

# Directional, 2-way Cartridges

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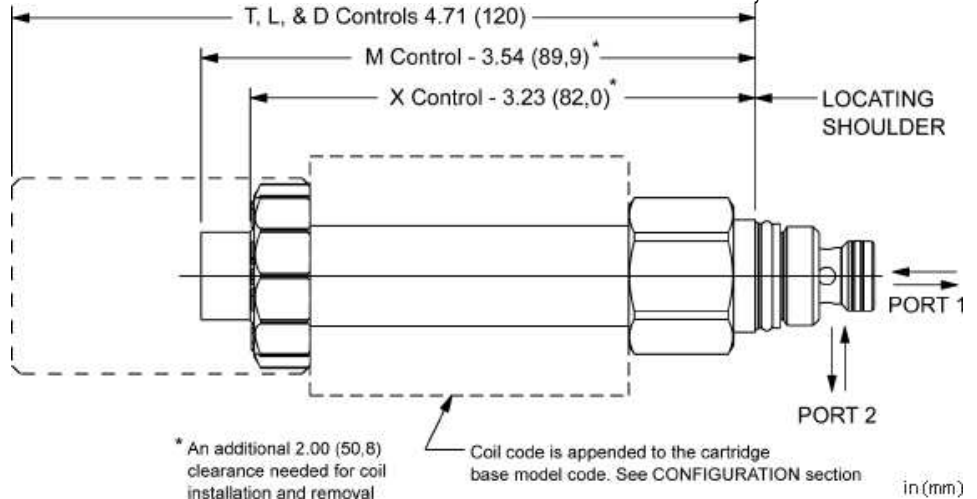
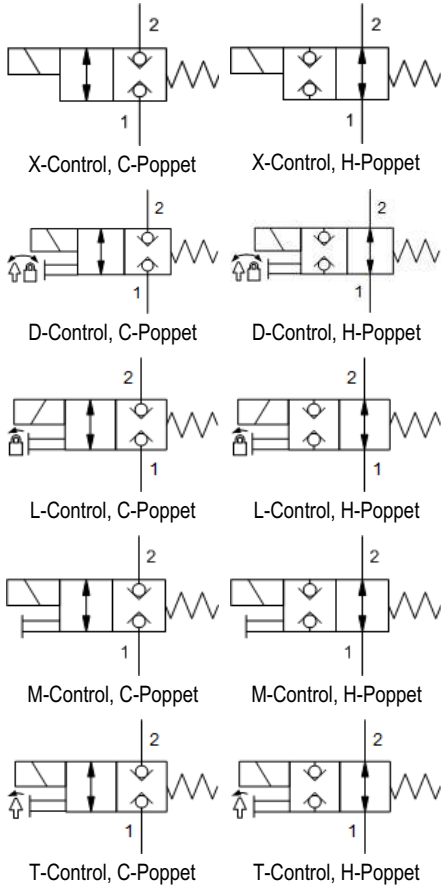
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Series	Ports	Cavities
<b>Series Z Cartridges</b> 3/8-24 UNF Cartridge Thread 5 mm Valve Hex Size 11 - 14 Nm Valve Installation Torque	3-Port	T-382A
<b>Series P Cartridges</b> M16 Cartridge Thread 22,2 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port	T-8A T-8DP T-9A
<b>Series 0 Cartridges</b> 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
<b>Series 1 Cartridges</b> 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
<b>Series 2 Cartridges</b> 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
<b>Series 3 Cartridges</b> 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
<b>Series 4 Cartridges</b> M48 Cartridge Thread 41,3 mm Valve Hex Size 474 - 508 Nm Valve Installation Torque	2-Port 2-Port (Undercut) 3-Port 3-Port (Undercut) 4-Port 4-Port (Undercut) 4-Port 4-Port (Dual path) 6-Port 6-Port	T-18A T-18AU T-19A T-19AU T-24A T-24AU T-34A T-54AD T-54A T-64A



This FLeX Series solenoid-operated 2-way, 2-position cartridge is a direct-acting directional poppet valve. Available in either normally open or normally closed configurations, these valves feature a pressure-balanced design, low leakage, and allow flow or blocking in both directions.

This cartridge can be installed directly into a cavity in the end of many of Sun's pilot operated and ventable valves to provide integrated pilot control.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.@350 bar
Viscosity Range	2,8 - 380 cSt
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
U.S. Patent #	10,302,201
Seal kit - Cartridge	Buna: 990608007
Seal kit - Cartridge	Viton: 990608006

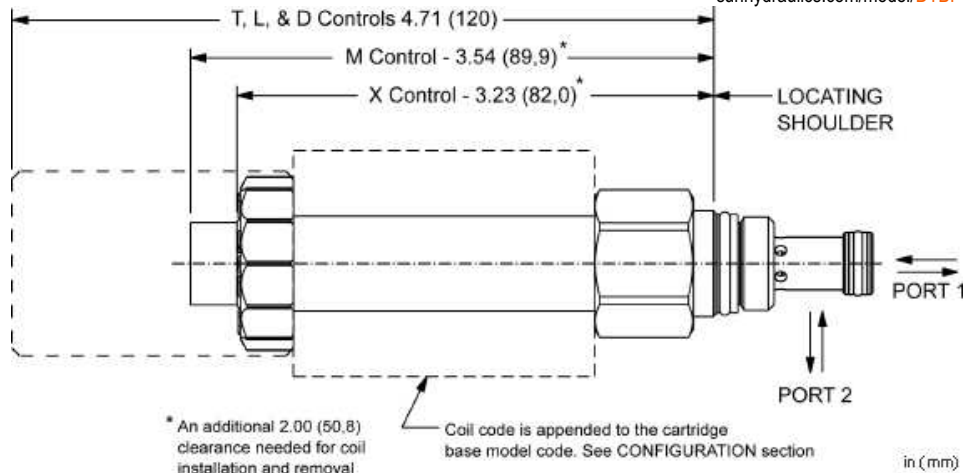
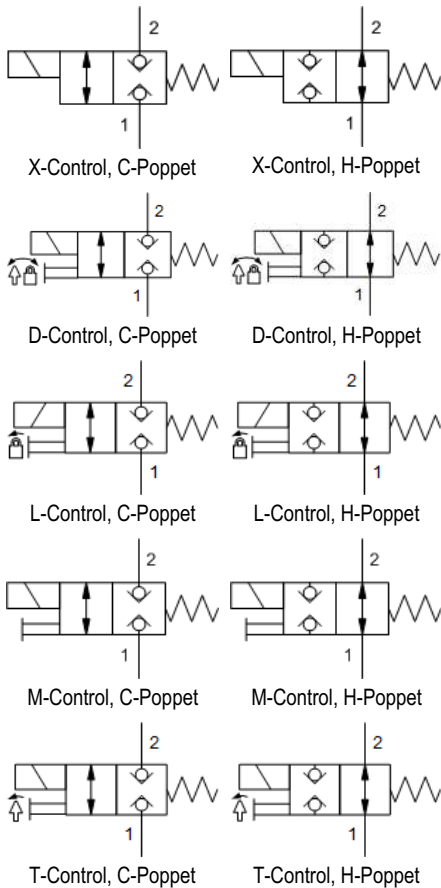
**NOTES**

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

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>T</b> Twist (Momentary) Manual Override			



This FLeX Series, solenoid-operated 2-way, 2-position cartridge is a direct-acting directional poppet valve. Available in either normally open or normally closed configurations, these valves feature a pressure-balanced design, low leakage, and allow flow or blocking in both directions.

**TECHNICAL DATA**

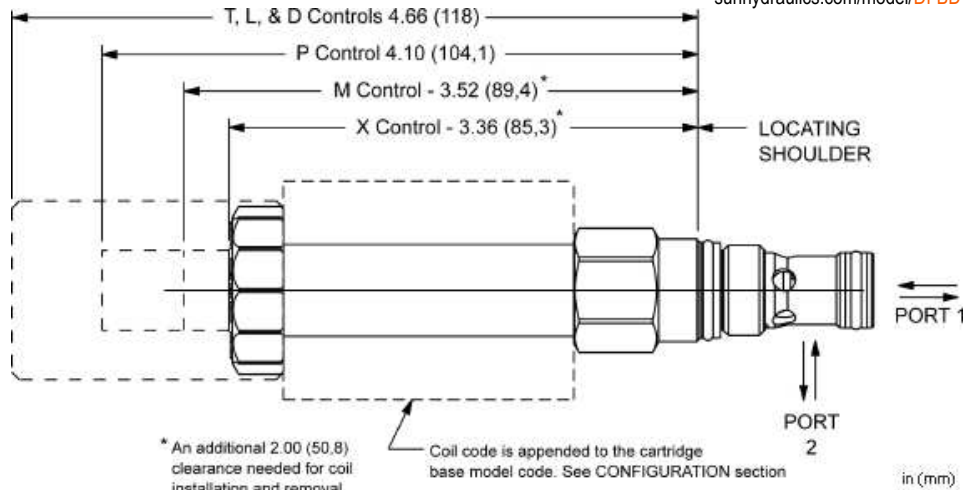
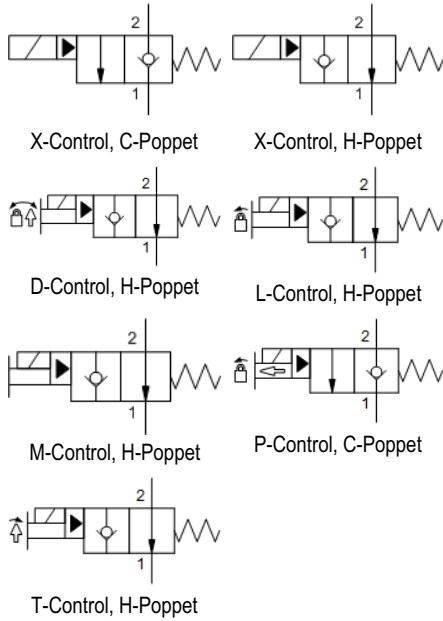
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min. @350 bar
Viscosity Range	2,8 - 380 cSt
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: DTBFXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>T</b> Twist (Momentary) Manual Override			



This FLeX Series solenoid-operated 2-way, 2-stage cartridge is a pilot-operated directional poppet valve. The valve is low leakage and available in either a normally open or normally closed configuration to control flow from port 2 to port 1. A reverse flow check will allow flow from 1 to 2 in the closed condition. In the open condition, flow from 1 to 2 will cause the valve to auto-close and pilot flow will pass from 1 to 2.

**TECHNICAL DATA**

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

Maximum Operating Pressure	210 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.@210 bar
Check Cracking Pressure	3,5 bar
Viscosity Range	2,8 - 380 cSt
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

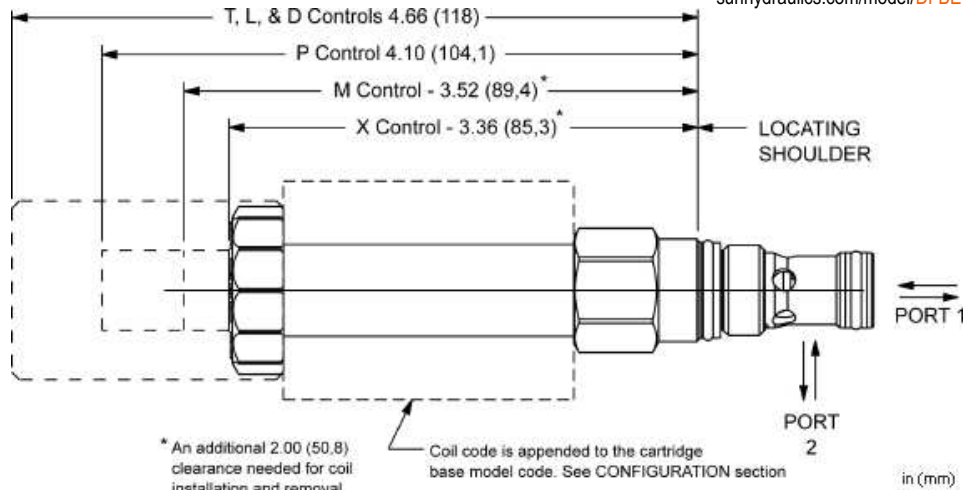
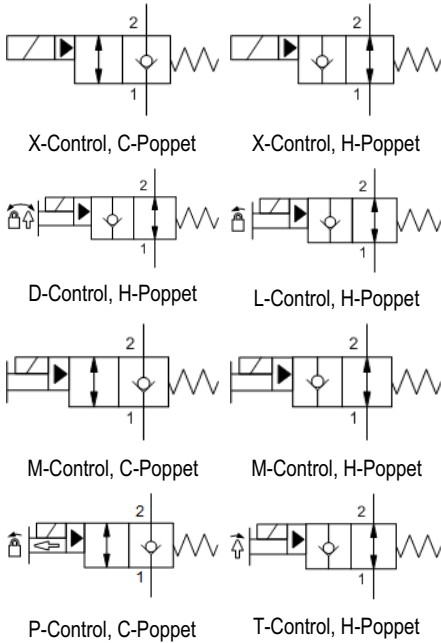
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**

**Model Code Example: DFBDXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>P</b> Manual Pull Override			
<b>T</b> Twist (Momentary) Manual Override			





This FLeX Series solenoid-operated 2-way, 2-stage cartridge is a pilot-operated directional poppet valve. The valve is low leakage and available in either a normally open or normally closed configuration to control flow from port 2 to port 1. A reverse flow 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.

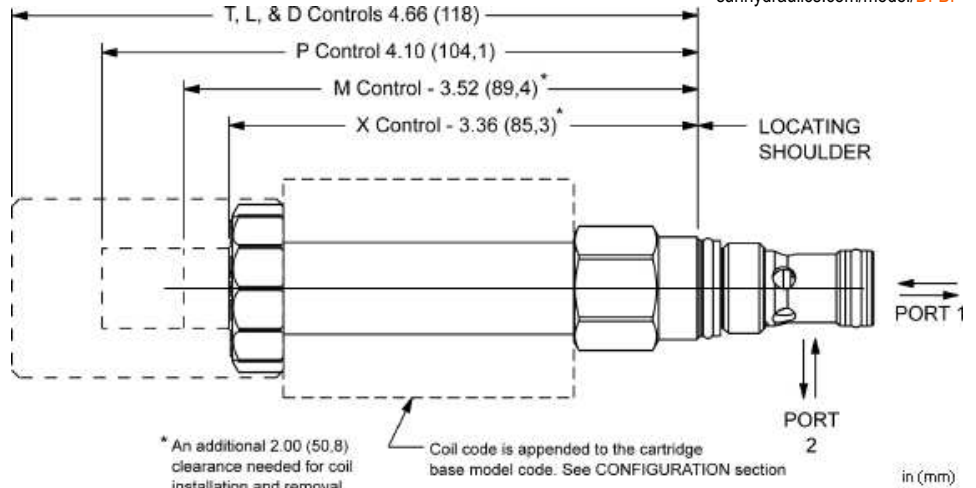
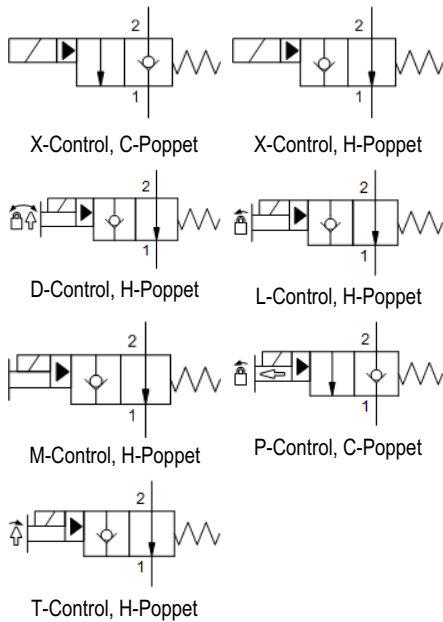
Maximum Operating Pressure	210 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.@210 bar
Check Cracking Pressure	3,5 bar
Viscosity Range	2,8 - 380 cSt
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

- 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: DFBEXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>P</b> Manual Pull Override			
<b>T</b> Twist (Momentary) Manual Override			



This FLeX Series solenoid-operated 2-way, 2-stage cartridge is a pilot-operated directional poppet valve. The valve is low leakage and available in either a normally open or normally closed configuration to control flow from port 2 to port 1. A reverse flow check will allow flow from 1 to 2 in the closed condition. In the open condition, flow from 1 to 2 will cause the valve to auto-close and pilot flow will pass from 1 to 2.

**TECHNICAL DATA**

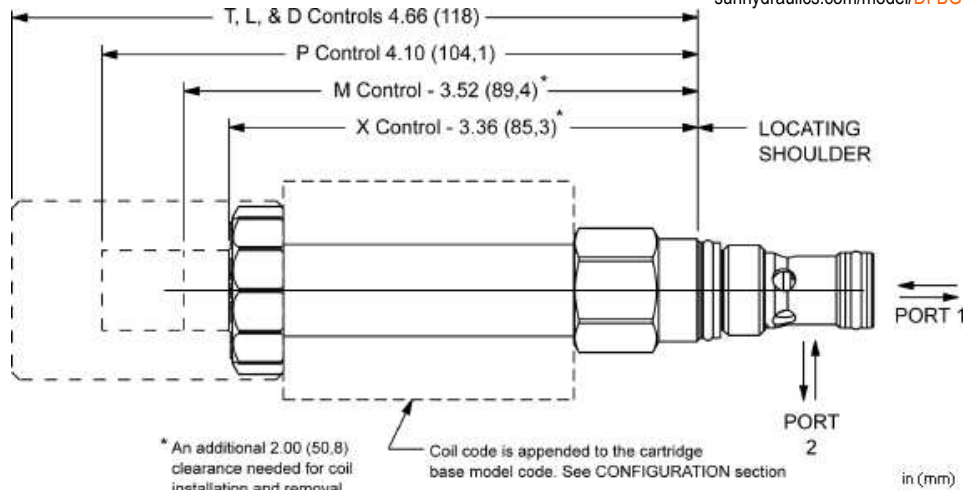
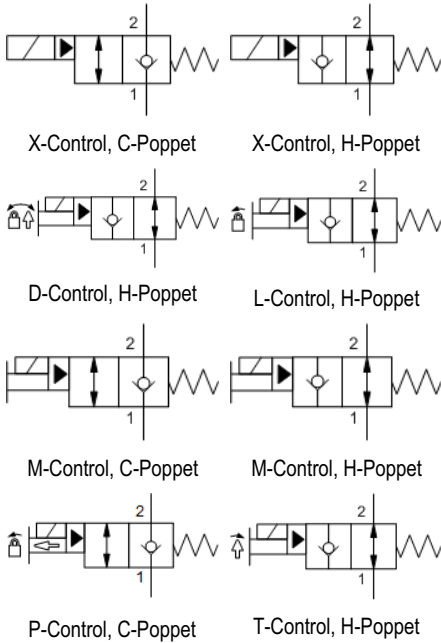
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min. @350 bar
Check Cracking Pressure	3,5 bar
Viscosity Range	2,8 - 380 cSt
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: DFBFXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>P</b> Manual Pull Override			
<b>T</b> Twist (Momentary) Manual Override			



This FLeX Series solenoid-operated 2-way, 2-stage cartridge is a pilot-operated directional poppet valve. The valve is low leakage and available in either a normally open or normally closed configuration to control flow from port 2 to port 1. A reverse flow 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.

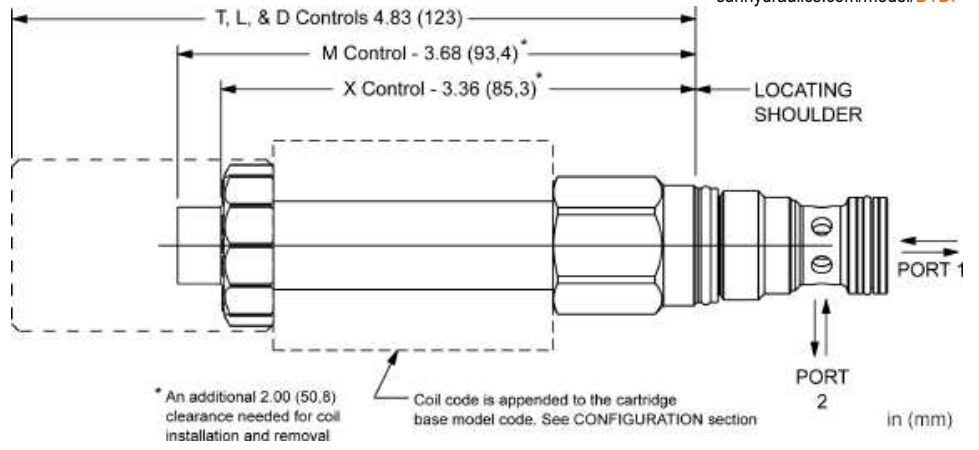
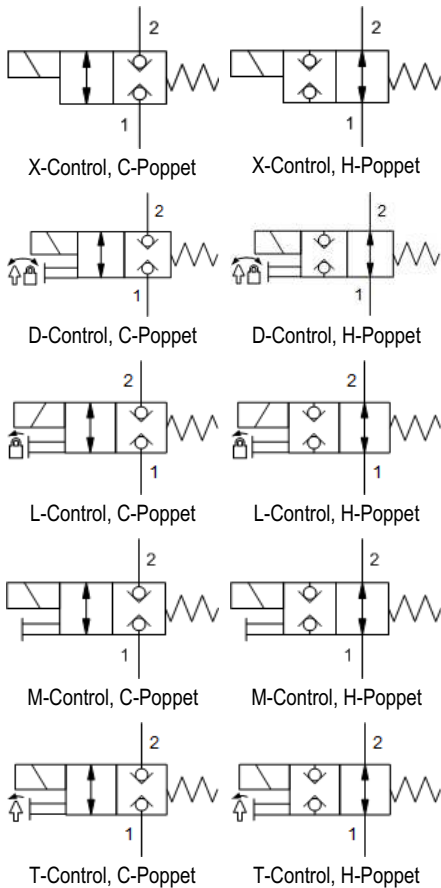
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min. @350 bar
Check Cracking Pressure	3,5 bar
Viscosity Range	2,8 - 380 cSt
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

- 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: DFBGXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>P</b> Manual Pull Override			
<b>T</b> Twist (Momentary) Manual Override			



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is available in either a normally open or normally closed configuration and is designed to be used with 740 and 747 Series coils.

Due to the poppet style construction, this valve has extremely low leakage.

**TECHNICAL DATA**

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

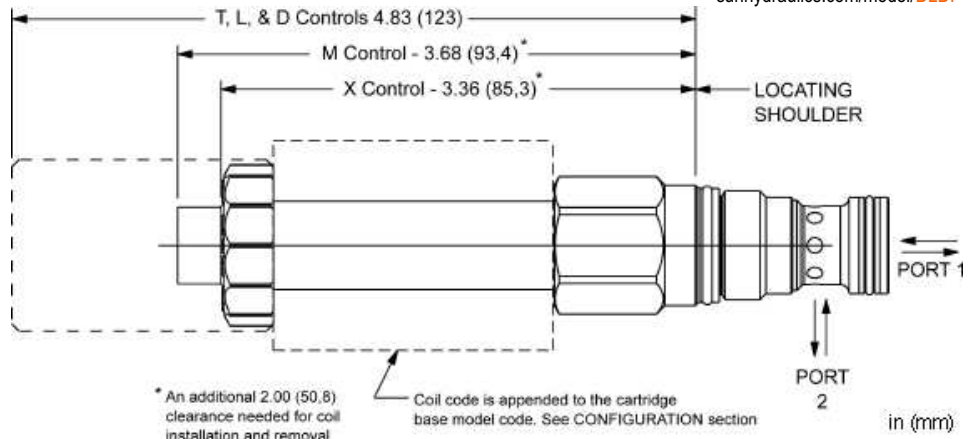
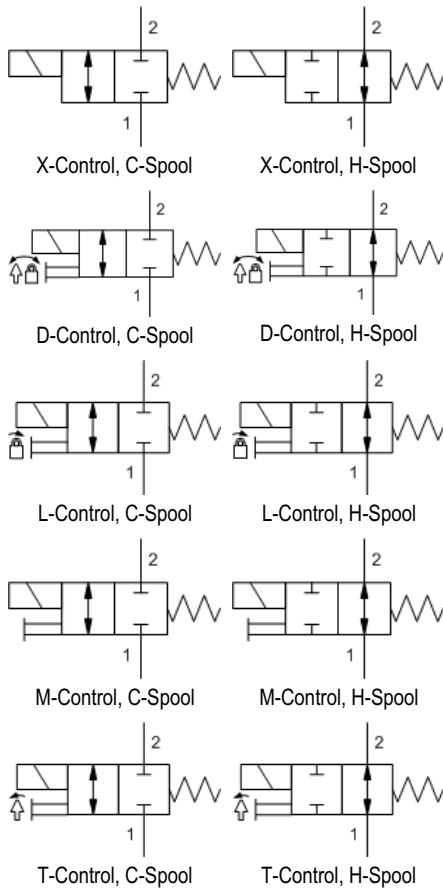
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - 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: DTDFXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>T</b> Twist (Momentary) Manual Override			



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The valve is available in either a normally open or normally closed configuration and is designed to be used with 740 and 747 Series coils.

**TECHNICAL DATA**

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

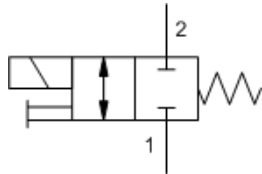
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Viton: 990413006

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

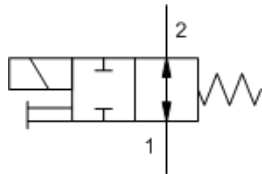
**CONFIGURATION OPTIONS**

**Model Code Example: DLDFXCN**

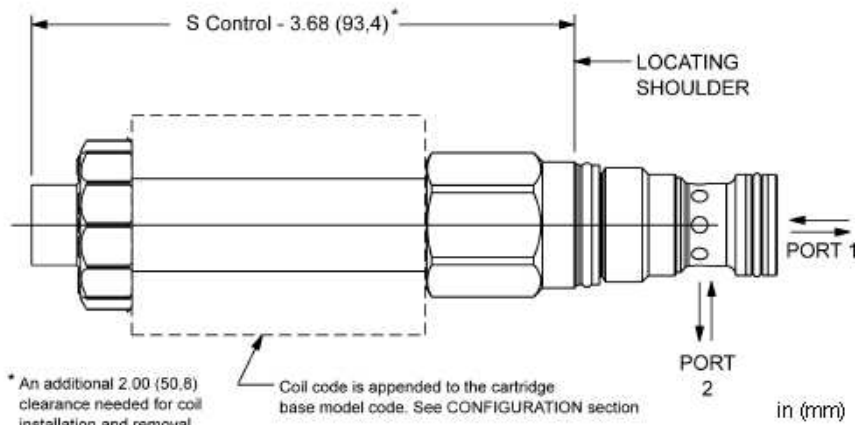
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Manual Override - Adjustable		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>T</b> Twist (Momentary) Manual Override			



M-Control, C-Spool



M-Control, H-Spool



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool valve with a soft shift feature. The soft shift feature reduces system shock due to valve actuation. The valve is available in either a normally open or normally closed configuration.

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	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Viton: 990413006

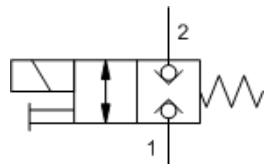
**NOTES** Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

**CONFIGURATION OPTIONS**

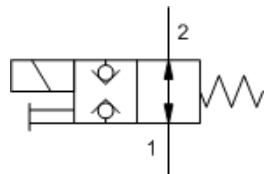
**Model Code Example: DLDFSCN**

POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
<b>C</b> Normally Closed		<b>N</b> Buna-N		<b>No coil</b>
<b>H</b> Normally Open		<b>V</b> Viton		

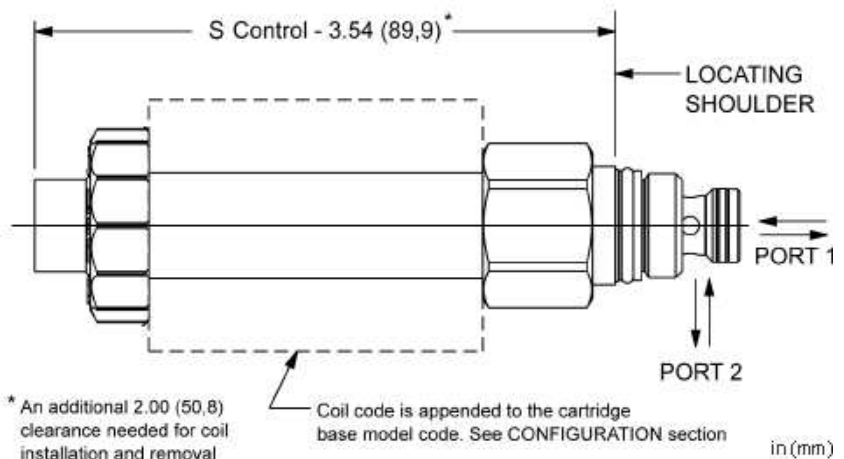
\* Additional coil options are available



M-Control, C-Poppet



M-Control, H-Poppet



This FLeX Series, solenoid-operated 2-way, 2-position cartridge is a direct-acting directional poppet valve with a soft shift feature. Available in either normally open or normally closed configurations, these valves feature a pressure-balanced design, low leakage, and allow flow or blocking in both directions.

This cartridge can be installed directly into a cavity in the end of many of Sun's pilot operated and ventable valves to provide integrated pilot control.

**TECHNICAL DATA**

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

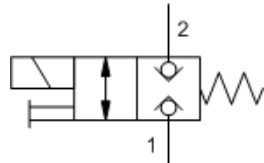
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.@350 bar
Manual Override Force Requirement	66 N/100 bar @ Port 1
Viscosity Range	2,8 - 380 cSt
Seal kit - Cartridge	Buna: 990608007
Seal kit - Cartridge	Viton: 990608006

**CONFIGURATION OPTIONS**

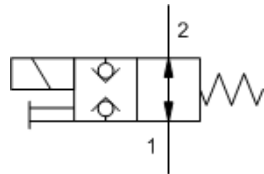
**Model Code Example: DTAFSCN**

POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
<b>C</b> Normally Closed		<b>N</b> Buna-N		No coil
<b>H</b> Normally Open		<b>V</b> Viton		

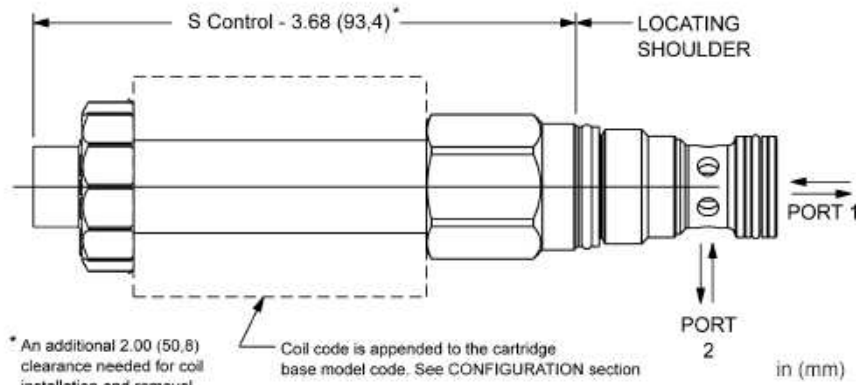
\* Additional coil options are available



M-Control, C-Poppet



M-Control, H-Poppet



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve with a soft shift feature. The soft shift feature reduces system shock due to valve actuation. The valve is available in either a normally open or normally closed configuration.

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	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

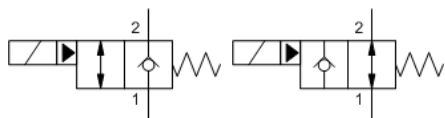
**NOTES** Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

**CONFIGURATION OPTIONS**
**Model Code Example: DTDFSCN**

POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
<b>C</b> Normally Closed		<b>N</b> Buna-N		No coil
<b>H</b> Normally Open		<b>V</b> Viton		

\* Additional coil options are available





X-Control, C-Poppet

X-Control, H-Poppet



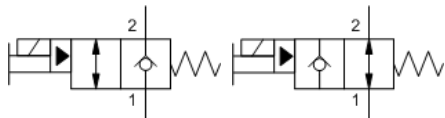
D-Control, C-Poppet

D-Control, H-Poppet



L-Control, C-Poppet

L-Control, H-Poppet



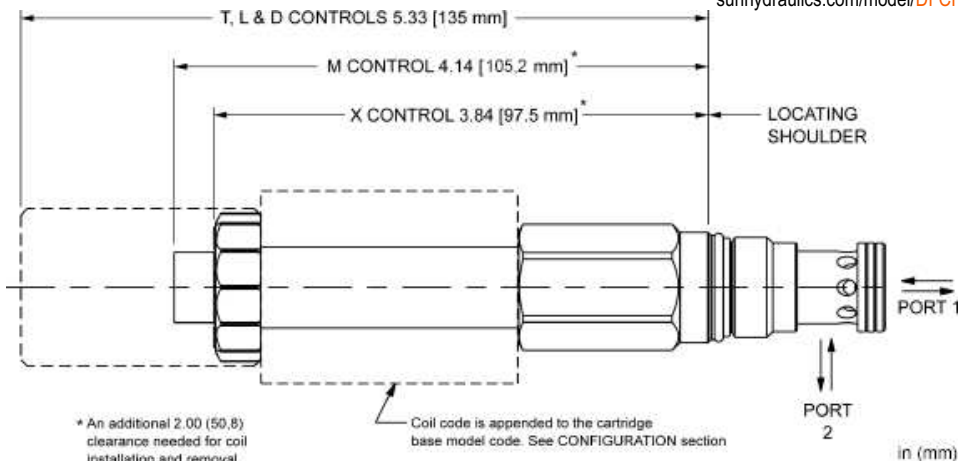
M-Control, C-Poppet

M-Control, H-Poppet



T-Control, C-Poppet

T-Control, H-Poppet



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

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

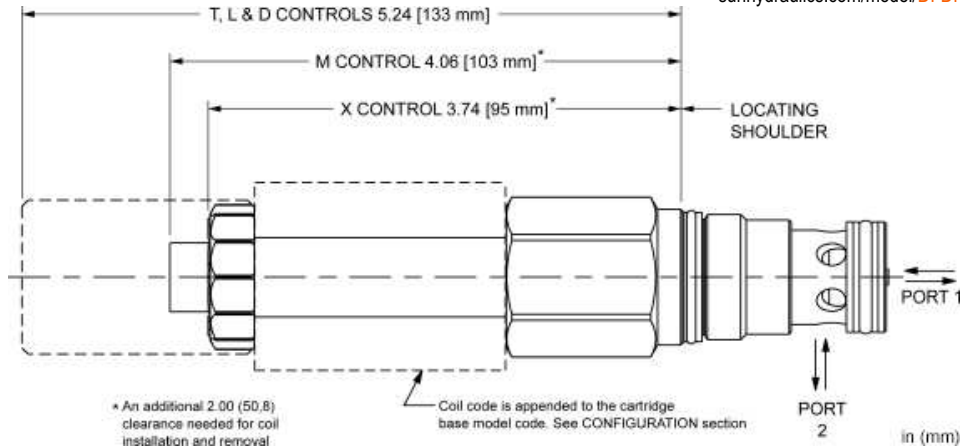
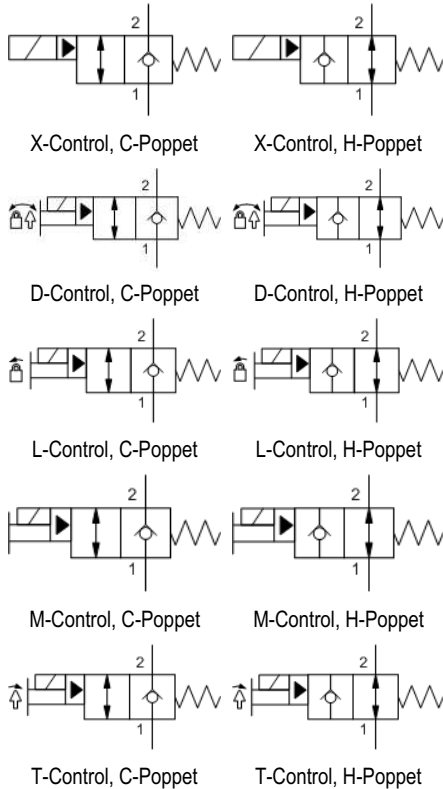
**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990310014
Seal kit - Cartridge	Viton: 990310006

**CONFIGURATION OPTIONS**
**Model Code Example: DFCIXCN**

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>T</b> Twist (Momentary) Manual Override			



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

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

**TECHNICAL DATA**

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

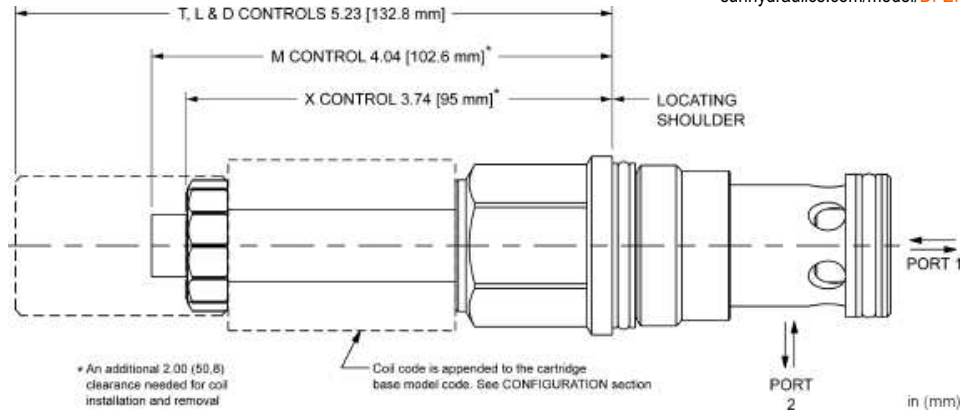
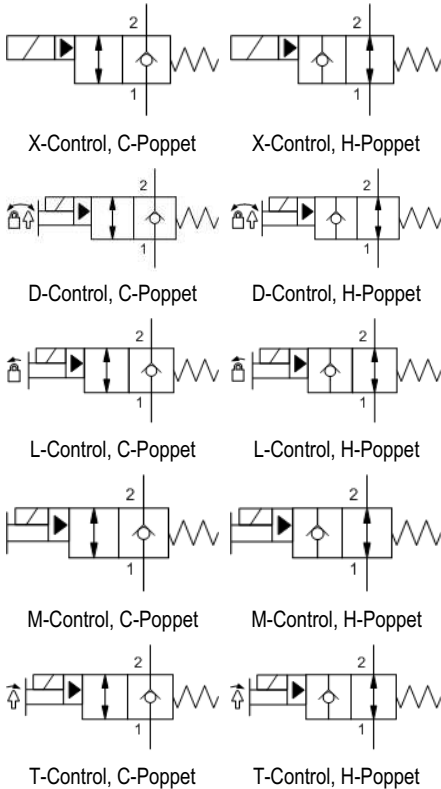
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

- 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: **DFDIXCN**

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
<b>X</b> No Manual Override		<b>C</b> Normally Closed		<b>N</b> Buna-N		No coil
<b>D</b> Twist/Lock (Dual) Manual Override		<b>H</b> Normally Open		<b>E</b> EPDM		* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override				<b>V</b> Viton		
<b>M</b> Manual Override						
<b>T</b> Twist (Momentary) Manual Override						



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

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

**TECHNICAL DATA**

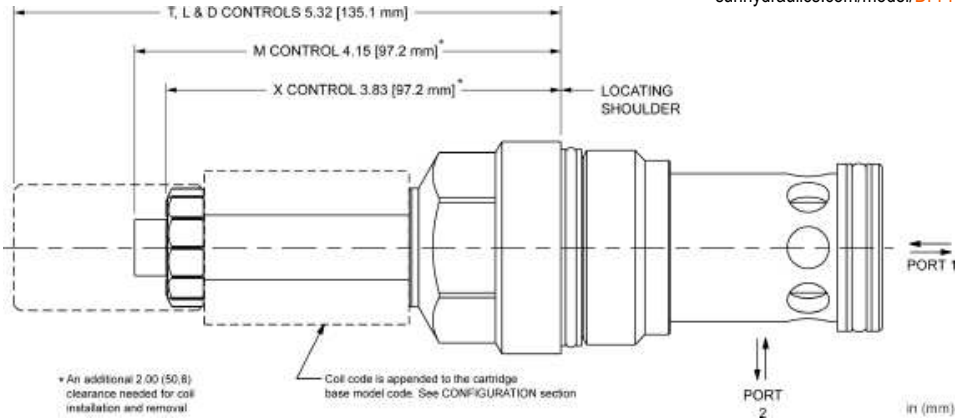
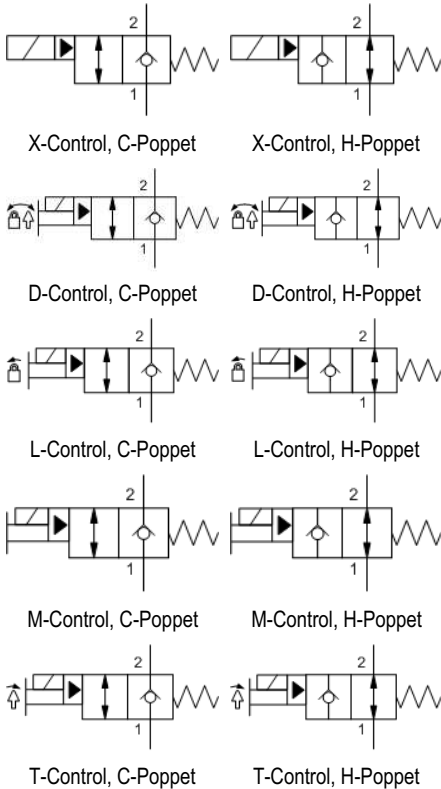
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Viton: 990016006

- 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: DFEIXCN**

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>T</b> Twist (Momentary) Manual Override			



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

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

**TECHNICAL DATA**

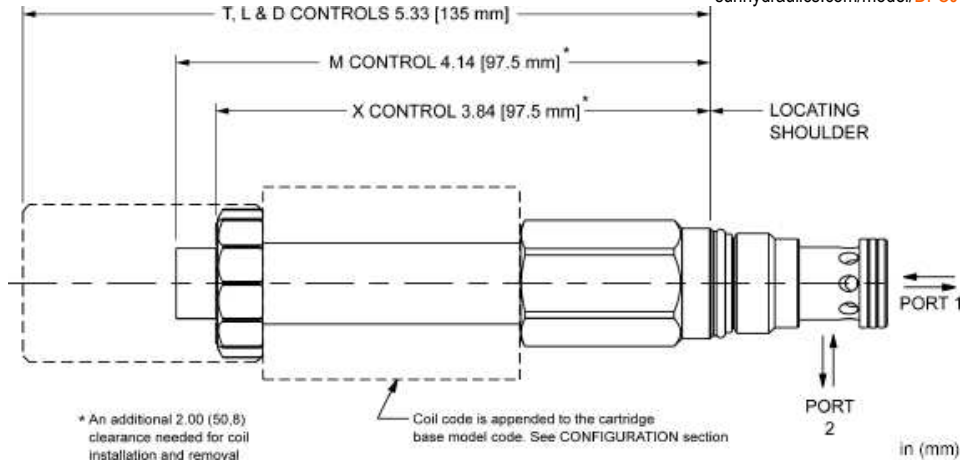
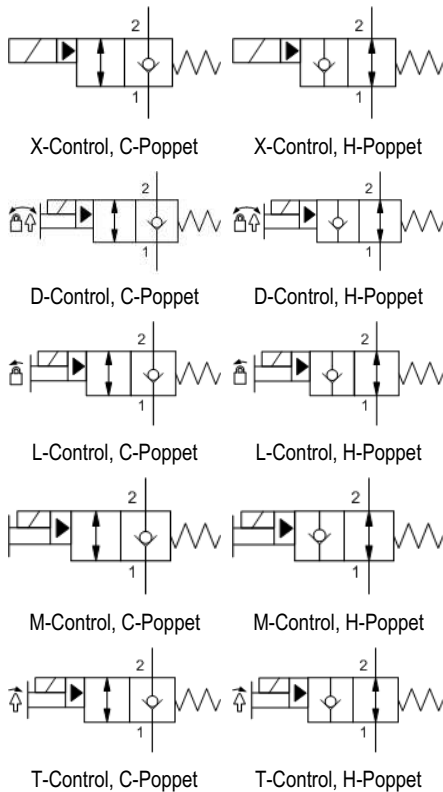
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Viton: 990018006

**CONFIGURATION OPTIONS**

Model Code Example: **DDFIXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>T</b> Twist (Momentary) Manual Override			



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

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

**TECHNICAL DATA**

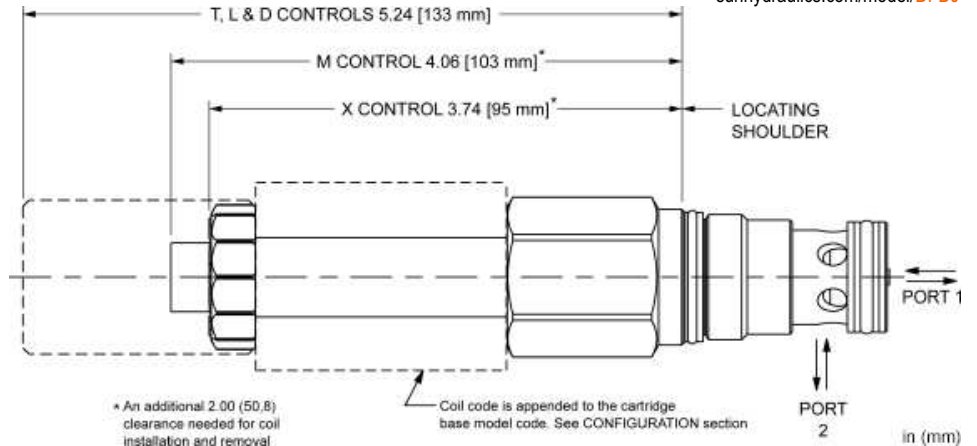
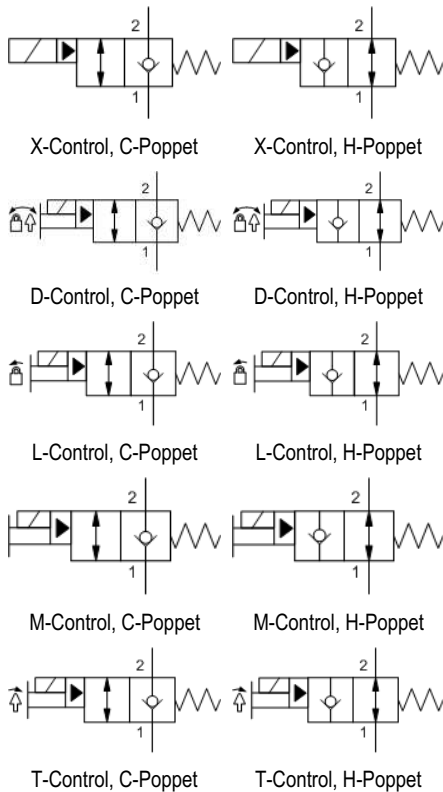
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990310014
Seal kit - Cartridge	Viton: 990310006

- 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: DFCJXCN**

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>T</b> Twist (Momentary) Manual Override			



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

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

**TECHNICAL DATA**

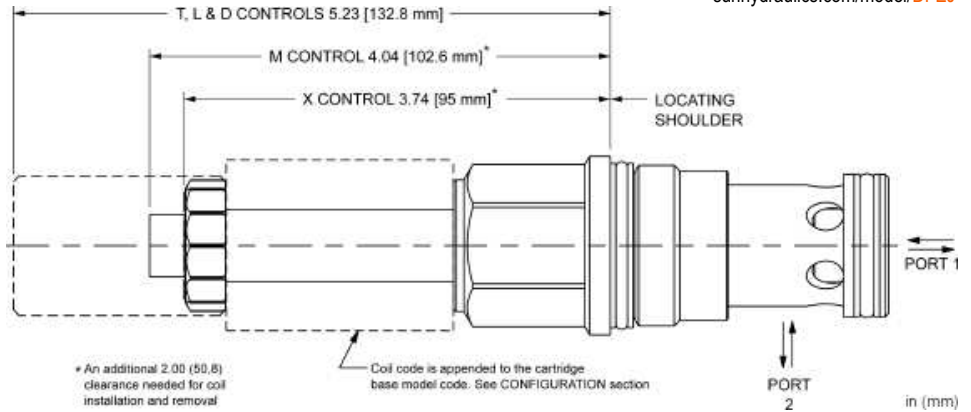
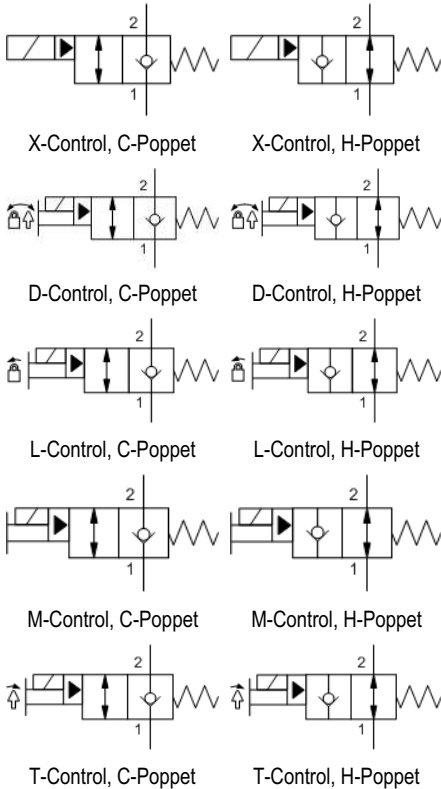
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

- 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: DFDJXCN**

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
<b>X</b> No Manual Override		<b>C</b> Normally Closed		<b>N</b> Buna-N		No coil
<b>D</b> Twist/Lock (Dual) Manual Override		<b>H</b> Normally Open		<b>E</b> EPDM		* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override				<b>V</b> Viton		
<b>M</b> Manual Override						
<b>T</b> Twist (Momentary) Manual Override						



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

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

**TECHNICAL DATA**

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

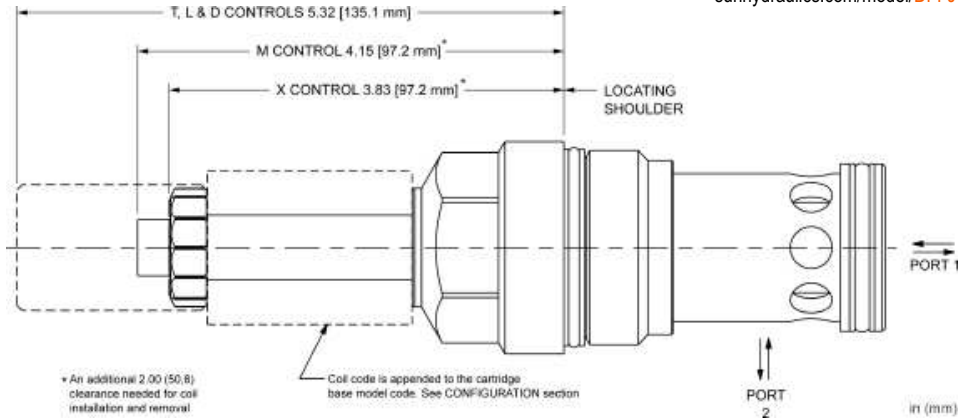
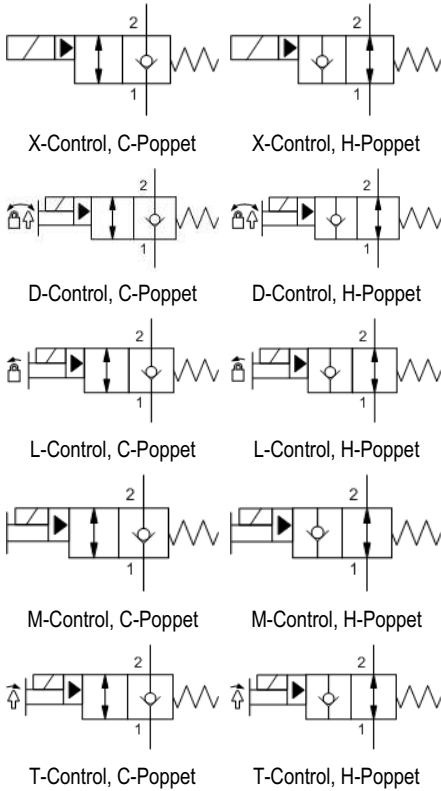
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Viton: 990016006

- 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: DFEJXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override (Standard)			
<b>T</b> Twist (Momentary) Manual Override			



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

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

**TECHNICAL DATA**

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

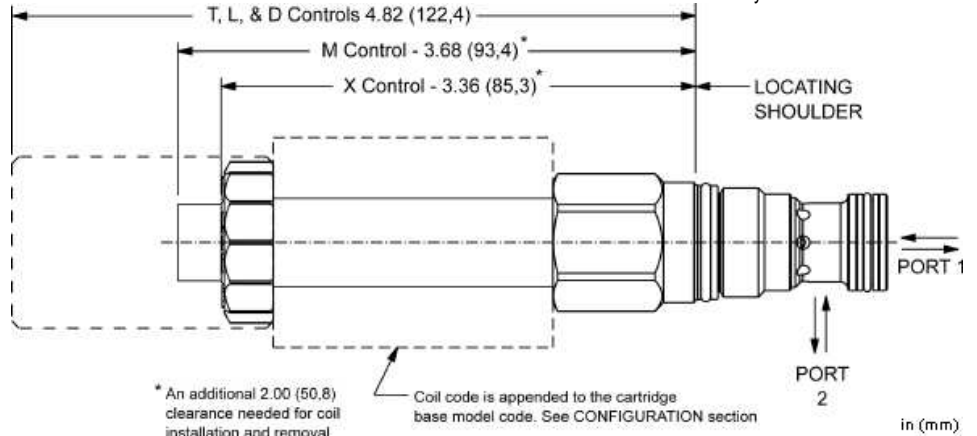
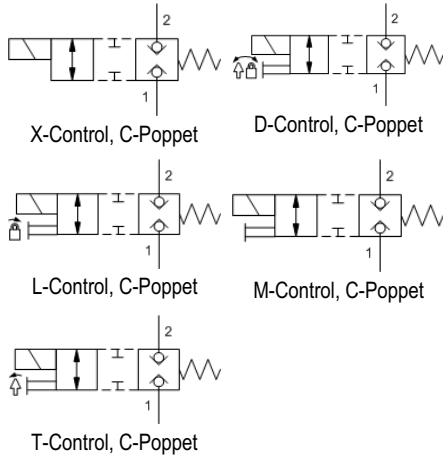
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Viton: 990018006

- 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: DFFJXCN**

CONTROL	(X)	POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
<b>X</b> No Manual Override		<b>C</b> Normally Closed		<b>N</b> Buna-N		No coil
<b>D</b> Twist/Lock (Dual) Manual Override		<b>H</b> Normally Open		<b>E</b> EPDM		* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override				<b>V</b> Viton		
<b>M</b> Manual Override						
<b>T</b> Twist (Momentary) Manual Override						





This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is only available in a normally closed configuration. Due to the poppet style construction, this valve has extremely low leakage.

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

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

**TECHNICAL DATA**

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

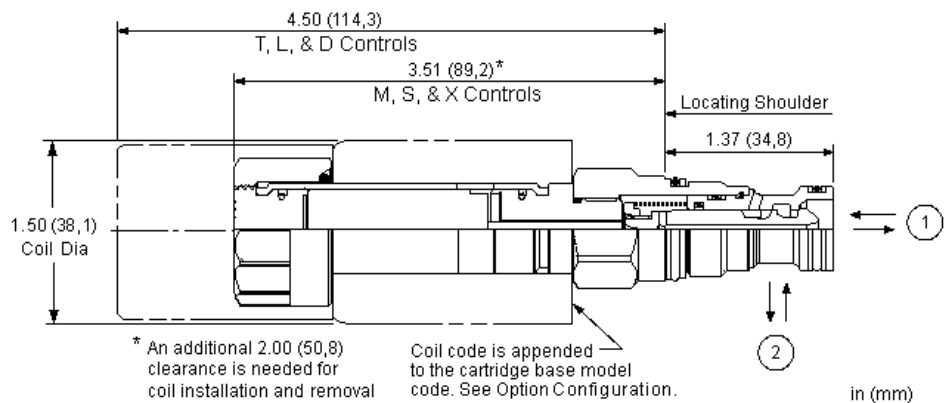
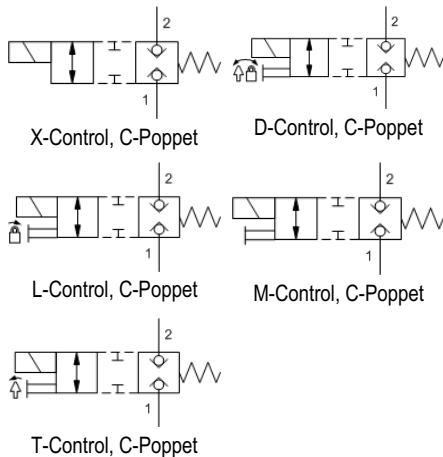
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - 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.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**

**Model Code Example: DTCFXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override		<b>E</b> EPDM	* Additional coil options are available
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	
<b>M</b> Manual Override			
<b>T</b> Twist (Momentary) Manual Override			



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is only available in a normally closed configuration. Due to the poppet style construction, this valve has extremely low leakage.

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

**TECHNICAL DATA**

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

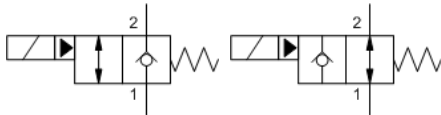
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - 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.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**
**Model Code Example: DTCAXCN**

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
<b>X</b> No Manual Override		<b>C</b> Normally Closed		<b>N</b> Buna-N		No coil
<b>D</b> Twist/Lock (Dual) Manual Override				<b>E</b> EPDM		<b>212</b> DIN 43650-Form A, 12 VDC
<b>L</b> Twist/Lock (Detent) Manual Override				<b>V</b> Viton		<b>224</b> DIN 43650-Form A, 24 VDC
<b>M</b> Manual Override						<b>912</b> Deutsch DT04-2P, 12 VDC
<b>T</b> Twist (Momentary) Manual Override						<b>924</b> Deutsch DT04-2P, 24 VDC

\* Additional coil options are available



X-Control, C-Poppet

X-Control, H-Poppet



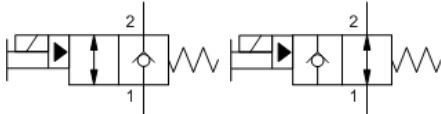
D-Control, C-Poppet

D-Control, H-Poppet



L-Control, C-Poppet

L-Control, H-Poppet



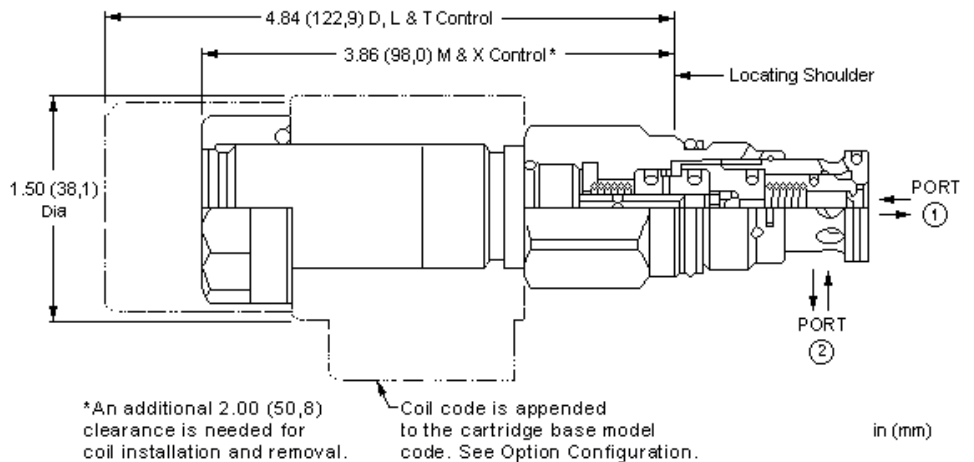
M-Control, C-Poppet

M-Control, H-Poppet



T-Control, C-Poppet

T-Control, H-Poppet



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

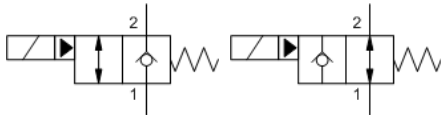
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**

**Model Code Example: DFCAXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	<b>212</b> DIN 43650-Form A, 12 VDC
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	<b>224</b> DIN 43650-Form A, 24 VDC
<b>M</b> Manual Override			<b>912</b> Deutsch DT04-2P, 12 VDC
<b>T</b> Twist (Momentary) Manual Override			<b>924</b> Deutsch DT04-2P, 24 VDC

\* Additional coil options are available



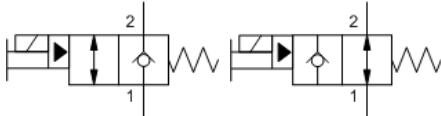
X-Control, C-Poppet      X-Control, H-Poppet



D-Control, C-Poppet      D-Control, H-Poppet



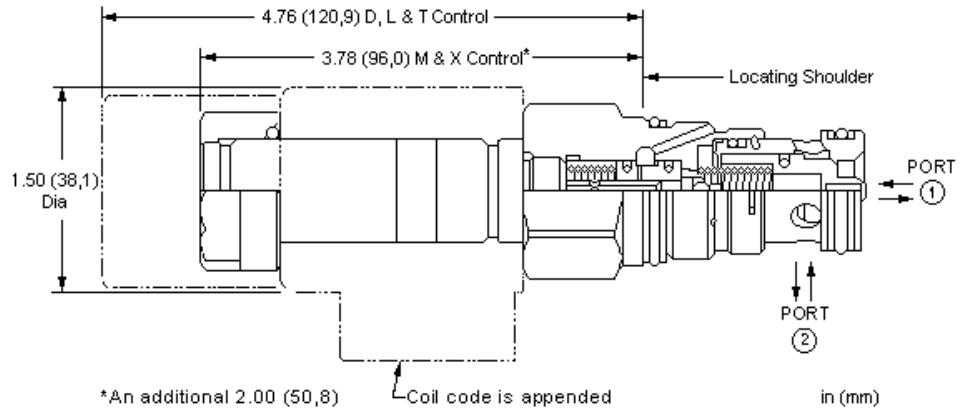
L-Control, C-Poppet      L-Control, H-Poppet



M-Control, C-Poppet      M-Control, H-Poppet



T-Control, C-Poppet      T-Control, H-Poppet



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

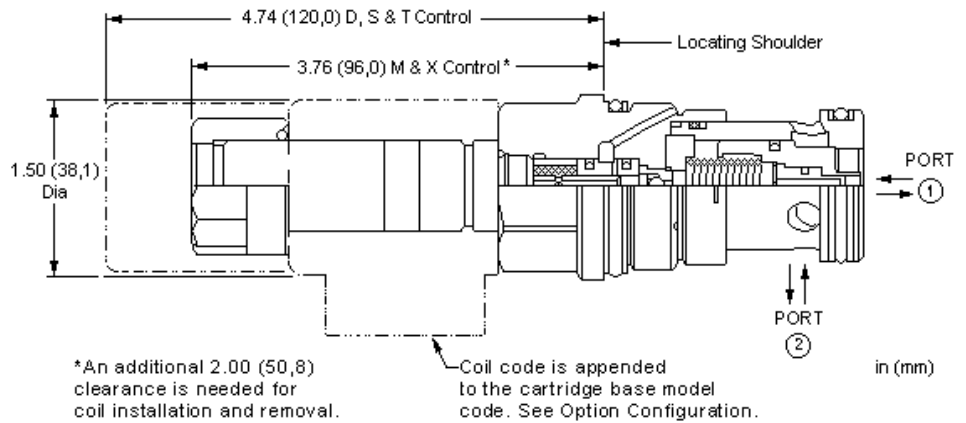
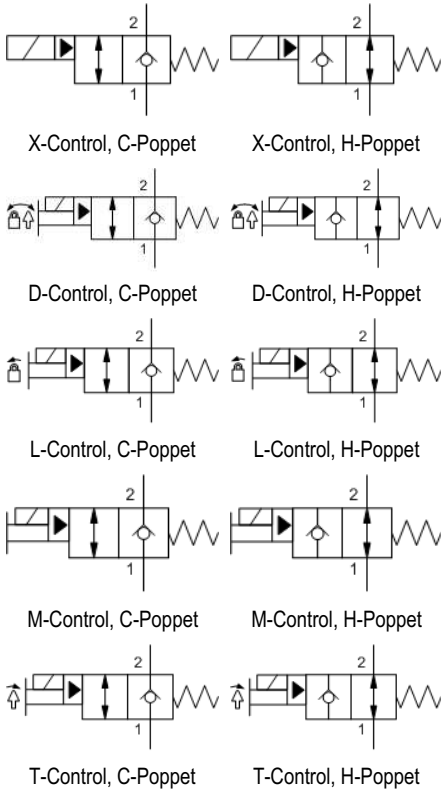
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**

**Model Code Example: DFDAXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	<b>212</b> DIN 43650-Form A, 12 VDC
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	<b>224</b> DIN 43650-Form A, 24 VDC
<b>M</b> Manual Override			<b>912</b> Deutsch DT04-2P, 12 VDC
<b>T</b> Twist (Momentary) Manual Override			<b>924</b> Deutsch DT04-2P, 24 VDC

\* Additional coil options are available



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Viton: 990016006

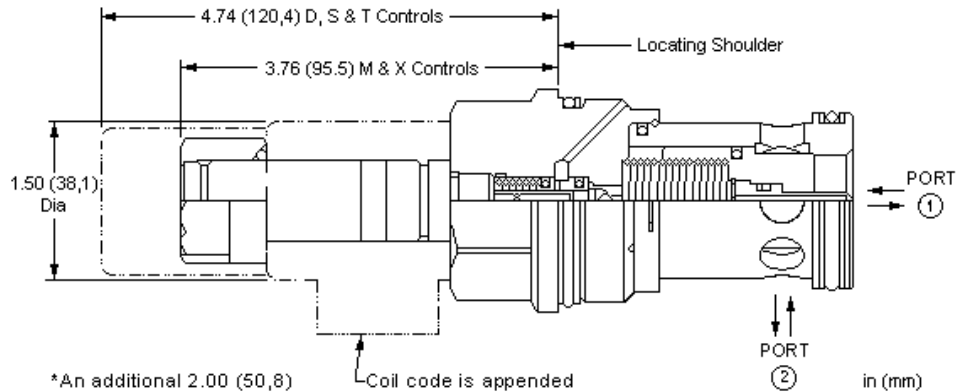
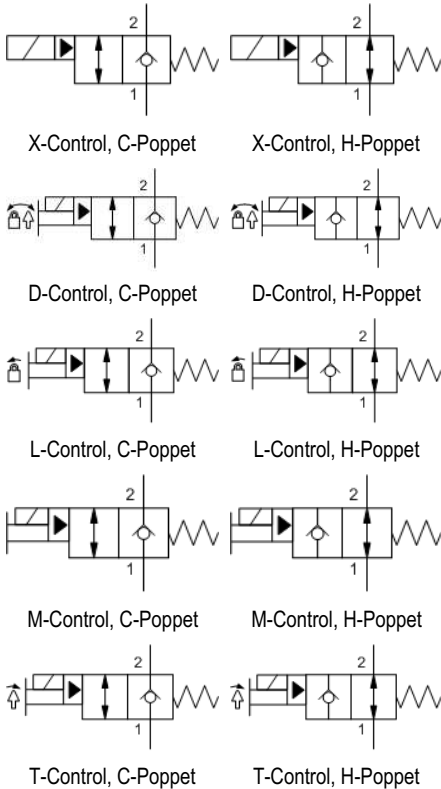
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**

**Model Code Example: DFEAXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	<b>212</b> DIN 43650-Form A, 12 VDC
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	<b>224</b> DIN 43650-Form A, 24 VDC
<b>M</b> Manual Override			<b>912</b> Deutsch DT04-2P, 12 VDC
<b>T</b> Twist (Momentary) Manual Override			<b>924</b> Deutsch DT04-2P, 24 VDC

\* Additional coil options are available



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Viton: 990018006

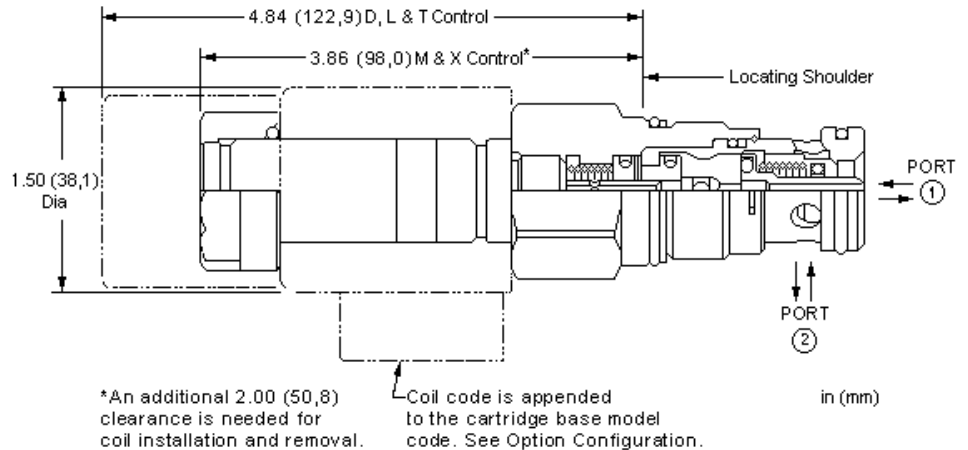
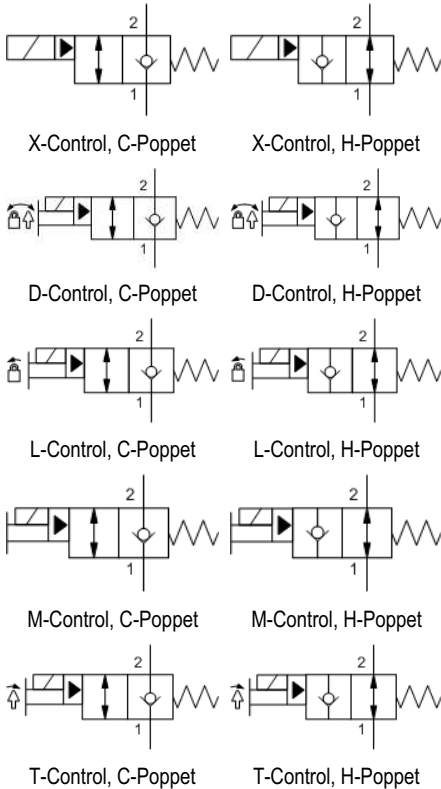
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**

**Model Code Example: DFFAXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	<b>212</b> DIN 43650-Form A, 12 VDC
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	<b>224</b> DIN 43650-Form A, 24 VDC
<b>M</b> Manual Override			<b>912</b> Deutsch DT04-2P, 12 VDC
<b>T</b> Twist (Momentary) Manual Override			<b>924</b> Deutsch DT04-2P, 24 VDC

\* Additional coil options are available



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	EPDM: 990413014
Seal kit - Cartridge	Viton: 990413006

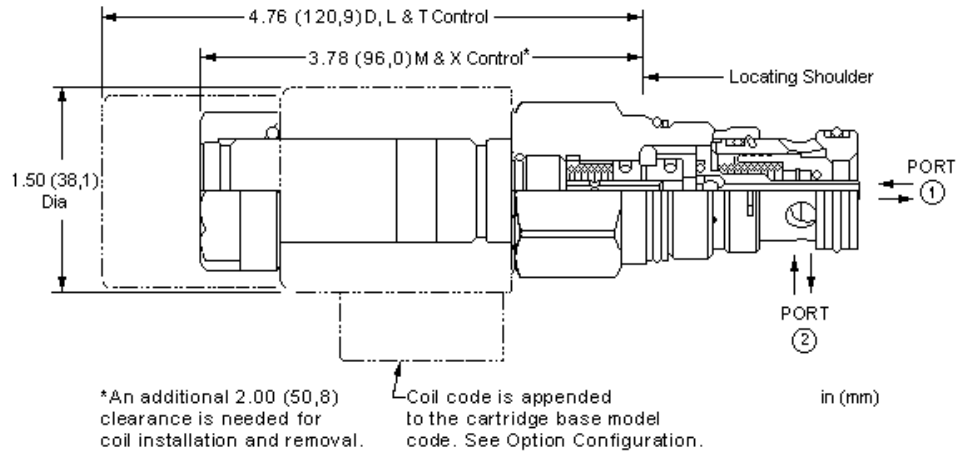
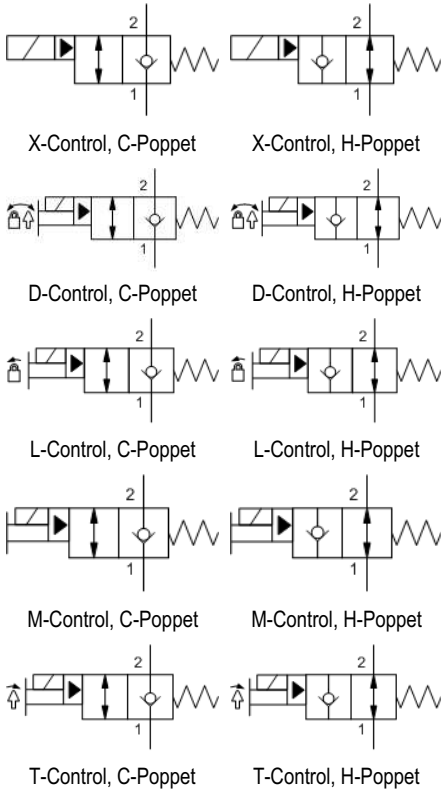
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**

**Model Code Example: DFCBXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	<b>212</b> DIN 43650-Form A, 12 VDC
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	<b>224</b> DIN 43650-Form A, 24 VDC
<b>M</b> Manual Override			<b>912</b> Deutsch DT04-2P, 12 VDC
<b>T</b> Twist (Momentary) Manual Override			<b>924</b> Deutsch DT04-2P, 24 VDC

\* Additional coil options are available



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

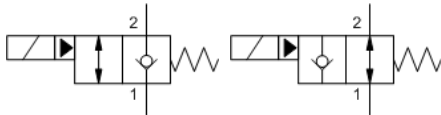
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**
**Model Code Example: DFDBXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	<b>212</b> DIN 43650-Form A, 12 VDC
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	<b>224</b> DIN 43650-Form A, 24 VDC
<b>M</b> Manual Override			<b>912</b> Deutsch DT04-2P, 12 VDC
<b>T</b> Twist (Momentary) Manual Override			<b>924</b> Deutsch DT04-2P, 24 VDC

\* Additional coil options are available





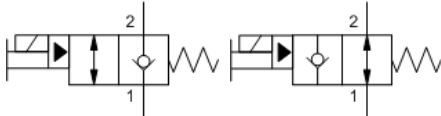
X-Control, C-Poppet      X-Control, H-Poppet



D-Control, C-Poppet      D-Control, H-Poppet



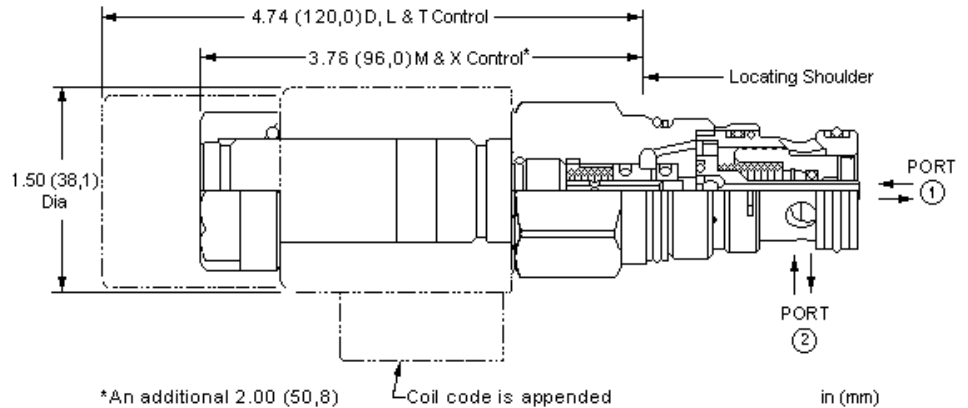
L-Control, C-Poppet      L-Control, H-Poppet



M-Control, C-Poppet      M-Control, H-Poppet



T-Control, C-Poppet      T-Control, H-Poppet



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Viton: 990016006

**NOTES**

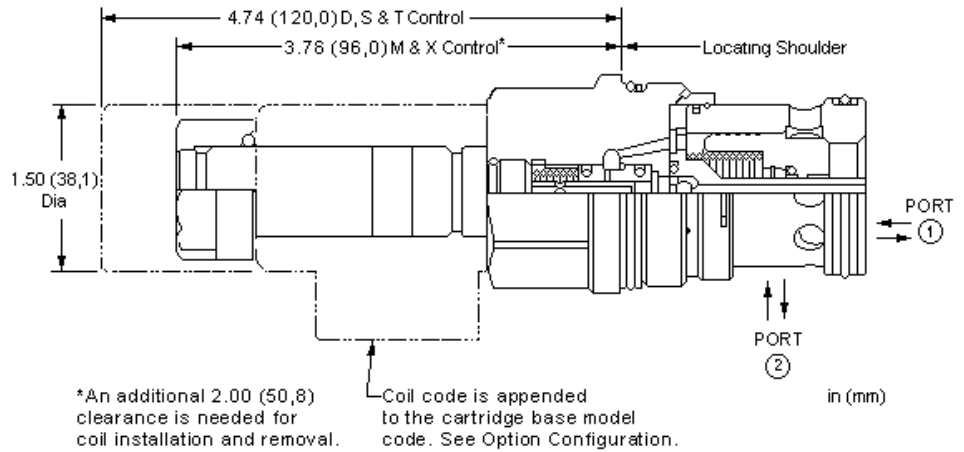
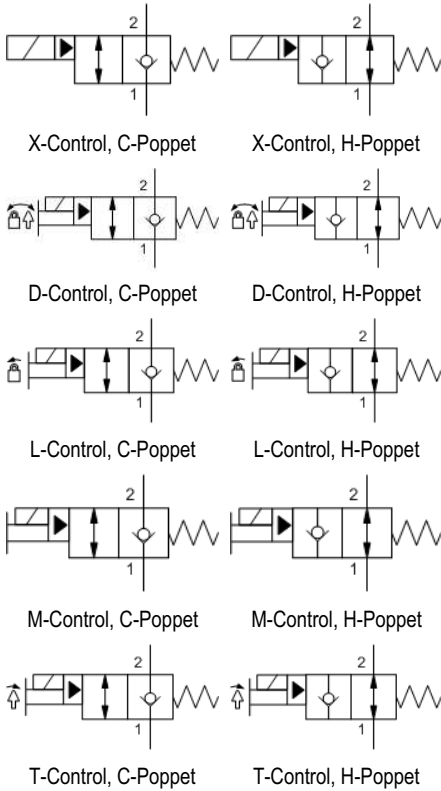
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
- An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**

**Model Code Example: DFEBXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	<b>212</b> DIN 43650-Form A, 12 VDC
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	<b>224</b> DIN 43650-Form A, 24 VDC
<b>M</b> Manual Override			<b>912</b> Deutsch DT04-2P, 12 VDC
<b>T</b> Twist (Momentary) Manual Override			<b>924</b> Deutsch DT04-2P, 24 VDC

\* Additional coil options are available



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

**TECHNICAL DATA**

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

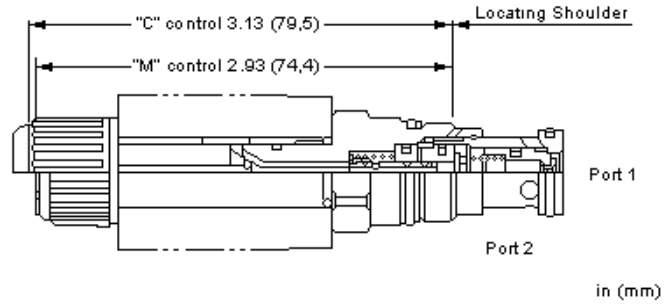
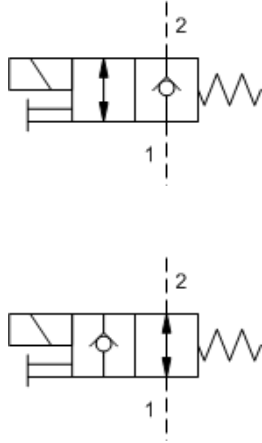
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Viton: 990018006

- 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: DFFBXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>X</b> No Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	<b>212</b> DIN 43650-Form A, 12 VDC
<b>L</b> Twist/Lock (Detent) Manual Override		<b>V</b> Viton	<b>224</b> DIN 43650-Form A, 24 VDC
<b>M</b> Manual Override			<b>912</b> Deutsch DT04-2P, 12 VDC
<b>T</b> Twist (Momentary) Manual Override			<b>924</b> Deutsch DT04-2P, 24 VDC

\* Additional coil options are available



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990313014
Seal kit - Cartridge	Viton: 990310006

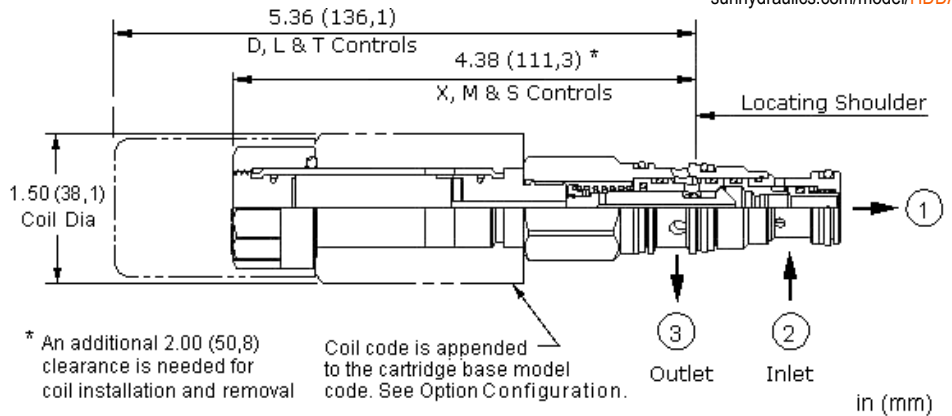
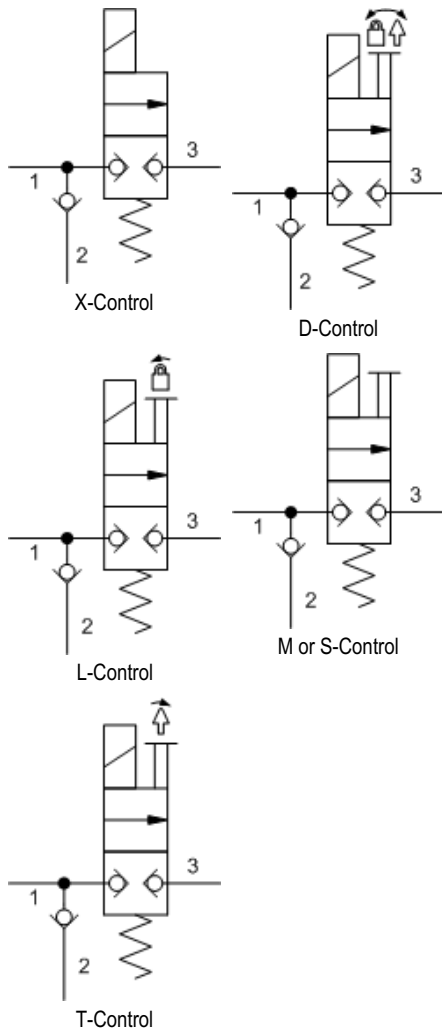
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**

**Model Code Example: DACCMCN**

CONTROL	(M) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
<b>M</b> Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N	No coil
<b>C</b> Concealed Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM	<b>212</b> DIN 43650-Form A, 12 VDC
		<b>V</b> Viton	<b>224</b> DIN 43650-Form A, 24 VDC

\* Additional coil options are available



This solenoid-after check cartridge is a hybrid valve incorporating a direct acting solenoid poppet valve teed in after the check function. The check valve flow is from the inlet (port 2) to the system (port 1). With the solenoid de-energized flow from (port 2) to (port 3) is blocked. This combination valve is typically used in lift/lower applications and can be integrated directly into the actuator.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	2 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

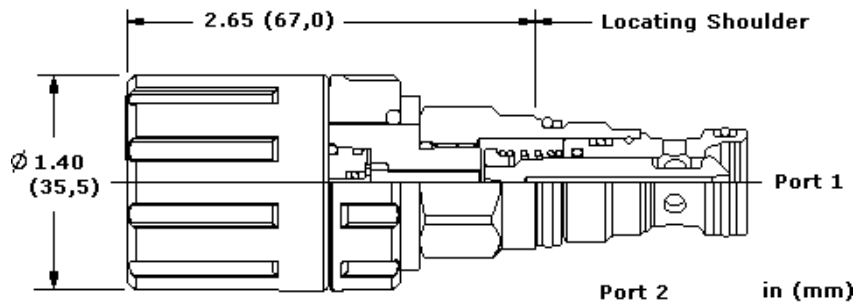
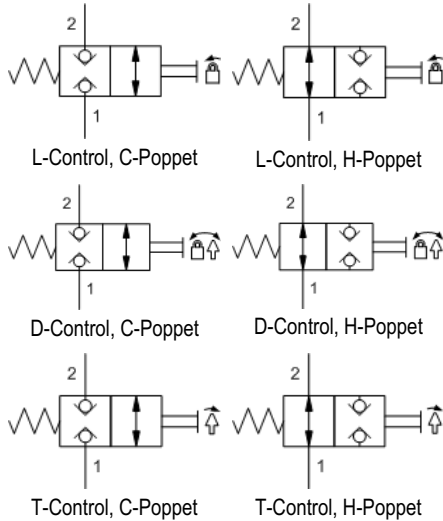
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

**CONFIGURATION OPTIONS**

**Model Code Example: HDDAXCN**

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
<b>X</b> No Manual Override		<b>C</b> Normally Closed		<b>N</b> Buna-N		No coil
<b>D</b> Twist/Lock (Dual) Manual Override				<b>V</b> Viton		<b>212</b> DIN 43650-Form A, 12 VDC
<b>L</b> Twist/Lock (Detent) Manual Override						<b>224</b> DIN 43650-Form A, 24 VDC
<b>M</b> Manual Override						<b>912</b> Deutsch DT04-2P, 12 VDC
<b>T</b> Twist (Momentary) Manual Override						<b>924</b> Deutsch DT04-2P, 24 VDC

\* Additional coil options are available



This manually operated, 2-position, 2-way directional cartridge is a direct-acting, poppet-style valve used to control the direction of flow in a hydraulic circuit. The valve is available in either a normally open or normally closed configuration. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only. Due to the poppet-style construction, this valve has extremely low leakage.

**TECHNICAL DATA**

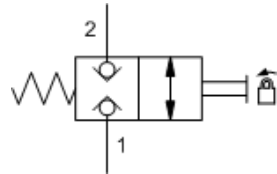
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

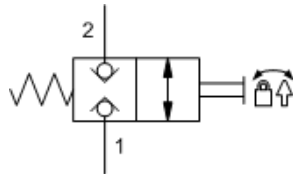
**CONFIGURATION OPTIONS**

**Model Code Example: DTDMLCN**

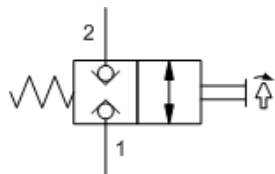
CONTROL	(L)	POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override		C Normally Closed		N Buna-N	
D Twist/Lock (Dual) Manual Override		H Normally Open		E EPDM	
T Twist (Momentary) Manual Override				V Viton	



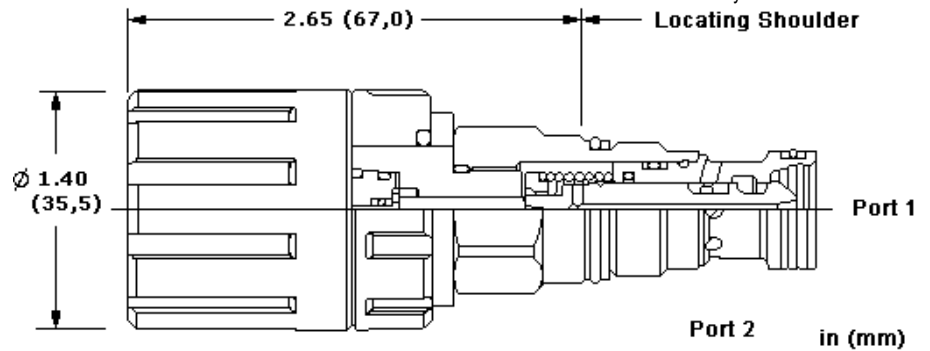
L-Control, C-Poppet



D-Control, C-Poppet



T-Control, C-Poppet



This manually operated, 2-position, 2-way directional cartridge is a direct-acting, poppet-style valve used to control the direction of flow in a hydraulic circuit. The valve is only available in a normally closed configuration. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only. Due to the poppet-style construction, this valve has extremely low leakage.

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

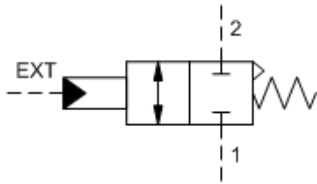
**TECHNICAL DATA**

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

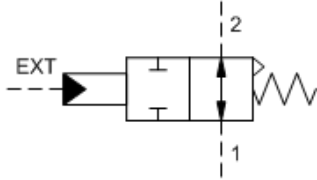
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

**CONFIGURATION OPTIONS**
**Model Code Example: DTCMLCN**

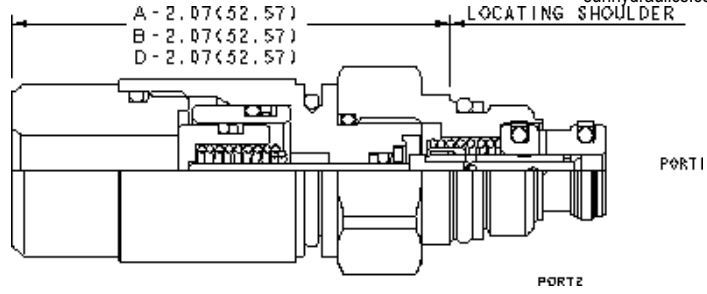
CONTROL	(L)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
<b>L</b> Twist/Lock (Detent) Manual Override		<b>C</b> Normally Closed		<b>N</b> Buna-N	
<b>D</b> Twist/Lock (Dual) Manual Override				<b>V</b> Viton	
<b>T</b> Twist (Momentary) Manual Override					



C-Spool



H-Spool



These pilot-stage, directional, 2-position, 2-way valves are hydraulically operated, spring-return cartridges and are available in either a normally open or normally closed configuration. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves.

**TECHNICAL DATA**

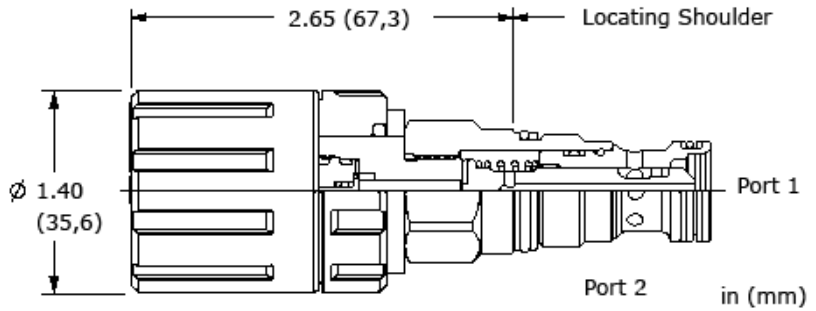
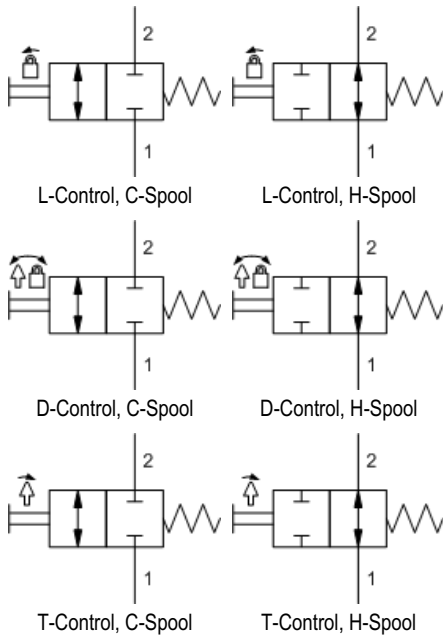
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Minimum Pilot Pressure to Operate	See Technical Features
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990508007
Seal kit - Cartridge	Viton: 990508006

**CONFIGURATION OPTIONS**

Model Code Example: DAAHBCN

CONTROL	(B) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
<b>B</b> External 4- <b>SAE</b> Port	<b>C</b> Normally Closed	<b>N</b> Buna-N	Standard Material/Coating
<b>A</b> External 1/8 <b>NPTF</b> Port	<b>H</b> Normally Open	<b>V</b> Viton	/AP Stainless Steel, Passivated
<b>D</b> External 1/8 <b>BSPP</b> Port			



This manually operated, 2-position, 2-way directional cartridge is a direct-acting, balanced spool valve used to control the direction of flow in a hydraulic circuit. The valve is available in either a normally open or normally closed configuration. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

**TECHNICAL DATA**

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

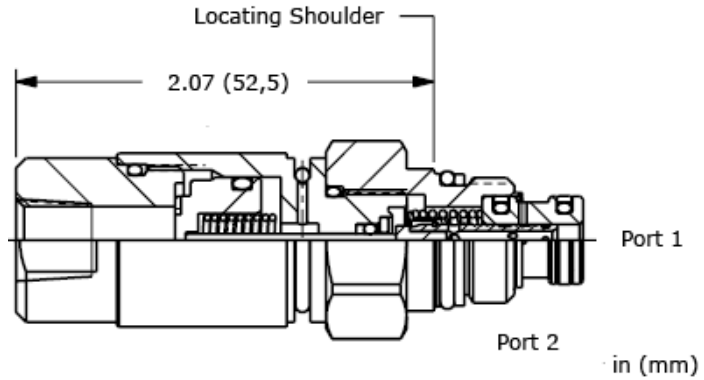
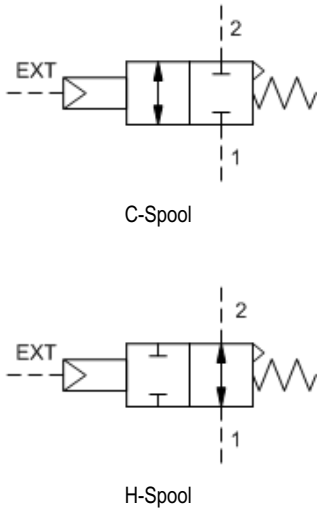
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

**CONFIGURATION OPTIONS**

Model Code Example: **DLDM**LCN

CONTROL	(L)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
<b>L</b> Twist/Lock (Detent) Manual Override	<b>C</b> Normally Closed	<b>N</b> Buna-N			
<b>D</b> Twist/Lock (Dual) Manual Override	<b>H</b> Normally Open	<b>E</b> EPDM			
<b>T</b> Twist (Momentary) Manual Override		<b>V</b> Viton			





These pilot-stage, directional, 2-position, 2-way valves are pneumatically operated, spring-return cartridges and are available in either normally open or normally closed configurations. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves.

**TECHNICAL DATA**

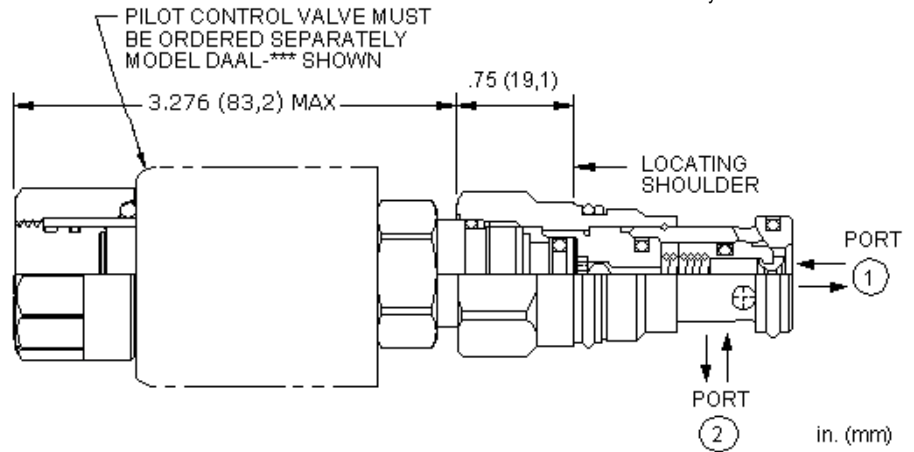
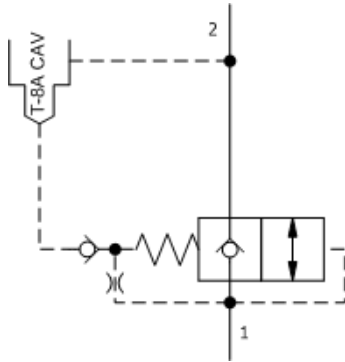
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Minimum Pilot Pressure to Operate	See Technical Features
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990508007
Seal kit - Cartridge	Viton: 990508006

**CONFIGURATION OPTIONS**

**Model Code Example: DAAPFCN**

<b>CONTROL</b>	<b>(F) SPOOL CONFIGURATION</b>	<b>(C) SEAL MATERIAL</b>	<b>(N) MATERIAL/COATING</b>
<b>F</b> External 1/8 NPTF Port	<b>C</b> Normally Closed	<b>N</b> Buna-N	Standard Material/Coating
<b>E</b> External 4-SAE Port	<b>H</b> Normally Open	<b>E</b> EPDM	/AP Stainless Steel, Passivated
<b>P</b> External 1/8 BSPP Port		<b>V</b> Viton	



This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

**TECHNICAL DATA**

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

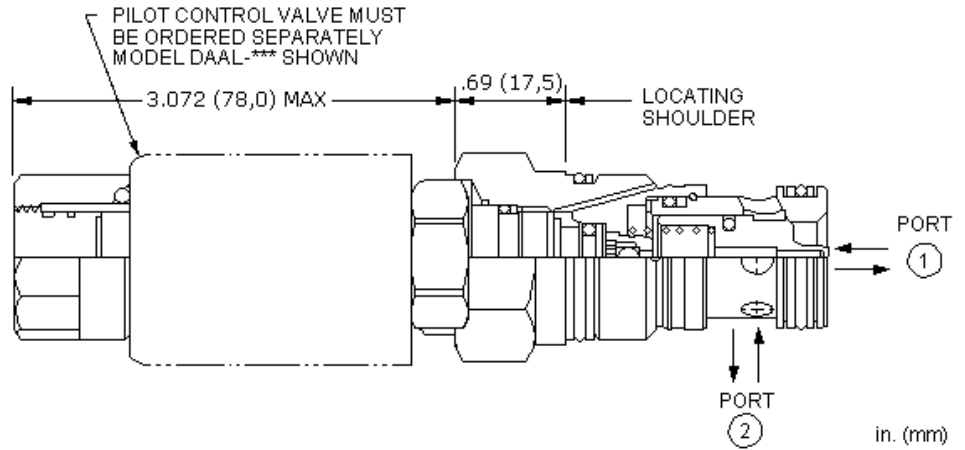
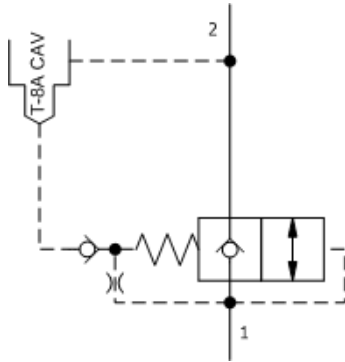
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

**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: DFCA8DN**

CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
<b>D</b> 50 psi (3,5 bar)	<b>N</b> Buna-N V Viton	<b>Standard Material/Coating</b> /AP Stainless Steel, Passivated



This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

**TECHNICAL DATA**

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

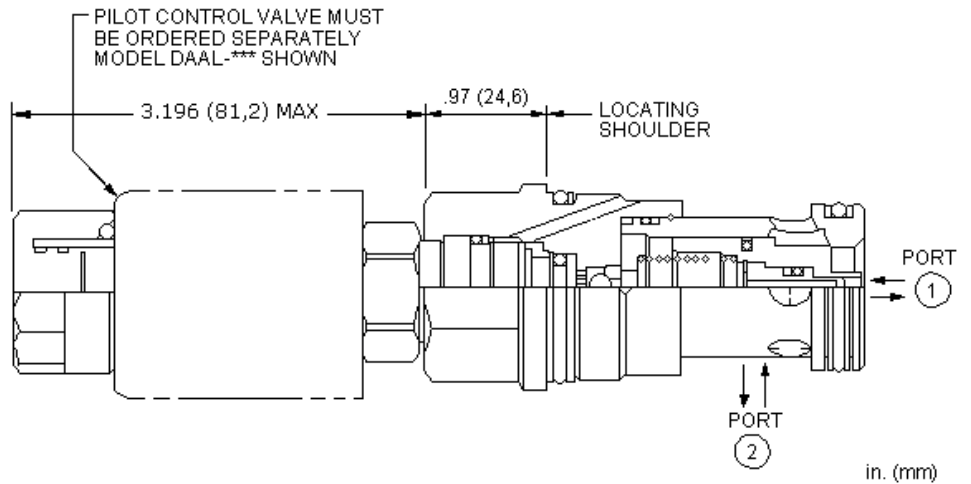
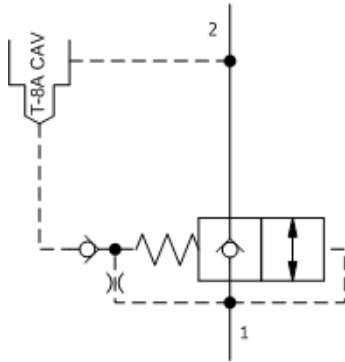
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	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: DFDA8DN**

CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
<b>D</b> 50 psi (3,5 bar)	<b>N</b> Buna-N V Viton	<b>Standard Material/Coating</b> /AP Stainless Steel, Passivated



This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

**TECHNICAL DATA**

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

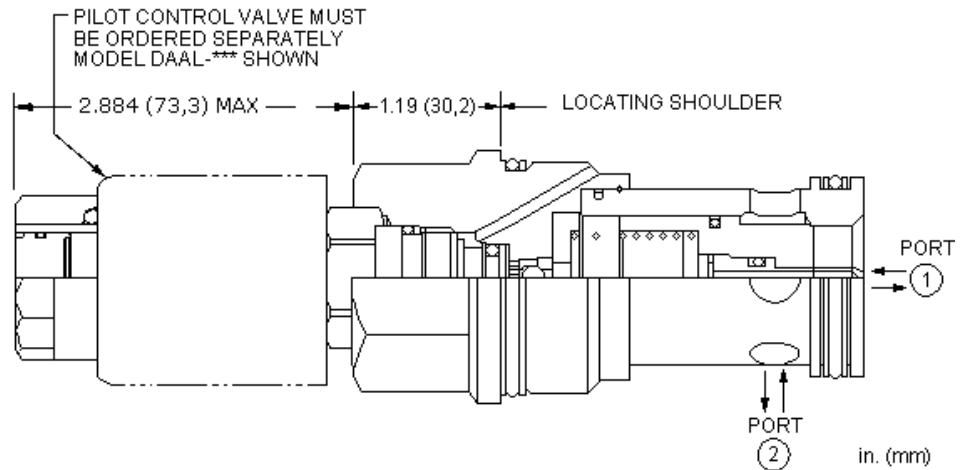
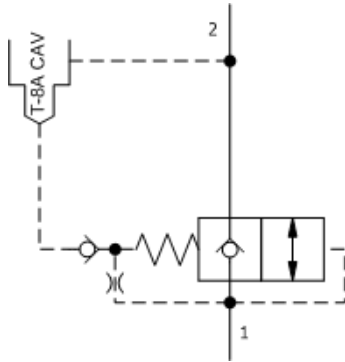
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
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: **DFA8DN**

CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)		<b>N</b> Buna-N	
		E EPDM	
		V Viton	



This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

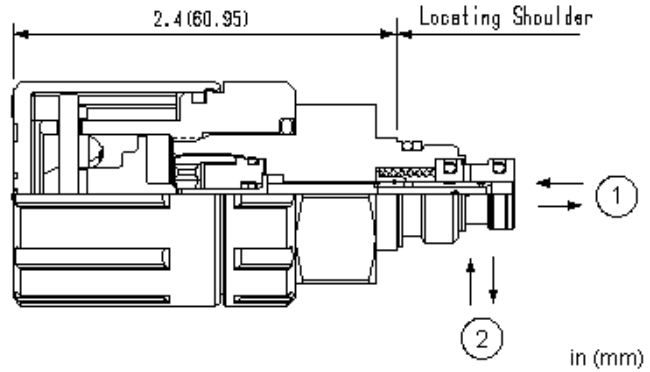
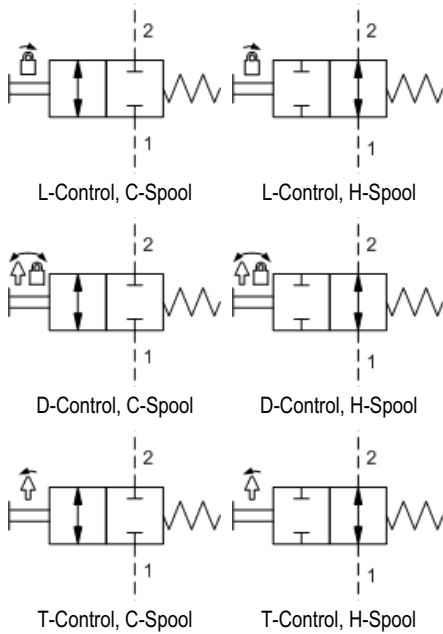
**NOTES**

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: DFFA8DN**

CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
<b>D</b> 50 psi (3,5 bar)	<b>N</b> Buna-N	<b>Standard Material/Coating</b>
	<b>E</b> EPDM	<b>/AP</b> Stainless Steel, Passivated
	<b>V</b> Viton	



These pilot-stage, directional, 2-position, 2-way valves are manually operated cartridges and are available in either a normally open or normally closed configuration. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

**TECHNICAL DATA**

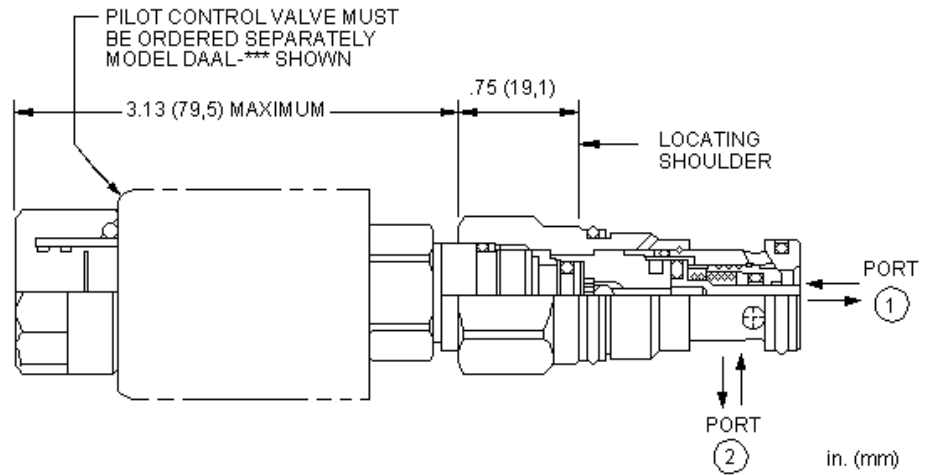
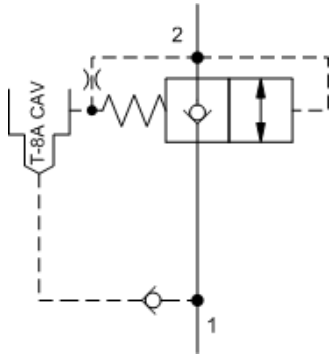
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min. @350 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990108007
Seal kit - Cartridge	Viton: 990108006

**CONFIGURATION OPTIONS**

**Model Code Example: DAAMLCN**

CONTROL	(L)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override		C Normally Closed		N Buna-N	
D Twist/Lock (Dual) Manual Override		H Normally Open		V Viton	
T Twist (Momentary) Manual Override					



This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990310014
Seal kit - Cartridge	Viton: 990310006

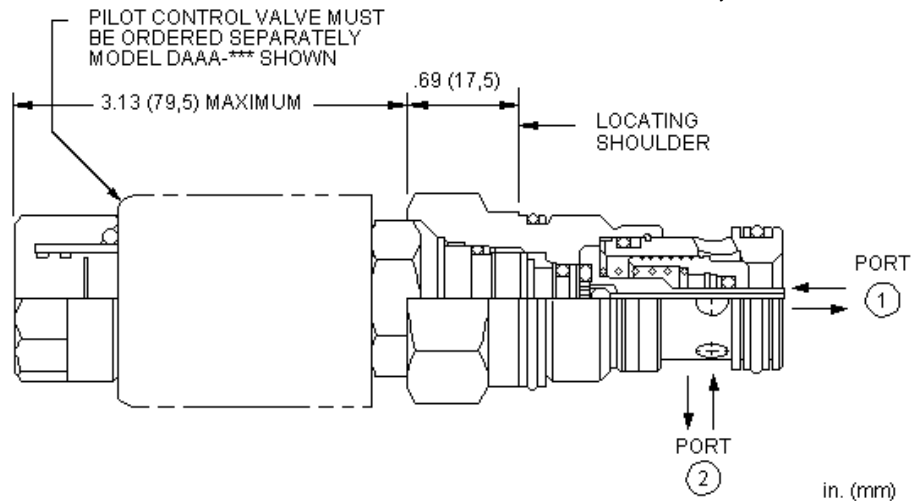
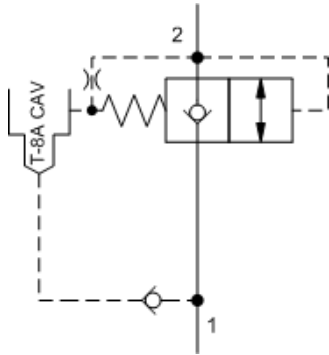
**NOTES**

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: DFCB8DN**

<b>CRACKING PRESSURE</b>	<b>(D)</b>	<b>SEAL MATERIAL</b>	<b>(N)</b>
D 50 psi (3,5 bar)		N Buna-N	
		E EPDM	
		V Viton	



This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

**NOTES**

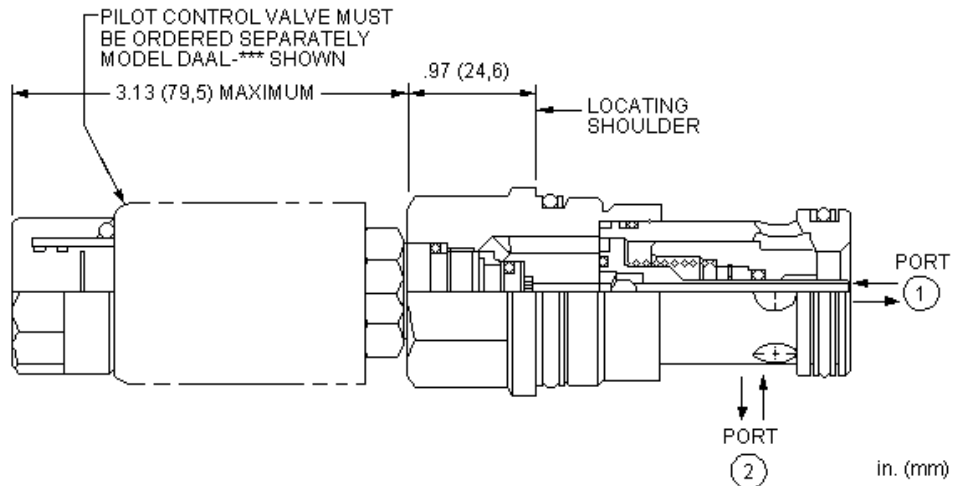
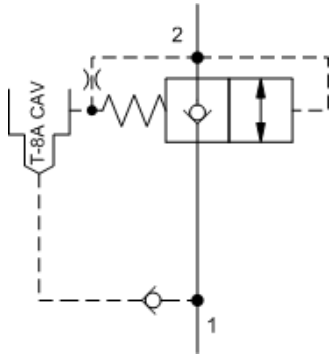
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

**CONFIGURATION OPTIONS**

**Model Code Example: DFDB8DN**

<b>CRACKING PRESSURE</b>	<b>(D)</b>	<b>SEAL MATERIAL</b>	<b>(N)</b>
<b>D</b> 50 psi (3,5 bar)		<b>N</b> Buna-N	
		V Viton	





This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

**TECHNICAL DATA**

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

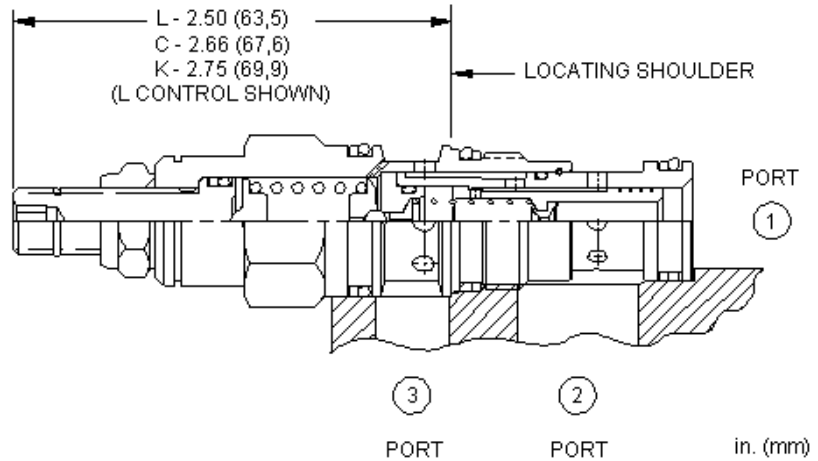
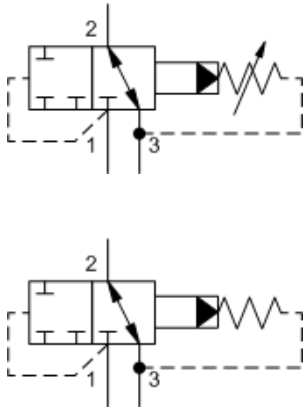
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
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: DFEB8DN**

CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)		<b>N</b> Buna-N	
		E EPDM	
		V Viton	



Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

**TECHNICAL DATA**

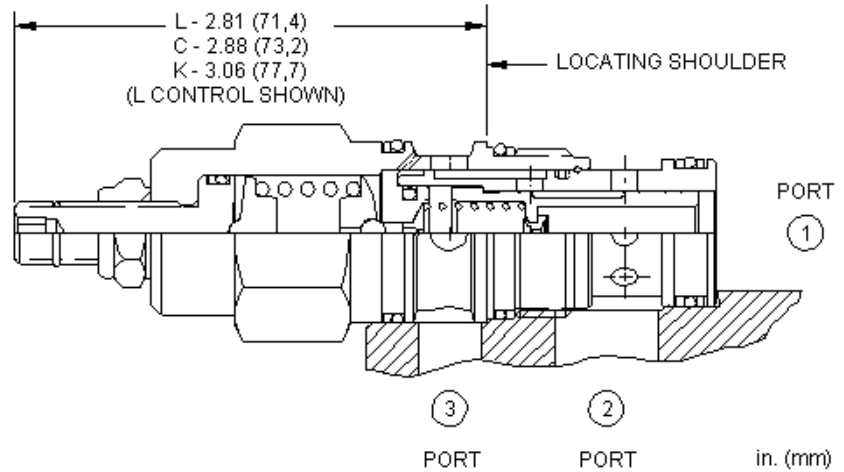
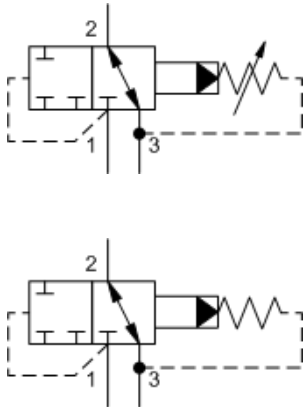
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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

**CONFIGURATION OPTIONS**
**Model Code Example: DPBALAN**

<b>CONTROL</b>	<b>(L) ADJUSTMENT RANGE</b>	<b>(A) SEAL MATERIAL</b>	<b>(N) MATERIAL/COATING</b>
<b>L</b> Standard Screw Adjustment	<b>A</b> 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	<b>N</b> Buna-N	Standard Material/Coating
<b>C</b> Tamper Resistant - Factory Set	<b>B</b> 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	<b>V</b> Viton	/AP Stainless Steel, Passivated
<b>K</b> Handknob	<b>D</b> 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	<b>E</b> 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	<b>W</b> 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

**TECHNICAL DATA**

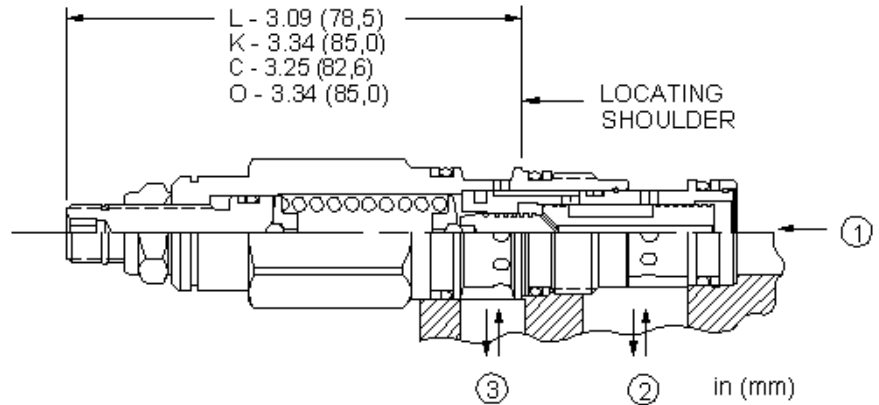
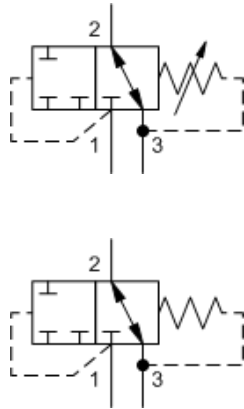
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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

**CONFIGURATION OPTIONS**
**Model Code Example: DPCALAN**

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
<b>L</b> Standard Screw Adjustment	<b>A</b> 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	<b>N</b> Buna-N	Standard Material/Coating
<b>C</b> Tamper Resistant - Factory Set		<b>V</b> Viton	JAP Stainless Steel, Passivated
<b>K</b> Handknob	<b>B</b> 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting		
<b>O</b> Handknob with Panel Mount	<b>C</b> 150 - 6000 psi (10,5 - 420 bar), 3000 psi (210 bar) Standard Setting		
	<b>D</b> 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	<b>E</b> 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	<b>W</b> 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting		



Normally open, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

**TECHNICAL DATA**

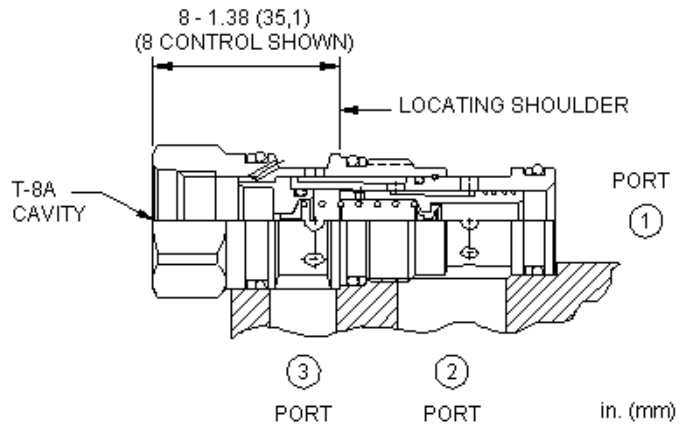
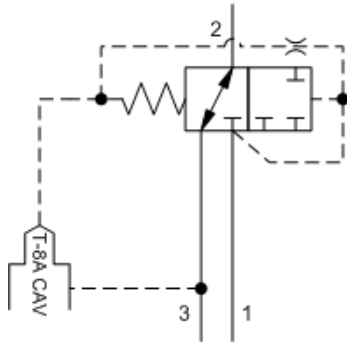
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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

**CONFIGURATION OPTIONS**
**Model Code Example: DRBALAN**

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



This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

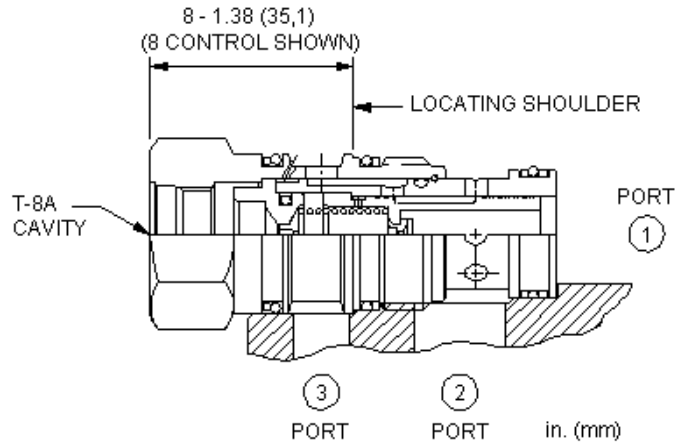
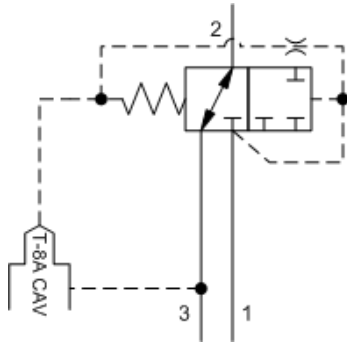
**NOTES**

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: DVBA8FN

CONTROL	(8) MINIMUM CONTROL PRESSURE (F)	SEAL MATERIAL (N)
8 T-8A Cavity	F 100 psi (7 bar)	N Buna-N V Viton



This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

**TECHNICAL DATA**

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

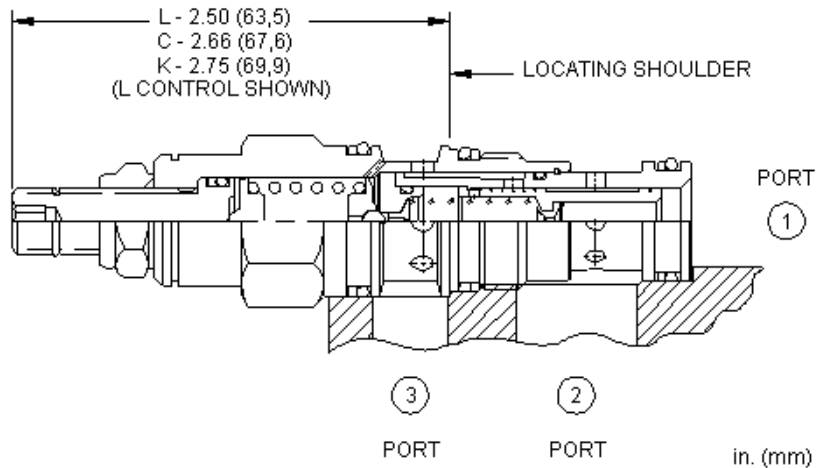
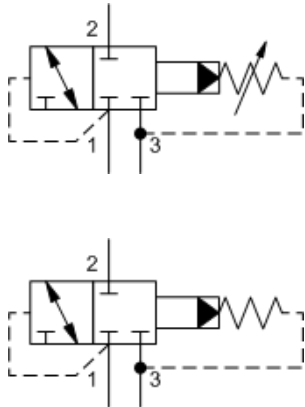
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

**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: DVCA8FN**

CONTROL	(8)	MINIMUM CONTROL PRESSURE (F)	SEAL MATERIAL (N)
8 T-8A Cavity	F	100 psi (7 bar)	N Buna-N V Viton



Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

**TECHNICAL DATA**

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

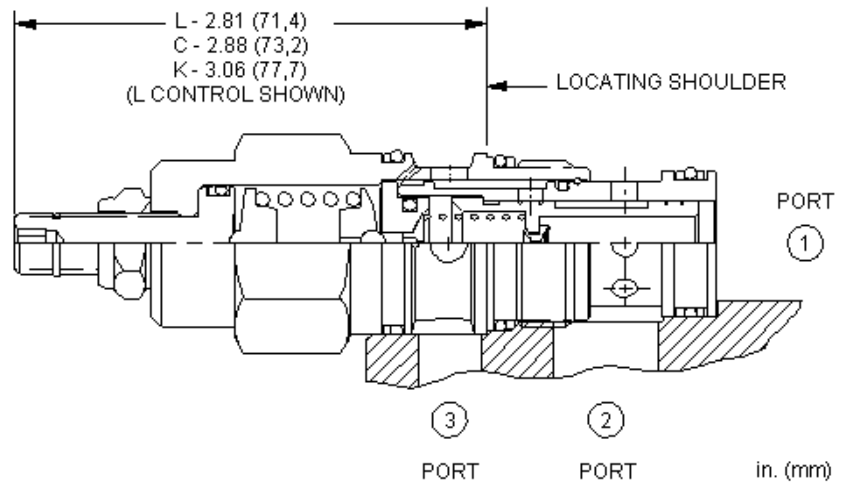
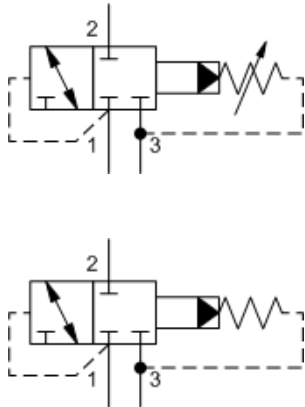
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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

**CONFIGURATION OPTIONS**

**Model Code Example: DPBBLAN**

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



Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

**TECHNICAL DATA**

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

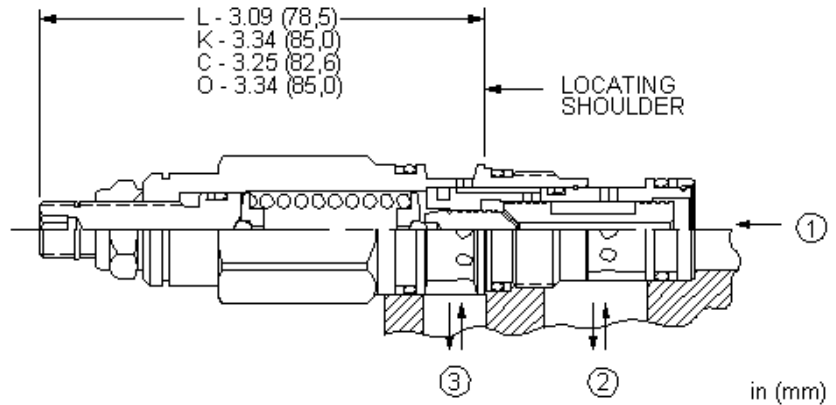
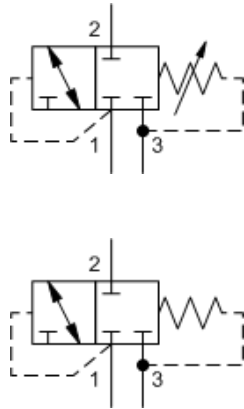
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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

**CONFIGURATION OPTIONS**
**Model Code Example: DPCBLAN**

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





Normally closed, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

**TECHNICAL DATA**

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

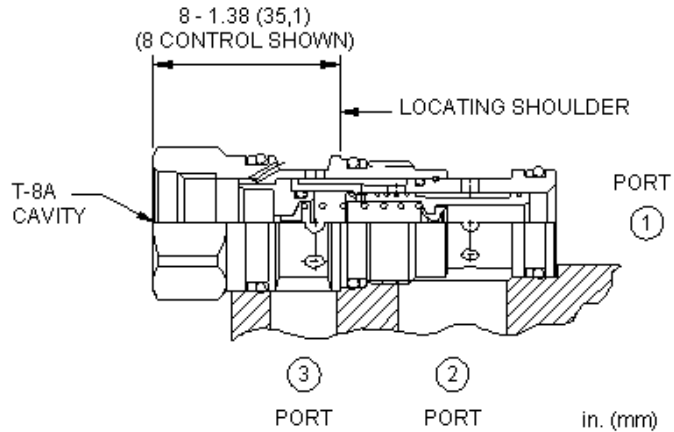
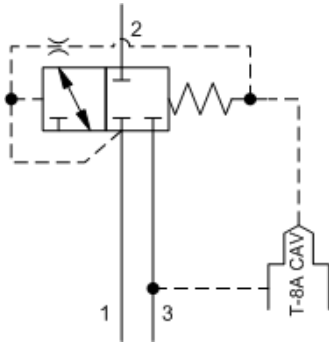
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

**NOTES**

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

**CONFIGURATION OPTIONS**
**Model Code Example: DRBBLAN**

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



This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

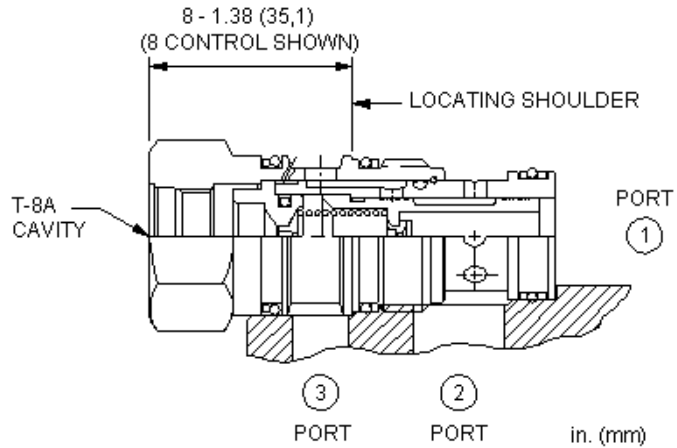
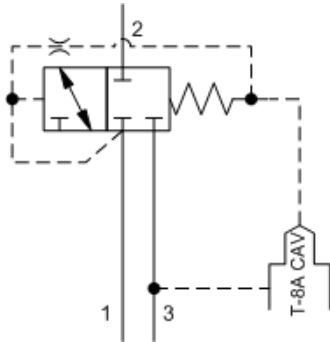
**NOTES**

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: DVBB8FN**

CONTROL	(8)	MINIMUM CONTROL PRESSURE	(F)	SEAL MATERIAL	(N)
8 T-8A Cavity		F 100 psi (7 bar)		N Buna-N V Viton	



This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

**TECHNICAL DATA**

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

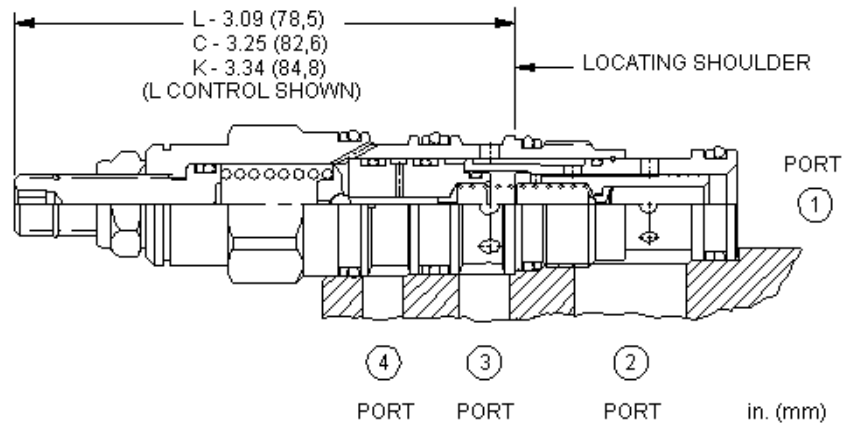
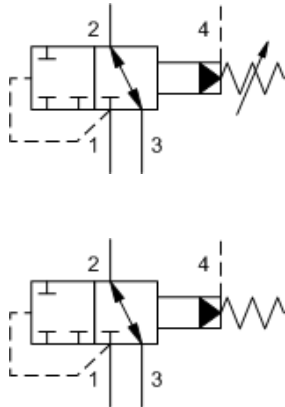
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

**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: DVCB8FN**

CONTROL	(8)	MINIMUM CONTROL PRESSURE (F)	SEAL MATERIAL	(N)
8 T-8A Cavity		F 100 psi (7 bar)	N Buna-N V Viton	



Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

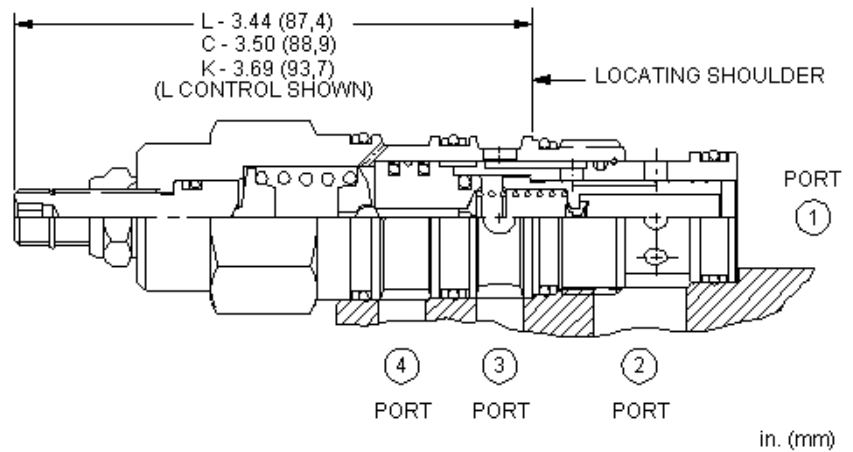
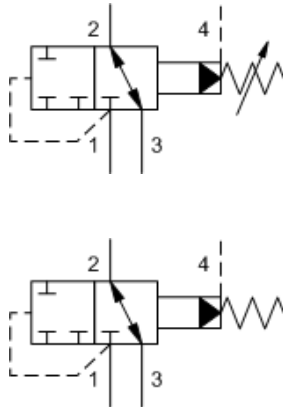
**TECHNICAL DATA**

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

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**CONFIGURATION OPTIONS**
**Model Code Example: DPBMLAN**

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
<b>L</b> Standard Screw Adjustment	<b>A</b> 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	<b>N</b> Buna-N	Standard Material/Coating
<b>C</b> Tamper Resistant - Factory Set	<b>B</b> 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	<b>V</b> Viton	/AP Stainless Steel, Passivated
<b>K</b> Handknob	<b>D</b> 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	<b>E</b> 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	<b>W</b> 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

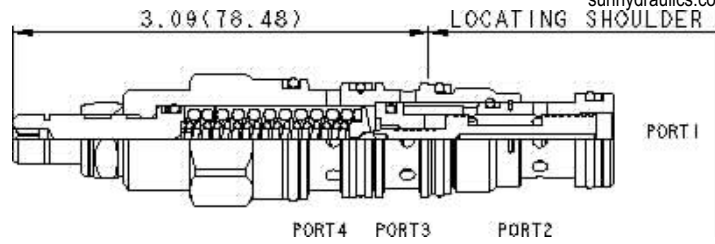
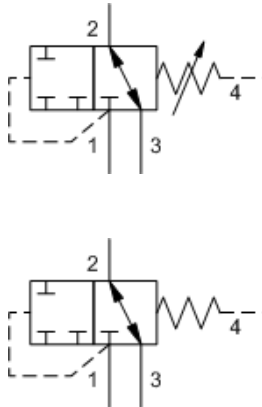
**TECHNICAL DATA**

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

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

**CONFIGURATION OPTIONS**
**Model Code Example: DPCMLAN**

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
<b>L</b> Standard Screw Adjustment	<b>A</b> 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	<b>N</b> Buna-N	Standard Material/Coating
<b>C</b> Tamper Resistant - Factory Set	<b>B</b> 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel
<b>K</b> Handknob	<b>D</b> 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	<b>E</b> 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	<b>W</b> 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Normally open, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

**TECHNICAL DATA**

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

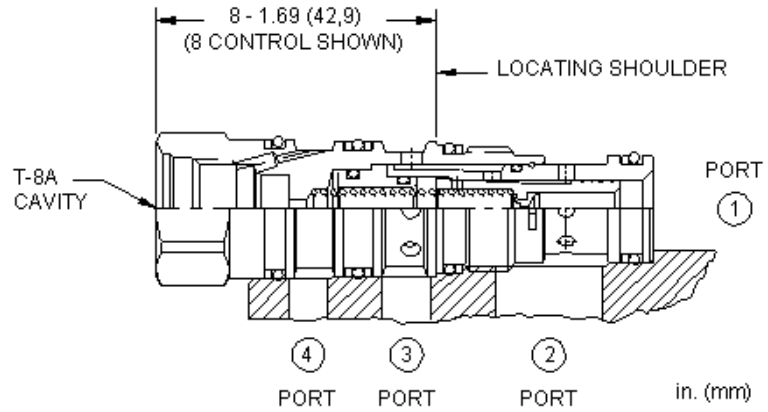
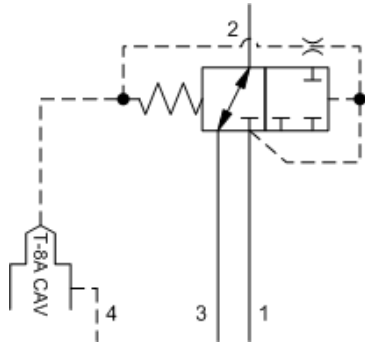
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

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

**CONFIGURATION OPTIONS**

**Model Code Example: DRBMLAN**

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
<b>L</b> Standard Screw Adjustment	<b>A</b>	500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	<b>N</b>	Buna-N	
<b>C</b> Tamper Resistant - Factory Set	<b>B</b>	50 - 1500 psi (3.5 - 105 bar), 200 psi (14 bar) Standard Setting	<b>V</b>	Viton	
<b>K</b> Handknob	<b>D</b>	25 - 800 psi (1.7 - 55 bar), 200 psi (14 bar) Standard Setting			
<b>O</b> Handknob with Panel Mount	<b>E</b>	25 - 400 psi (1.7 - 28 bar), 200 psi (14 bar) Standard Setting			
	<b>S</b>	25 - 200 psi (1.7 - 14 bar), 100 psi (7 bar) Standard Setting			
	<b>W</b>	750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting			



This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

**TECHNICAL DATA**

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

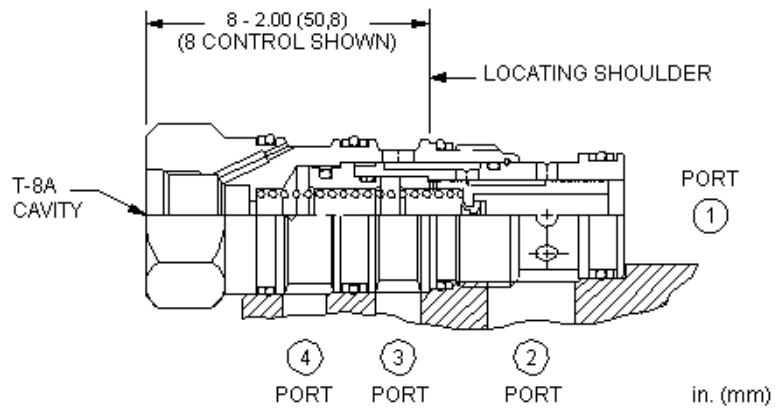
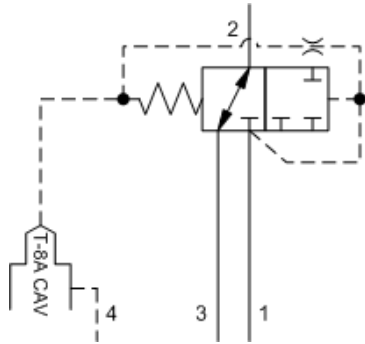
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**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: **DVBM8FN**

<b>CONTROL</b>	<b>(8)</b>	<b>MINIMUM CONTROL PRESSURE</b>	<b>(F)</b>	<b>SEAL MATERIAL</b>	<b>(N)</b>
8 T-8A Cavity		F 100 psi (7 bar)		N Buna-N V Viton	



This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

**NOTES**

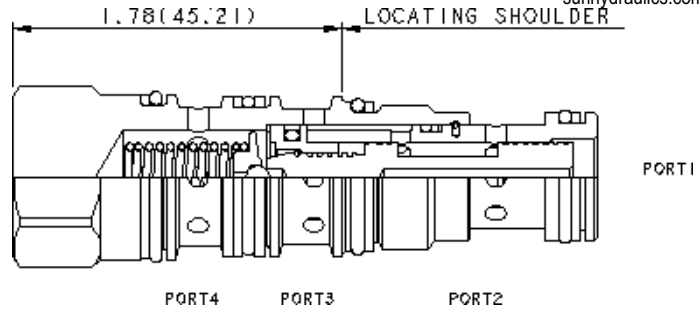
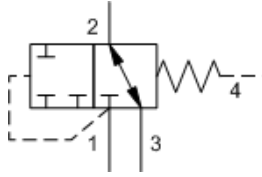
Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

**CONFIGURATION OPTIONS**

Model Code Example: **DVCM8FN**

CONTROL	(8) MINIMUM CONTROL PRESSURE	(F) SEAL MATERIAL	(N)
<b>8</b> T-8A Cavity	<b>F</b> 100 psi (7 bar)	<b>N</b> Buna-N	<b>V</b> Viton





Normally open, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

**TECHNICAL DATA**

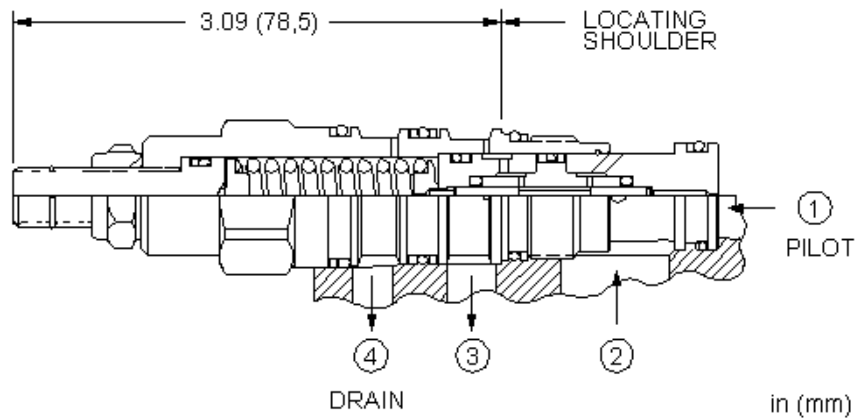
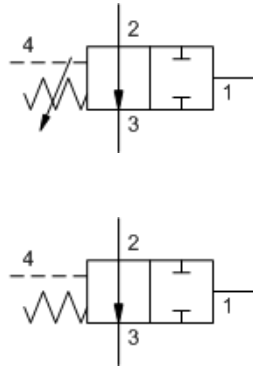
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**CONFIGURATION OPTIONS**

**Model Code Example: DRBMXFN**

<b>SHIFTING PRESSURE</b> _____ (F)	<b>SEAL MATERIAL</b> _____ (N)
<b>F</b> 100 psi (7 bar)	<b>N</b> Buna-N
	<b>V</b> Viton



The normally-open, direct-acting 2-way directional cartridge with external drain is a pilot unloading valve used to sense pressure in one circuit to switch or unload a valve in a different circuit. When pressure at port 1 exceeds the setting of the valve, the spool shifts to block port 2 from port 3.

**TECHNICAL DATA**

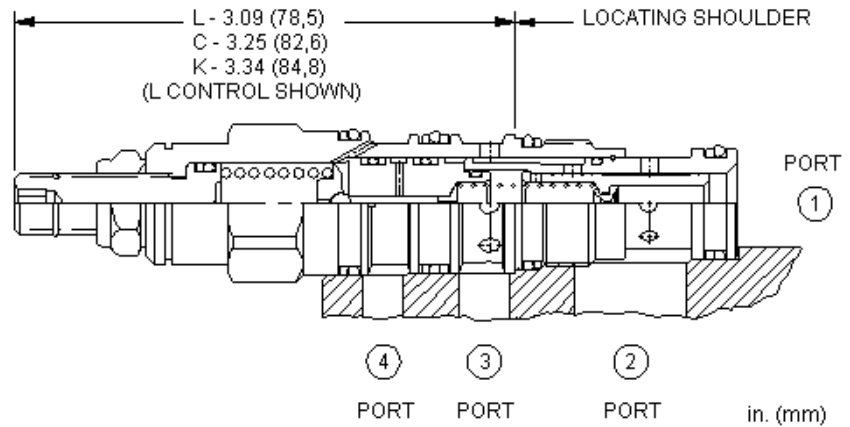
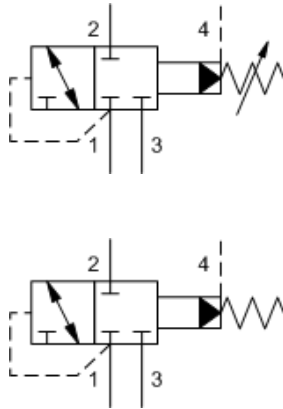
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at Reseat	20 drops/min.
Reseat	>85% of setting
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**CONFIGURATION OPTIONS**

**Model Code Example: DRAYLAN**

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
<b>L</b> Standard Screw Adjustment	<b>A</b> 1000 - 3000 psi (70 - 210 bar), 1000 psi (70 bar) Standard Setting	<b>N</b> Buna-N	Standard Material/Coating
<b>C</b> Tamper Resistant - Factory Set	<b>C</b> 2000 - 6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting	<b>V</b> Viton	/AP Stainless Steel, Passivated



Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate-flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

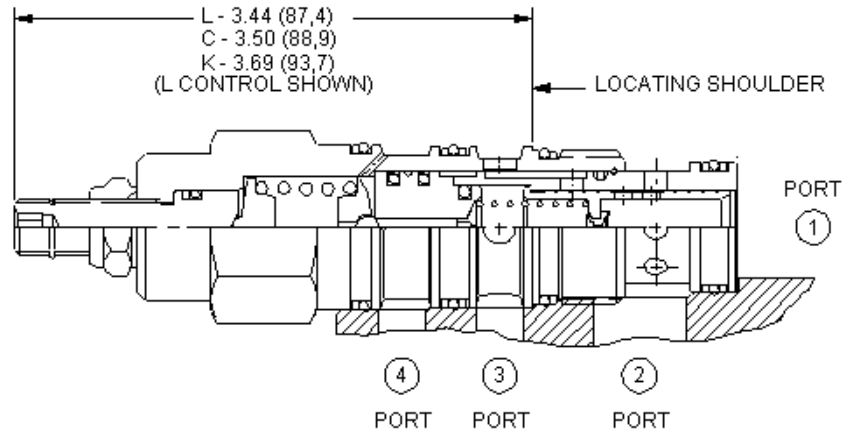
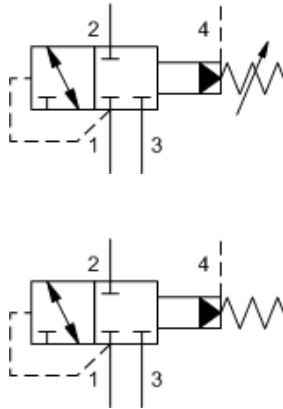
**TECHNICAL DATA**

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

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**CONFIGURATION OPTIONS**
**Model Code Example: DPBNLAN**

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



in. (mm)

Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate-flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

**TECHNICAL DATA**

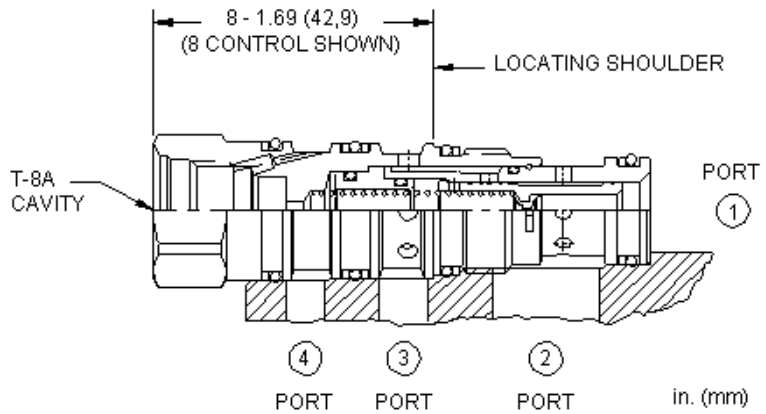
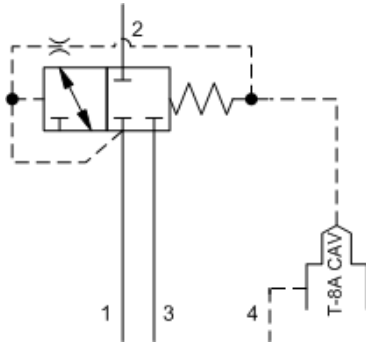
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

**CONFIGURATION OPTIONS**

**Model Code Example: DPCNLAN**

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



This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

**TECHNICAL DATA**

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

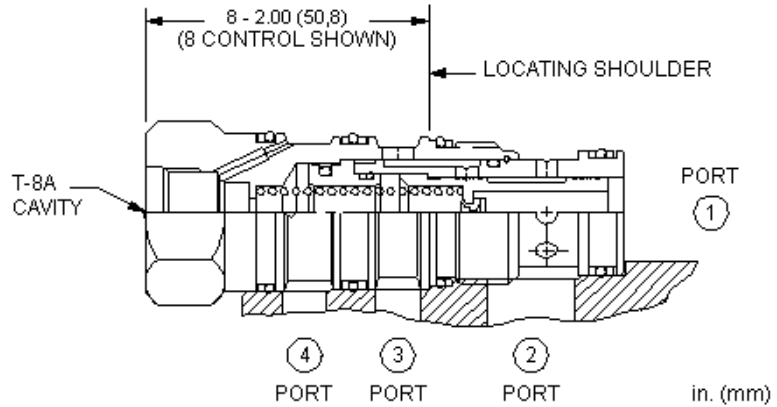
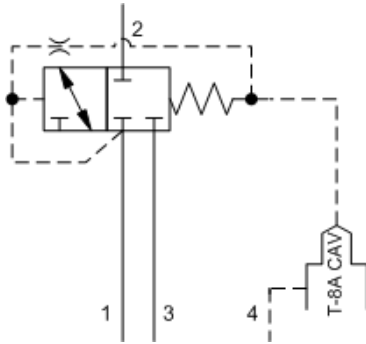
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**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: DVBN8FN**

CONTROL	(8) MINIMUM CONTROL PRESSURE	(F) SEAL MATERIAL	(N)
8 T-8A Cavity	F 100 psi (7 bar)	N Buna-N V Viton	



This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

**TECHNICAL DATA**

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

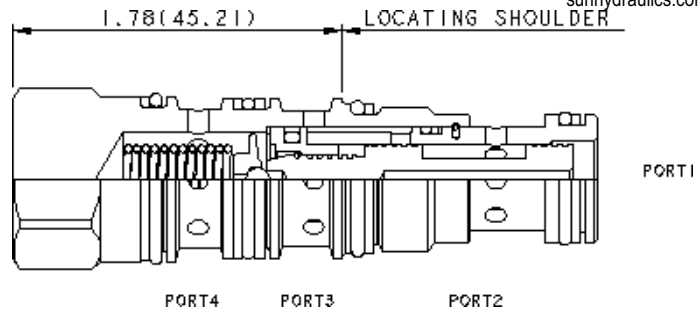
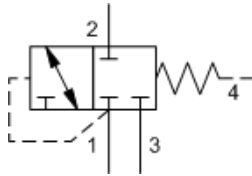
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

**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: DVCN8FN**

CONTROL	(8)	MINIMUM CONTROL PRESSURE	(F)	SEAL MATERIAL	(N)
8 T-8A Cavity		F 100 psi (7 bar)		N Buna-N V Viton	



Normally closed, direct-acting, 3-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

**TECHNICAL DATA**

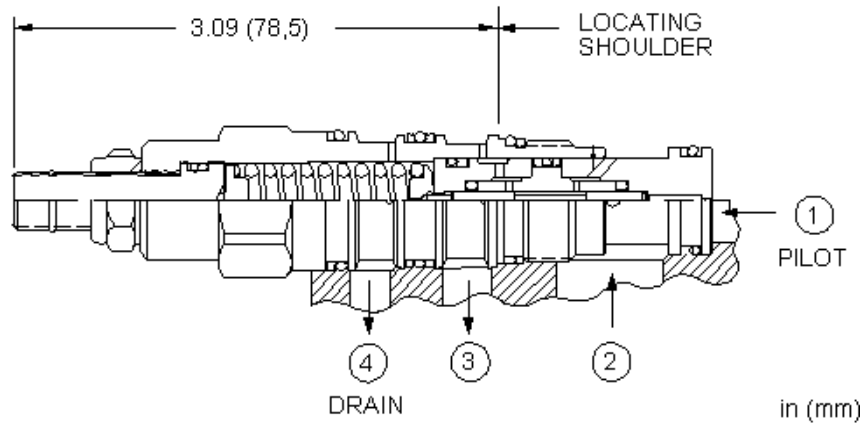
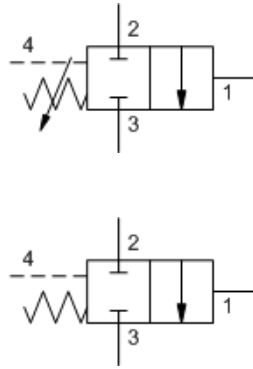
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**CONFIGURATION OPTIONS**

Model Code Example: DRBNXFN

SHIFTING PRESSURE _____ (F)	SEAL MATERIAL _____ (N)
<b>F</b> 100 psi (7 bar)	<b>N</b> Buna-N
	<b>V</b> Viton



The normally-closed, direct-acting 2-way directional cartridge with external drain is a pilot unloading valve used to sense pressure in one circuit to switch or unload a valve in a different circuit. When pressure at port 1 exceeds the setting of the valve, the spool shifts to connect port 2 to port 3.

**TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at Reseat	20 drops/min.
Reseat	>85% of setting
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**CONFIGURATION OPTIONS**
**Model Code Example: DRAXLAN**

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 1000 - 3000 psi (70 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated



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