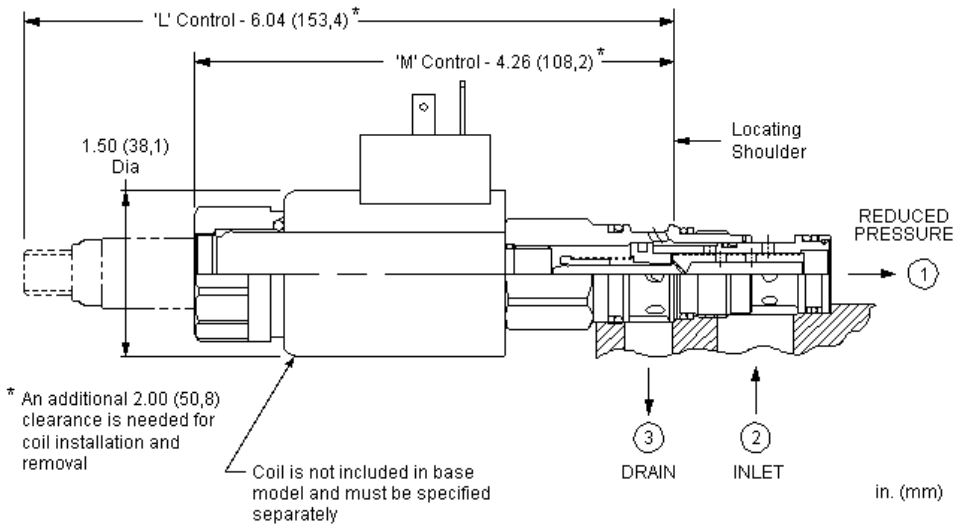
* Additional coil options are available

Electro-proportional, direct-acting, pressure reducing/relieving valve with open transition

SERIES 1 / CAPACITY: 5 gpm / CAVITY: T-11A

sunhydraulics.com/model/PRDL





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 in³/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)
M	Manual Override (Standard)
E	Twist (Extended) Manual Override
L	Standard Screw Adjustment
X	No Manual Override

OPERATING RANGE	(D)
D	50 - 485 psi (3,5 - 33,5 bar)
E	25 - 250 psi (1,7 - 18 bar)
B	100 - 1125 psi (7 - 77,5 bar)
S	10 - 100 psi (0,7 - 7 bar)

SEAL MATERIAL	(N)
N	Buna-N
E	EPDM
V	Viton

COIL *	
	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

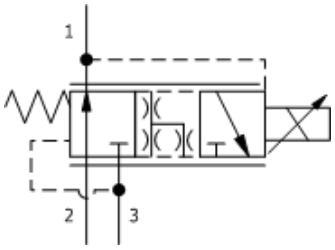
driver

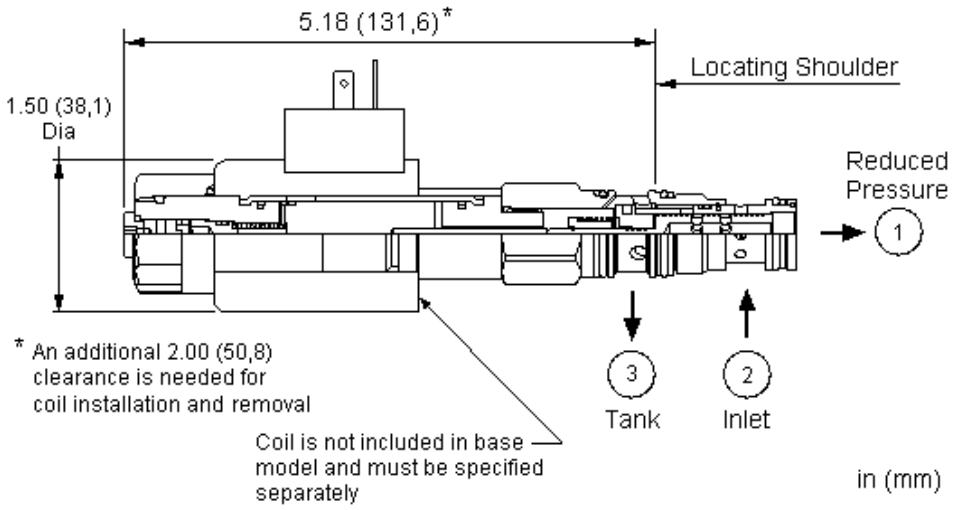
924 Deutsch DT04-2P, 24 VDC

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 (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.

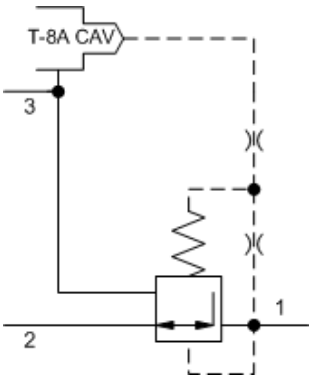
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	20 in³/min.
Seal kit - Cartridge	Buna: 990511007
Seal kit - Cartridge	Viton: 990511006

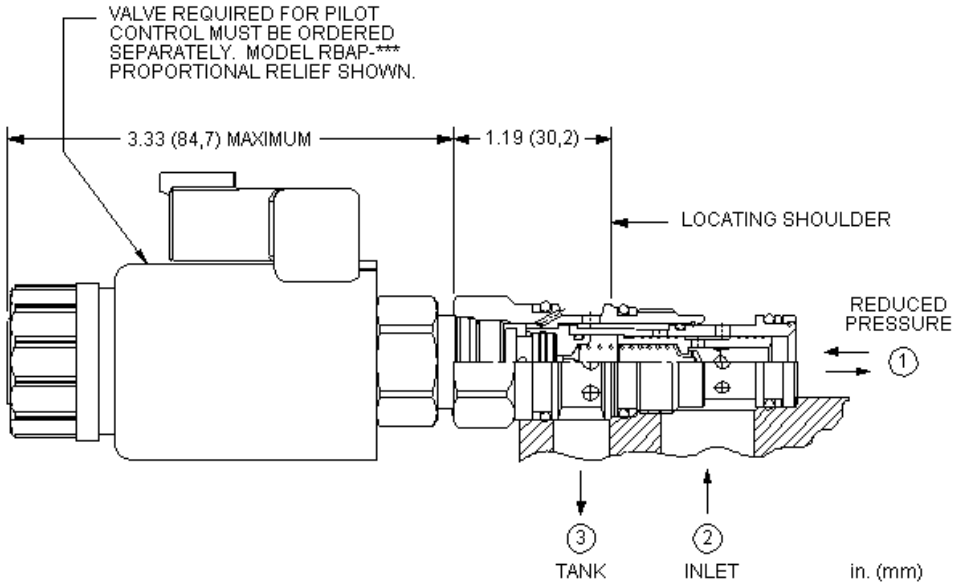
CONFIGURATION OPTIONS

Model Code Example: PRDMXDN

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

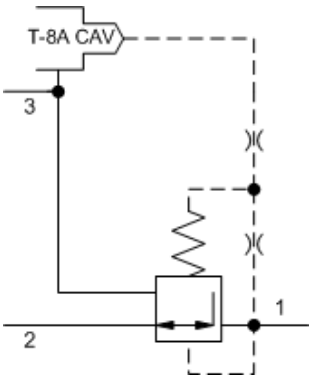
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

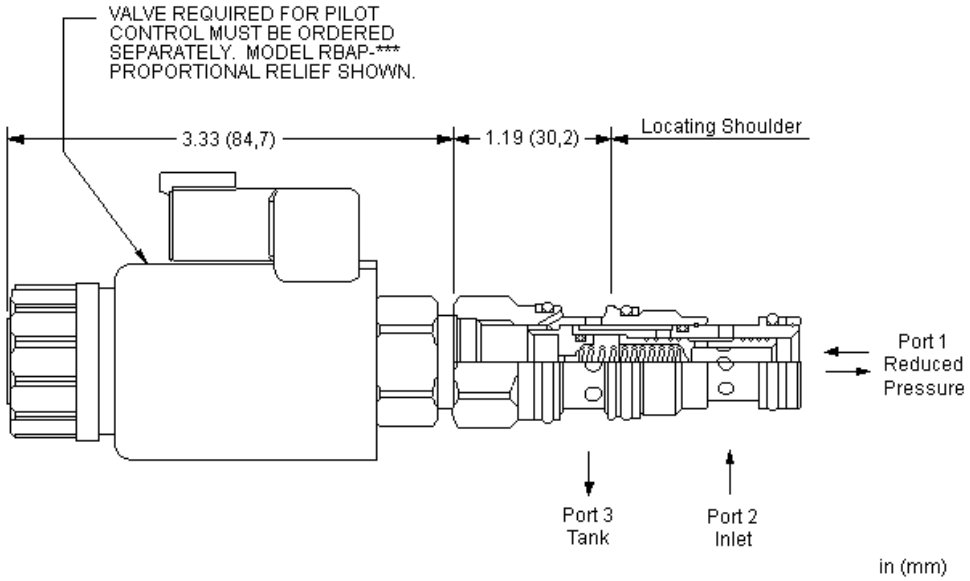
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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 in³/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

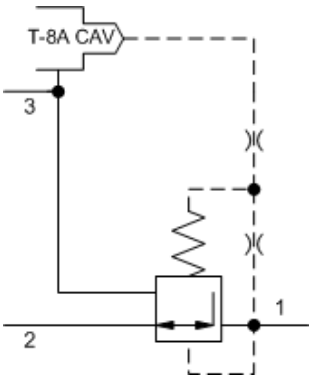
NOTES

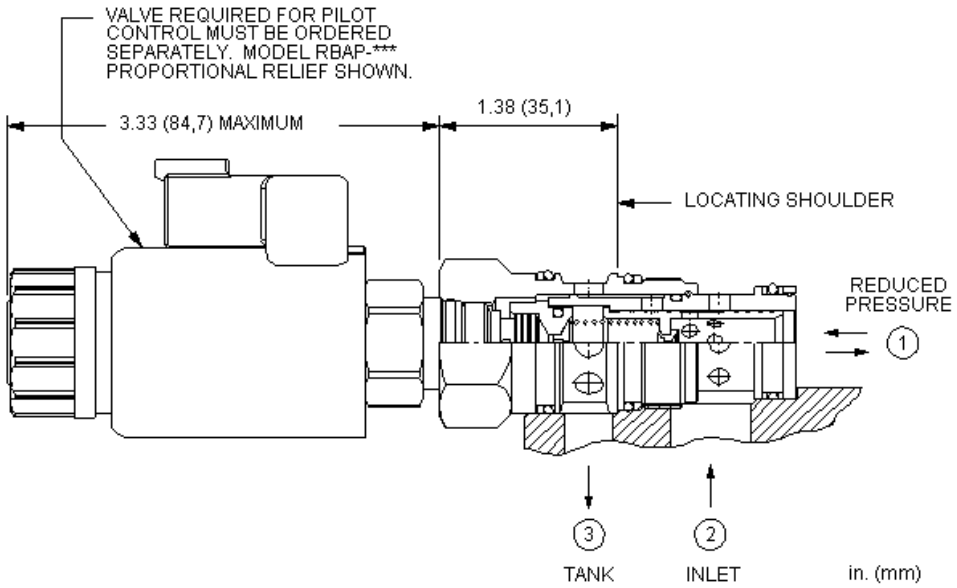
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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 in³/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)

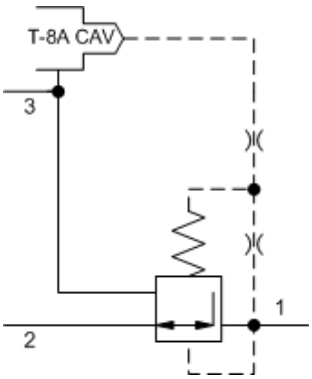
- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

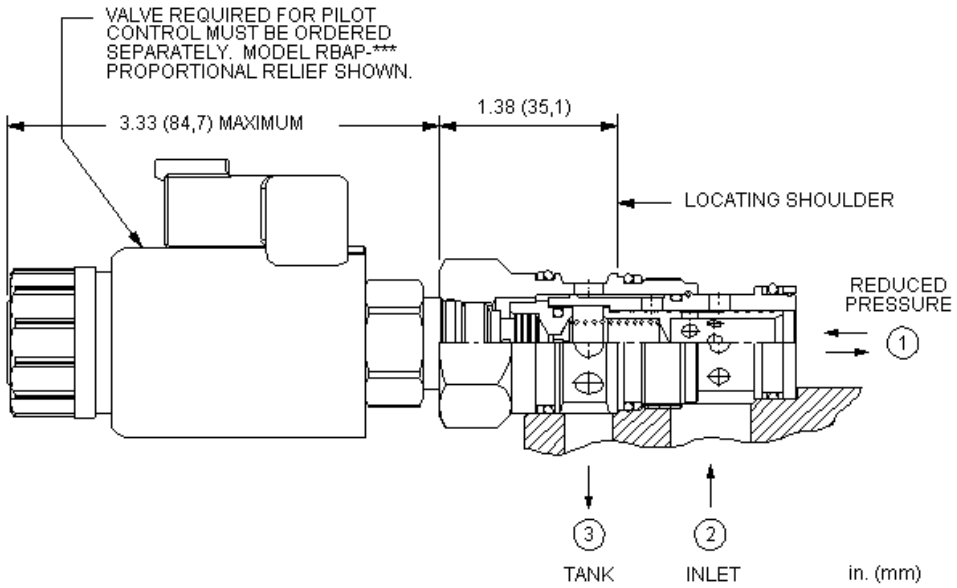
SEAL MATERIAL (N)

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

MATERIAL/COATING

- Standard Material/Coating
- **/AP** Stainless Steel, Passivated





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

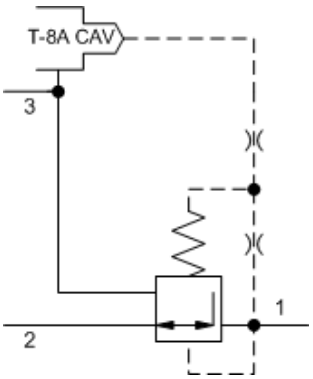
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

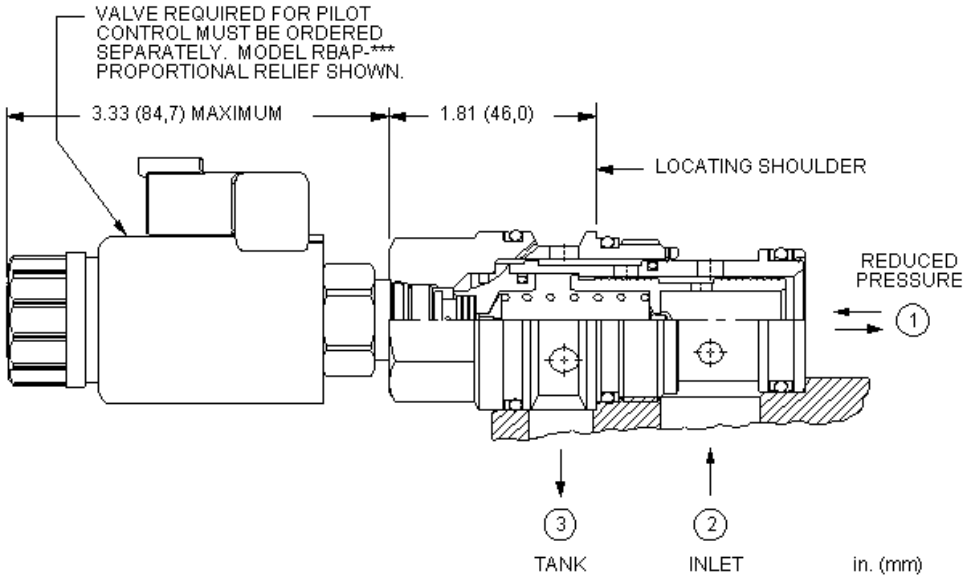
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in³/min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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 in³/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

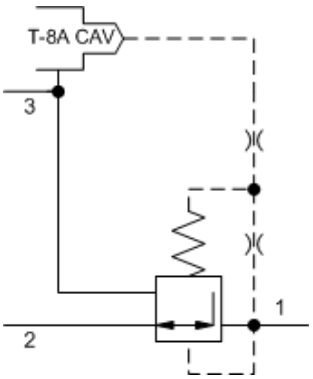
Model Code Example: PPHB8WN

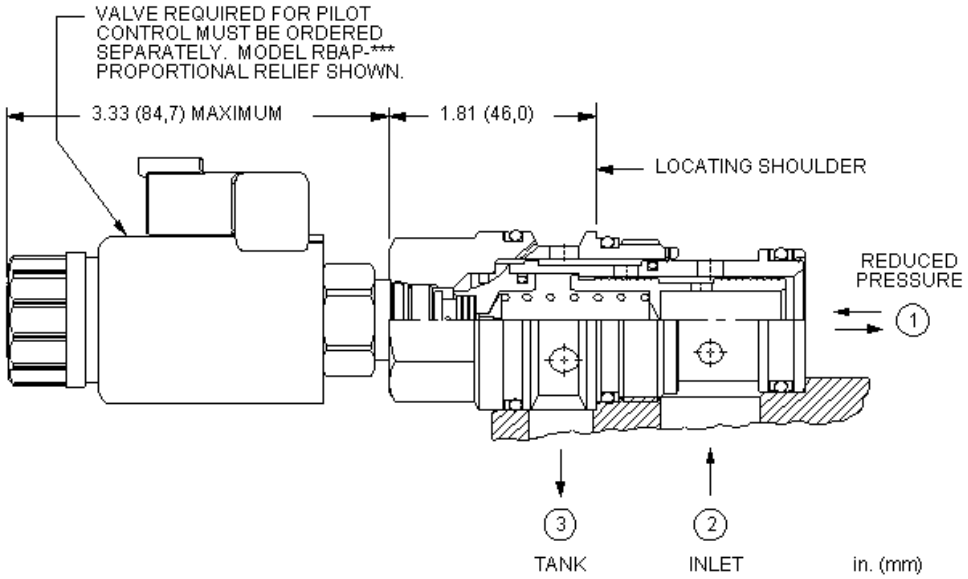
MINIMUM CONTROL PRESSURE (W)

- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

SEAL MATERIAL (N)

- **N** Buna-N
- **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 in³/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

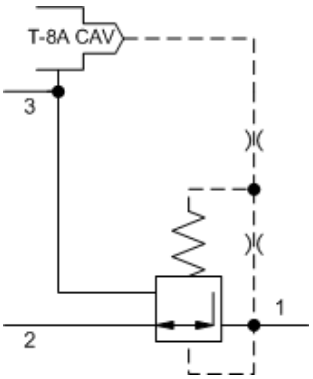
NOTES

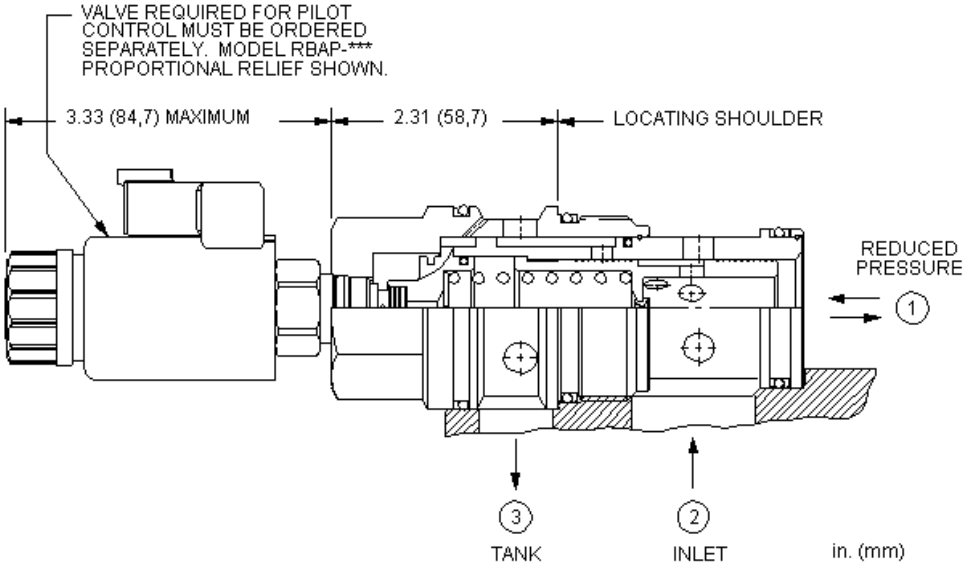
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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 in³/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

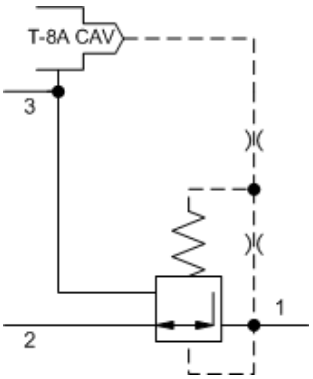
Model Code Example: PPJB8WN

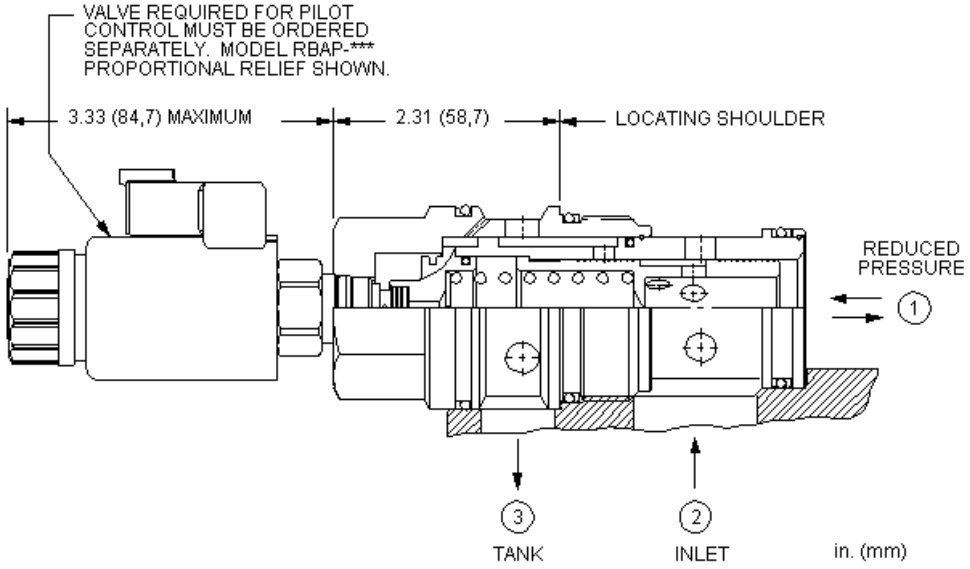
MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	**N** Buna-N
D 25 psi (1,7 bar)	**V** Viton

Pilot-operated, pressure reducing/relieving main stage with drilled piston orifice and integral T-8A control cavity

SERIES 4 / CAPACITY: 80 gpm / CAVITY: T-19A

sunhydraulics.com/model/PPJF8





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 in³/min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

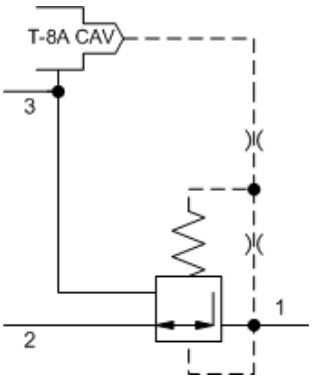
NOTES

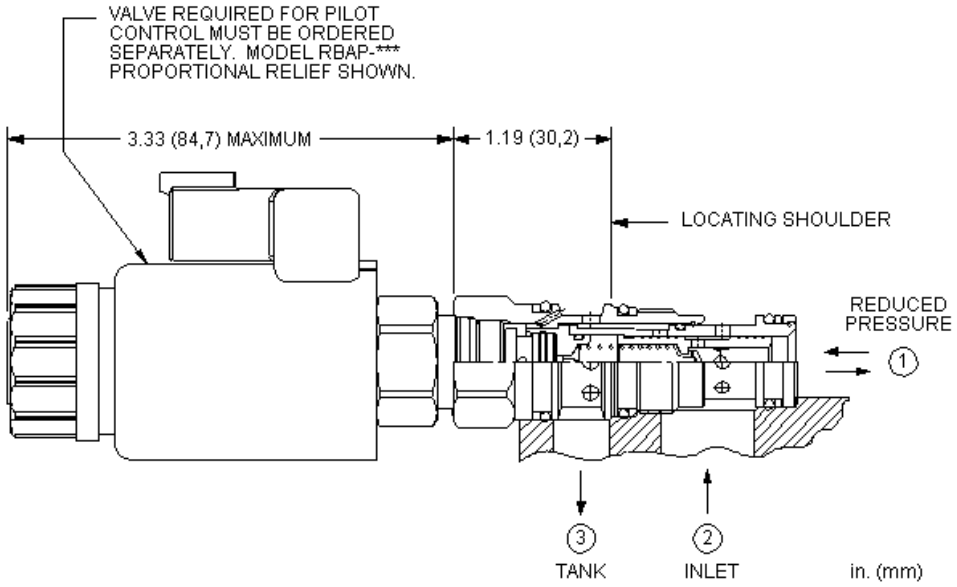
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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.

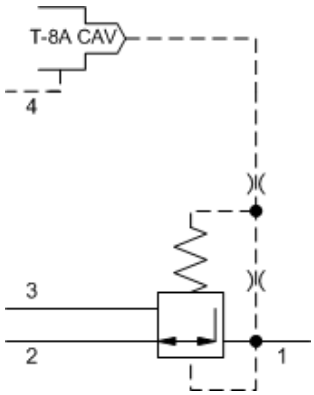
Maximum Operating Pressure	5000 psi
Control Pilot Flow	25 - 30 in³/min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

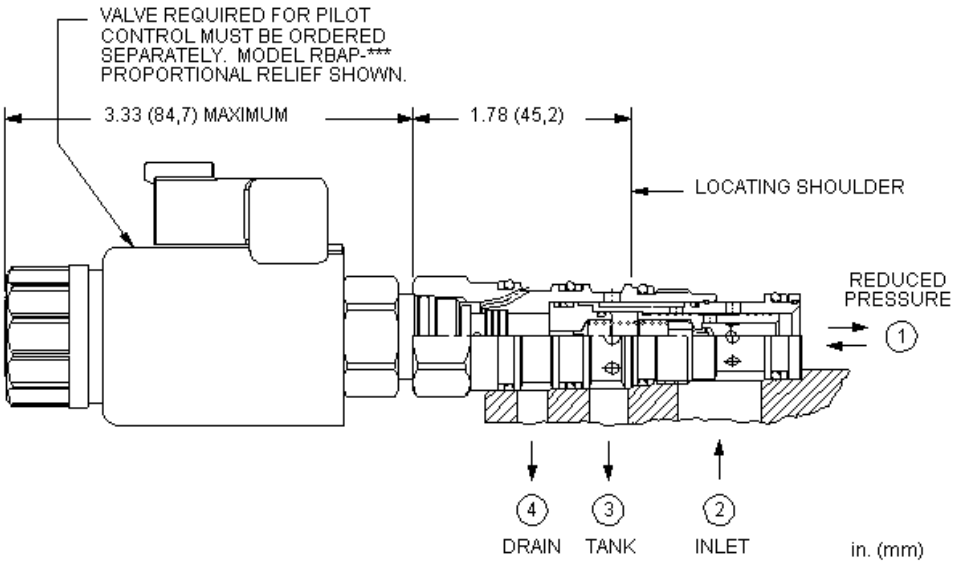
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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 in³/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

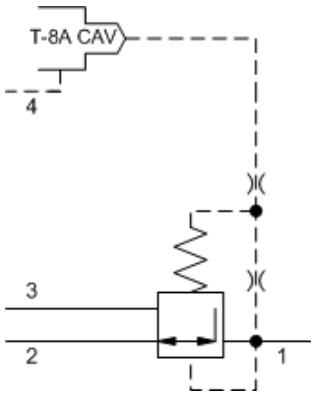
Model Code Example: PVDA8WN

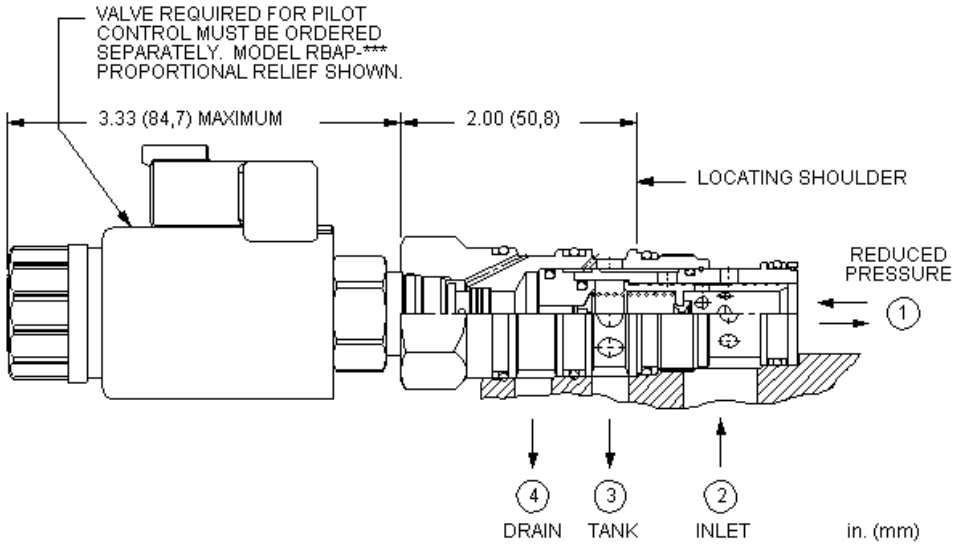
MINIMUM CONTROL PRESSURE (W)

- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

SEAL MATERIAL (N)

- **N** Buna-N
- **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 in³/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

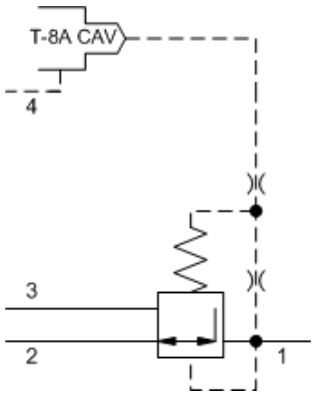
Model Code Example: PVFA8WN

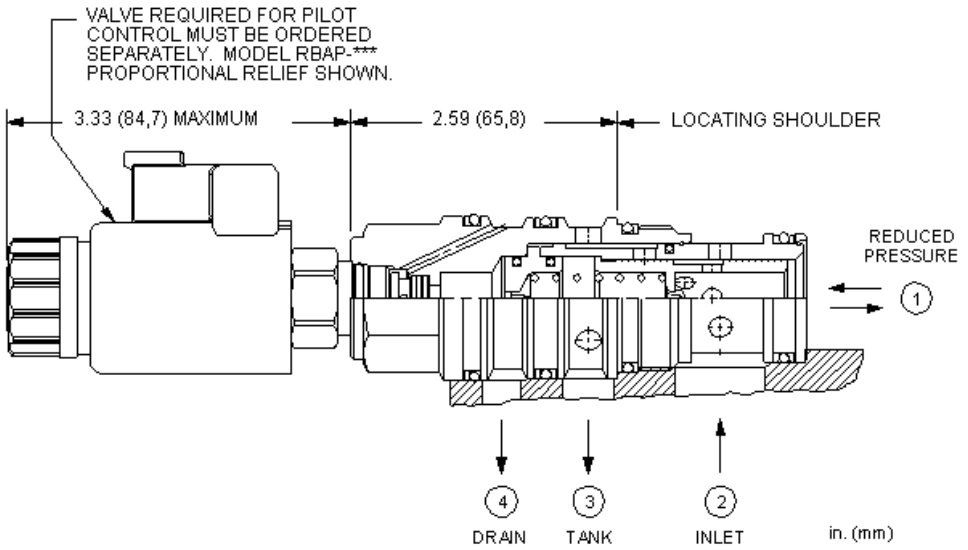
MINIMUM CONTROL PRESSURE (W)

- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

SEAL MATERIAL (N)

- **N** Buna-N
- **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 in³/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

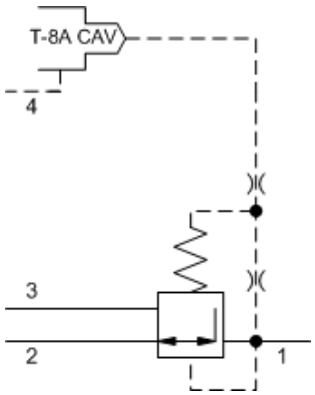
Model Code Example: PVHA8WN

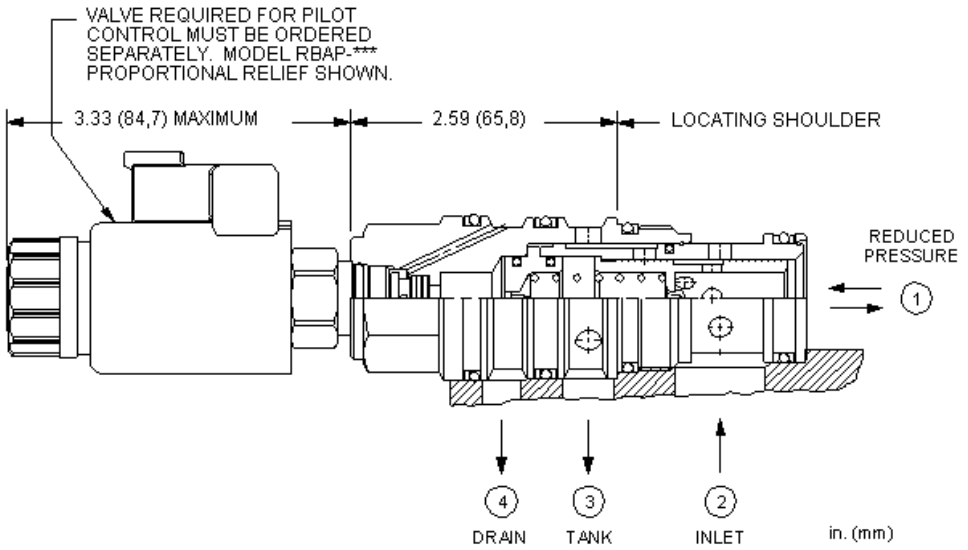
MINIMUM CONTROL PRESSURE (W)

- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

SEAL MATERIAL (N)

- **N** Buna-N
- **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 in³/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)

- **W** 150 psi (10,5 bar)
- **D** 100 psi (7 bar)

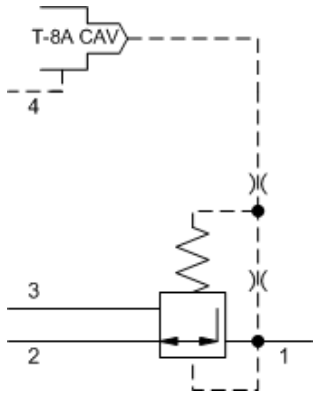
SEAL MATERIAL (N)

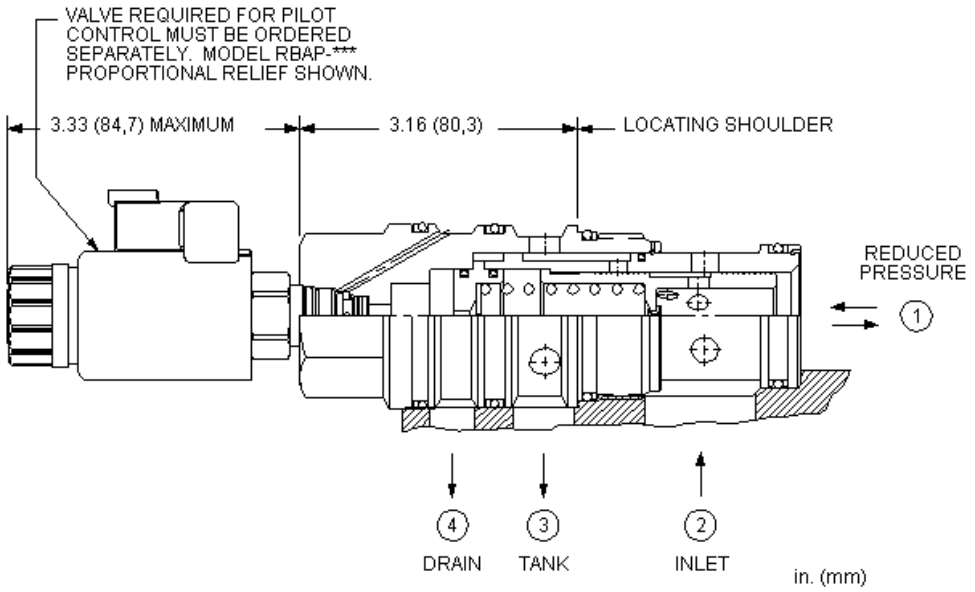
- **N** Buna-N
- **E** EPDM
- **V** Viton

Pilot-operated, pressure reducing/relieving main stage with integral T-8A control cavity and drain to port 4

SERIES 4 / CAPACITY: 80 gpm / CAVITY: T-24A

sunhydraulics.com/model/PVJA8





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 in³/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)

- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

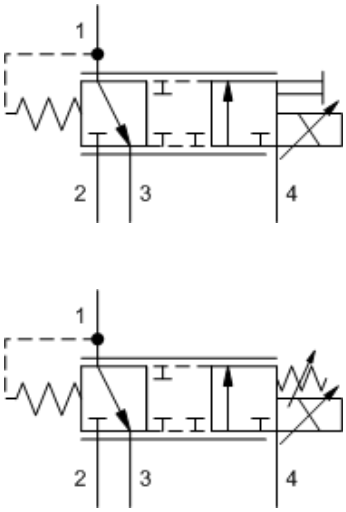
SEAL MATERIAL (N)

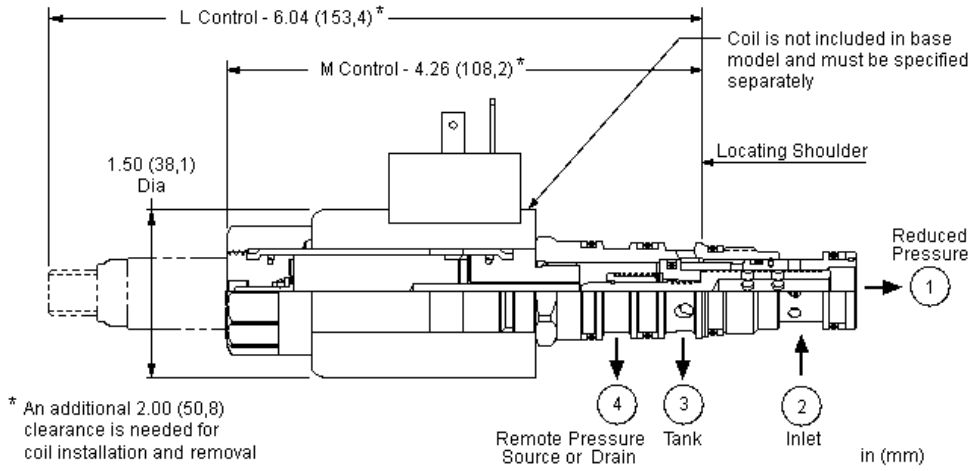
- **N** Buna-N
- **E** EPDM
- **V** Viton

Electro-proportional, direct-acting, pressure reducing/relieving valve with drain to port 4

SERIES 1 / CAPACITY: 5 gpm / CAVITY: T-21A

sunhydraulics.com/model/PSDP





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 in³/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

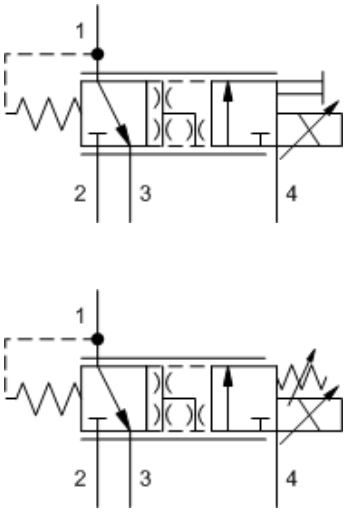
CONTROL (M)	OPERATING RANGE (D)	SEAL MATERIAL (N)	COIL *
M Manual Override (Standard)	**D** 50 - 485 psi (3,5 - 33,5 bar)	**N** Buna-N	No coil
L Standard Screw Adjustment	**B** 100 - 1125 psi (7 - 77,5 bar)	**V** Viton	**212** DIN 43650-Form A, 12 VDC
	E 25 - 250 psi (1,7 - 18 bar)		**224** DIN 43650-Form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

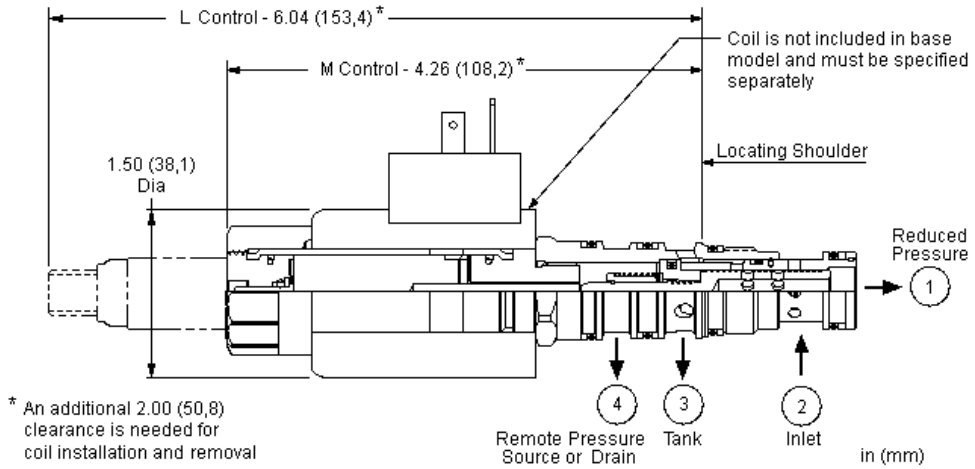
* Additional coil options are available

Electro-proportional, direct-acting, pressure reducing/relieving valve with open transition and drain to port 4

SERIES 1 / CAPACITY: 5 gpm / CAVITY: T-21A

sunhydraulics.com/model/PSDL





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 in³/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

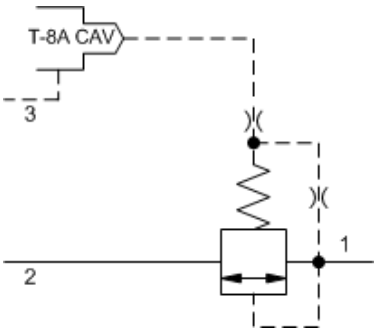
Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

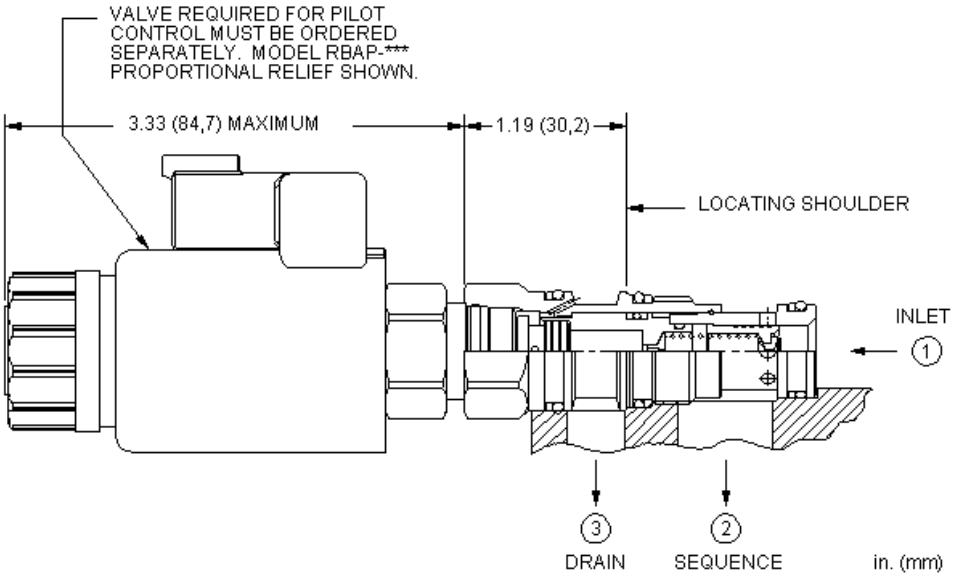
CONFIGURATION OPTIONS

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





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 in³/min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	2 in³/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)

- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

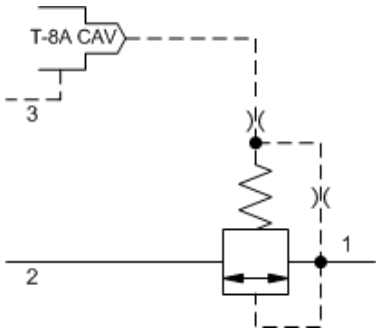
SEAL MATERIAL (N)

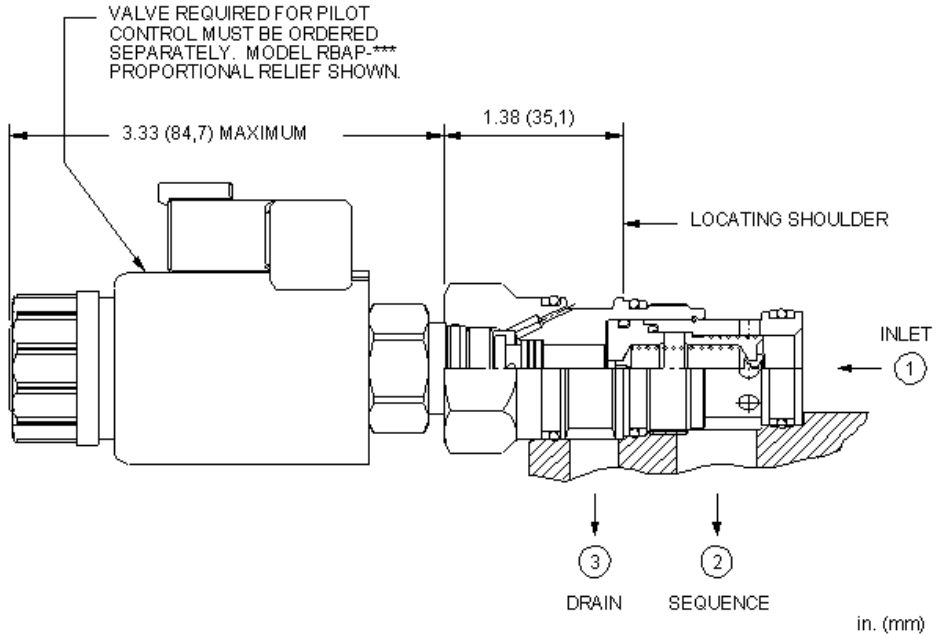
- **N** Buna-N
- **E** EPDM
- **V** Viton

Pilot-operated, balanced piston sequence main stage with integral T-8A control cavity

SERIES 2 / CAPACITY: 30 gpm / CAVITY: T-2A

sunhydraulics.com/model/RSFC8





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 in³/min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	3 in³/min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

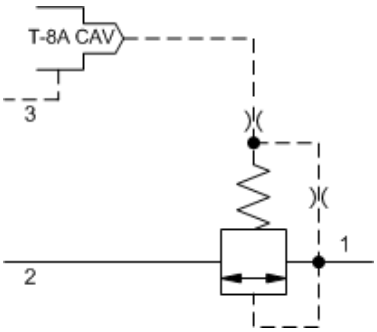
NOTES

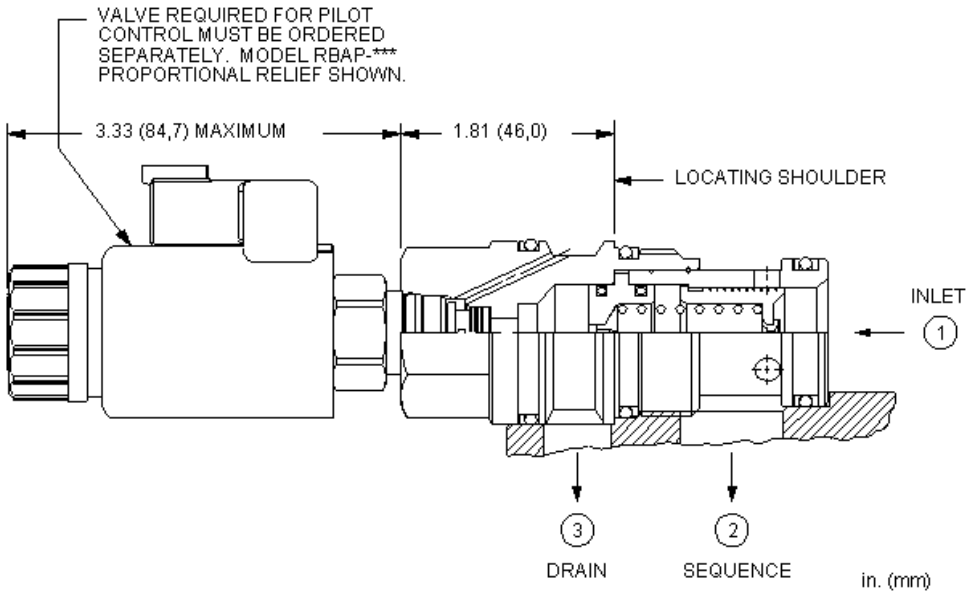
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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 in³/min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	4 in³/min.@1000 psi
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

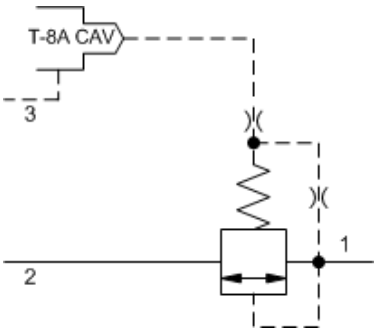
NOTES

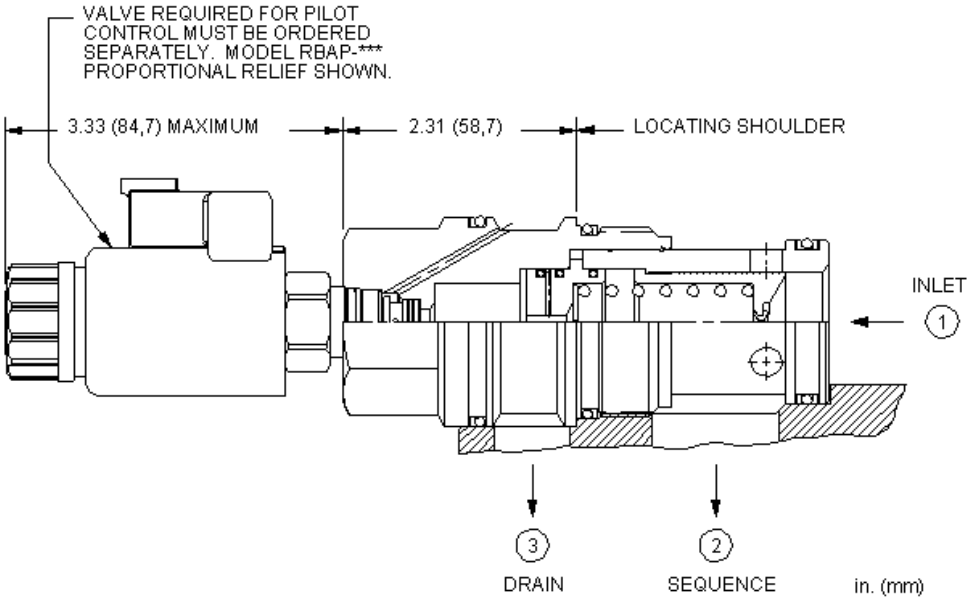
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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 in³/min.
Pilot Control Cavity	T-8A
Main stage leakage at 110 SUS (24 cSt)	5 in³/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

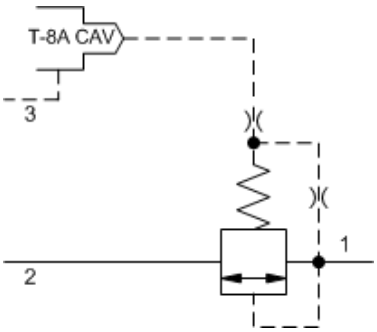
Model Code Example: RSJC8WN

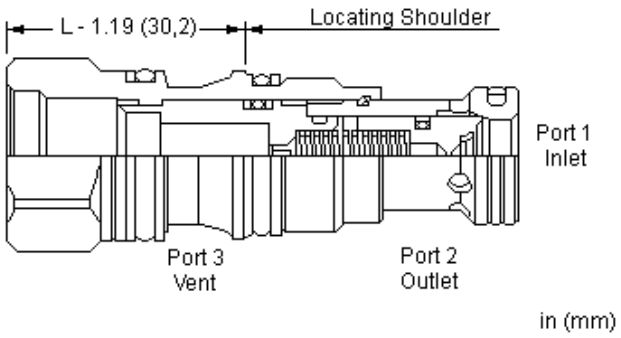
MINIMUM CONTROL PRESSURE (W)

W 100 psi (7 bar)
D 25 psi (1,7 bar)

SEAL MATERIAL (N)

N Buna-N
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	7 - 10 in³/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 reseat	10 drops/min.
Response Time - Typical	10 ms
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

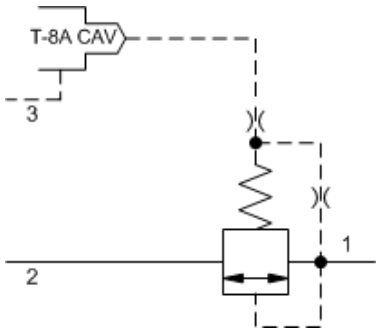
NOTES

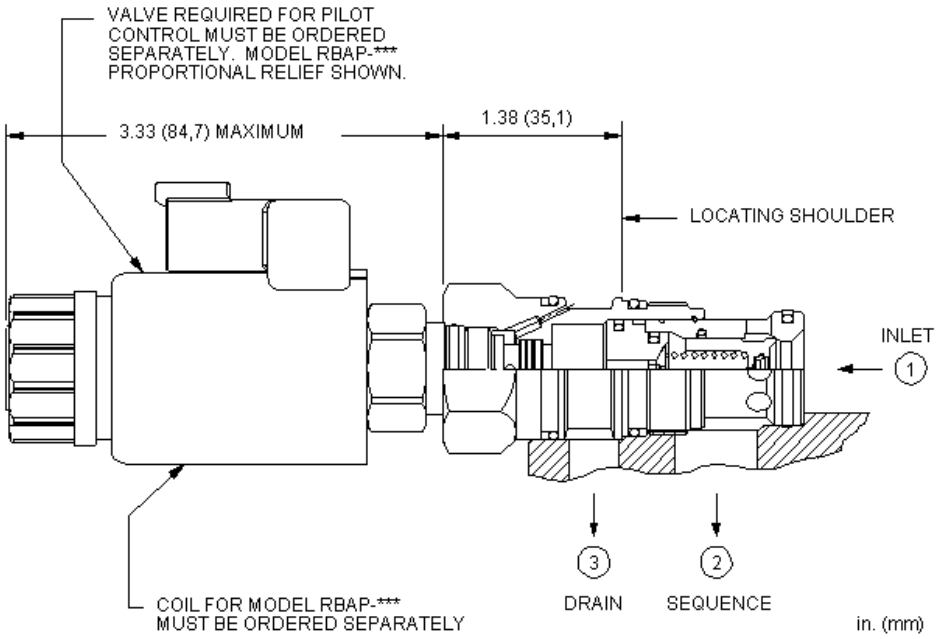
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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 in³/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 reseat	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

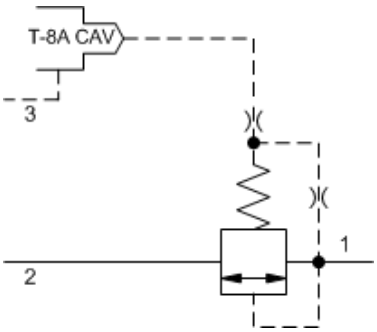
Model Code Example: RSFS8WN

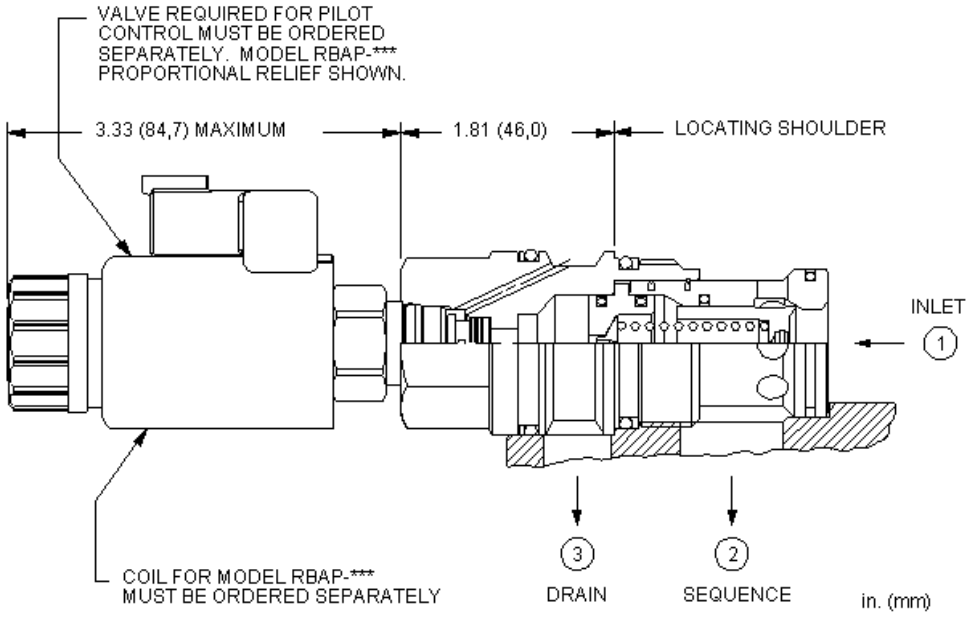
MINIMUM CONTROL PRESSURE (W)

W 100 psi (7 bar)
B 50 psi (3,5 bar)

SEAL MATERIAL (N)

N Buna-N
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 in³/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 reseat	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

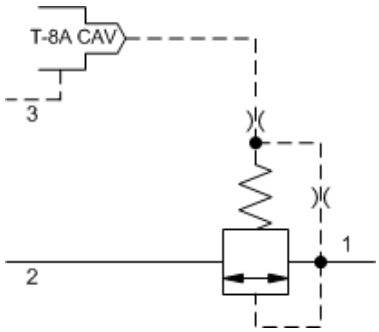
Model Code Example: RSHS8WN

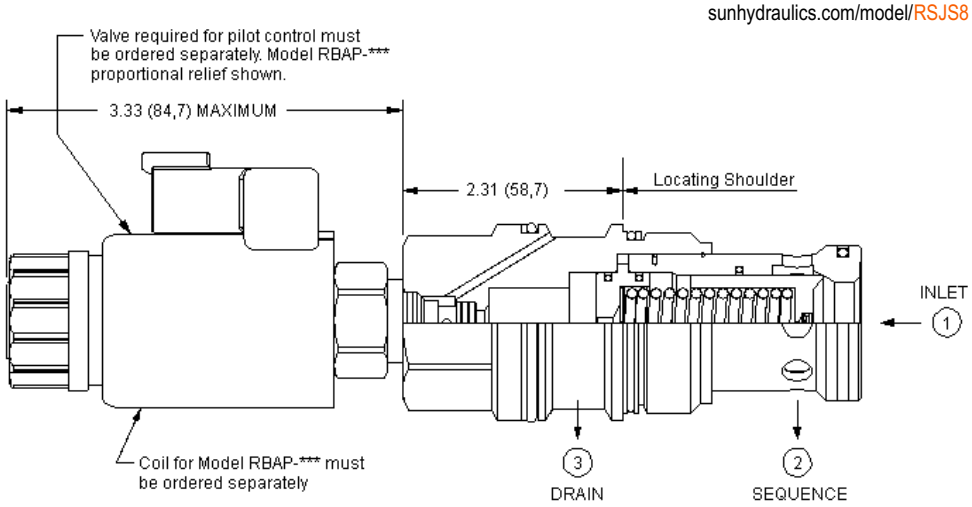
MINIMUM CONTROL PRESSURE (W)

B 50 psi (3,5 bar)

SEAL MATERIAL (N)

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.

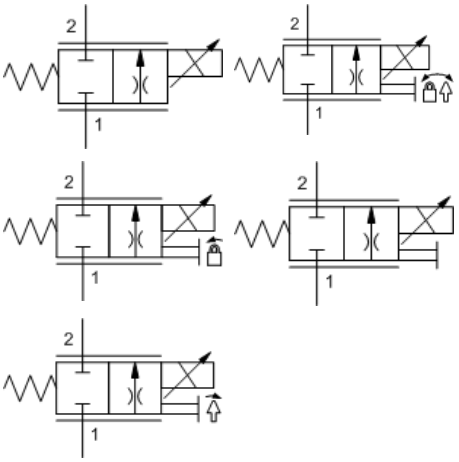
Maximum Operating Pressure	5000 psi
Control Pilot Flow	15 - 20 in³/min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Main stage leakage at reseat	10 drops/min.
Response Time - Typical	2 ms
Seal kit - Cartridge	Buna: 990219007
Seal kit - Cartridge	Viton: 990219006

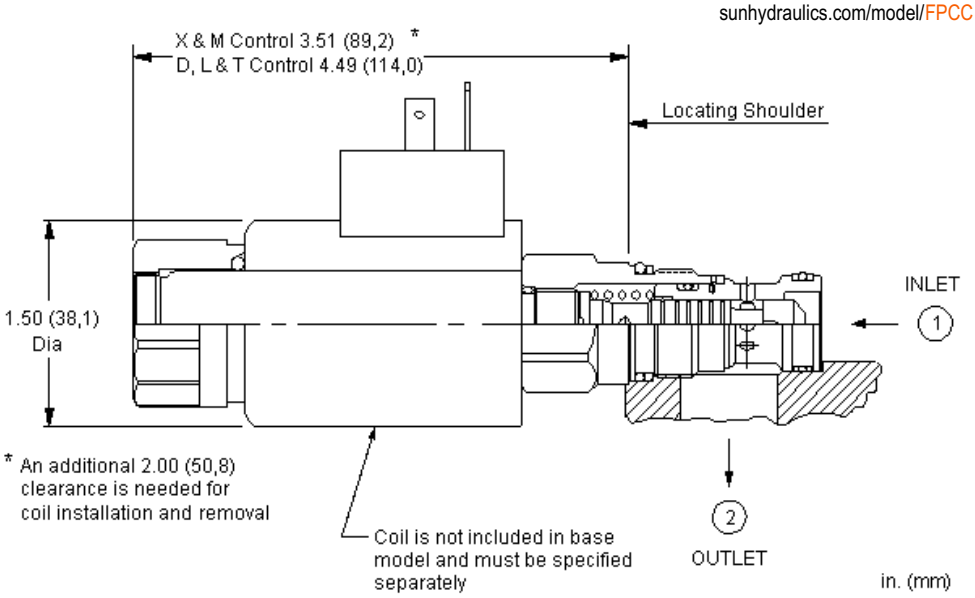
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

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





This valve is a normally closed, electro-proportional throttle that is spring-biased closed. Energizing the coil generates an opening force on the spool proportional to the command current, and this force is countered by the spring and flow forces. This force balance creates a metering orifice whose effective size is proportional to the current. The valve exhibits a large degree of self-compensation in the 1-to-2 direction and will provide proportional flow control in the 2-to-1 direction with the addition of an external compensator. Full reverse flow (2-to-1) with 100% command in the 2-to-1 direction is possible without a compensator under all conditions.

TECHNICAL DATA

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

Maximum Valve Leakage at 110 SUS (24 cSt)	6 in³/min.@3000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: FPCCXCN

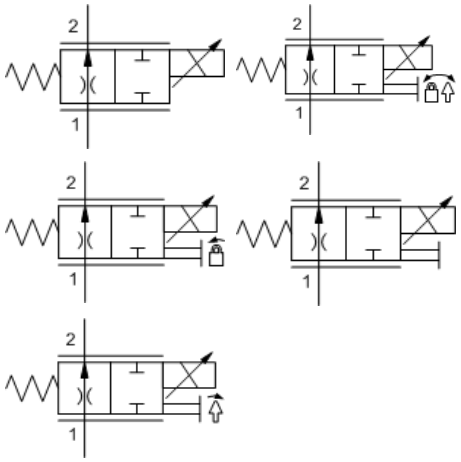
CONTROL (X)	FLOW RATE (C)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**C** .25 - 7 gpm (1 - 28 L/min.)	**N** Buna-N	No coil
D Twist/Lock (Dual) Manual Override	**A** .1 - 1.5 gpm (0,4 - 6 L/min.)	**E** EPDM	**212** DIN 43650-Form A, 12 VDC
E Twist (Extended) Manual Override	**B** .15 - 3.5 gpm (0,6 - 14 L/min.)	**V** Viton	**224** DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override	**D** .25 - 10 gpm (1 - 40 L/min.)		**224NX01** DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
M Manual Override			**224NX02** DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver
T Twist (Momentary) Manual Override			**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

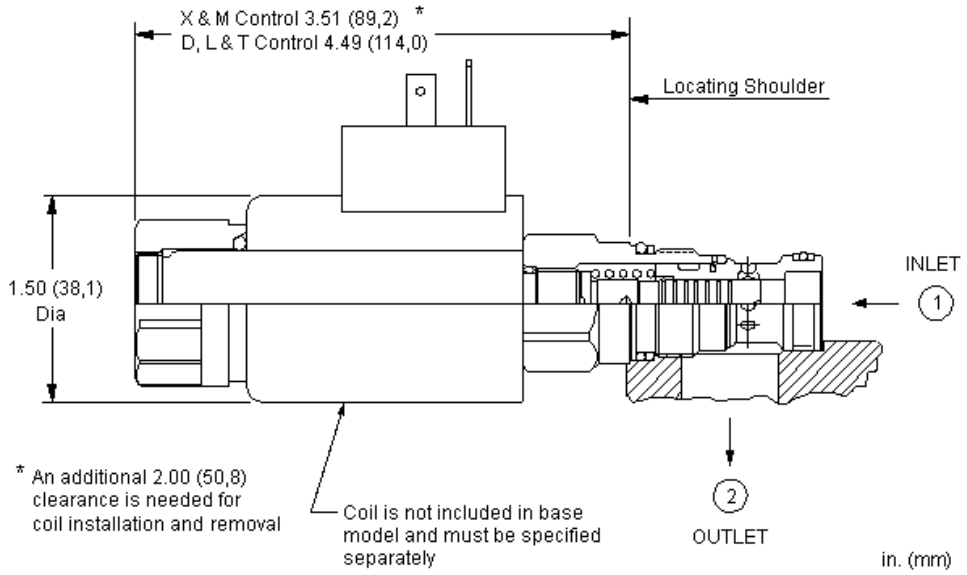
	transient voltage suppression (TVS) diodes, with XMD-02 driver
924	Deutsch DT04-2P, 24 VDC
924NX01	Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
924NX02	Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver

* Additional coil options are available

Electro-proportional flow control valve - normally open
SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-13A

sunhydraulics.com/model/FPCH





This valve is a normally open electro-proportional throttle that is spring-biased open. Energizing the coil generates an closing force on the spool proportional to the command current, and this force is countered by the spring and flow forces. This force balance creates a metering orifice whose effective size is proportional to the current. The valve exhibits a large degree of self-compensation in the 1-to-2 direction and will provide proportional flow control in the 2-to-1 direction with the addition of an external compensator. Full reverse flow (2-to-1) with no command in the 2-to-1 direction is possible without a compensator under all conditions.

TECHNICAL DATA

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

Maximum Valve Leakage at 110 SUS (24 cSt)	6 in³/min.@3000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: FPCHXCN

CONTROL (X)	FLOW RATE (C)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**C** .25 - 7 gpm (1 - 28 L/min.)	**N** Buna-N	No coil
D Twist/Lock (Dual) Manual Override	**A** .1 - 1.5 gpm (0,4 - 6 L/min.)	**E** EPDM	**212** DIN 43650-Form A, 12 VDC
E Twist (Extended) Manual Override	**B** .15 - 3.5 gpm (0,6 - 14 L/min.)	**V** Viton	**224** DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override			**224NX01** DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
M Manual Override			**224NX02** DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver
T Twist (Momentary) Manual Override			**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

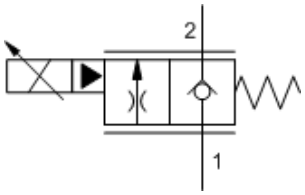
(TVS) diodes, with XMD-02 driver

924 Deutsch DT04-2P, 24 VDC

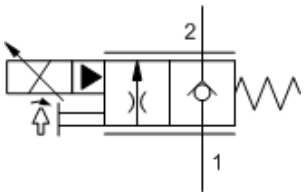
924NX01 Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver

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

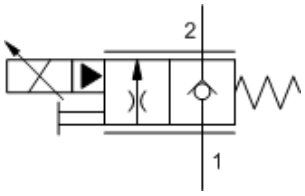
* Additional coil options are available



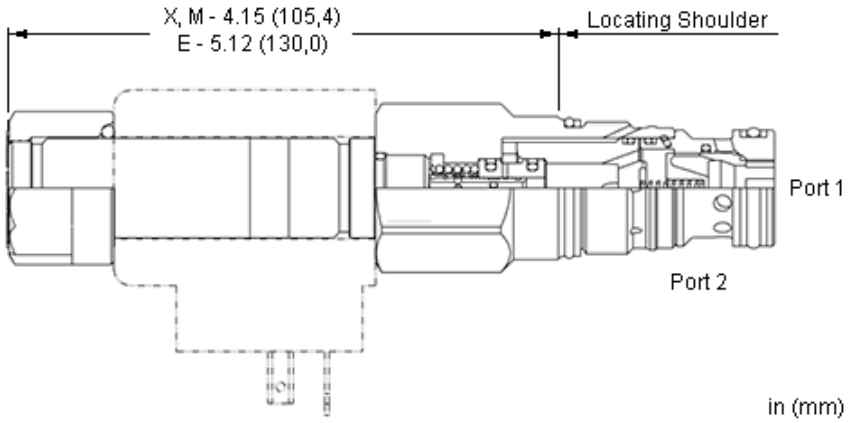
X-Control



E-Control



M-Control



This valve is a pilot-operated, normally closed, electro-proportional throttle with reverse free-flow check. Energizing the coil generates an opening force on the pilot stage which vents the main stage poppet to open proportionally. Metered flow is from port 1 to port 2 with reverse free flow from port 2 to port 1.

TECHNICAL DATA

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

Recommended dither frequency	100 Hz
Maximum Valve Leakage at 110 SUS (24 cSt)	20 drops/min.@5000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Deadband, nominal (as a percentage of input)	25%
Manual Override Stroke	.06 in.
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

CONFIGURATION OPTIONS

Model Code Example: FPFKXDN

CONTROL (X)

- **X** No Manual Override
- **E** Twist (Extended) Manual Override
- **M** Manual Override

FLOW RATE (D)

- **D** Nominal 20 gpm @ 200 psi (14 bar) differential (80 L/min.)
- **B** Nominal 10 gpm @ 200 psi (14 bar) differential (40 L/min.)

SEAL MATERIAL (N)

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

COIL *

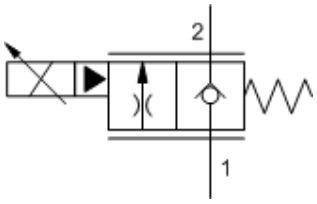
- No coil
- **212** DIN 43650-Form A, 12 VDC
- **224** DIN 43650-Form A, 24 VDC
- **912** Deutsch DT04-2P, 12 VDC
- **924** Deutsch DT04-2P, 24 VDC

* Additional coil options are available

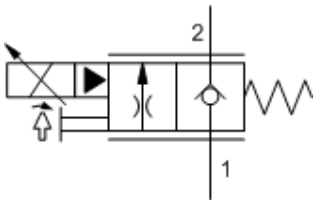
Pilot-operated, normally closed, electro-proportional throttle with reverse flow check

SERIES 3 / CAPACITY: 60 gpm / CAVITY: T-16A

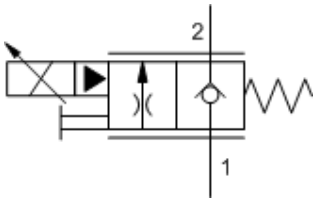
sunhydraulics.com/model/FPHK



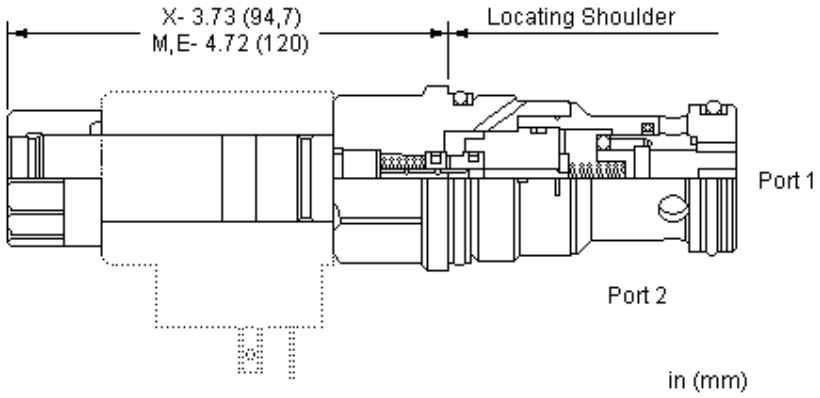
X-Control



E-Control



M-Control



This valve is a pilot-operated, normally closed, electro-proportional throttle with reverse free-flow check. Energizing the coil generates an opening force on the pilot stage which vents the main stage poppet to open proportionally. Metered flow is from port 1 to port 2 with reverse free flow from port 2 to port 1.

TECHNICAL DATA

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

Recommended dither frequency	100 Hz
Maximum Valve Leakage at 110 SUS (24 cSt)	20 drops/min.@5000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Deadband, nominal (as a percentage of input)	25%
Manual Override Stroke	.06 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: FPHKXCN

CONTROL (X)

- **X** No Manual Override
- **E** Twist (Extended) Manual Override
- **M** Manual Override

FLOW RATE (C)

- **C** Nominal 40 gpm @ 200 psi (14 bar) differential (160 L/min.)
- **A** Nominal 20 gpm @ 200 psi (14 bar) differential (80 L/min.)
- **E** Nominal 60 gpm @ 200 psi (14 bar) differential (240 L/min.)

SEAL MATERIAL (N)

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

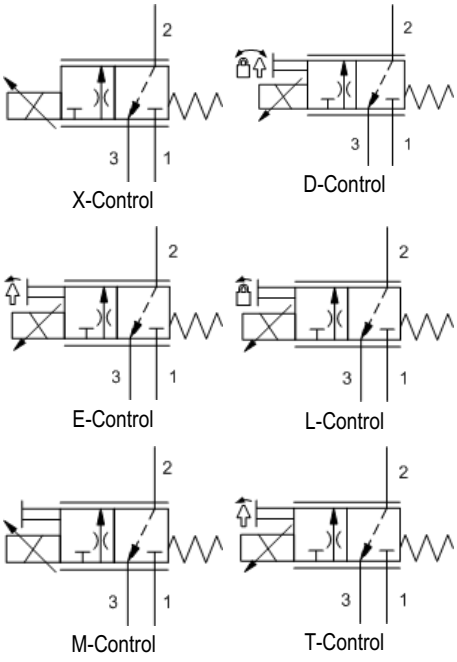
COIL *

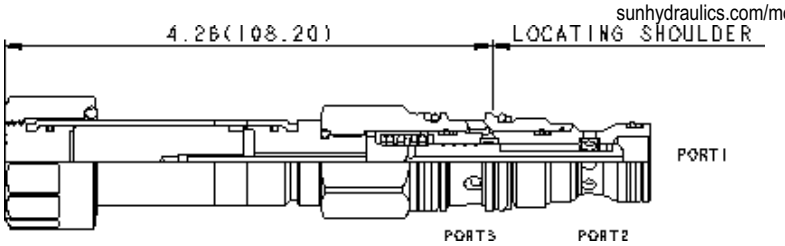
- No coil
- **212** DIN 43650-Form A, 12 VDC
- **224** DIN 43650-Form A, 24 VDC
- **224NX01** DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
- **224NX02** DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver
- **912** 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 (TVS) diodes, with XMD-02 driver

* Additional coil options are available





This valve is a 3-way, meter-in, electro-proportional throttle. The flow path, unenergized, has the supply blocked at port 1 and port 2 is drained to tank at port 3. Energizing the coil generates a closing force on the spool, creating a metering orifice in the 1 to 2 direction that is proportional to the coil command current. The valve self-compensates in the 1-to-2 direction and with the addition of an external compensator will provide pressure compensated flow control.

Flow in the 2-to-3 direction is not proportional and is limited in the interest of increased resolution and capacity. Flow capacity in the 2-to-3 direction is about 1.5 gpm (6 L/min). This valve is meant to be used in a circuit that has a separate passage to tank such as a cushion lock circuit. Two FMDAs in conjunction with a cushion lock circuit create a meter-in/meter-out 3-position 4-way.

TECHNICAL DATA

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

Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	Viton: 990411006

NOTES

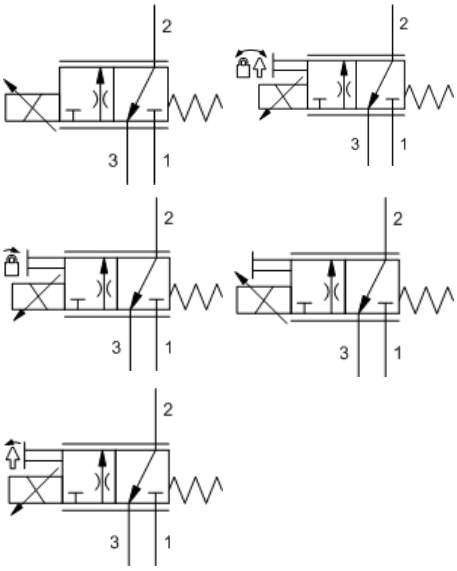
Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

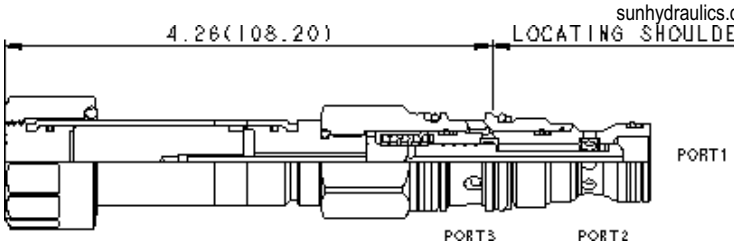
CONFIGURATION OPTIONS

Model Code Example: FMDAXDN

CONTROL (X)	FLOW RATE (D)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**D** .1 - 9 gpm (0,4 - 34 L/min.)	**N** Buna-N	No coil
D Twist/Lock (Dual) Manual Override	**A** .1 - 1.6 gpm (0,4 - 6.1 L/min.)	**E** EPDM	**212** DIN 43650-Form A, 12 VDC
E Twist (Extended) Manual Override	**B** .1 - 4 gpm (0,4 - 15 L/min.)	**V** Viton	**224** DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override	**C** .1 - 6 gpm (0,4 - 23 L/min.)		**912** Deutsch DT04-2P, 12 VDC
M Manual Override			**924** Deutsch DT04-2P, 24 VDC
T Twist (Momentary) Manual Override			* Additional coil options are available

sunhydraulics.com/model/FMDB





This valve is a 3-way, meter-in, electro-proportional throttle. The flow path, unenergized, has the supply blocked at port 1 and port 2 connected to tank at port 3. Energizing the coil generates a closing force on the spool, creating a metering orifice in the 1 to 2 direction that is proportional to the coil command current. The valve self-compensates in the 1 to 2 direction and with the addition of an external compensator will provide pressure compensated flow control. Flow in the 2 to 3 direction is not proportional.

TECHNICAL DATA

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

Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	Viton: 990411006

NOTES

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

CONFIGURATION OPTIONS

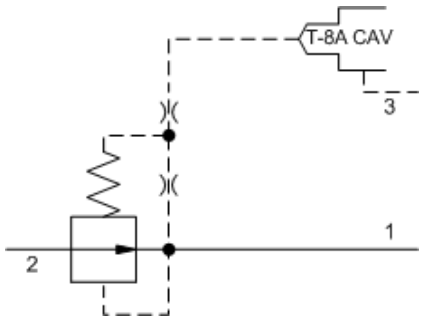
Model Code Example: FMDBXCN

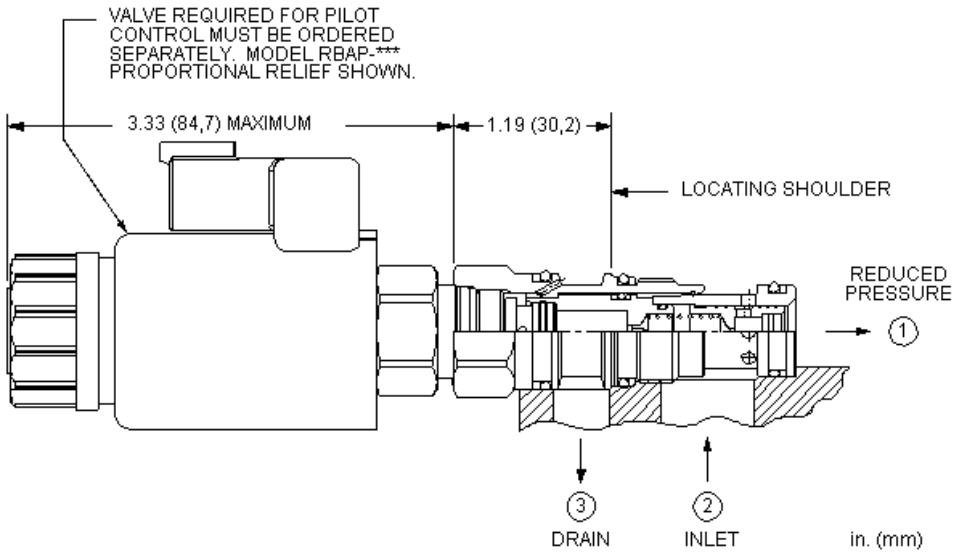
CONTROL (X)	FLOW RATE (C)	SEAL MATERIAL (N)	COIL *
X No Manual Override	**C** .1 - 6 gpm (0,4 - 23 L/min.)	**N** Buna-N	No coil
D Twist/Lock (Dual) Manual Override	**A** .1 - 1.6 gpm (0,4 - 6.1 L/min.)	**V** Viton	**212** DIN 43650-Form A, 12 VDC
E Twist (Extended) Manual Override	**B** .1 - 4 gpm (0,4 - 15 L/min.)		**224** DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override			**912** Deutsch DT04-2P, 12 VDC
M Manual Override			**924** Deutsch DT04-2P, 24 VDC
T Twist (Momentary) Manual Override			* Additional coil options are available

Pilot-operated, pressure reducing main stage with drilled piston orifice and integral T-8A control cavity

SERIES 1 / CAPACITY: 10 gpm / CAVITY: T-11A

sunhydraulics.com/model/PBDF8





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 in³/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

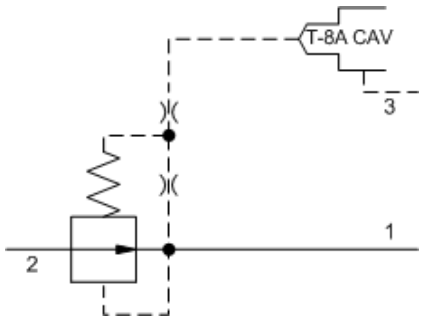
BIAS PRESSURE	(W)
W 100 psi (7 bar)	
D 25 psi (1,7 bar)	

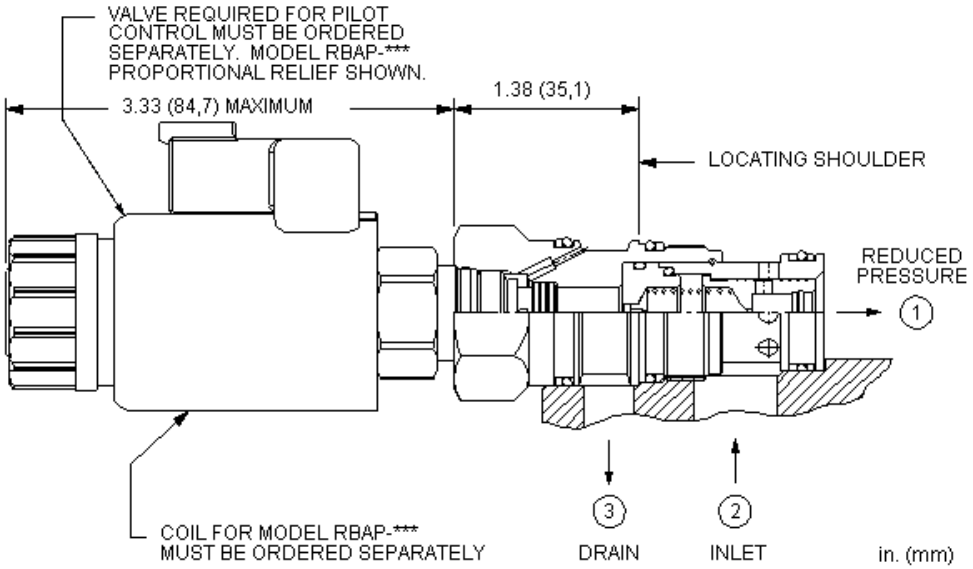
SEAL MATERIAL	(N)
N Buna-N	
V Viton	

Pilot-operated, pressure reducing main stage with drilled piston orifice and integral T-8A control cavity

SERIES 2 / CAPACITY: 20 gpm / CAVITY: T-2A

sunhydraulics.com/model/PBFF8





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 in³/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

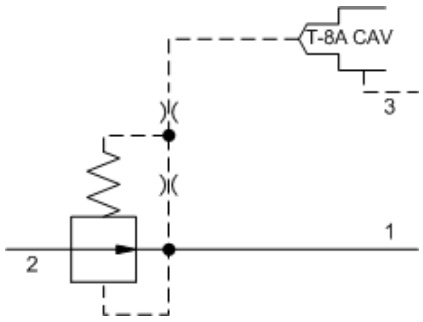
Model Code Example: PBFF8WN

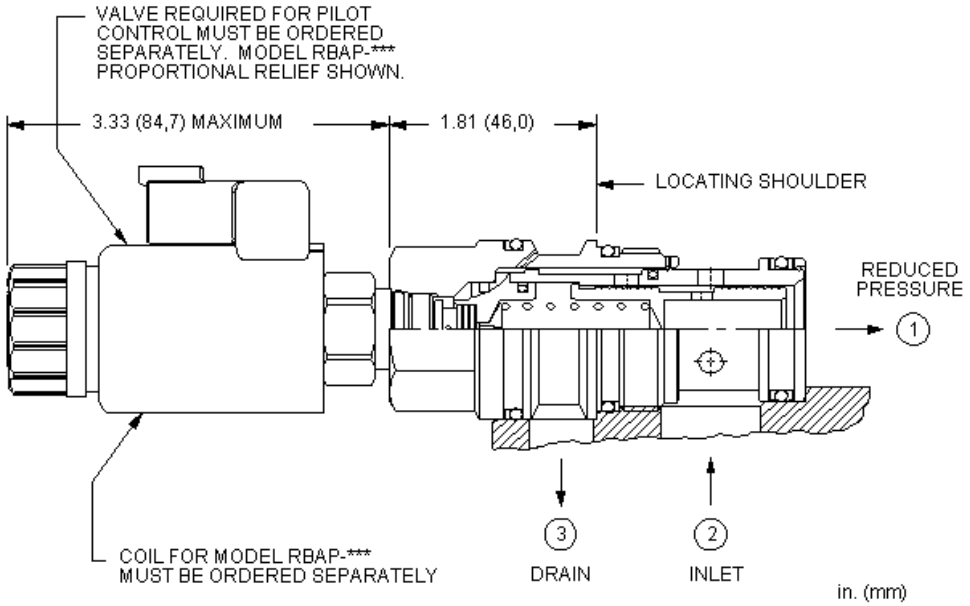
MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	**N** Buna-N
D 25 psi (1,7 bar)	**E** EPDM
	V Viton

Pilot-operated, pressure reducing main stage with drilled piston orifice and integral T-8A control cavity

SERIES 3 / CAPACITY: 40 gpm / CAVITY: T-17A

sunhydraulics.com/model/PBHF8





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 in³/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)

- **W** 100 psi (7 bar)
- **D** 25 psi (1,7 bar)

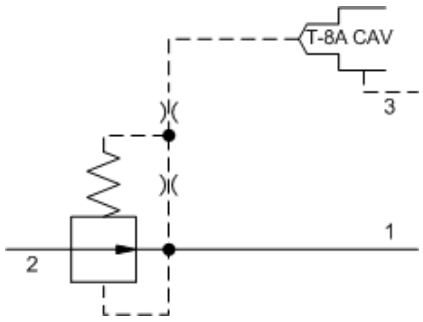
SEAL MATERIAL (N)

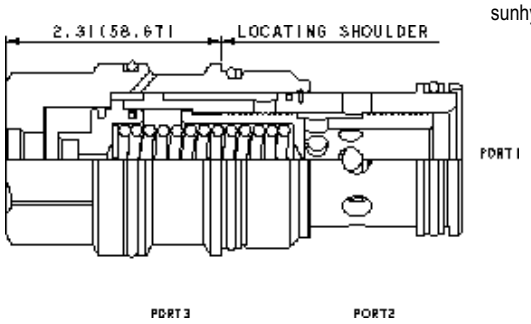
- **N** Buna-N
- **E** EPDM
- **V** Viton

Pilot-operated, pressure reducing main stage with drilled piston orifice and integral T-8A control cavity

SERIES 4 / CAPACITY: 80 gpm / CAVITY: T-19A

sunhydraulics.com/model/PBJF8





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 in³/min.
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

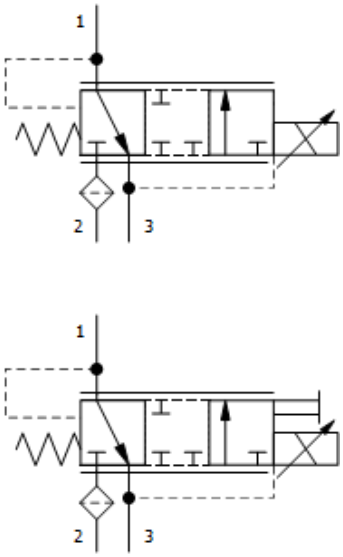
Model Code Example: PBJF8WN

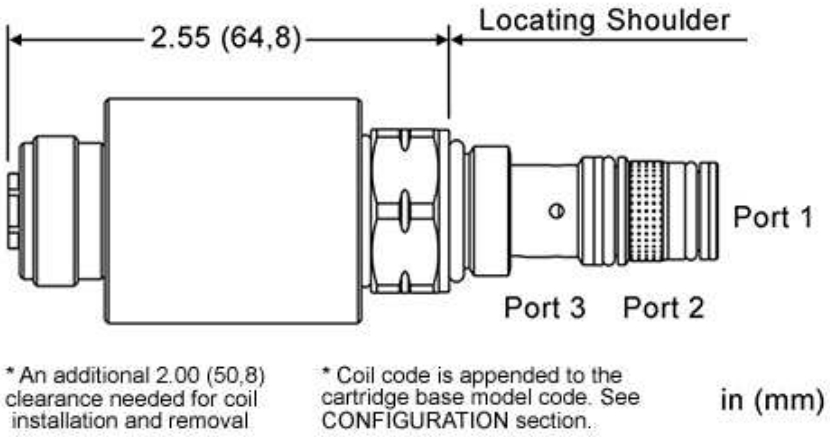
MINIMUM CONTROL PRESSURE (W)	SEAL MATERIAL (N)
W 100 psi (7 bar)	**N** Buna-N
D 25 psi (1,7 bar)	**V** Viton

Electro-proportional, direct-acting pressure reducing/relieving valve with filter screen, 3000 psi (210 bar) - common cavity

SERIES 0C / CAPACITY: 1 gpm / CAVITY: SC-08-03

sunhydraulics.com/model/PRTS





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: PRTSXDN

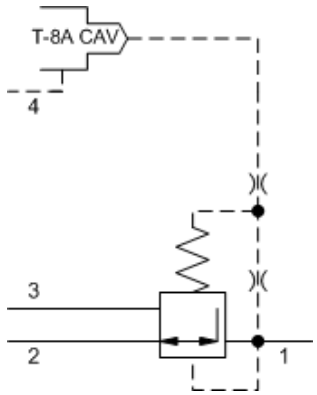
CONTROL (X)	ADJUSTMENT RANGE (D)	SEAL MATERIAL (N)	COIL *
X -	**D** 0 - 435 psi	**N** Buna-N	No coil
M -	**E** 0 - 290 psi		

* Additional coil options are available

Pilot-operated, pressure reducing/relieving main stage with integral T-8A control cavity, drilled piston orifice, and drain to port 4

SERIES 1 / CAPACITY: 10 gpm / CAVITY: T-21A

sunhydraulics.com/model/PVDC8



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

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