

Directional Cartridges

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DLVB	2-way, solenoid-operated directional, Digital Logic Valve - pilot capacity1
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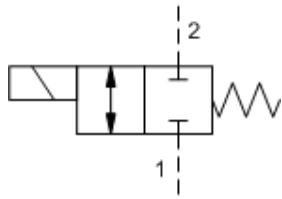
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DRBC	3-way, direct-acting, directional valve with internal drain to port 3 (1 blocked, 2 to 3 open)320

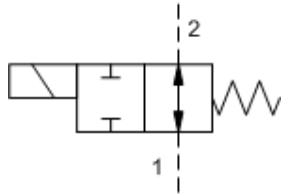
DRCC	3-way, direct-acting, directional valve with internal drain to port 3 (1 blocked, 2 to 3 open)	.....321
DVBC	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 blocked, 2 to 3 open)322
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DVBD	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 to 2 open, 3 blocked)327
DVCD	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 to 2 open, 3 blocked)	.....328
DPBO	3-way, pilot operated, directional valve with drain to port 4 (1 blocked, 2 to 3 open)	.....329
DPCO	3-way, pilot operated, directional valve with drain to port 4 (1 blocked, 2 to 3 open)	.....330
DRBO	3-way, direct-acting, directional valve with drain to port 4 (1 blocked, 2 to 3 open)	.....331
DRCO	3-way, direct-acting, directional valve with drain to port 4 (1 blocked, 2 to 3 open)	.....332
DVBO	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control cavity (1 blocked, 2 to 3 open)	.....333
DVCO	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control cavity (1 blocked, 2 to 3 open)	.....334
DRBOX	3-way, direct-acting, fixed setting, directional valve with drain to port 4 (1 blocked, 2 to 3 open)	.....335
DNDM	4-way, manually-operated, directional spool valve	.....336
DCCF	4-way, 2-position, pilot-to-shift directional valve	.....337
DCDF	4-way, 2-position, pilot-to-shift directional valve	.....338
DCEF	4-way, 2-position, pilot-to-shift directional valve	.....339
DCFF	4-way, 2-position, pilot-to-shift directional valve	.....340

DCCD	4-way, 2-position, pilot-to-shift, detented, directional valve	.....341
DCDD	4-way, 2-position, pilot-to-shift, detented, directional valve	.....342
DCED	4-way, 2-position, pilot-to-shift, detented, directional valve	.....343
DCFD	4-way, 2-position, pilot-to-shift, detented, directional valve	.....344
DCCC	4-way, 3-position, pilot-to-shift directional valve	.....345
DCDC	4-way, 3-position, pilot-to-shift directional valve	.....346
DCEC	4-way, 3-position, pilot-to-shift directional valve	.....347
DCFC	4-way, 3-position, pilot-to-shift directional valve	.....348
DDDC	4-way, 3-position, pilot-to-shift directional valve	.....349
DDFC	4-way, 3-position, pilot-to-shift directional valve	.....350
DDHC	4-way, 3-position, pilot-to-shift directional valve	.....351
FTCC	4-way, 3-position, meter in proportional directional valve	.....352
FTDC	4-way, 3-position, meter in proportional directional valve	.....353
FTEC	4-way, 3-position, meter in proportional directional valve	.....354
FTFC	4-way, 3-position, meter in proportional directional valve	.....355
FTHC	4-way, 3-position, meter in proportional directional valve	.....356
CXBM	Insert style, free flow nose to side check valve	.....357

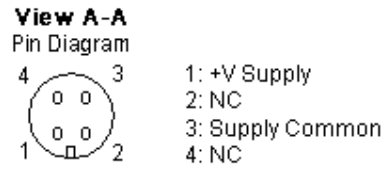
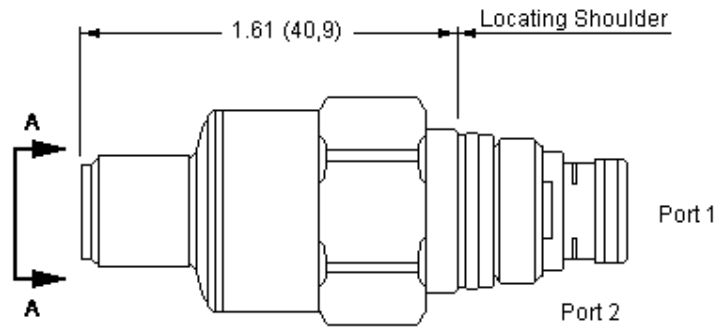
Series	Ports	Cavities
Series Z Cartridges 3/8-24 UNF Cartridge Thread 5 mm Valve Hex Size 11 - 14 Nm Valve Installation Torque	2-Port	T-382A
Series P Cartridges M16 Cartridge Thread 22,2 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port	T-8A T-8DP T-9A
Series 0 Cartridges M16 Cartridge Thread 19,1 mm Valve Hex Size 25,4 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port	T-162A T-162DP T-163A
Series 1 Cartridges M20 Cartridge Thread 22,2 mm Valve Hex Size 41 - 47 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 6-Port	T-10A T-13A T-11A T-21A T-31A T-61A
Series 2 Cartridges 1"-14 UNS Cartridge Thread 28,6 mm Valve Hex Size 61 - 68 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 4-Port (Dual path) 6-Port 6-Port	T-3A T-5A T-2A T-22A T-32A T-52AD T-52A T-62A
Series 3 Cartridges M36 Cartridge Thread 31,8 mm Valve Hex Size 203 - 217 Nm Valve Installation Torque	2-Port 3-Port 4-Port 4-Port 4-Port (Dual path) 6-Port 6-Port	T-16A T-17A T-23A T-33A T-53AD T-53A T-63A
Series 4 Cartridges M48 Cartridge Thread 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



X-Control, C-Spool



X-Control, H-Spool



in (mm)

This high-speed, low-power, solenoid-operated, 2-way, 2-position cartridge is a direct-acting, balanced-spool, pilot valve used to pilot other full-flow valves. The valve is available in either a normally open or normally closed configuration.

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.

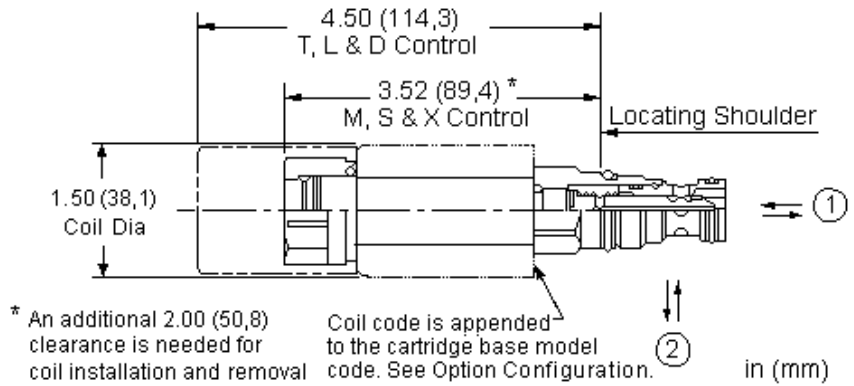
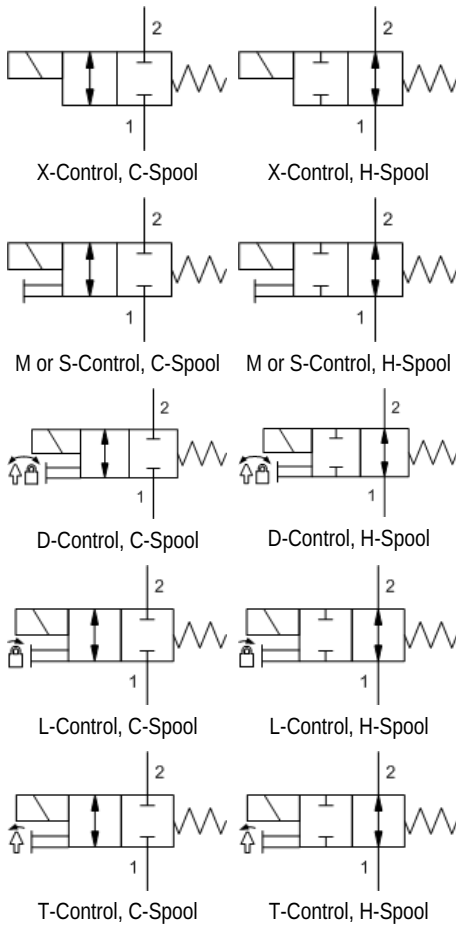
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	41 cc/min.@350 bar
Switching Frequency	13 Hz
Response Time - Normally Closed Spool	12 ms
Response Time - Normally Open Spool	9 ms
Seal kit - Cartridge	Buna: 990708007
Seal kit - Cartridge	Viton: 990708006

CONFIGURATION OPTIONS

Model Code Example: DLVBXCNM12

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	CONNECTOR	(M)
X Standard		C Normally Closed		N Buna-N		M M12 4 pin	
		H Normally Open		E EPDM		VOLTAGE	(12)
				V Viton		12 12 VDC	
						Standard Material/Coating	
						/LH Mild Steel, Zinc-Nickel	
						24 24 VDC	



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.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
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

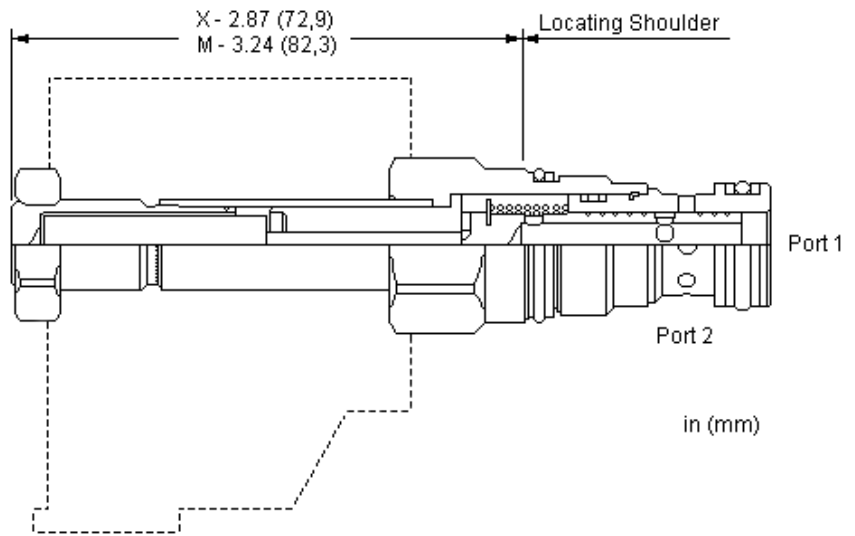
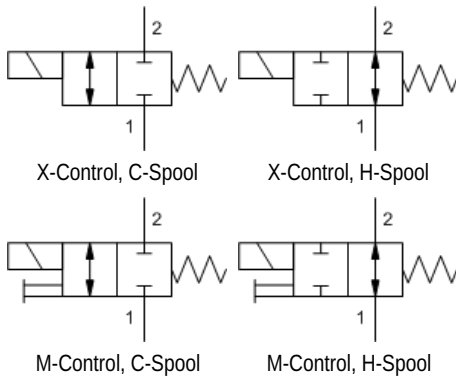
Model Code Example: **DLDAXCN**

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
M Manual Override	H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
D Twist/Lock (Dual) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available

MATERIAL/COATING

Standard Material/Coating



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.

TECHNICAL DATA

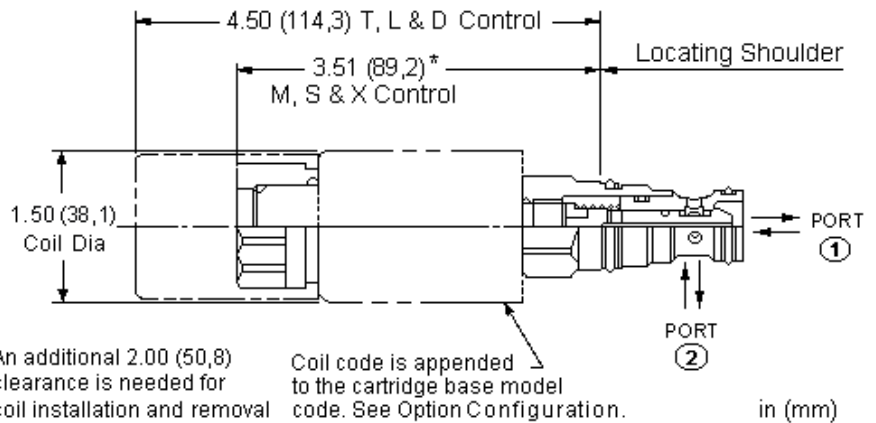
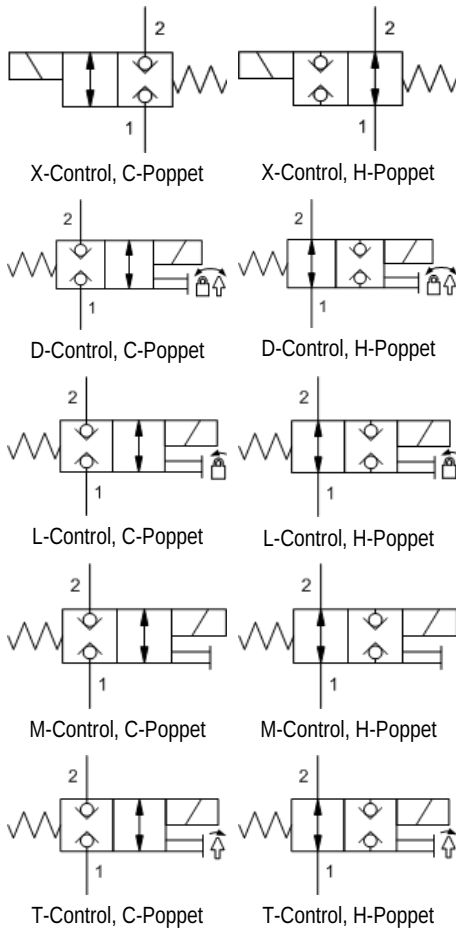
Maximum Operating Pressure	250 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	50 cc/min. @ 210 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Viton: 990010006

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

CONFIGURATION OPTIONS

Model Code Example: DLDBXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
M Manual Override	H Normally Open	V Viton	* Additional coil options are available



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

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	EPDM: 990413014
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

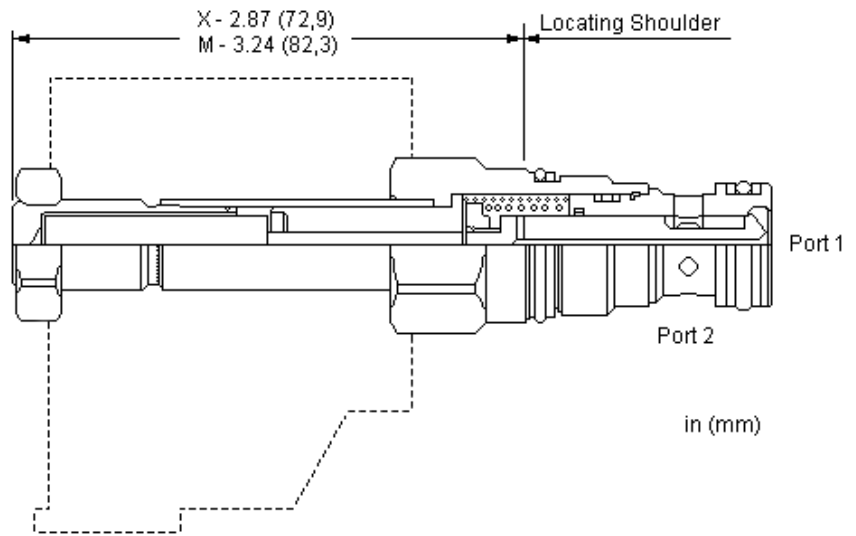
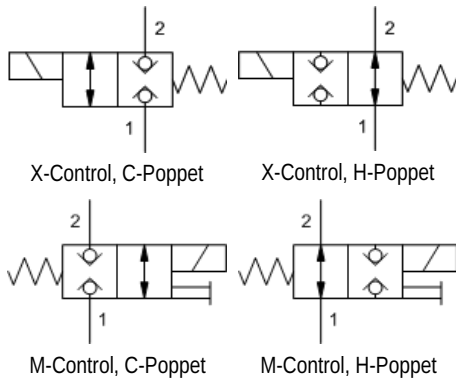
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DTDAXCN

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available



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

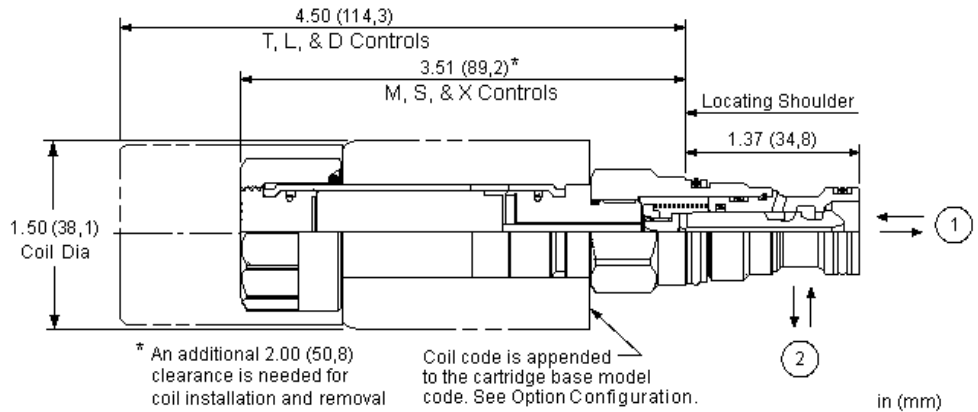
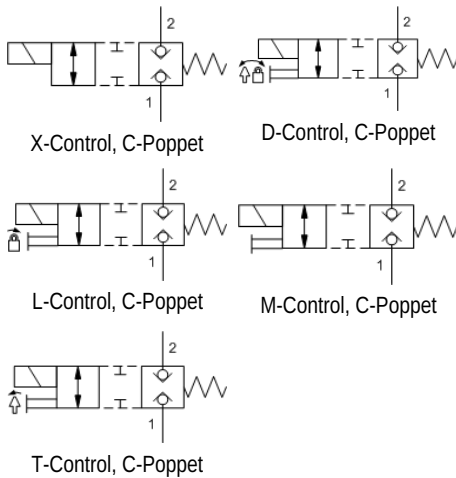
TECHNICAL DATA

Maximum Operating Pressure	250 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@210 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	EPDM: 990413014
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

CONFIGURATION OPTIONS

Model Code Example: DTDBXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
M Manual Override	H Normally Open	E EPDM	* Additional coil options are available
		V Viton	



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

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency	15000 cycles/hr
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

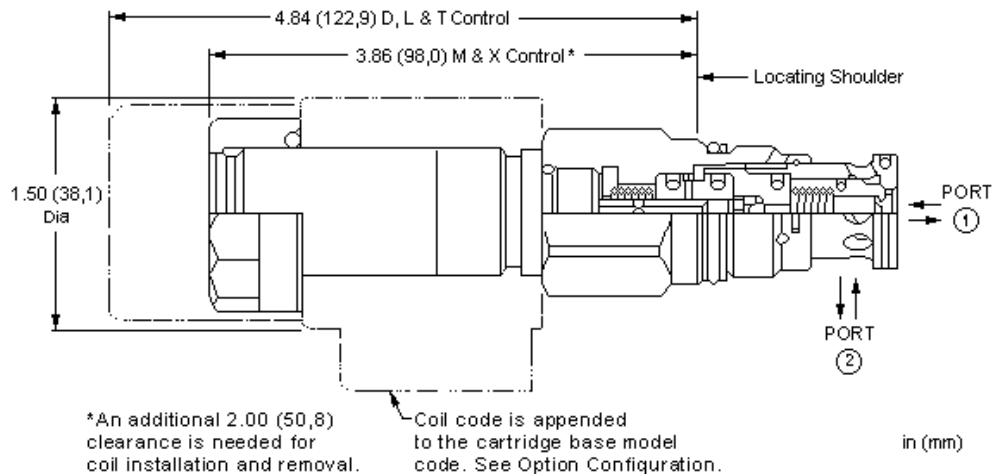
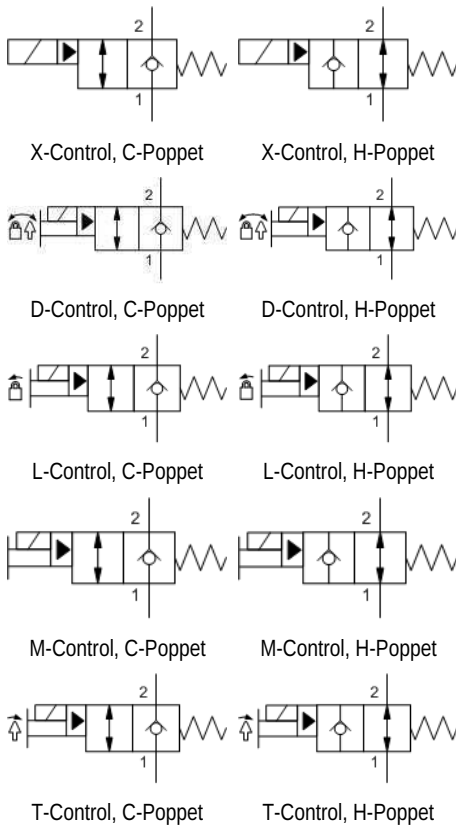
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DTCAXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override		E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 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

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

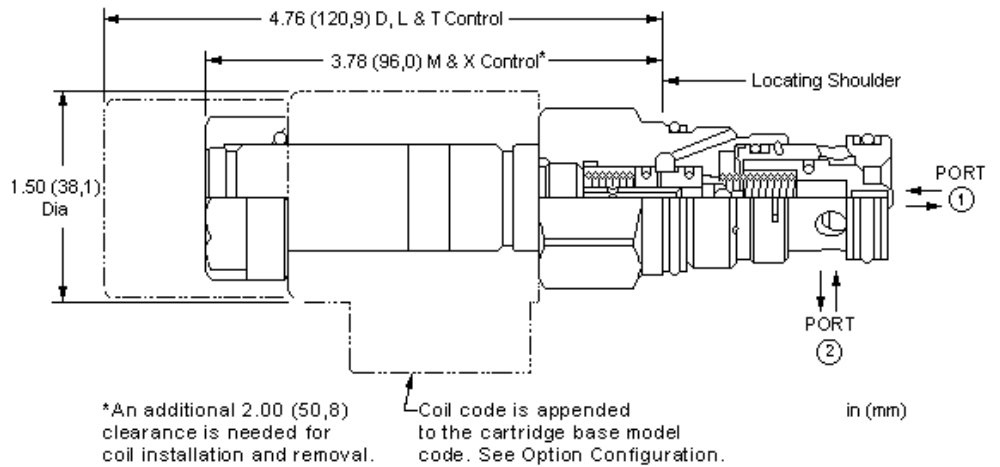
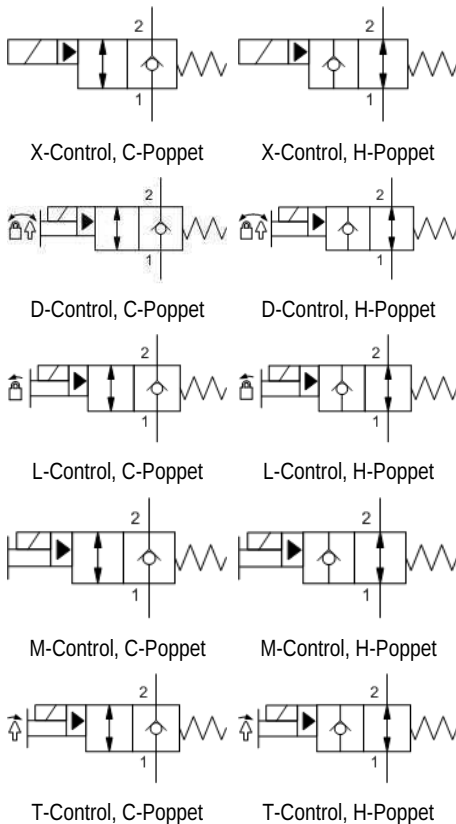
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DFCAXCN

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 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

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

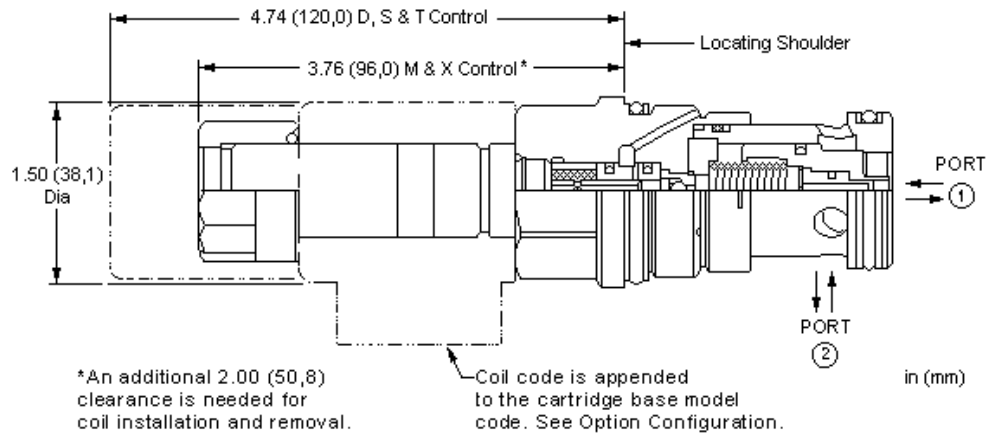
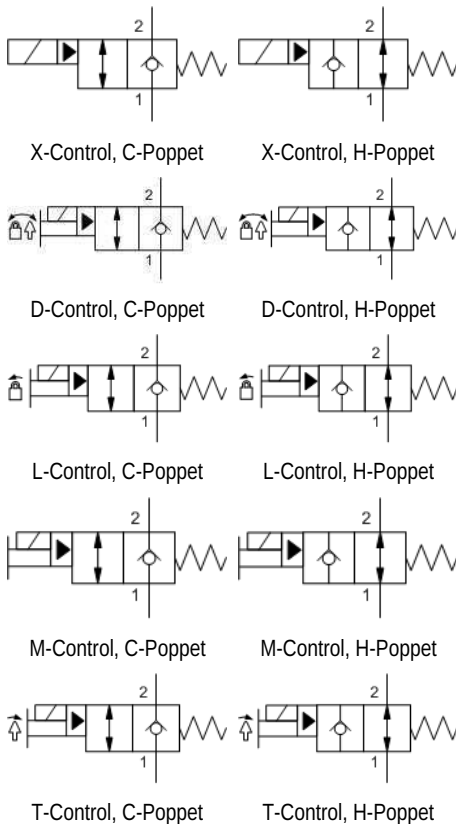
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DFDAXCN

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 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

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Viton: 990016006

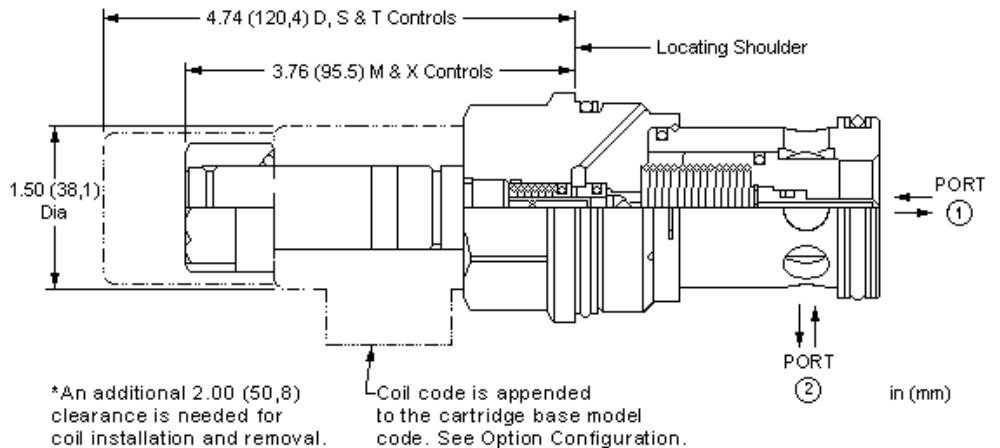
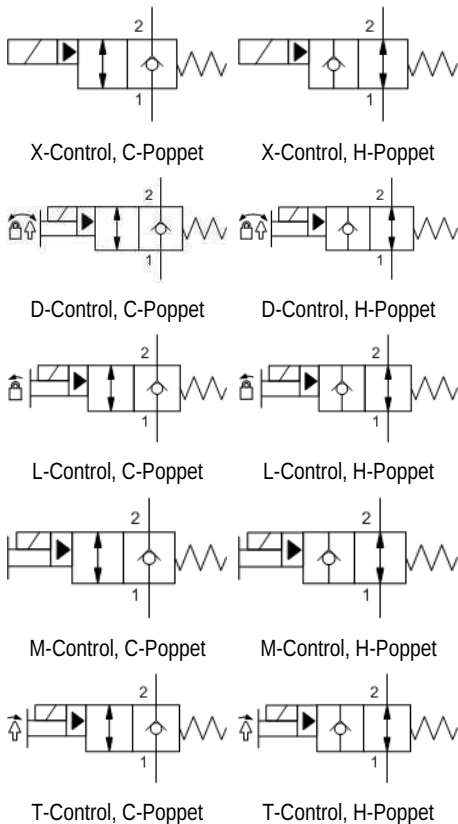
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DFEAXCN

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 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

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Viton: 990018006

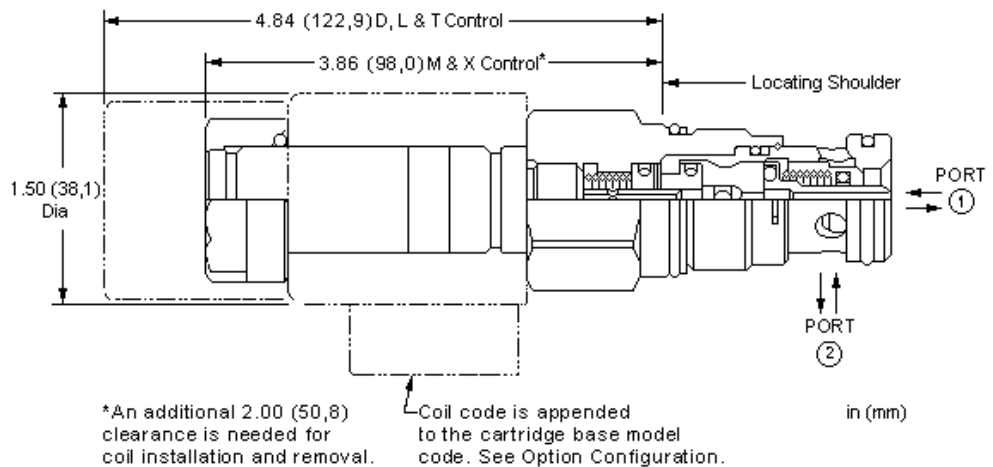
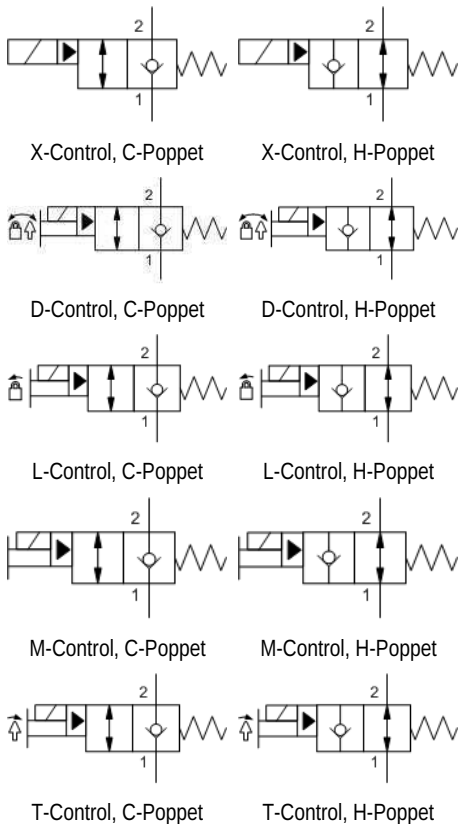
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DFFAXCN

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	V Viton	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 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

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

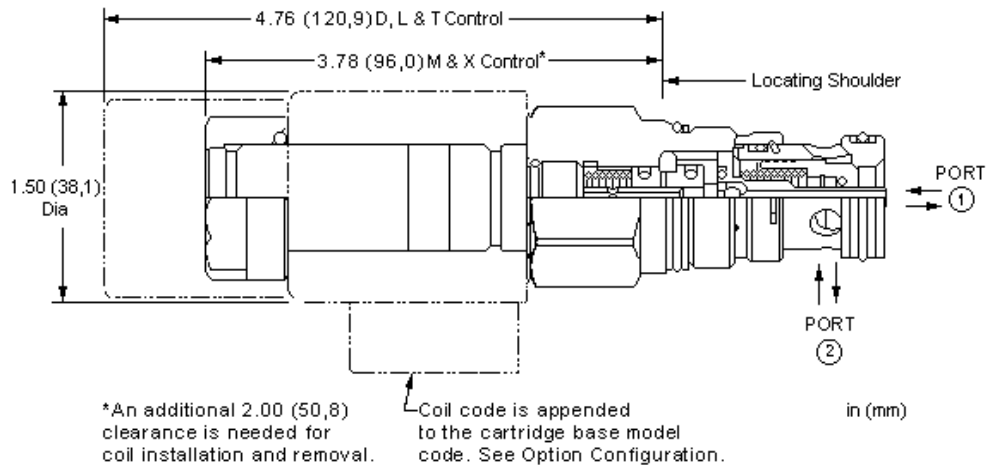
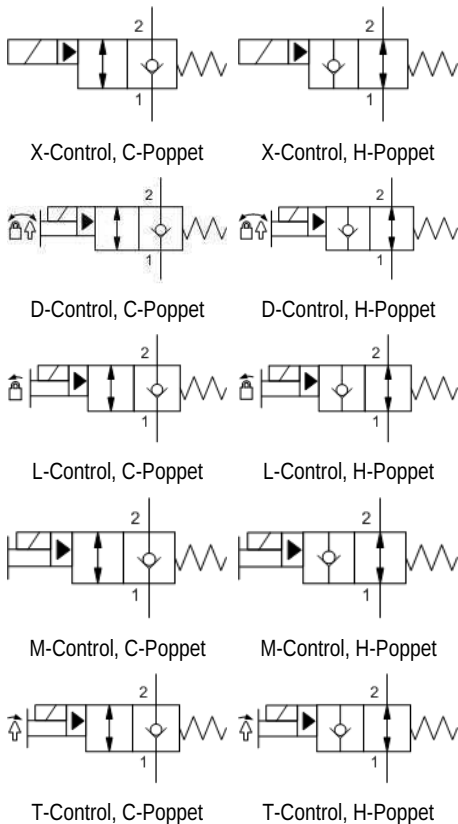
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: **DFCBXCN**

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	V Viton	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 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

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

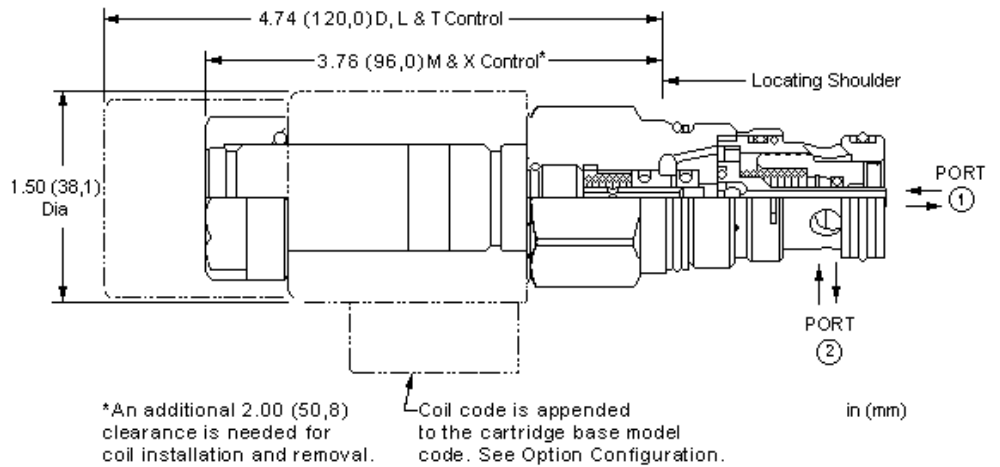
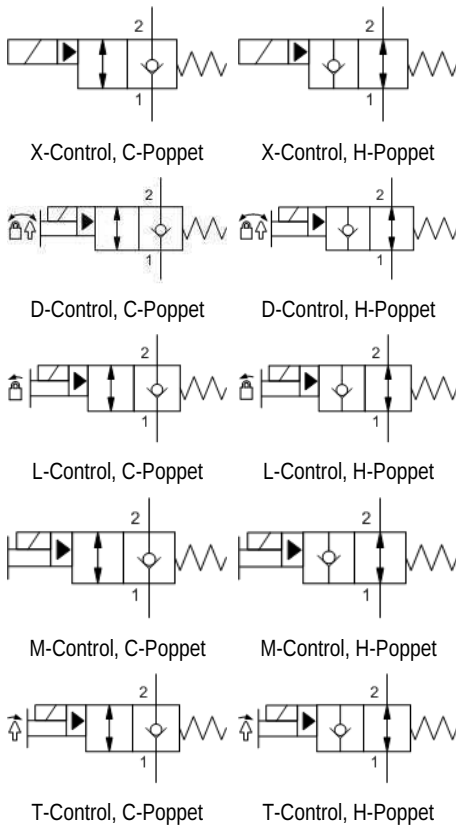
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DFDBXCN

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 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

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 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**

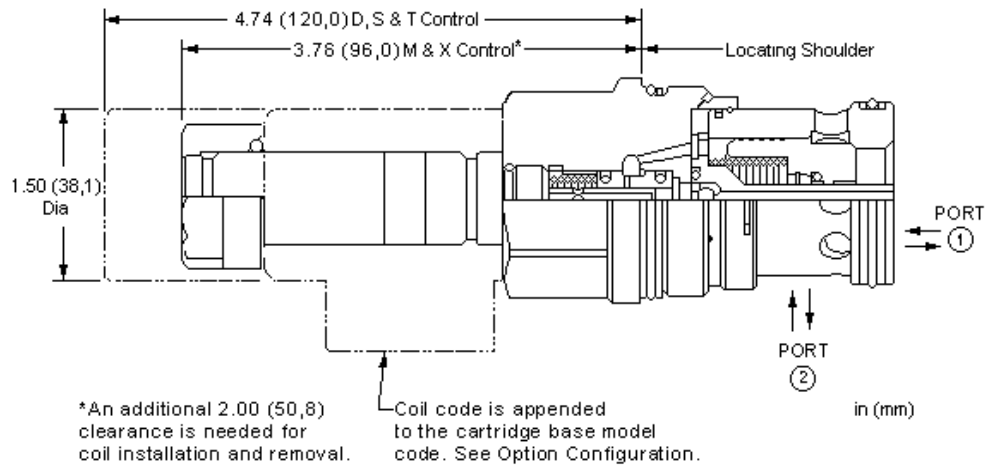
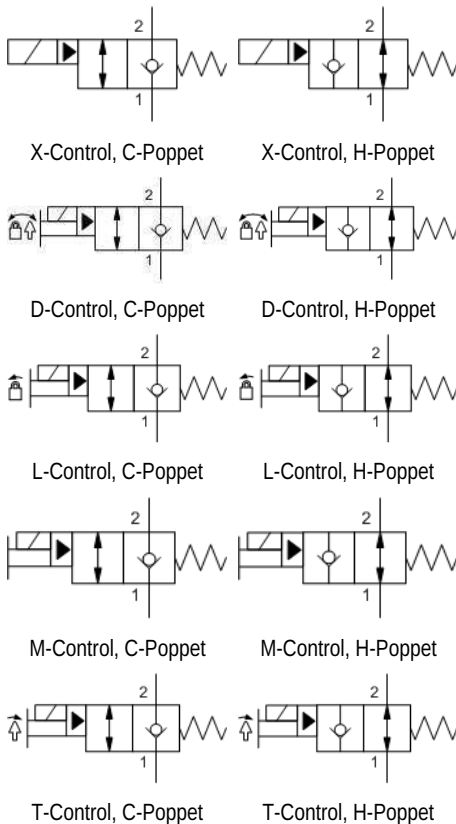
CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	V Viton	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available

MATERIAL/COATING

Standard Material/Coating

IAP Stainless Steel, Passivated



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

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Viton: 990018006

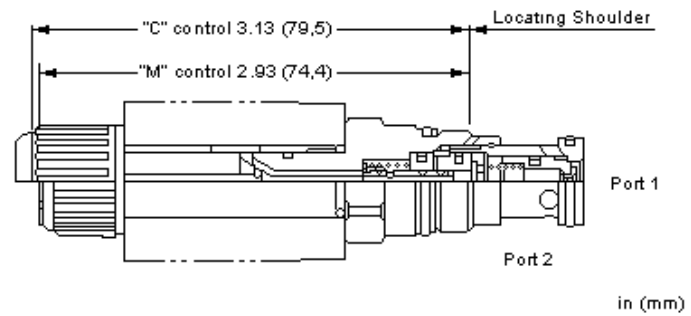
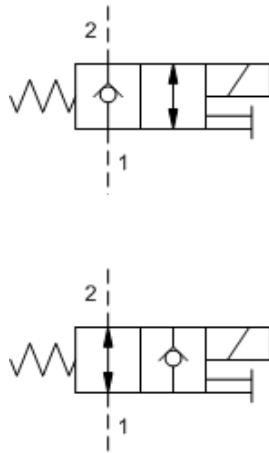
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DFFBXCN

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 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

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990313014
Seal kit - Cartridge	Viton: 990310006

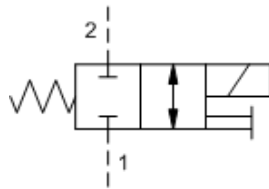
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

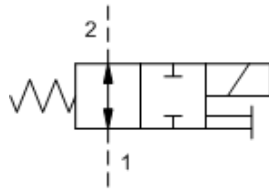
Model Code Example: DACC MCN

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

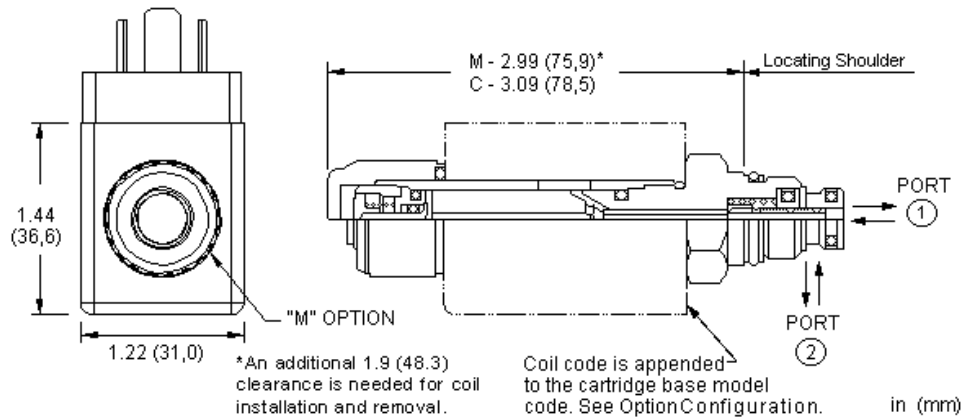
* Additional coil options are available



M or S-Control, C-Spool



M or S-Control, H-Spool



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full-flow valves. The valve is available in either a normally open or normally closed configuration.

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

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	66 N/100 bar @ Port 1
Seal kit - Cartridge	Buna: 990008007
Seal kit - Cartridge	EPDM: 990308114
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990008006

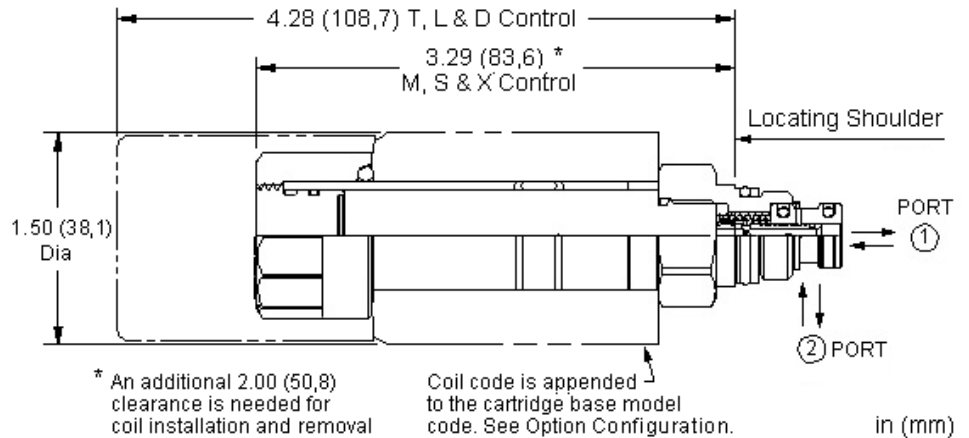
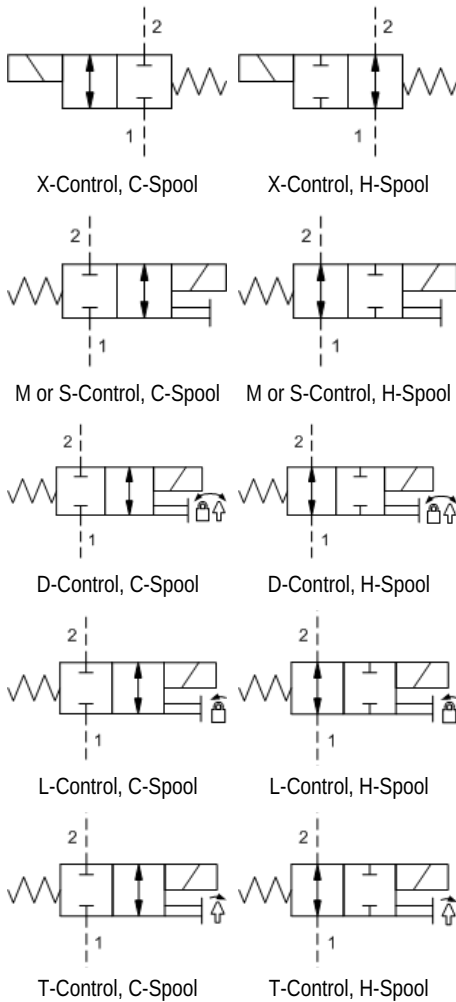
NOTES An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DAAAMCN

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

* Additional coil options are available



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full-flow valves. The valve is available in either a normally open or normally closed configuration.

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

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990008007
Seal kit - Cartridge	EPDM: 990008014
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990008006

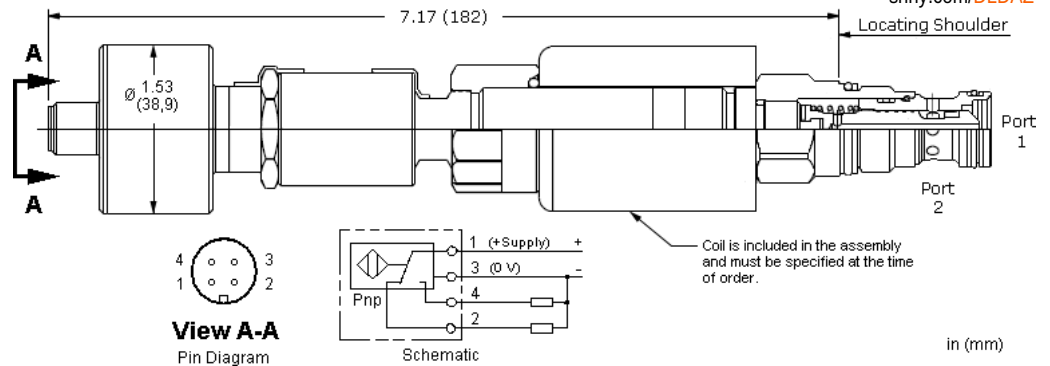
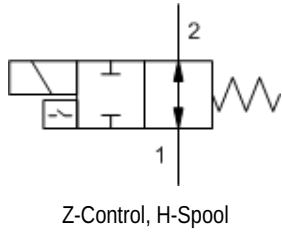
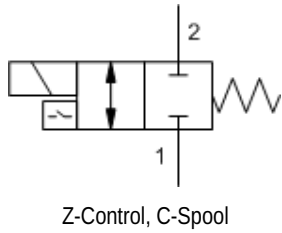
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DAALXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available



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.

The position switch provides confirmation that the valve is in the spring biased position.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min. @210 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Viton: 990413006

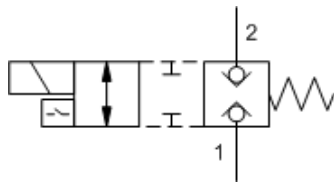
NOTES An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

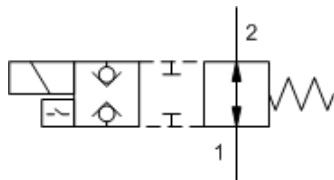
Model Code Example: DLDAZCN224

SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *	(224)
C Normally Closed		N Buna-N		224 DIN 43650-Form A, 24 VDC	
H Normally Open		V Viton		212 DIN 43650-Form A, 12 VDC	
				912 Deutsch DT04-2P, 12 VDC	
				924 Deutsch DT04-2P, 24 VDC	

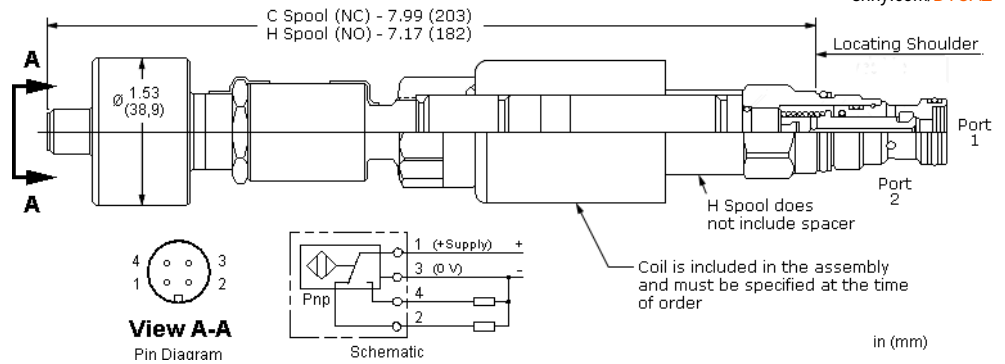
* Additional coil options are available



Z-Control, C-Poppet



Z-Control, H-Poppet



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. 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.

The position switch provides confirmation that the valve is in the non-energized position.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	EPDM: 990413014
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

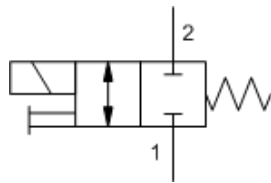
NOTES An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

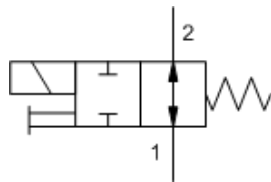
Model Code Example: DTCAZCN224

SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *	(224)
C Normally Closed	N Buna-N	224 DIN 43650-Form A, 24 VDC			
H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC			
	V Viton	912 Deutsch DT04-2P, 12 VDC			
		924 Deutsch DT04-2P, 24 VDC			

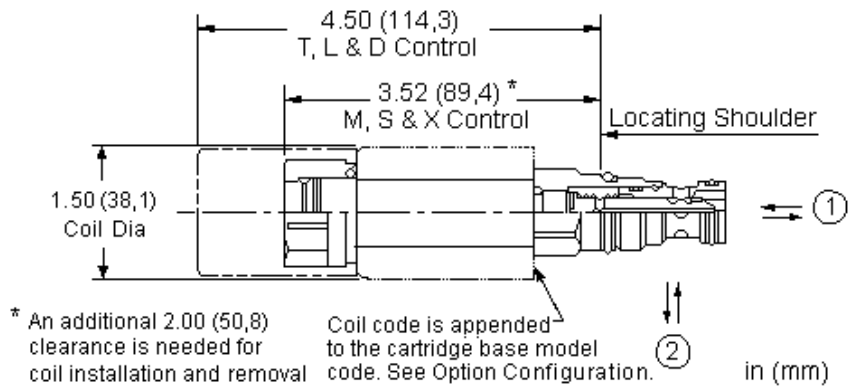
* Additional coil options are available



M or S-Control, C-Spool



M or S-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 greatly reduces system shock due to valve actuation. The valve is available in either a normally open or normally closed configuration.

TECHNICAL DATA

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
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	EPDM: 990413014
Seal kit - Cartridge	Viton: 990413006

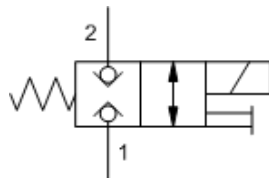
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

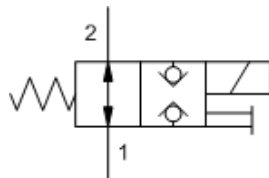
Model Code Example: DLDASCN

SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
C Normally Closed	N Buna-N			No coil
H Normally Open	E EPDM			212 DIN 43650-Form A, 12 VDC
	V Viton			224 DIN 43650-Form A, 24 VDC
				712 Twin Lead, 12 VDC
				724 Twin Lead, 24 VDC
				912 Deutsch DT04-2P, 12 VDC
				924 Deutsch DT04-2P, 24 VDC

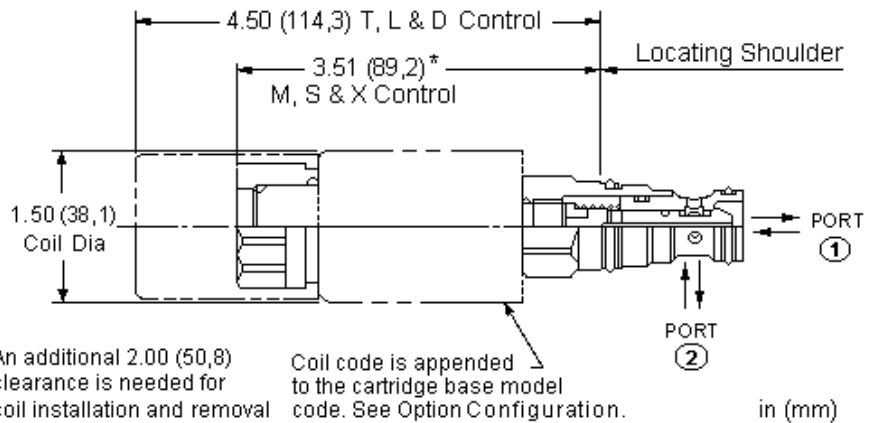
* Additional coil options are available



M-Control, C-Poppet



M-Control, H-Poppet



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style valve with a soft shift feature. The soft shift feature greatly reduces system shock due to valve actuation. The valve is available in either a normally open or normally closed configuration. Due to its poppet-style construction, this valve has extremely low leakage.

TECHNICAL DATA

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	EPDM: 990413014
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

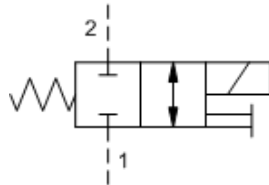
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

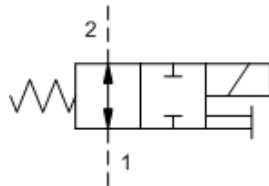
Model Code Example: DTDASCN

POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
C Normally Closed	N Buna-N	No coil
H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
	V Viton	224 DIN 43650-Form A, 24 VDC
		712 Twin Lead, 12 VDC
		724 Twin Lead, 24 VDC
		912 Deutsch DT04-2P, 12 VDC
		924 Deutsch DT04-2P, 24 VDC

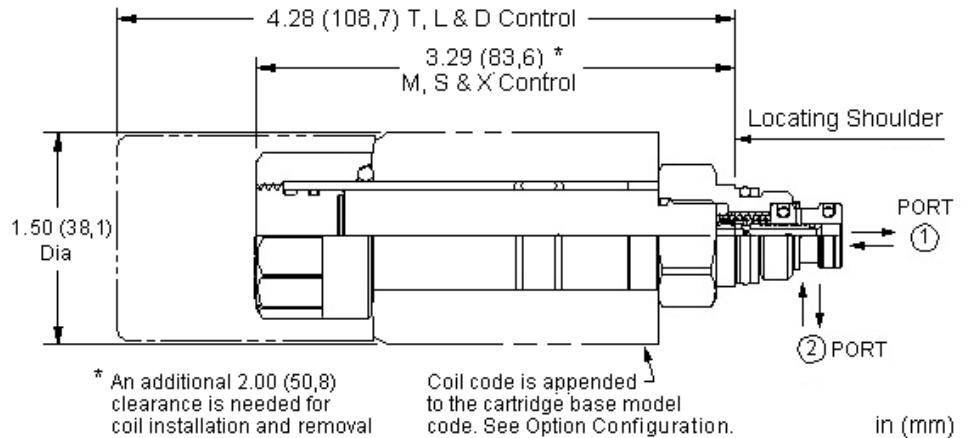
* Additional coil options are available



M or S-Control, C-Spool



M or S-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 greatly reduces system shock due to valve actuation. The valve is available in either a normally open or normally closed configuration.

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min. @350 bar
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990008007
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990008006

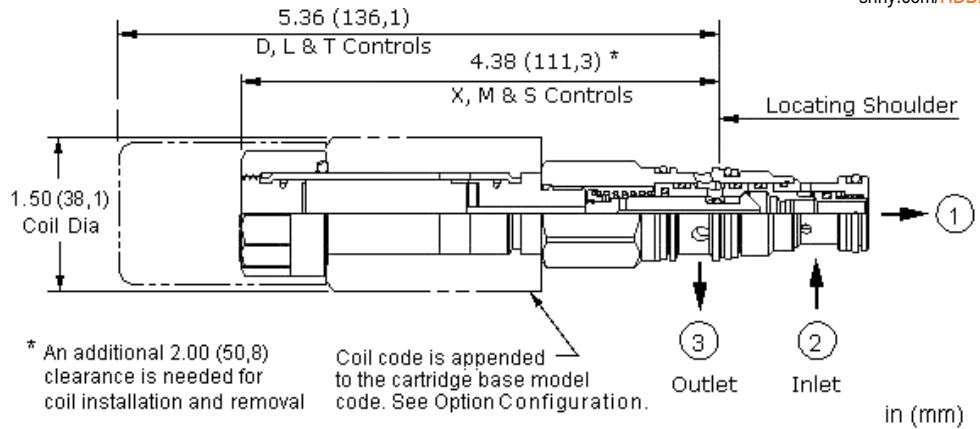
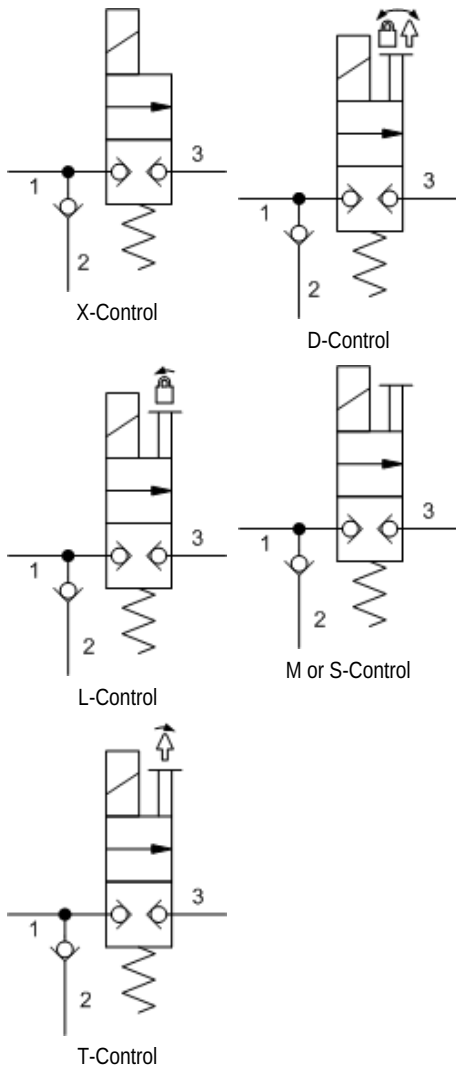
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DAALSCN

SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
C Normally Closed	N Buna-N	No coil
H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
	V Viton	224 DIN 43650-Form A, 24 VDC
		712 Twin Lead, 12 VDC
		724 Twin Lead, 24 VDC
		912 Deutsch DT04-2P, 12 VDC
		924 Deutsch DT04-2P, 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

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	2 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

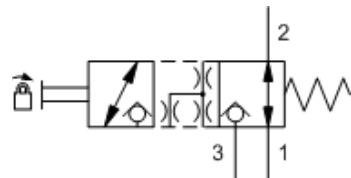
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

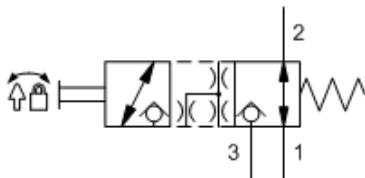
Model Code Example: HDDAXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override		V Viton	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

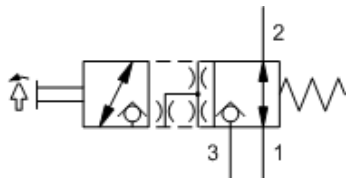
* Additional coil options are available



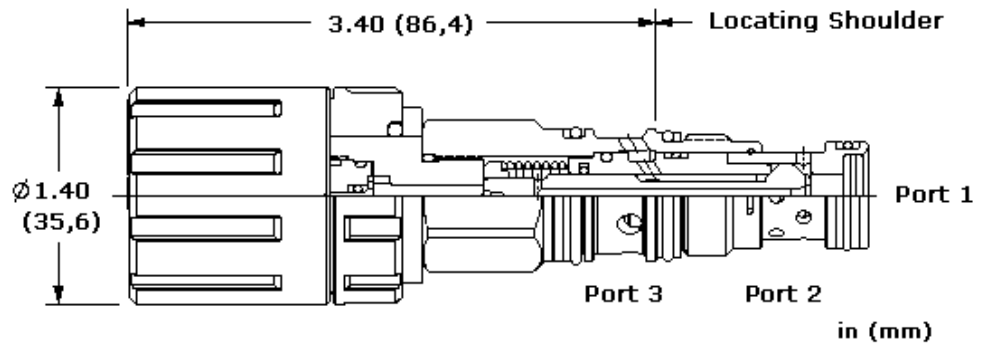
L-Control, A-Poppet



D-Control, A-Poppet



T-Control, A-Poppet



This manually operated, 2-position, 3-way directional cartridge is a direct-acting, poppet-style valve used to control the direction of flow in a hydraulic circuit. The valve is normally open between port 1 and port 2 with port 3 blocked. Operating the valve connects port 2 to 3 and blocks port 1. All flow paths are bidirectional and blocked paths are blocked in both directions. Due to the poppet style construction, this valve has extremely low leakage.

Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

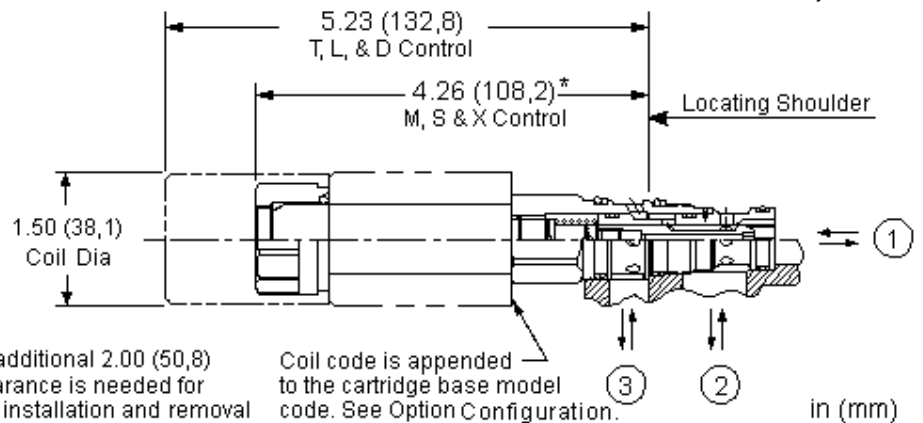
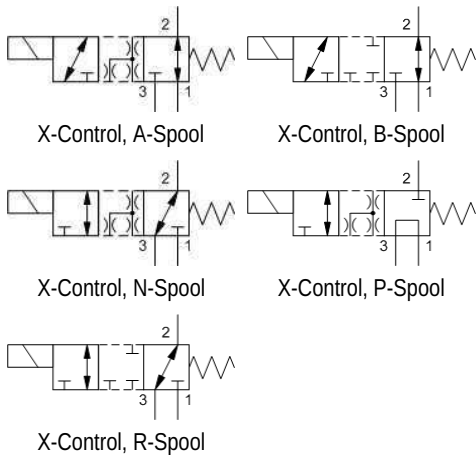
TECHNICAL DATA

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: 990411007
Seal kit - Cartridge	Viton: 990411006

CONFIGURATION OPTIONS

Model Code Example: DWDMLAN

CONTROL	(L)	POPPET CONFIGURATION	(A)	SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override		A Normally Open 1 to 2, Closed 2 to 3		N Buna-N	
D Twist/Lock (Dual) Manual Override				V Viton	
T Twist (Momentary) Manual Override					



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	EPDM: 990411014
Seal kit - Cartridge	Viton: 990411006

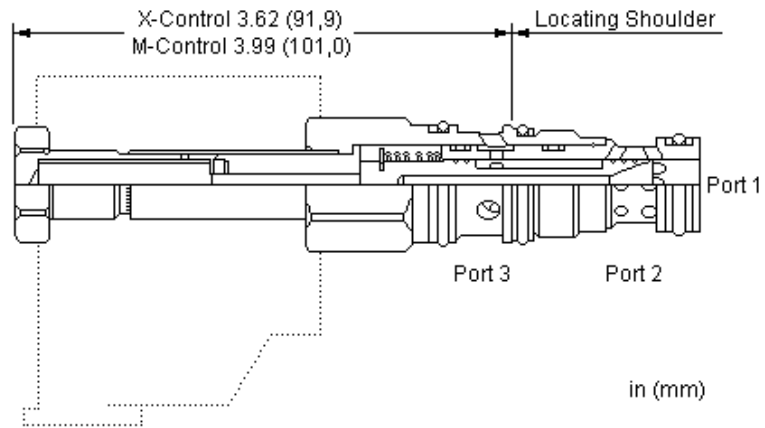
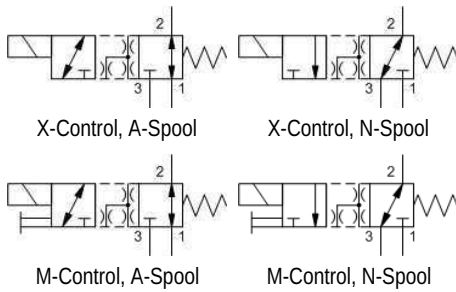
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DMDAXAN

CONTROL	(X) SPOOL CONFIGURATION	(A) SEAL MATERIAL	(N) COIL *
X No Manual Override	A Normally Open 1 to 2, Closed 2 to 3	N Buna-N	No coil
M Manual Override	N Normally Open 2 to 3, Closed 1 to 2	E EPDM	212 DIN 43650-Form A, 12 VDC
D Twist/Lock (Dual) Manual Override	B Normally Open 1 to 2, Closed 2 to 3, Closed Transition	V Viton	224 DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override	P Normally Open 1 to 3, Closed 1 to 2		712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override	R Normally Open 2 to 3, Closed 1 to 2, Closed Transition		724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

TECHNICAL DATA

Maximum Operating Pressure	250 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min. @210 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990811007
Seal kit - Cartridge	Viton: 990811006

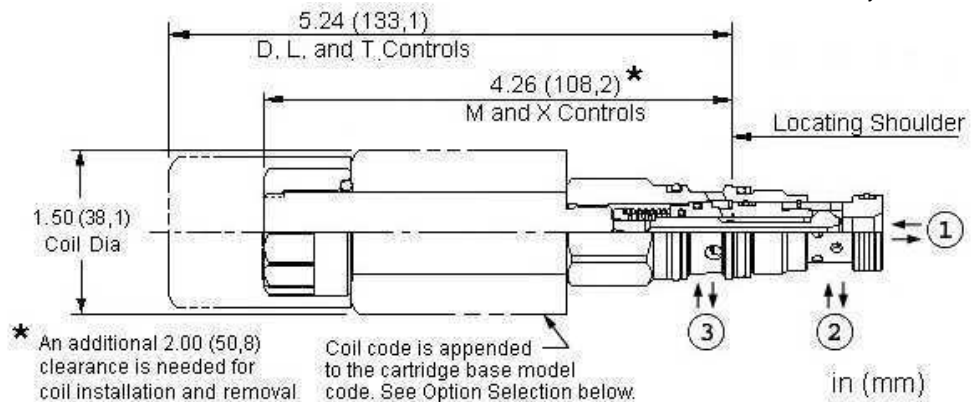
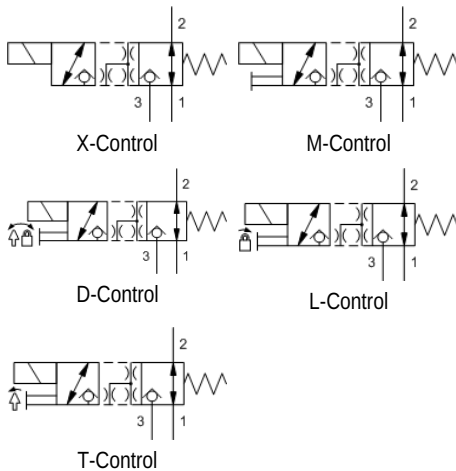
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DMDBXAN

CONTROL	(X) SPOOL CONFIGURATION	(A) SEAL MATERIAL	(N) COIL *
X No Manual Override	A Normally Open 1 to 2, Closed 2 to 3	N Buna-N	No coil
M Manual Override	N Normally Open 2 to 3, Closed 1 to 2	V Viton	

* Additional coil options are available



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is normally open between port 1 and port 2 with port 3 blocked. Energizing the valve connects port 2 to 3 and blocks port 1. All flow paths are bidirectional and blocked paths are blocked in both directions. Due to the poppet style construction, this valve has extremely low leakage.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min. @350 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	Viton: 990411006

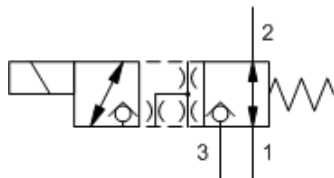
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

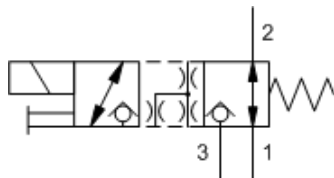
Model Code Example: DWDAXAN

CONTROL	(X) POPPET CONFIGURATION	(A) SEAL MATERIAL	(N) COIL *
X No Manual Override	A Normally Open 1 to 2, Closed 2 to 3	N Buna-N	No coil
M Manual Override (Standard)		E EPDM	212 DIN 43650-Form A, 12 VDC
D Twist/Lock (Dual) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

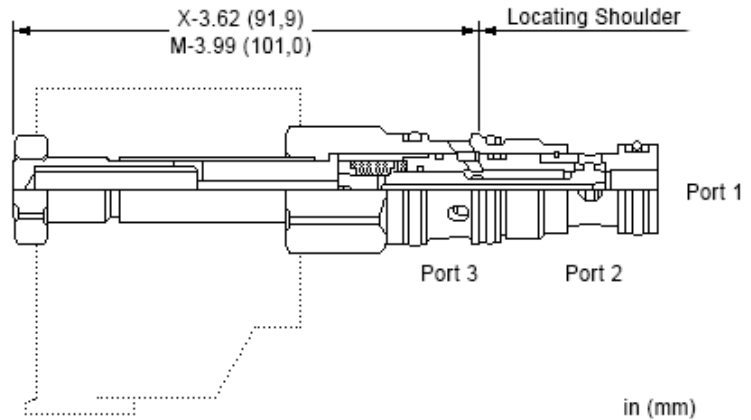
* Additional coil options are available



X-Control



M-Control



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is normally open between port 1 and port 2 with port 3 blocked. Energizing the valve connects port 2 to 3 and blocks port 1. All flow paths are bidirectional and blocked paths are blocked in both directions. Due to the poppet style construction, this valve has extremely low leakage.

TECHNICAL DATA

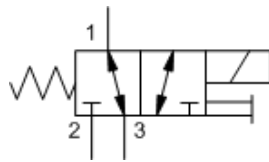
Maximum Operating Pressure	250 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min. @210 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990811007
Seal kit - Cartridge	Viton: 990811006

- 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.

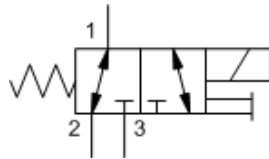
CONFIGURATION OPTIONS

Model Code Example: DWDBXAN

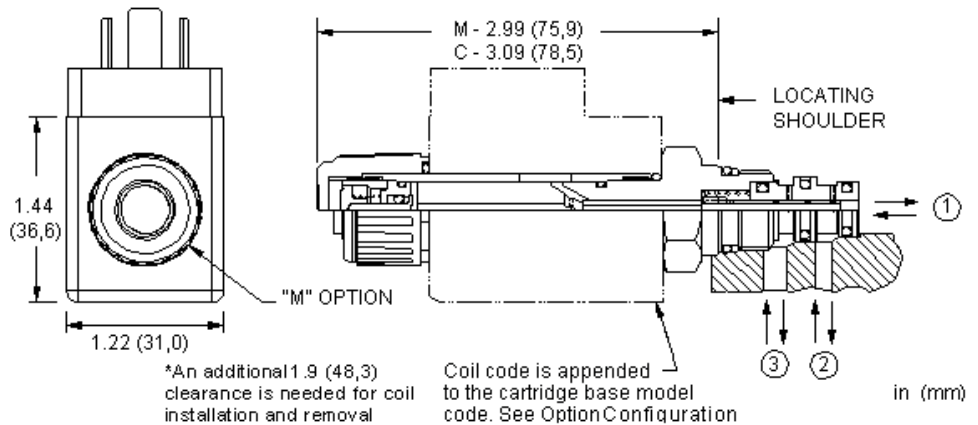
CONTROL	(X)	POPPET CONFIGURATION	(A)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		A Normally Open 1 to 2, Closed 2 to 3		N Buna-N		No coil
M Manual Override				V Viton		* Additional coil options are available



M or S-Control, C-Spool



M or S-Control, H-Spool



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full-flow valves. The valve is normally open between port 1 and port 2 or port 1 and port 3 and all flow paths are bidirectional.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min. @350 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	66 N/100 bar @ Port 1
Seal kit - Cartridge	Buna: 990009007
Seal kit - Cartridge	EPDM: 990309014
Seal kit - Cartridge	Polyurethane: 990009002
Seal kit - Cartridge	Viton: 990009006

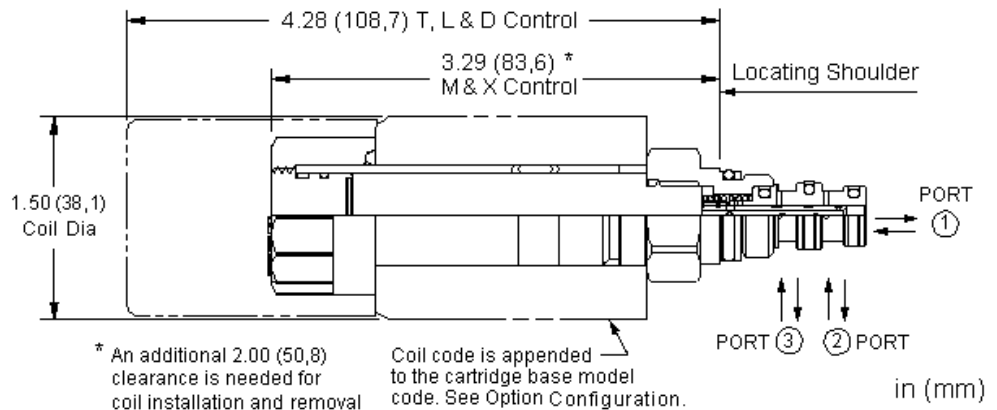
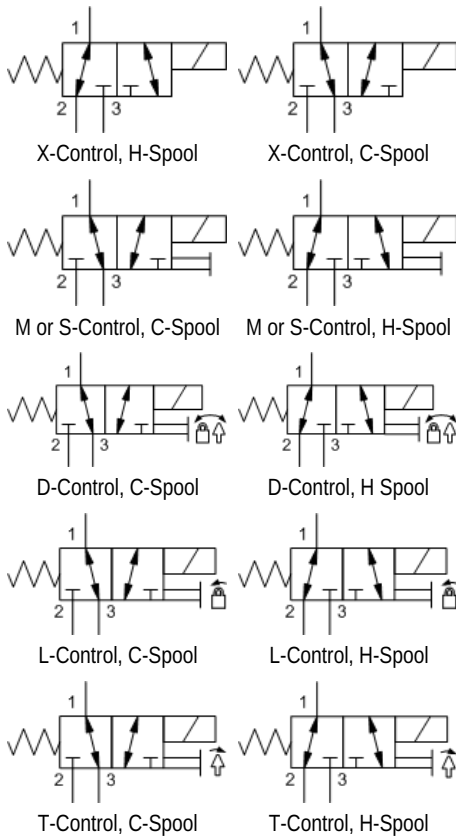
NOTES An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DBAAMCN

CONTROL	(M) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
M Manual Override	C Normally Open 1 to 3, Closed 1 to 2	N Buna-N	No coil
C Concealed Manual Override	H Normally Open 1 to 2, Closed 1 to 3	E EPDM V Viton	212 DIN 43650-Form A, 12 VDC 224 DIN 43650-Form A, 24 VDC 712 Twin Lead, 12 VDC 724 Twin Lead, 24 VDC

* Additional coil options are available



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full-flow valves. The valve is normally open between port 1 and port 2 or port 1 and port 3 and all flow paths are bidirectional.

TECHNICAL DATA

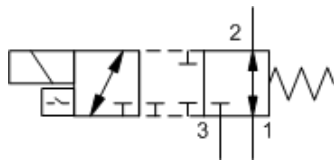
Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990009007
Seal kit - Cartridge	EPDM: 990309114
Seal kit - Cartridge	Polyurethane: 990009002
Seal kit - Cartridge	Viton: 990009006

- 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.

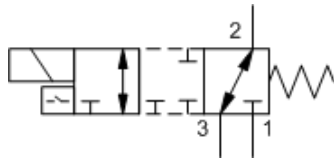
CONFIGURATION OPTIONS
Model Code Example: DBALXHN

CONTROL	(X) SPOOL CONFIGURATION	(H) SEAL MATERIAL	(N) COIL *
X No Manual Override	H Normally Open 1 to 2, Closed 1 to 3	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	C Normally Open 1 to 3, Closed 1 to 2	E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

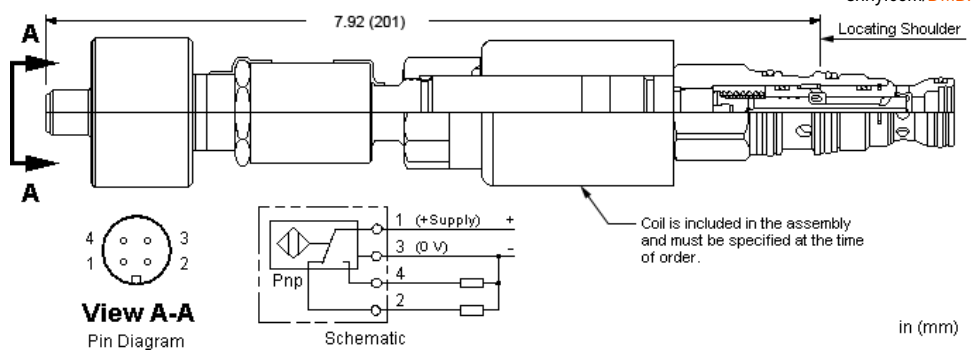
* Additional coil options are available



Z-Control, B-Spool



Z-Control, R-Spool



in (mm)

This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The transition between positions is closed. The closed transition greatly reduces the loss of oil when shifting which can be of particular importance in pilot control circuits.

The position switch provides confirmation that the valve is in the spring biased position.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	EPDM: 990411014
Seal kit - Cartridge	Viton: 990411006

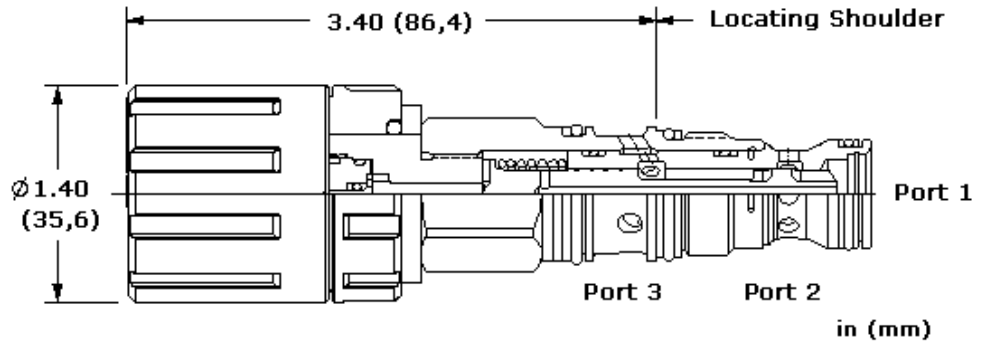
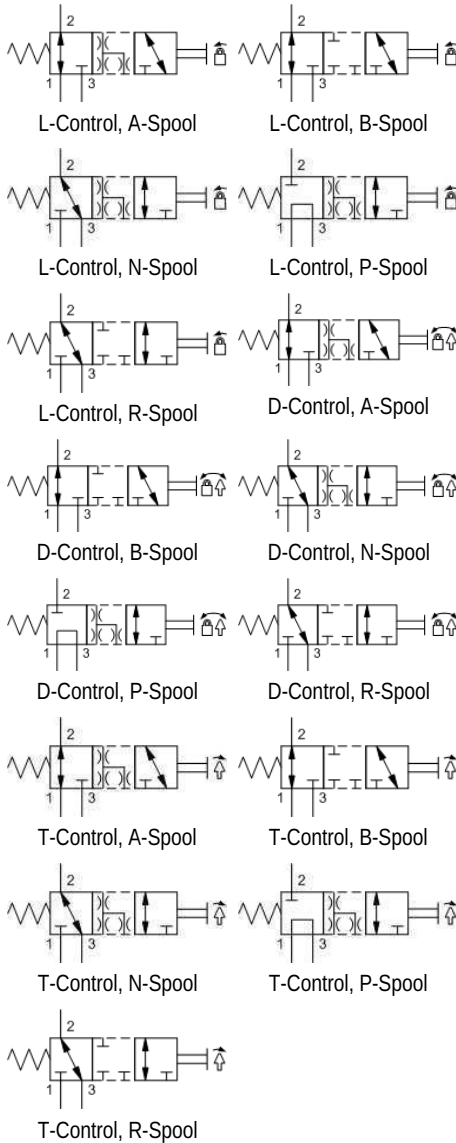
NOTES An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DMDAZBN224

SPOOL CONFIGURATION	(B)	SEAL MATERIAL	(N)	COIL *	(224)
B Normally Open 1 to 2, Closed 2 to 3, Closed Transition		N Buna-N		224 DIN 43650-Form A, 24 VDC	
		E EPDM		212 DIN 43650-Form A, 12 VDC	
R Normally Open 2 to 3, Closed 1 to 2, Closed Transition		V Viton		912 Deutsch DT04-2P, 12 VDC	
				924 Deutsch DT04-2P, 24 VDC	

* Additional coil options are available



This manually operated, 2-position, 3-way directional cartridge is a direct-acting, balanced spool valve used to control the direction of flow in a hydraulic circuit. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

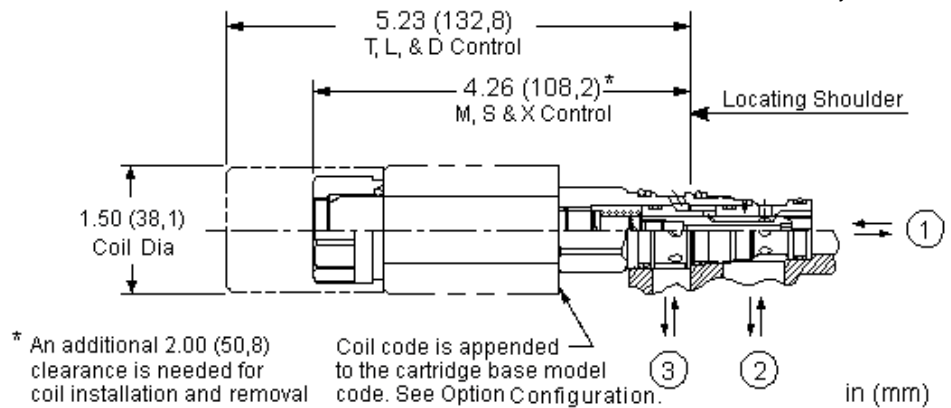
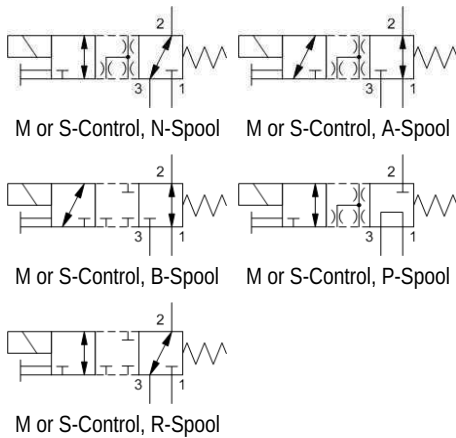
TECHNICAL DATA

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: 990411007
Seal kit - Cartridge	Viton: 990411006

CONFIGURATION OPTIONS

Model Code Example: **DMDMLAN**

CONTROL	(L) SPOOL CONFIGURATION	(A) SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	A Normally Open 1 to 2, Closed 2 to 3	N Buna-N	
D Twist/Lock (Dual) Manual Override	B Normally Open 1 to 2, Closed 2 to 3, Closed Transition	V Viton	
T Twist (Momentary) Manual Override	N Normally Open 2 to 3, Closed 1 to 2		
	P Normally Open 1 to 3, Closed 1 to 2		
	R Normally Open 2 to 3, Closed 1 to 2, Closed Transition		



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

TECHNICAL DATA

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
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	EPDM: 990411014
Seal kit - Cartridge	Viton: 990411006

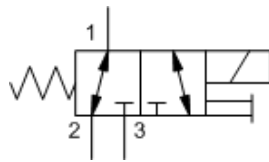
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

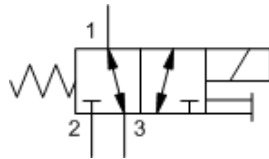
Model Code Example: DMDASNN

SPOOL CONFIGURATION	(N)	SEAL MATERIAL	(N)	COIL *
N Normally Open 2 to 3, Closed 1 to 2	N Buna-N	No coil		
A Normally Open 1 to 2, Closed 2 to 3	E EPDM	212 DIN 43650-Form A, 12 VDC		
B Normally Open 1 to 2, Closed 2 to 3, Closed Transition	V Viton	224 DIN 43650-Form A, 24 VDC		
P Normally Open 1 to 3, Closed 1 to 2		712 Twin Lead, 12 VDC		
R Normally Open 2 to 3, Closed 1 to 2, Closed Transition		724 Twin Lead, 24 VDC		
		912 Deutsch DT04-2P, 12 VDC		
		924 Deutsch DT04-2P, 24 VDC		

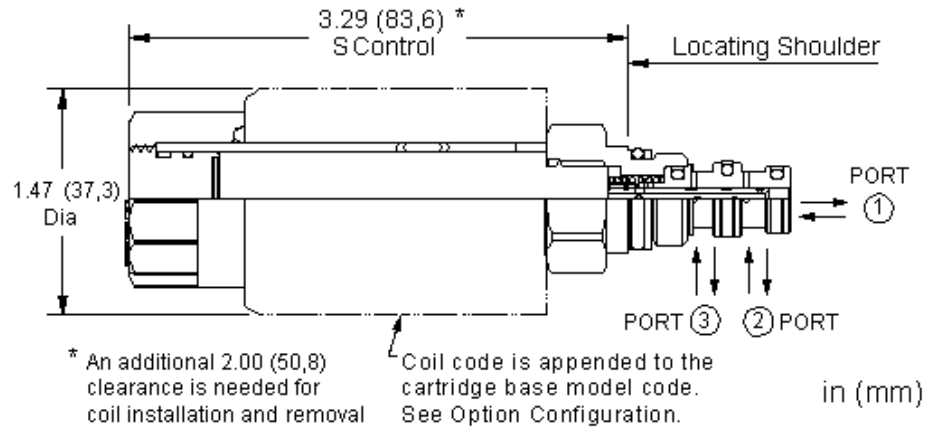
* Additional coil options are available



M or S-Control, H-Spool



M or S-Control, C-Spool



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full flow valves. It also includes the soft shift feature which greatly reduces system shock due to valve actuation. This valve is either normally open between port 1 and port 2 or port 1 and port 3 and all flow paths are bidirectional.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990009007
Seal kit - Cartridge	EPDM: 990309014
Seal kit - Cartridge	Polyurethane: 990009002
Seal kit - Cartridge	Viton: 990009006

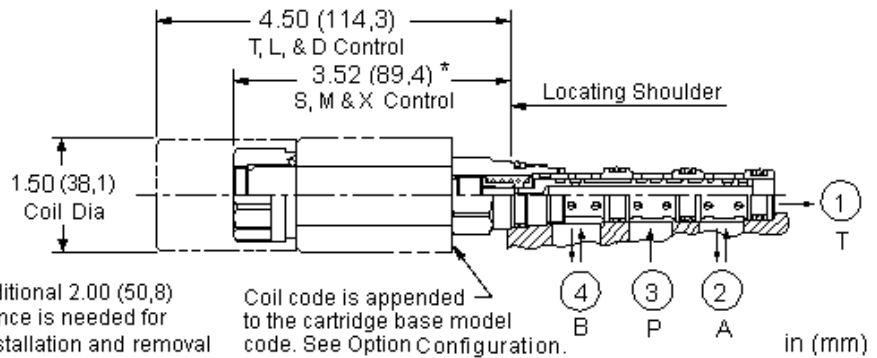
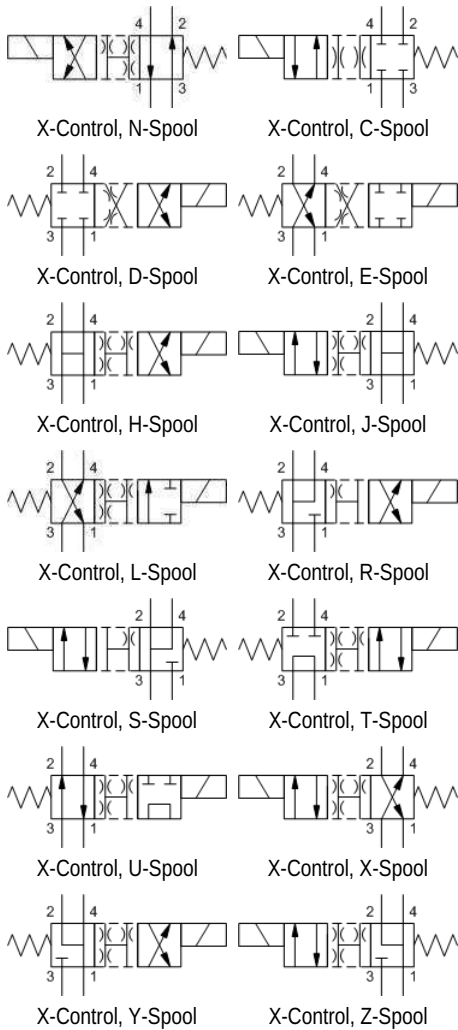
NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

CONFIGURATION OPTIONS

Model Code Example: DBALSHN

SPOOL CONFIGURATION	(H)	SEAL MATERIAL	(N)	COIL *
H Normally Open 1 to 2, Closed 1 to 3		N Buna-N		No coil
C Normally Open 1 to 3, Closed 1 to 2		E EPDM		212 DIN 43650-Form A, 12 VDC
		V Viton		224 DIN 43650-Form A, 24 VDC
				712 Twin Lead, 12 VDC
				724 Twin Lead, 24 VDC
				912 Deutsch DT04-2P, 12 VDC
				924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available



This solenoid-operated 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

TECHNICAL DATA

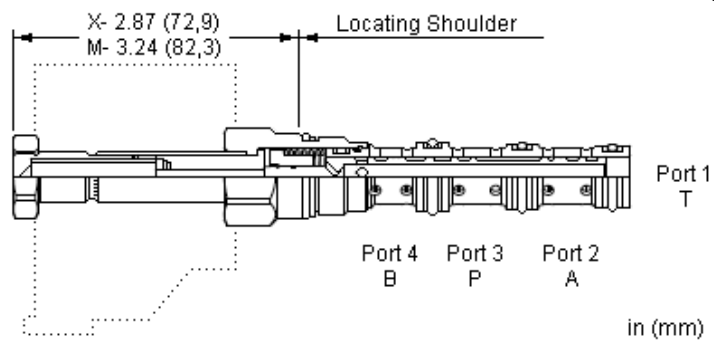
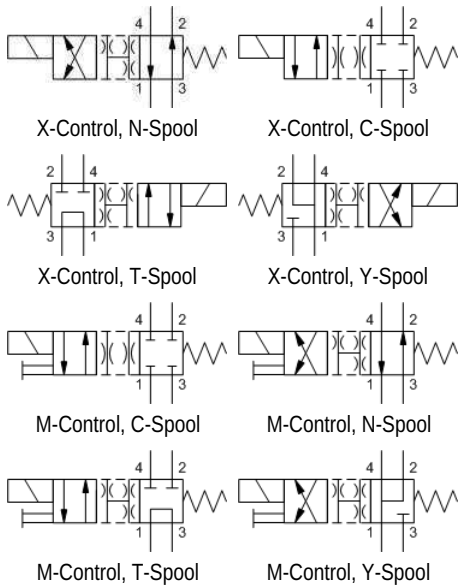
Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min. @210 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006

- 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: DNDAXNN

CONTROL	(X) SPOOL CONFIGURATION	(N) SEAL MATERIAL	(N) COIL *
X No Manual Override	N Through, Shift to Cross	N Buna-N	No coil
M Manual Override	C Closed, Shift to Through	E EPDM	212 DIN 43650-Form A, 12 VDC
D Twist/Lock (Dual) Manual Override	D Closed, Shift to Cross	V Viton	224 DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override	E Cross, Shift to Closed		712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override	H Open, Shift to Cross		724 Twin Lead, 24 VDC
	J Open, Shift to Through		912 Deutsch DT04-2P, 12 VDC
	L Cross, Shift to P to A, B and T Blocked		924 Deutsch DT04-2P, 24 VDC
	R Regen, Shift to Cross		* Additional coil options are available
	S Regen, Shift to Through		
	T Tandem, Shift to Through		
	U Through, Shift to Tandem		
	X Cross, Shift to Through		
	Y Motor, Shift to Cross		
	Z Motor, Shift to Through		



This solenoid-operated 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

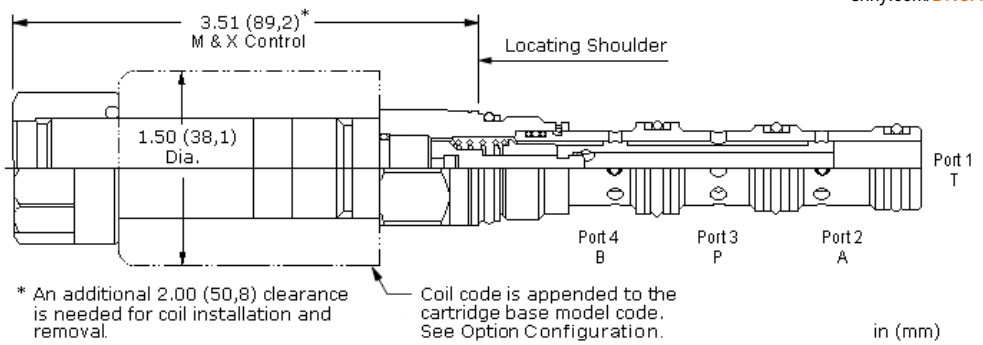
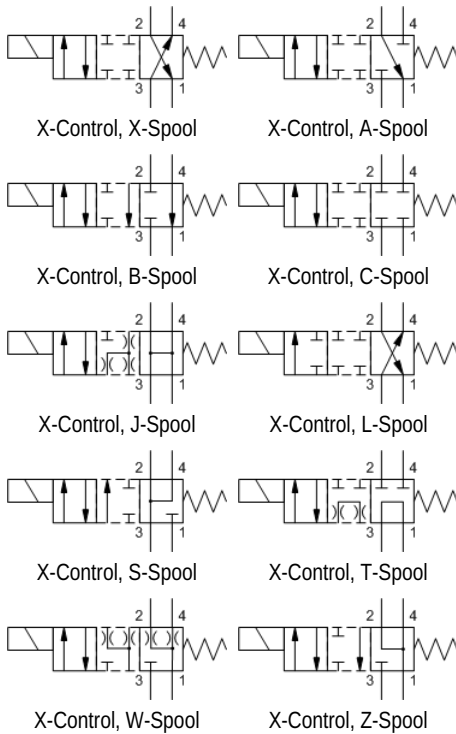
TECHNICAL DATA

Maximum Operating Pressure	250 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min. @210 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	Viton: 990431006

- 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: DNDBXNN

CONTROL	(X) SPOOL CONFIGURATION	(N) SEAL MATERIAL	(N) COIL *
X No Manual Override	N Through, Shift to Cross	N Buna-N	No coil
M Manual Override (Standard)	C Closed, Shift to Through	V Viton	* Additional coil options are available
	T Tandem, Shift to Through		
	Y Motor, Shift to Cross		



This solenoid-operated, 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The transition between positions is closed. The closed transition greatly reduces the loss of oil when shifting which can be of particular importance in pilot control circuits.

TECHNICAL DATA

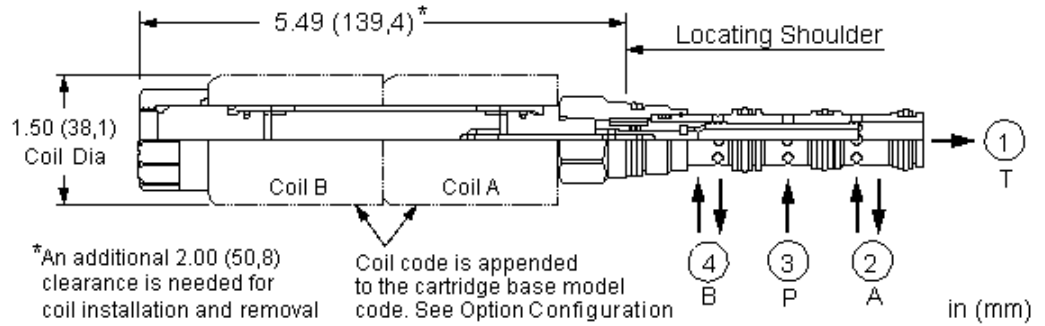
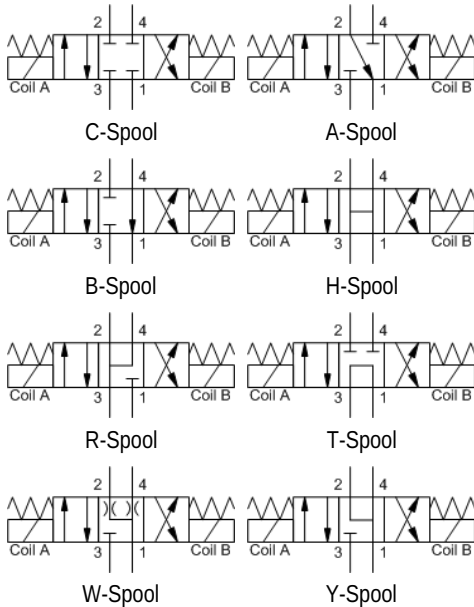
Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min. @210 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006

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

CONFIGURATION OPTIONS

Model Code Example: DNCAXXN

CONTROL	(X) SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N) COIL *
X No Manual Override	X Cross, Shift to Through	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	C Closed, Shift to Through	E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override	A A to T, Shift to Through	V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override	B B to T, Shift to Through		712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override	J Open, Shift to Through		724 Twin Lead, 24 VDC
	L Cross, Shift to P to A, B and T Blocked		912 Deutsch DT04-2P, 12 VDC
	S Regen, Shift to Through		924 Deutsch DT04-2P, 24 VDC
	T Tandem, Shift to Through		* Additional coil options are available
	W A and B Bleed to T, Shift to Through		
	Z Motor, Shift to Through		



This direct acting, solenoid-operated, 4-way, 3-position spool valve is spring centered to the neutral position. When coil A is energized, the flow is from port 3 (P) to port 2 (A) and from port 4 (B) to port 1 (T). When coil B is energized, the flow is from port 3 to port 4 and from port 2 to port 1.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min. @210 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006

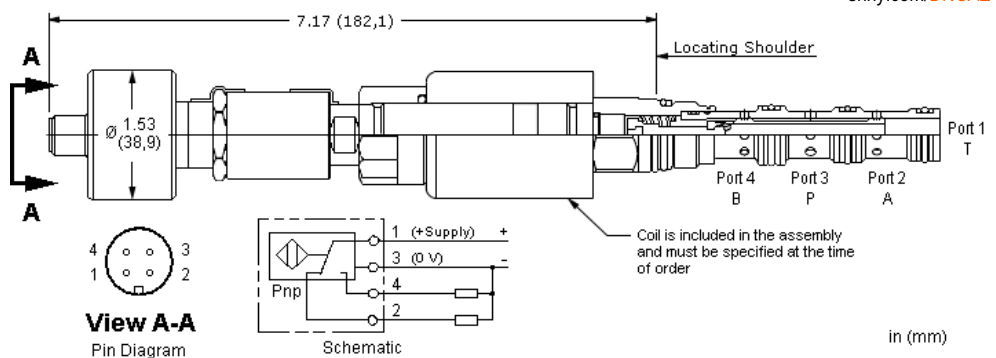
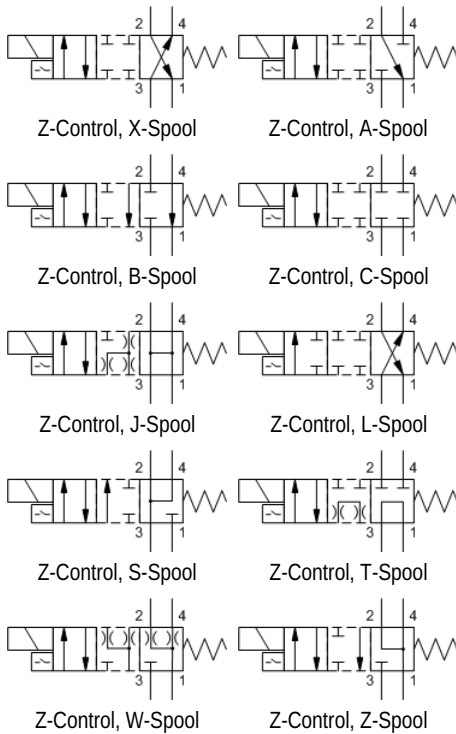
NOTES The two coils used in this assembly are interchangeable with one another, but once installed and wired, the coil closest to the hex body is considered Coil A, and the coil closest to the coil nut is Coil B.

CONFIGURATION OPTIONS

Model Code Example: **DNDCXCN**

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Blocked Center	N Buna-N	No coil
	A A to T Center	E EPDM	212 DIN 43650-Form A, 12 VDC
	B B to T Center	V Viton	224 DIN 43650-Form A, 24 VDC
	H Open Center		712 Twin Lead, 12 VDC
	R Regen Center		724 Twin Lead, 24 VDC
	T Tandem Center		912 Deutsch DT04-2P, 12 VDC
	W A and B Bleed to T Center		924 Deutsch DT04-2P, 24 VDC
	Y A and B to T Center		

* Additional coil options are available



This solenoid-operated, 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The transition between positions is closed. The closed transition greatly reduces the loss of oil when shifting which can be of particular importance in pilot control circuits.

The position switch provides confirmation that the valve is in the spring biased position.

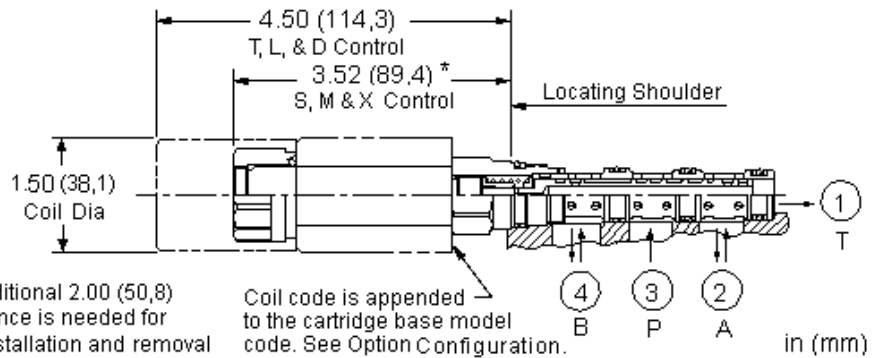
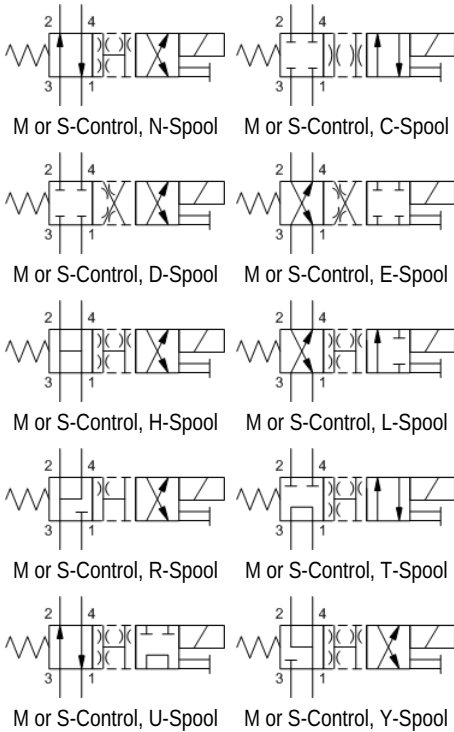
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min. @210 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	Viton: 990431006

CONFIGURATION OPTIONS

Model Code Example: DNCAZXN224

SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N) COIL *	(224)
X Cross, Shift to Through	N Buna-N	224 DIN 43650-Form A, 24 VDC	
C Closed, Shift to Through	V Viton	212 DIN 43650-Form A, 12 VDC	
A A to T, Shift to Through		912 Deutsch DT04-2P, 12 VDC	
B B to T, Shift to Through		924 Deutsch DT04-2P, 24 VDC	
J Open, Shift to Through		* Additional coil options are available	
L Cross, Shift to P to A, B and T Blocked			
S Regen, Shift to Through			
T Tandem, Shift to Through			
W A and B Bleed to T, Shift to Through			
Z Motor, Shift to Through			



This solenoid-operated 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve with a soft shift feature. The soft shift feature greatly reduces system shock due to valve actuation.

TECHNICAL DATA

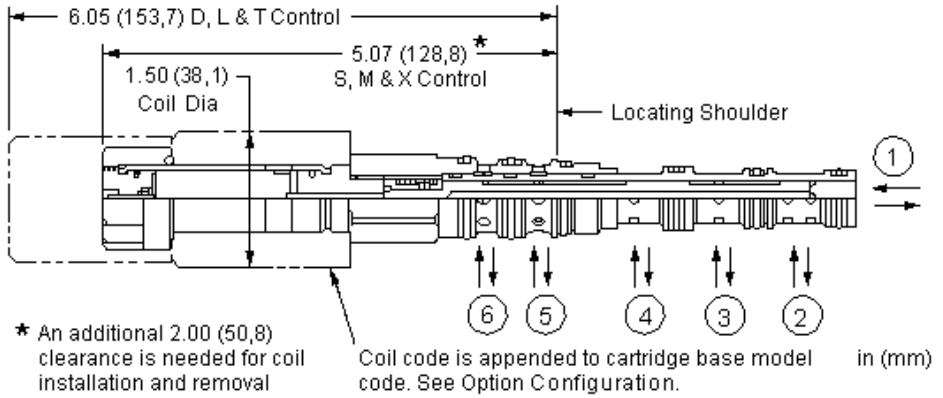
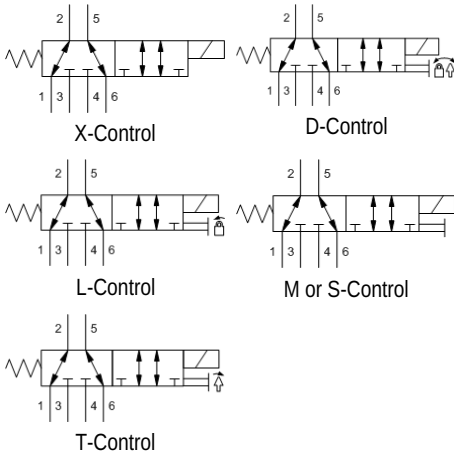
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min. @210 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006

- 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: DNDASNN

SPOOL CONFIGURATION	(N)	SEAL MATERIAL	(N)	COIL *
N Through, Shift to Cross	N	Buna-N		No coil
C Closed, Shift to Through	E	EPDM		212 DIN 43650-Form A, 12 VDC
D Closed, Shift to Cross	V	Viton		224 DIN 43650-Form A, 24 VDC
E Cross, Shift to Closed				712 Twin Lead, 12 VDC
H Open, Shift to Cross				724 Twin Lead, 24 VDC
L Cross, Shift to P to A, B and T Blocked				912 Deutsch DT04-2P, 12 VDC
R Regen, Shift to Cross				924 Deutsch DT04-2P, 24 VDC
T Tandem, Shift to Through				* Additional coil options are available
U Through, Shift to Tandem				
Y Motor, Shift to Cross				



This solenoid-operated 6-way, 2-position cartridge is a direct-acting, balanced spool valve. The typical use for this valve is to select between two separate circuits. The de-energized condition connects P and T to the first circuit and when energized connects P and T to the second circuit.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990461007
Seal kit - Cartridge	EPDM: 990461014
Seal kit - Cartridge	Viton: 990461006

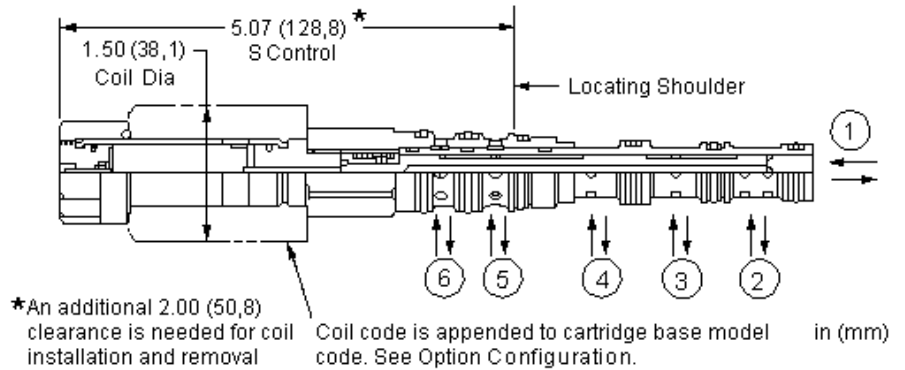
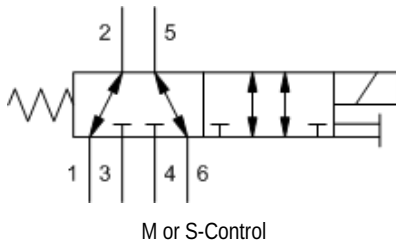
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DNDYXXN

CONTROL	(X) SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N) COIL *
X No Manual Override	X -	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override		E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override		V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available



This solenoid-operated 6-way, 2-position cartridge is a direct-acting, balanced spool valve with a soft shift feature. The soft shift feature greatly reduces system shock due to valve actuation. The typical use for this valve is to select between two separate circuits. The de-energized condition connects P and T to the first circuit and when energized connects P and T to the second circuit.

TECHNICAL DATA

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
Seal kit - Cartridge	Buna: 990461007
Seal kit - Cartridge	Viton: 990461006

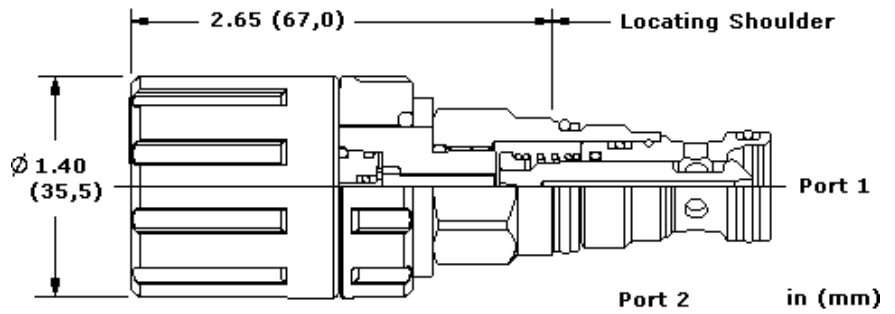
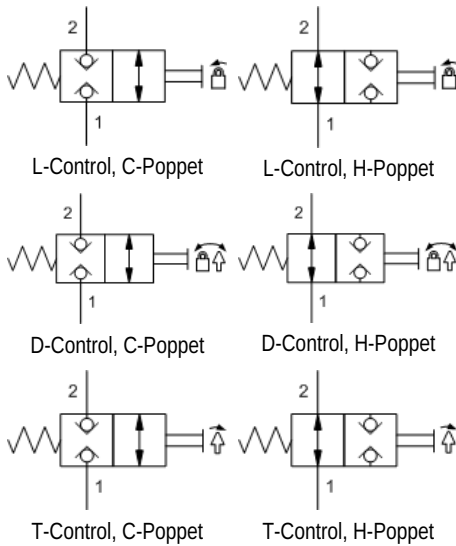
- NOTES**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: DNDYSXN

SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N) COIL *
X -	N Buna-N	No coil
	E EPDM	212 DIN 43650-Form A, 12 VDC
	V Viton	224 DIN 43650-Form A, 24 VDC
		712 Twin Lead, 12 VDC
		724 Twin Lead, 24 VDC
		912 Deutsch DT04-2P, 12 VDC
		924 Deutsch DT04-2P, 24 VDC

* Additional coil options are available



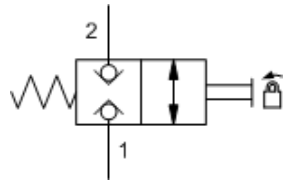
This manually operated, 2-position, 2-way directional cartridge is a direct-acting, poppet-style valve used to control the direction of flow in a hydraulic circuit. The valve is available in either a normally open or normally closed configuration. Manual operation is achieved via Sun's Twist/Lock manual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

TECHNICAL DATA

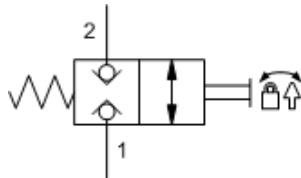
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

CONFIGURATION OPTIONS
Model Code Example: DTDMLCN

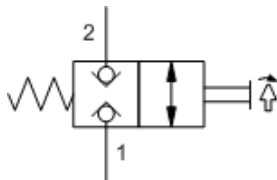
CONTROL	(L)	POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override		C Normally Closed		N Buna-N	
D Twist/Lock (Dual) Manual Override		H Normally Open		E EPDM	
T Twist (Momentary) Manual Override				V Viton	



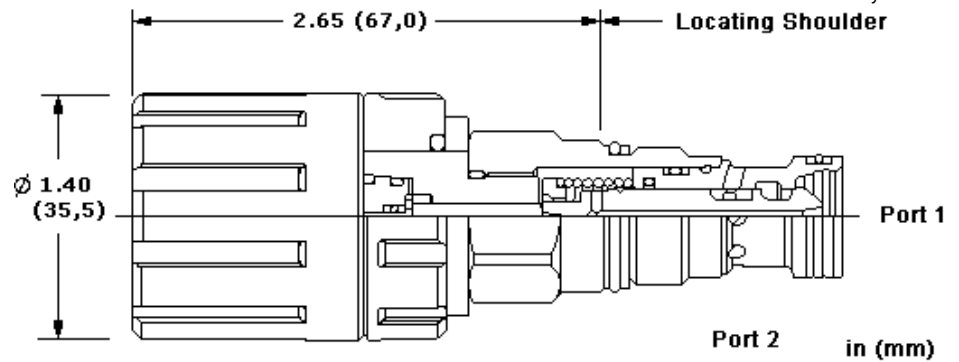
L-Control, C-Poppet



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.

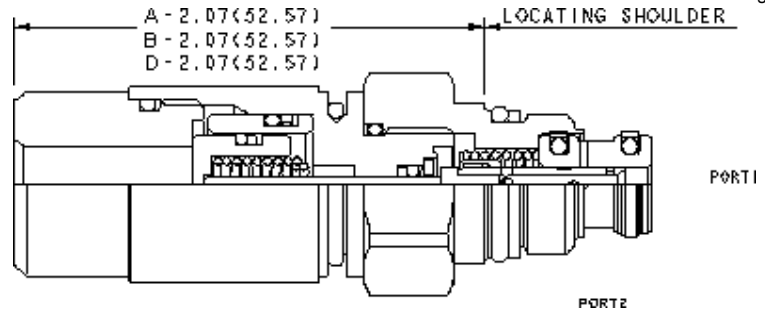
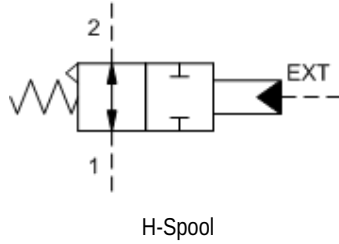
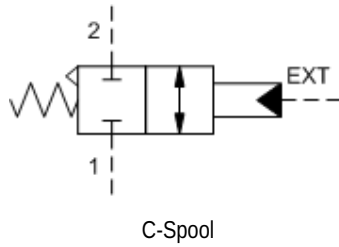
TECHNICAL DATA

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)
L Twist/Lock (Detent) Manual Override	C Normally Closed	N Buna-N	
D Twist/Lock (Dual) Manual Override		V Viton	
T Twist (Momentary) Manual Override			



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.

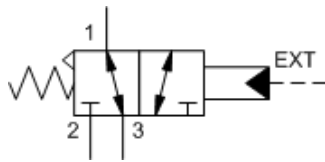
TECHNICAL DATA

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

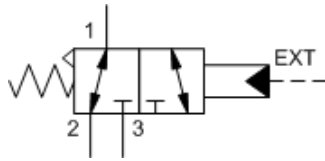
CONFIGURATION OPTIONS

Model Code Example: DAAHBCN

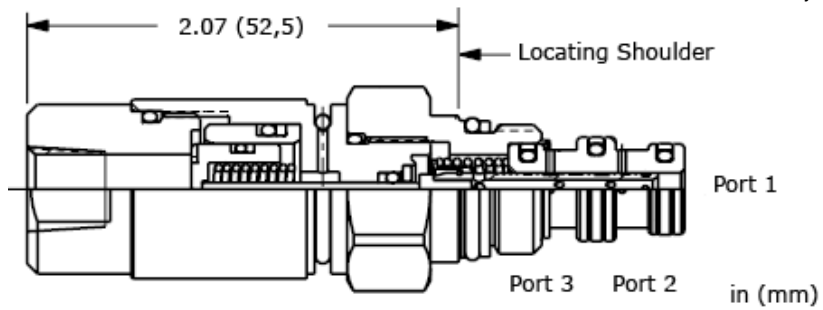
CONTROL	(B) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
B External 4-SAE Port	C Normally Closed	N Buna-N	Standard Material/Coating
A External 1/8 NPTF Port	H Normally Open	V Viton	/AP Stainless Steel, Passivated
D External 1/8 BSPP Port			



C-Spool



H-Spool



These pilot-stage, directional, 2-position, 3-way valves are hydraulically operated, spring-return cartridges and are available in two spool configurations; normally open 1 to 2 and normally open 1 to 3. These cartridges are designed for pilot flow applications.

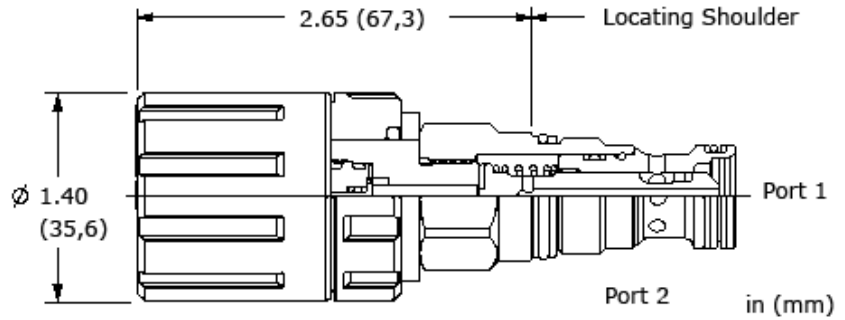
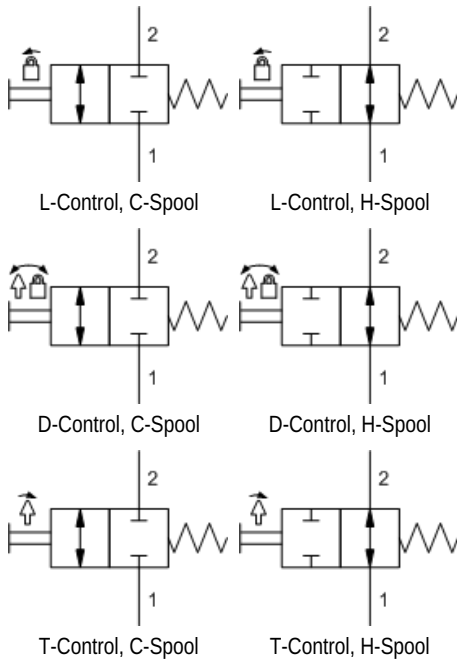
TECHNICAL DATA

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: 990509007
Seal kit - Cartridge	Viton: 990509006

CONFIGURATION OPTIONS

Model Code Example: DBAHBCN

CONTROL	(B) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
B External 4-SAE Port	C Normally Open 1 to 3, Closed 1 to 2	N Buna-N	
A External 1/8 NPTF Port	H Normally Open 1 to 2, Closed 1 to 3	V Viton	
D External 1/8 BSPP 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.

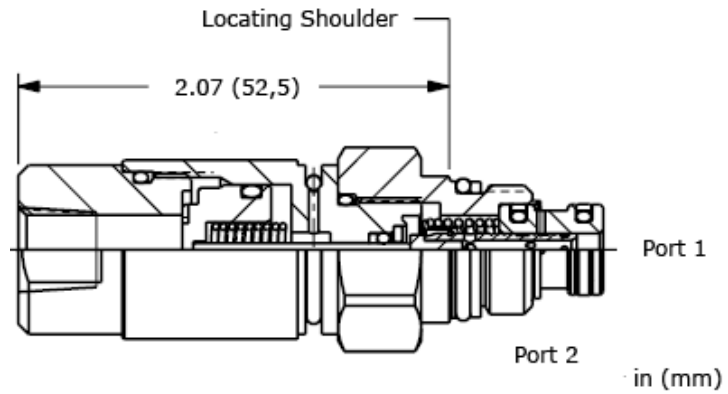
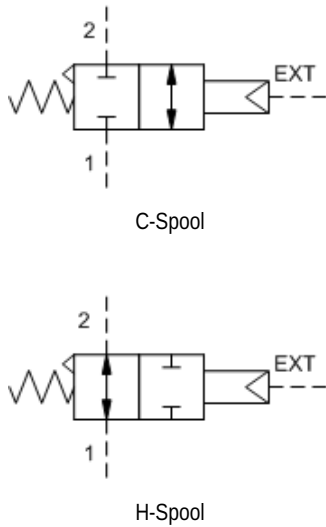
TECHNICAL DATA

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: DLDMLCN

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					



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.

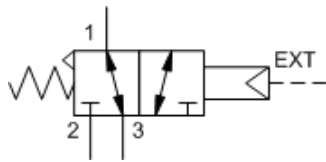
TECHNICAL DATA

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

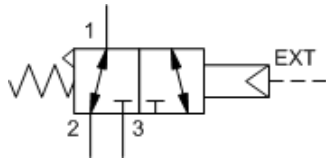
CONFIGURATION OPTIONS

Model Code Example: DAAPFCN

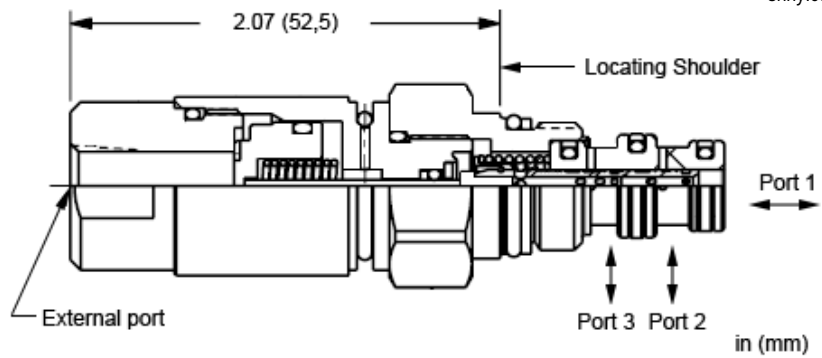
CONTROL	(F) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
F External 1/8 NPTF Port	C Normally Closed	N Buna-N	Standard Material/Coating
E External 4-SAE Port	H Normally Open	V Viton	/AP Stainless Steel, Passivated
P External 1/8 BSPP Port			



C-Spool



H-Spool



These pilot-stage, directional, 2-position, 3-way valves are pneumatically operated, spring-return cartridges and are available in two spool configurations; normally open 1 to 2 and normally open 1 to 3.

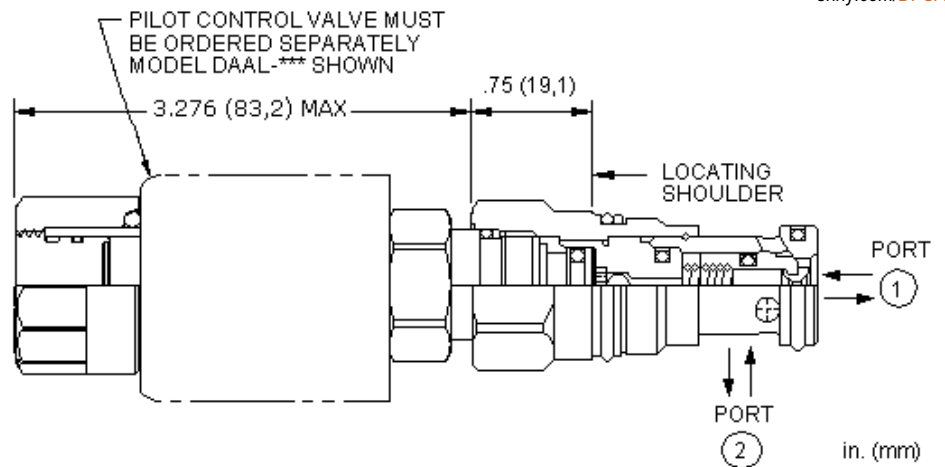
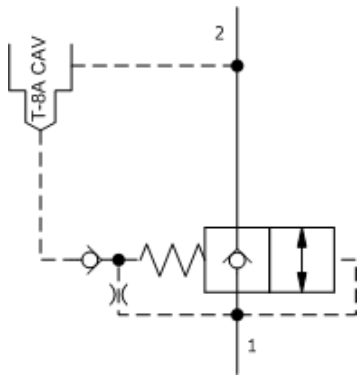
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Minimum Pilot Pressure to Operate	1,5 [+ port 1 press./100] bar
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990509007
Seal kit - Cartridge	Viton: 990509006

CONFIGURATION OPTIONS

Model Code Example: DBAPFCN

CONTROL	(F) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
F External 1/8 NPTF Port	C Normally Open 1 to 3, Closed 1 to 2	N Buna-N	Standard Material/Coating
E External 4- SAE Port	H Normally Open 1 to 2, Closed 1 to 3	E EPDM	/AP Stainless Steel, Passivated
P External 1/8 BSPP Port		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

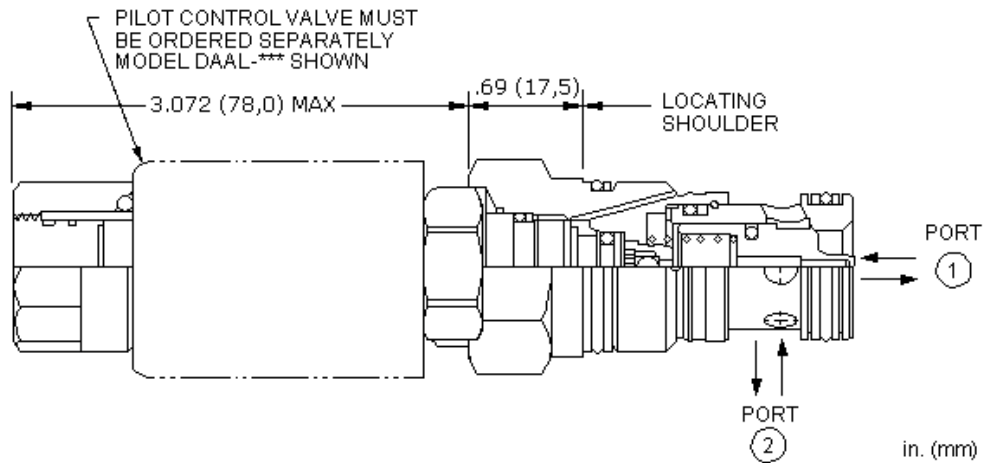
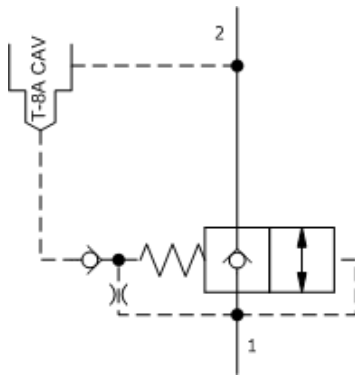
Maximum Operating Pressure	350 bar
Response Time - Typical	see pilot control ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

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
D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /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

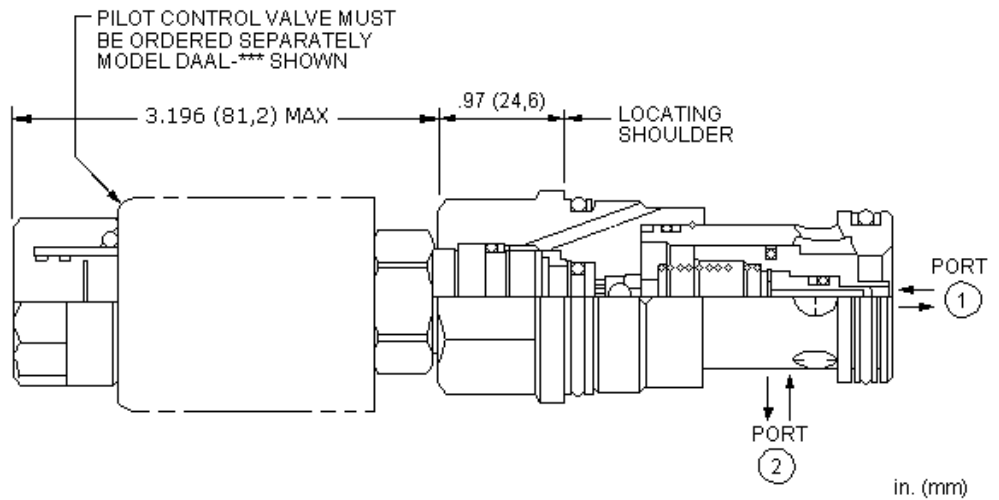
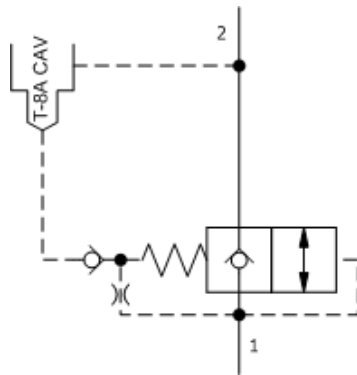
Maximum Operating Pressure	350 bar
Response Time - Typical	see pilot control ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	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
D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /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

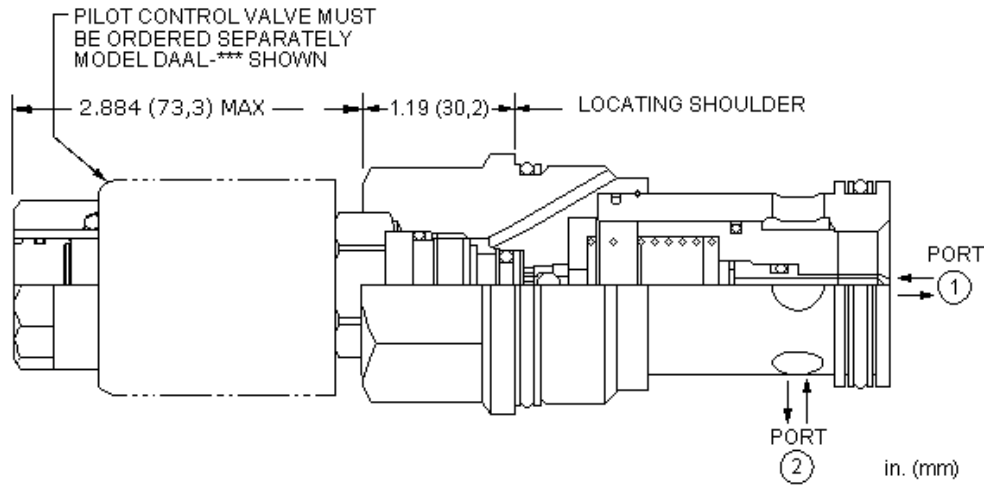
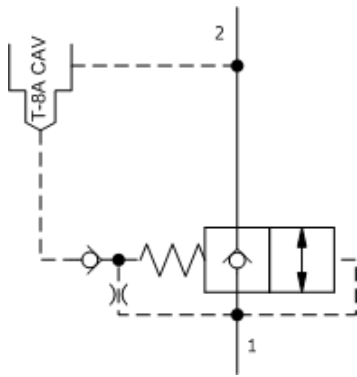
Maximum Operating Pressure	350 bar
Response Time - Typical	see pilot control ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
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: DFEA8DN

CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)
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 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

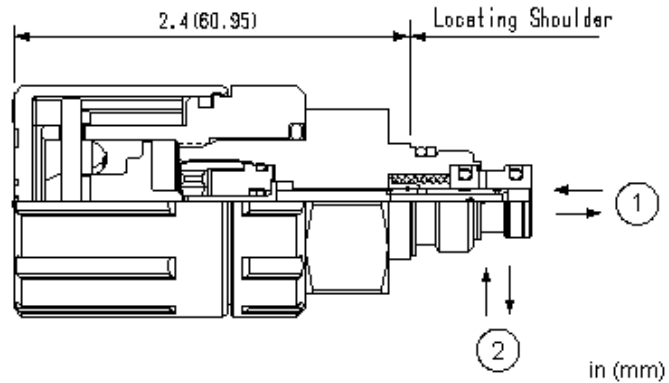
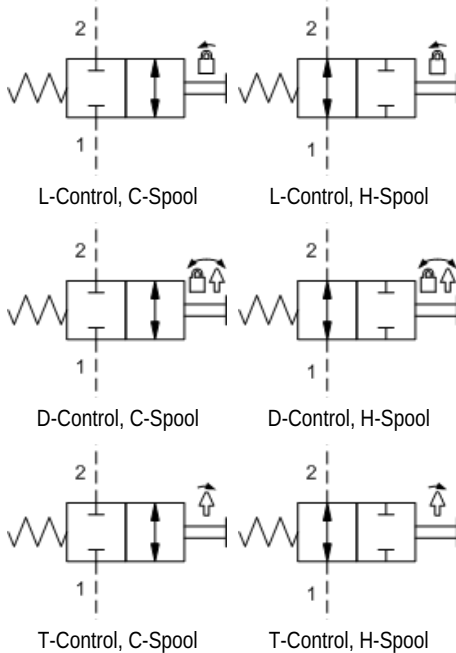
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - 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
D 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
	E EPDM	/AP Stainless Steel, Passivated
	V 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.

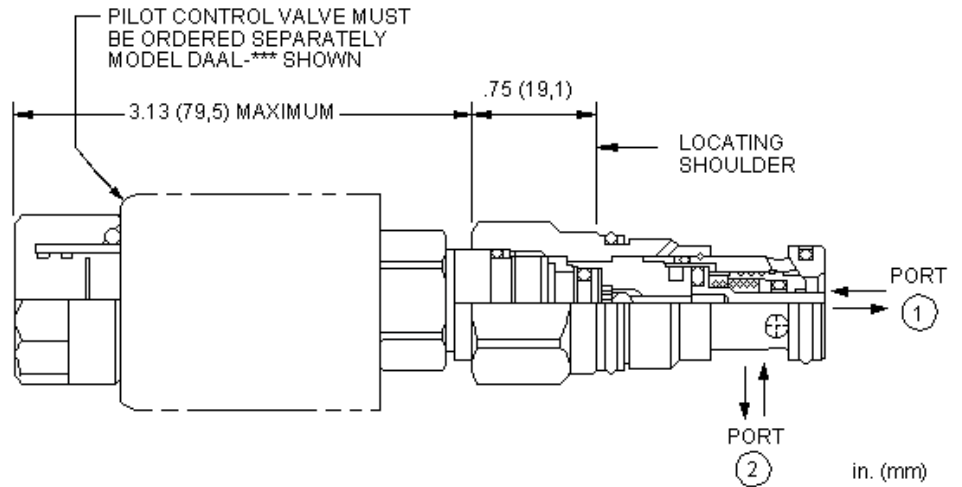
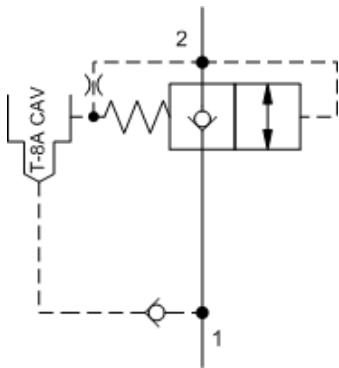
TECHNICAL DATA

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

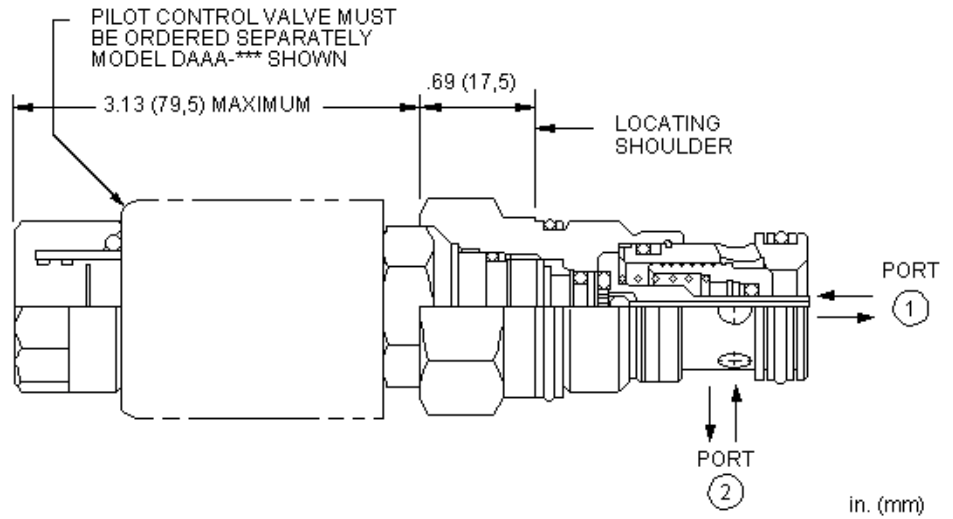
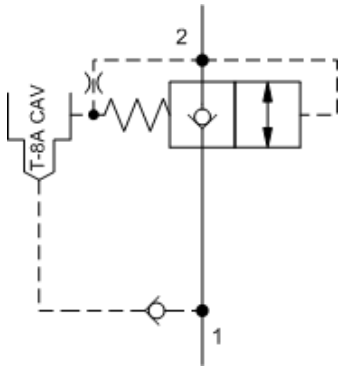
Maximum Operating Pressure	350 bar
Response Time - Typical	see pilot control ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

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: DFCB8DN

CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)
D 50 psi (3,5 bar)		N 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

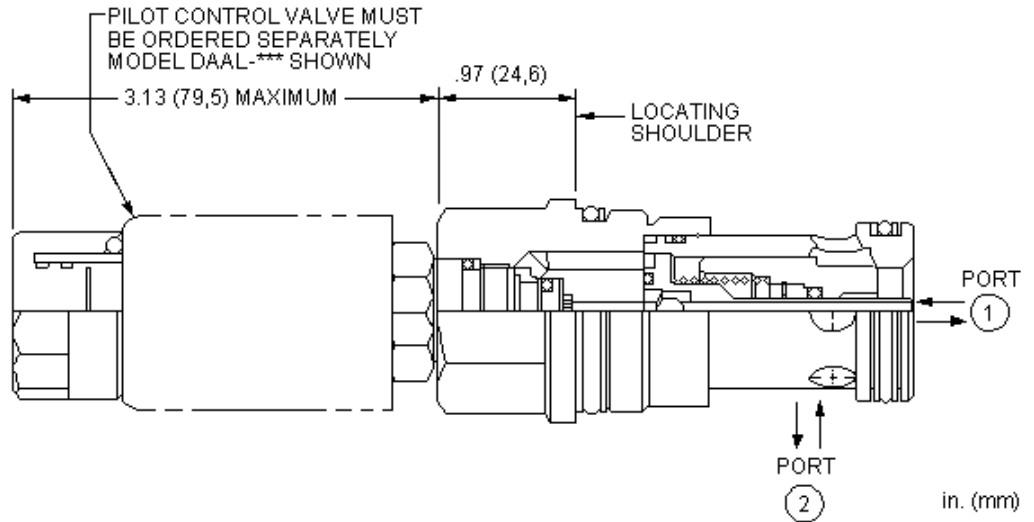
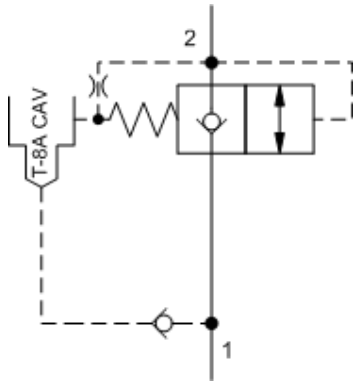
Maximum Operating Pressure	350 bar
Response Time - Typical	see pilot control ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

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

CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)
D 50 psi (3,5 bar)		N 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

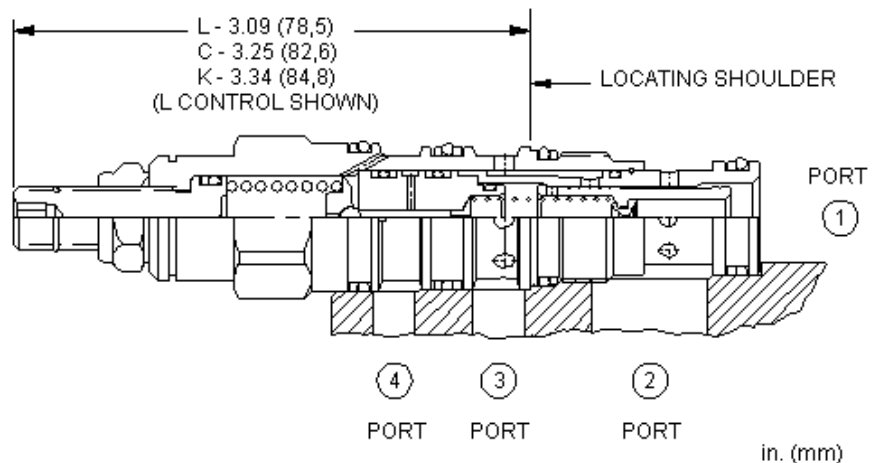
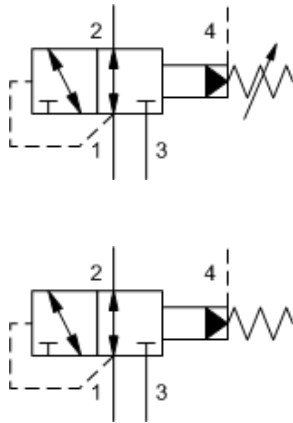
Maximum Operating Pressure	350 bar
Response Time - Typical	see pilot control ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min. @350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
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)
D 50 psi (3,5 bar)		N Buna-N	
		V Viton	



Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) 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.

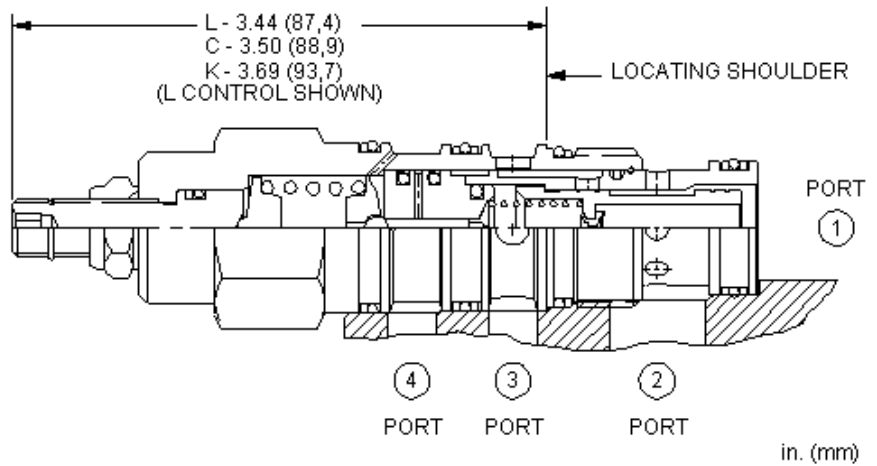
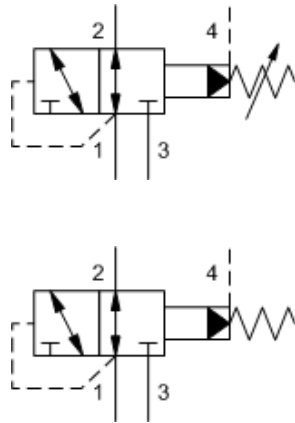
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: DPBPLAN

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



Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) 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.

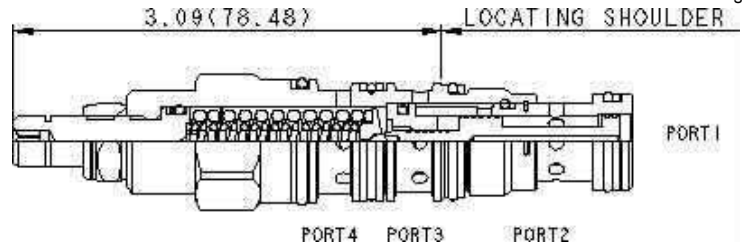
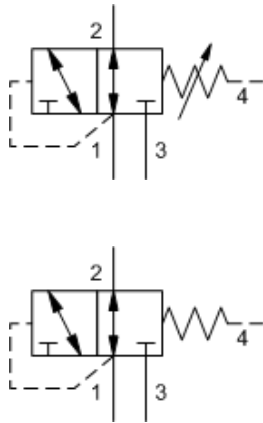
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase 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: DPCPLAN

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



Direct-acting, 3-way directional cartridges (1 to 2 open, 3 blocked) 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

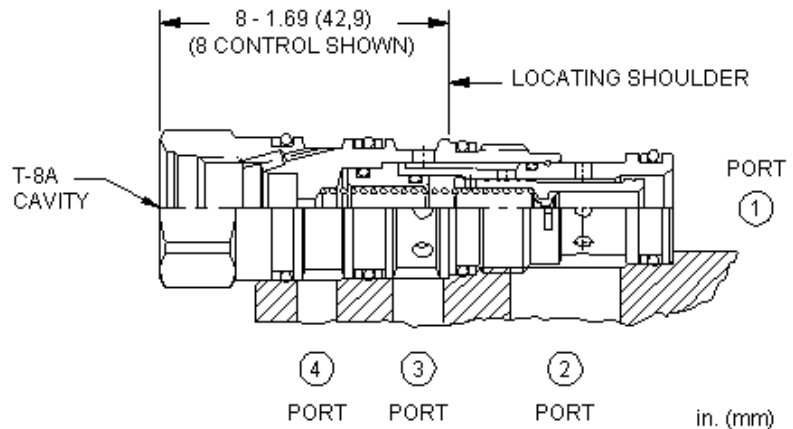
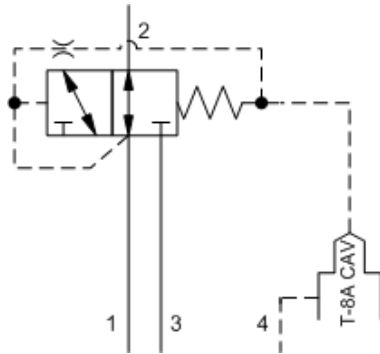
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	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: DRBPLAN

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



This valve is a 3-way directional cartridge (1 to 2 open, 3 blocked) 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

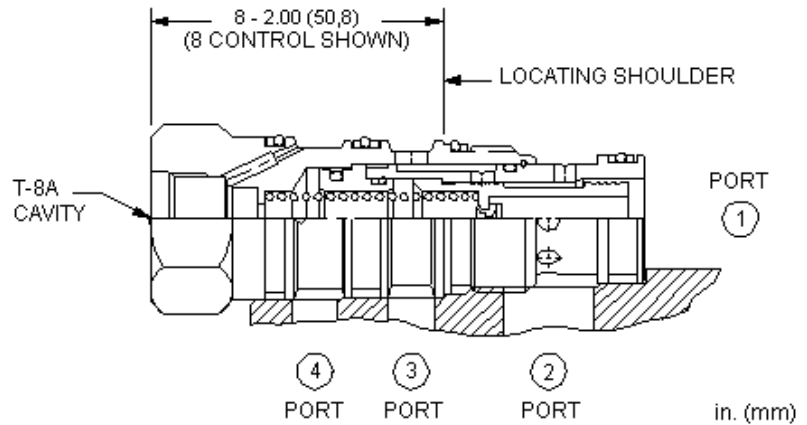
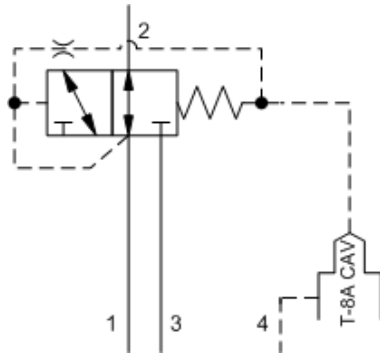
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

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: DVBP8FN

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, 3-way directional cartridge (1 to 2 open, 3 blocked) 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

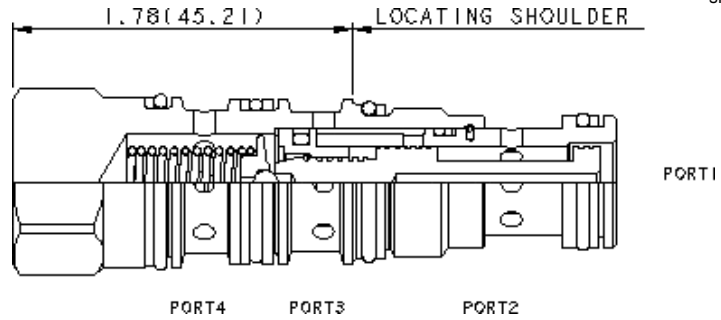
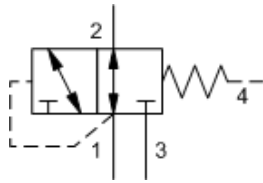
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

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: DVCP8FN

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



Direct-acting, 3-way directional cartridges (1 to 2 open, 3 blocked) 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.

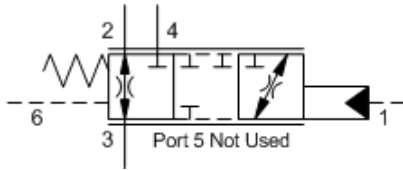
TECHNICAL DATA

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

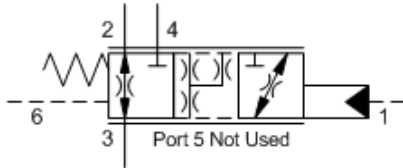
CONFIGURATION OPTIONS

Model Code Example: DRBPXFN

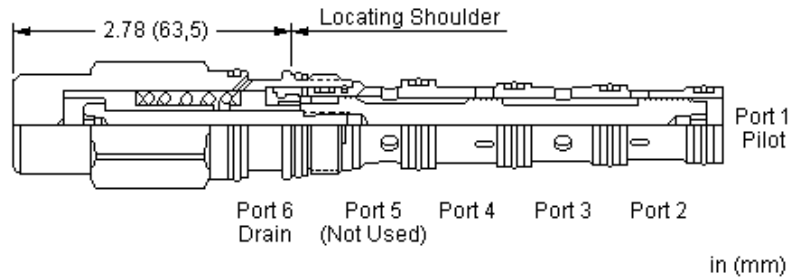
SHIFTING PRESSURE	(F)	SEAL MATERIAL	(N)
F 100 psi (7 bar)		N Buna-N	
		V Viton	



C-Spool



R-Spool



This valve is a 3-way, 2-position proportional directional valve. In the spring-biased position, a metered path is open between 2 and 3 with port 4 blocked. Pilot pressure at port 1 creates a metering orifice between 3 and 4 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes. The spring chamber is drained through port 6 and port 5 is not used.

Depending on the spool specified, ports 2, 3, and 4 are either closed or restricted during transition.

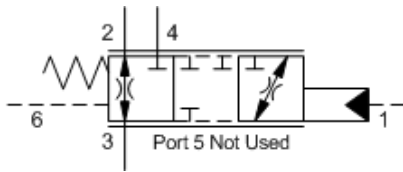
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

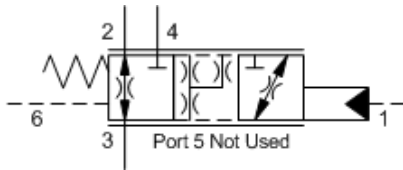
CONFIGURATION OPTIONS

Model Code Example: FTCGXCN

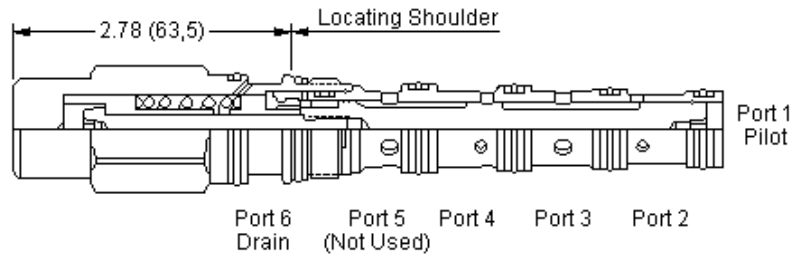
CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Standard Pilot		C Closed Crossover		N Buna-N	
		R Restricted Crossover		V Viton	



C-Spool



R-Spool



in (mm)

This valve is a 3-way, 2-position proportional directional valve. In the spring-biased position, a metered path is open between 2 and 3 with port 4 blocked. Pilot pressure at port 1 creates a metering orifice between 3 and 4 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes. The spring chamber is drained through port 6 and port 5 is not used.

Depending on the spool specified, ports 2, 3, and 4 are either closed or restricted during transition.

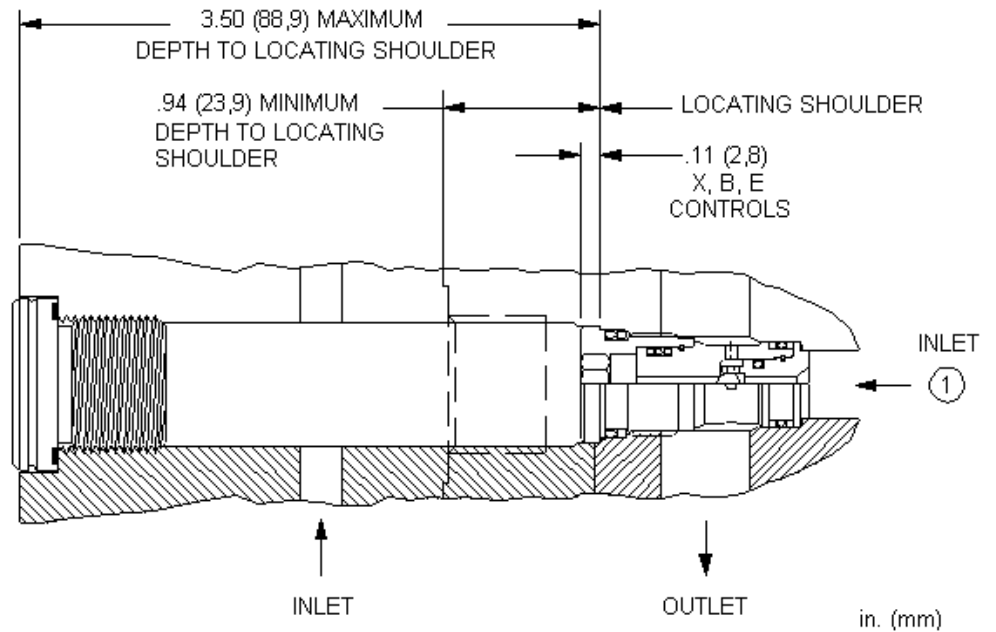
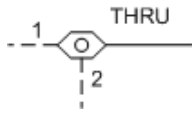
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

CONFIGURATION OPTIONS

Model Code Example: FTDGXCN

<u>CONTROL</u>	<u>(X)</u>	<u>SPOOL CONFIGURATION</u>	<u>(C)</u>	<u>SEAL MATERIAL</u>	<u>(N)</u>
X Standard Pilot		C Closed Crossover		N Buna-N	
		R Restricted Crossover		V Viton	



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 2.

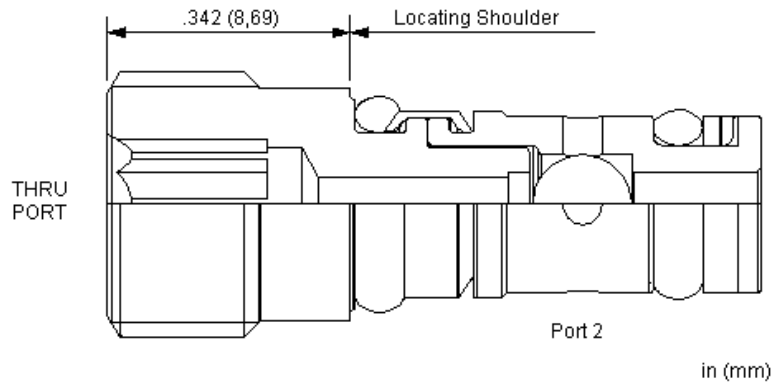
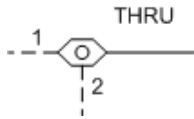
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS

Model Code Example: CSANXXN

CONTROL	(X)	ADJUSTMENT RANGE	(X)	SEAL MATERIAL	(N)
X Not Adjustable		X -		N Buna-N	
				V Viton	



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 2.

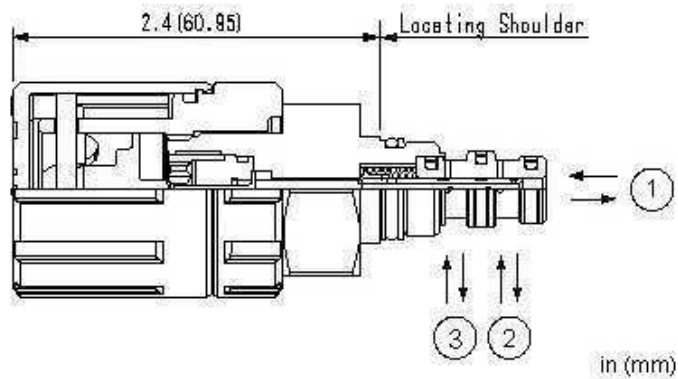
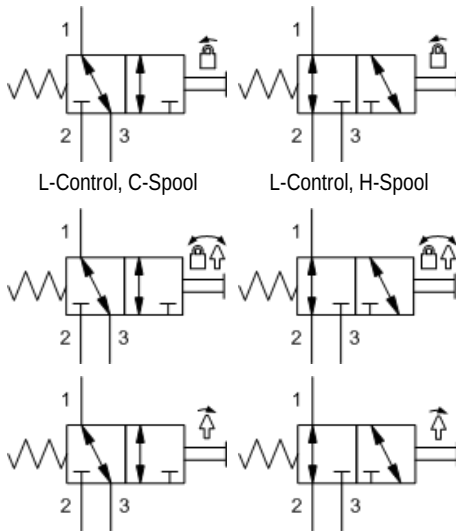
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Valve Internal Hex Size	4 mm
Seal kit - Cartridge	Buna: 990382007
Seal kit - Cartridge	Viton: 990382006

CONFIGURATION OPTIONS

Model Code Example: CSZNXXN

CONTROL	(X)	ADJUSTMENT RANGE	(X)	SEAL MATERIAL	(N)
X Not Adjustable		X -		N Buna-N	
				V Viton	



These pilot-stage, directional, 2-position, 3-way valves are manually operated cartridges and are available in two spool configurations; normally open 1 to 2 and normally open 1 to 3. These cartridges are designed for pilot flow applications. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

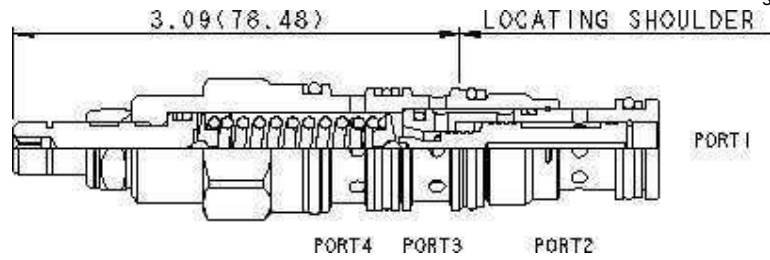
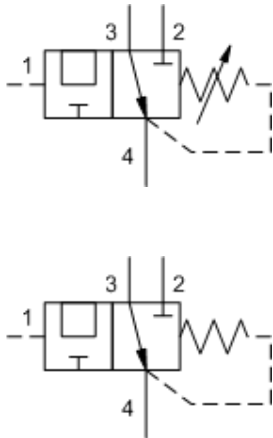
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990109007
Seal kit - Cartridge	EPDM: 990009014
Seal kit - Cartridge	Viton: 990109006

CONFIGURATION OPTIONS

Model Code Example: **DBAMLCN**

CONTROL	(L) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	C Normally Open 1 to 3, Closed 1 to 2	N Buna-N	
D Twist/Lock (Dual) Manual Override	H Normally Open 1 to 2, Closed 1 to 3	E EPDM	
T Twist (Momentary) Manual Override		V Viton	



Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) 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.

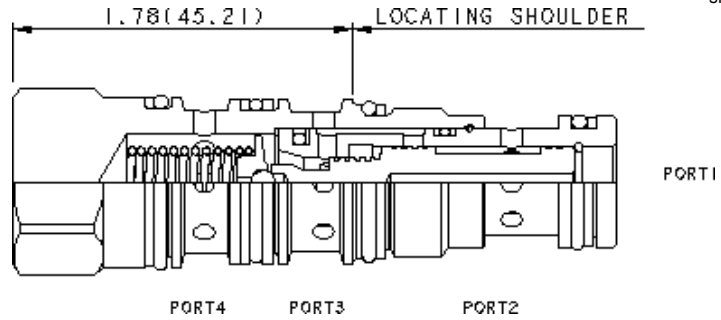
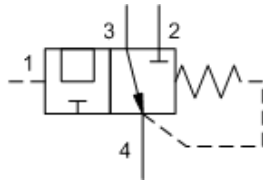
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase 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: DRBRLNN

CONTROL	(L) ADJUSTMENT RANGE	(N) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	S 25 - 200 psi (1,7 - 14 bar), 200 psi (14 bar) Standard Setting		
O Handknob with Panel Mount			



Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) 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.

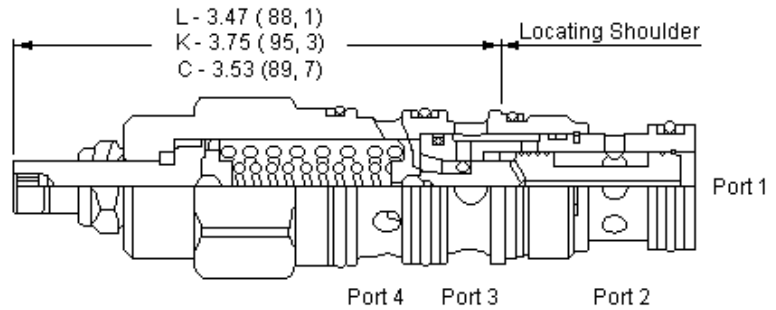
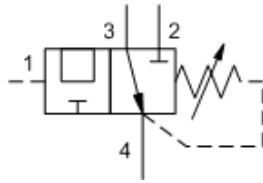
TECHNICAL DATA

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: DRBRXFN

SHIFTING PRESSURE	(F)	SEAL MATERIAL	(N)
F 100 psi (7 bar)		N Buna-N	
		V Viton	



in (mm)

Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) 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.

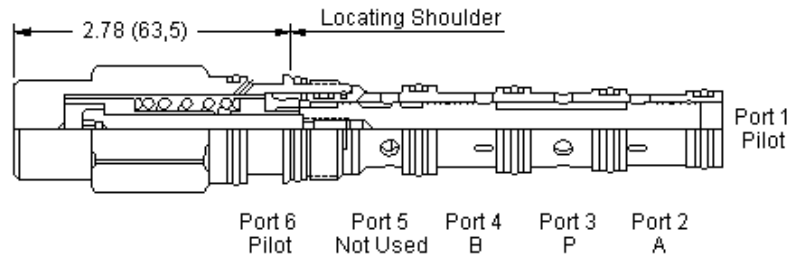
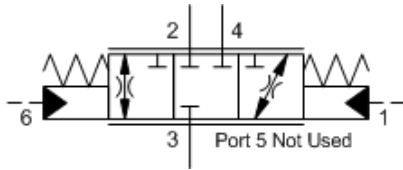
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	50 cc/min.@210 bar
Adjustment - Number of Clockwise Turns to Increase 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: DRCRLNN

CONTROL	(L) ADJUSTMENT RANGE	(N) SEAL MATERIAL
L Standard Screw Adjustment	N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting	N Buna-N
C Concealed Manual Override	E 200 - 400 psi (14 - 28 bar), 200 psi (14 bar) Standard Setting	V Viton
K Handknob	S 25 - 200 psi (1,7 - 14 bar), 200 psi (14 bar) Standard Setting	



in (mm)

This valve is a 3-way, 3-position proportional directional valve. Ports 2, 3, and 4 are closed in the center position. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

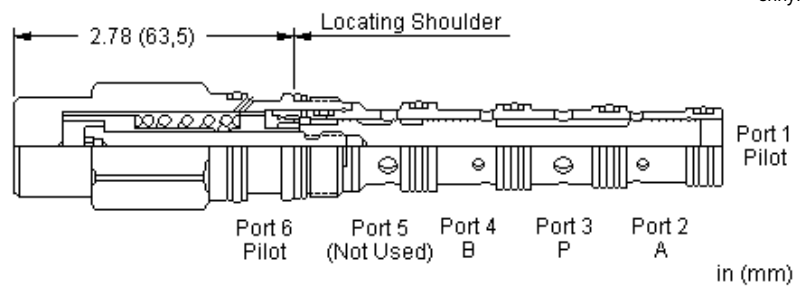
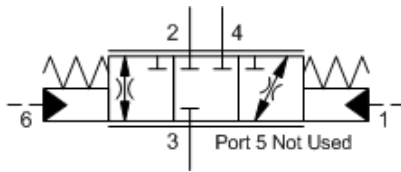
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

CONFIGURATION OPTIONS

Model Code Example: FTCBXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Normally Closed		N Buna-N	
				V Viton	



This valve is a 3-way, 3-position proportional directional valve. Ports 2, 3, and 4 are closed in the center position. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

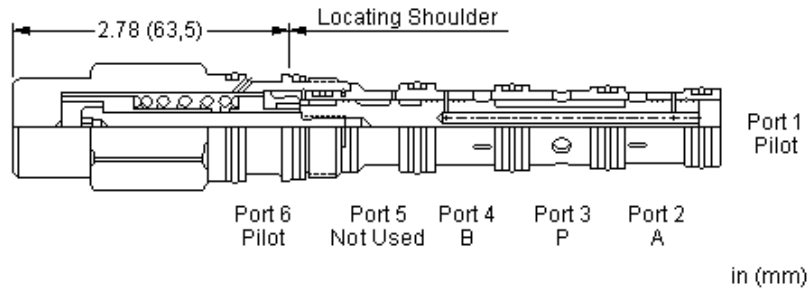
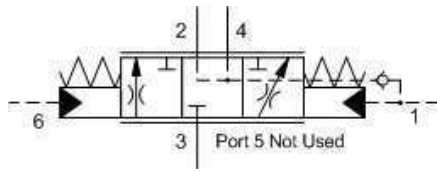
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

CONFIGURATION OPTIONS

Model Code Example: FTDBXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Normally Closed		N Buna-N	
				V Viton	



This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

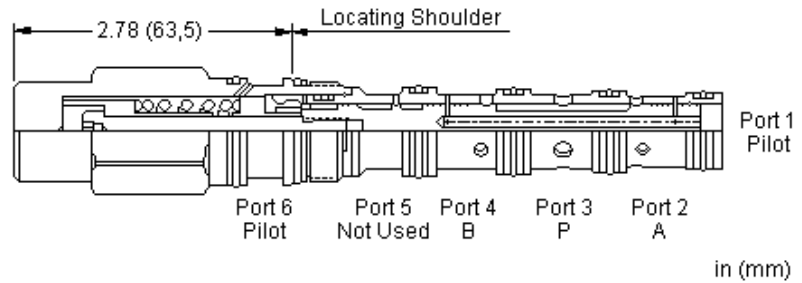
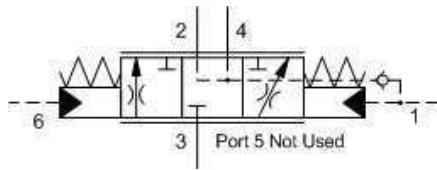
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

CONFIGURATION OPTIONS

Model Code Example: FTCHXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Normally Closed		N Buna-N	
				V Viton	



This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

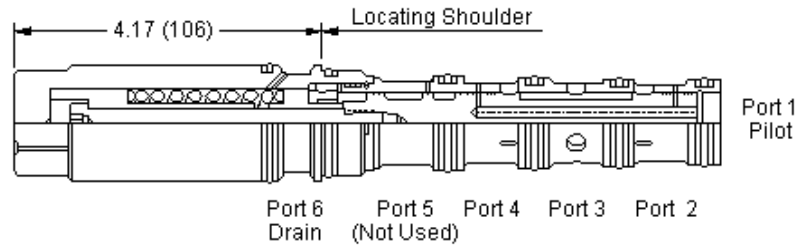
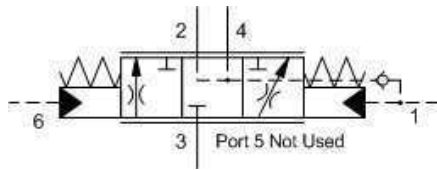
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

CONFIGURATION OPTIONS

Model Code Example: FTDHXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	V Viton



This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

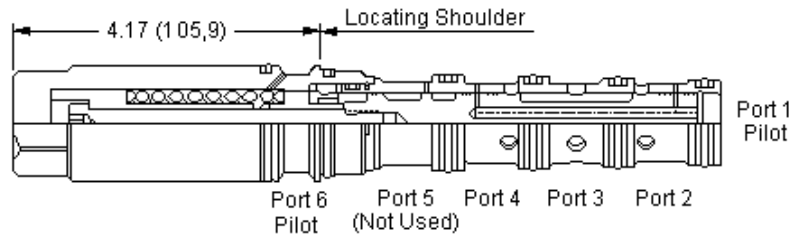
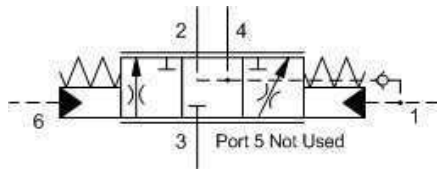
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	41 cc/min.@70 bar
Pilot Volume Displacement	1,8 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

CONFIGURATION OPTIONS

Model Code Example: FTEHXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Normally Closed		N Buna-N	
				V Viton	



in (mm)

This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

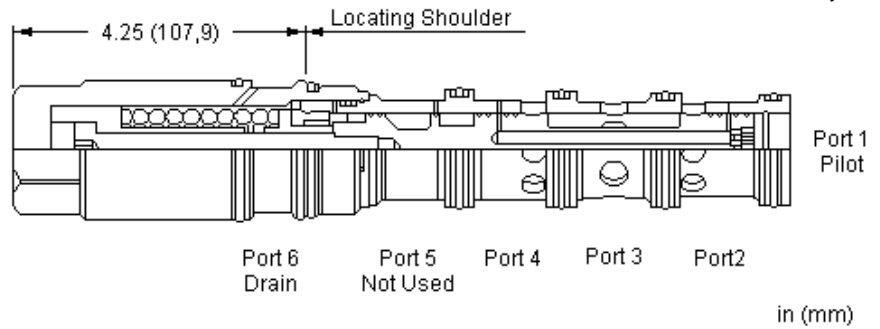
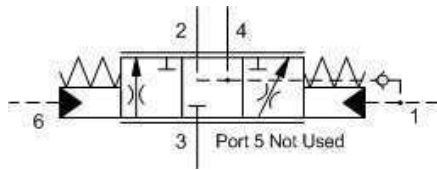
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	41 cc/min.@70 bar
Pilot Volume Displacement	1,8 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

CONFIGURATION OPTIONS

Model Code Example: FTFHXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	V Viton



This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

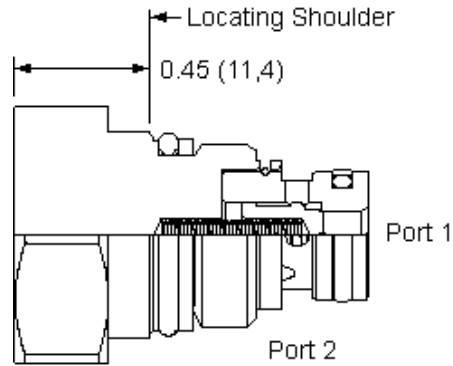
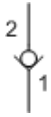
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min. @70 bar
Pilot Volume Displacement	4,3 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990054007
Seal kit - Cartridge	Polyurethane: 990054002
Seal kit - Cartridge	Viton: 990054006

CONFIGURATION OPTIONS

Model Code Example: FT HHXC N

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	V Viton



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

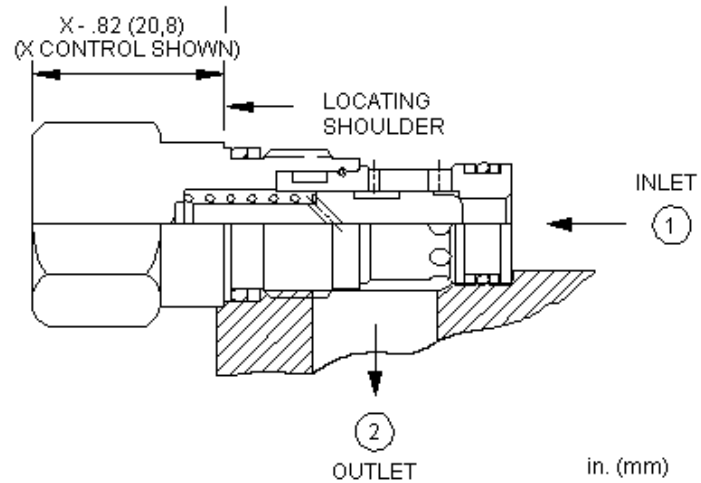
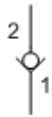
TECHNICAL DATA

Seal kit - Cartridge	Buna: 990608007
Seal kit - Cartridge	EPDM: 990608014
Seal kit - Cartridge	Viton: 990608006

CONFIGURATION OPTIONS

Model Code Example: CXAAXBN

CONTROL	(X) CRACKING PRESSURE	(B) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	B 15 psi (1 bar) F 100 psi (7 bar) Z 1 psi (0,07 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

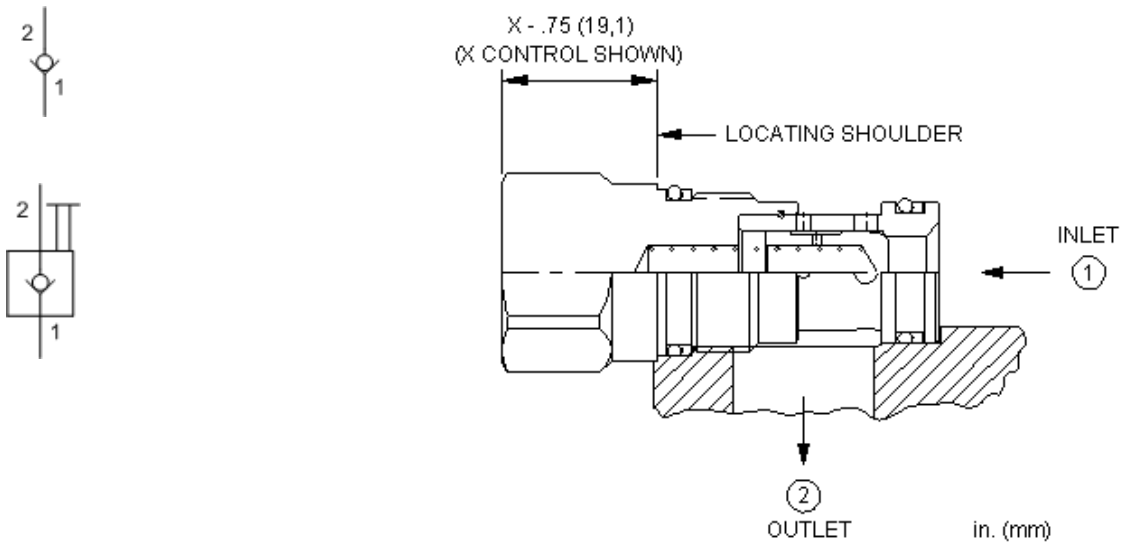
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS

Model Code Example: CXBAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

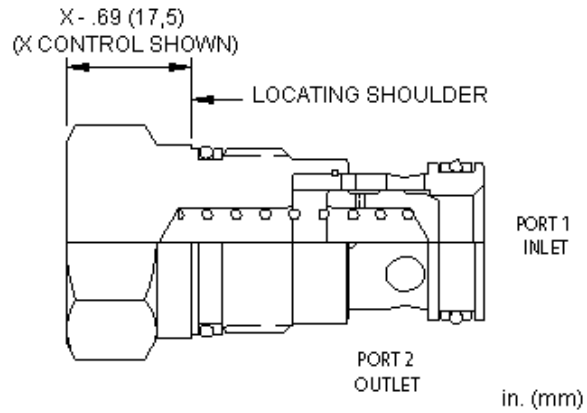
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: CXDAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

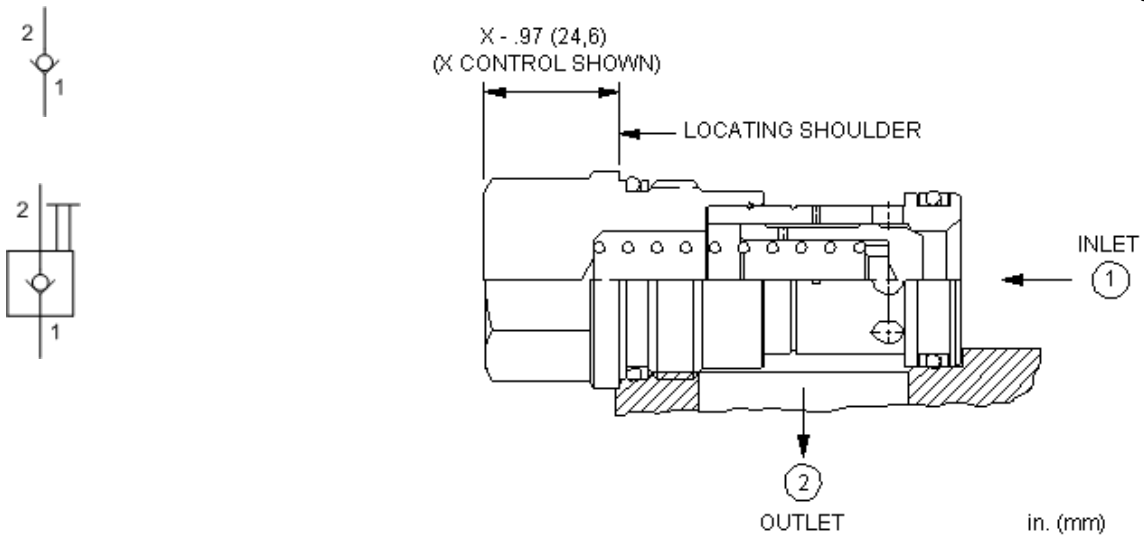
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

CONFIGURATION OPTIONS

Model Code Example: CXFAXCN

CONTROL	(X)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		C 30 psi (2 bar)		N Buna-N		Standard Material/Coating
		A 4 psi (0,3 bar)		E EPDM		/AP Stainless Steel, Passivated
		B 15 psi (1 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
		D 50 psi (3,5 bar)				
		E 75 psi (5 bar)				
		F 100 psi (7 bar)				



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

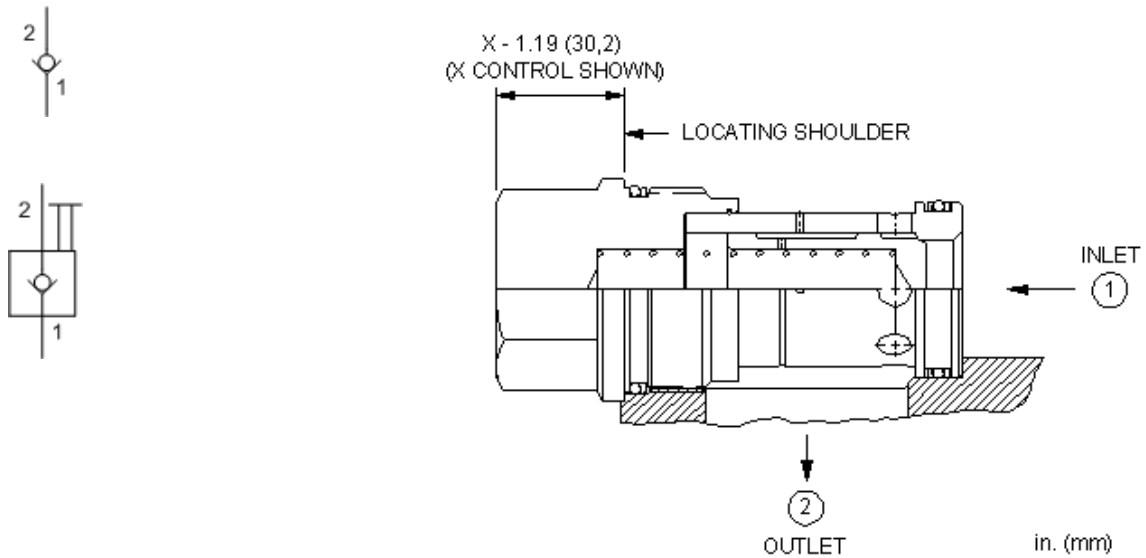
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

CONFIGURATION OPTIONS

Model Code Example: CXHAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

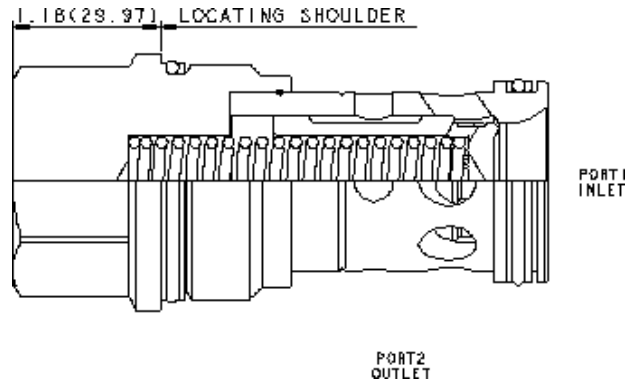
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

CONFIGURATION OPTIONS

Model Code Example: CXJAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		
	G 150 psi (10,5 bar)		



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

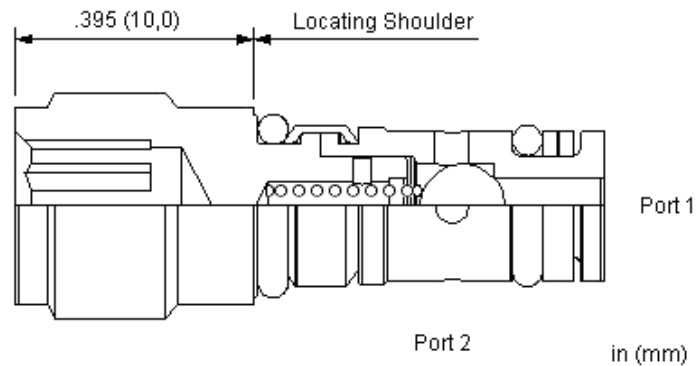
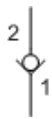
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Viton: 990018006

CONFIGURATION OPTIONS

Model Code Example: CXKAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		
	G 150 psi (10,5 bar)		



Shown to depict scale

Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

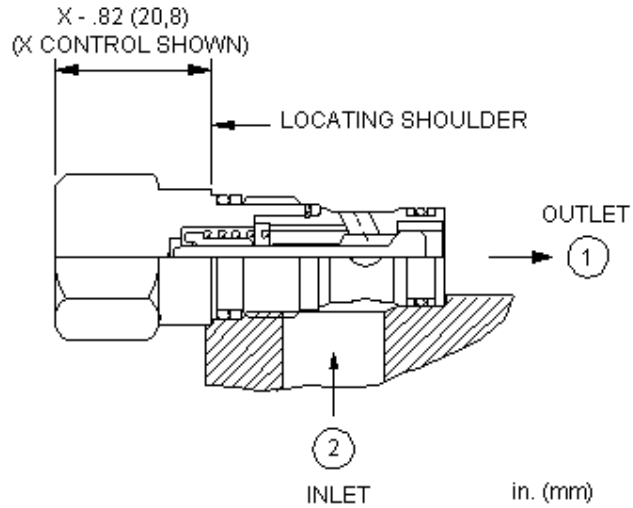
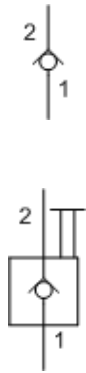
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	5 mm
Seal kit - Cartridge	Buna: 990382007
Seal kit - Cartridge	Viton: 990382006

CONFIGURATION OPTIONS

Model Code Example: CXZAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) A 4 psi (0,3 bar) B 15 psi (1 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

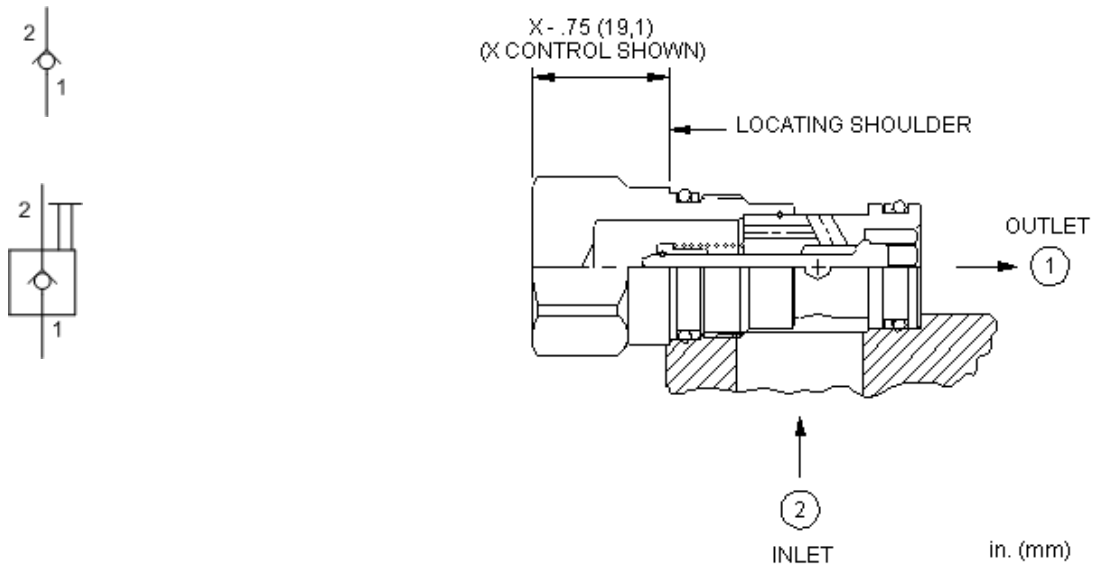
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS

Model Code Example: CXADXCN

CONTROL	(X) NOMINAL CONTROL PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) A 4 psi (0,3 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) Z 1 psi (0,07 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

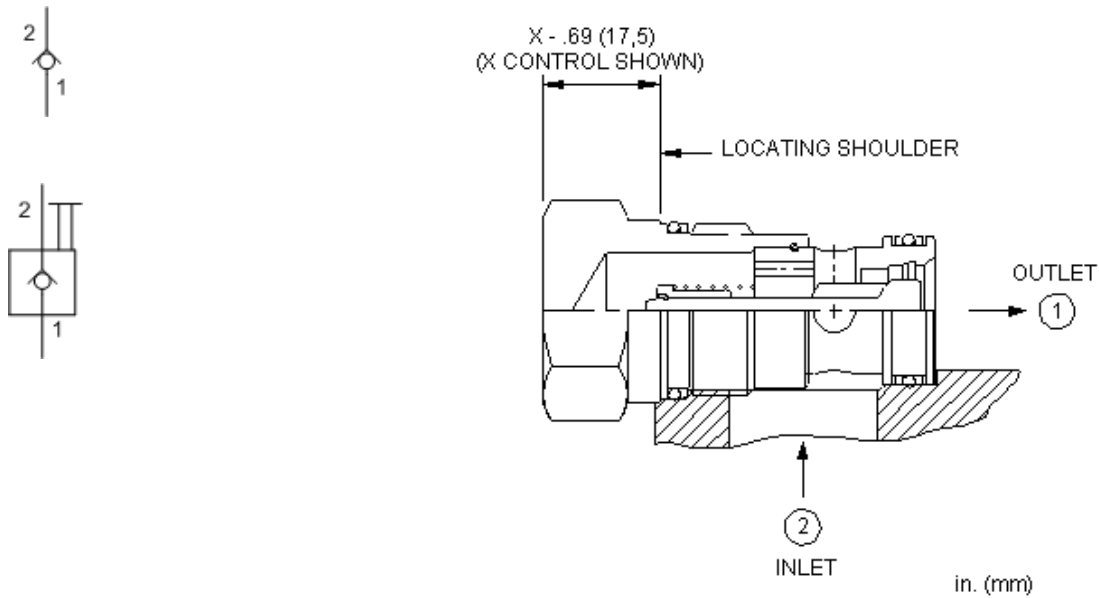
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: CXCDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Override	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

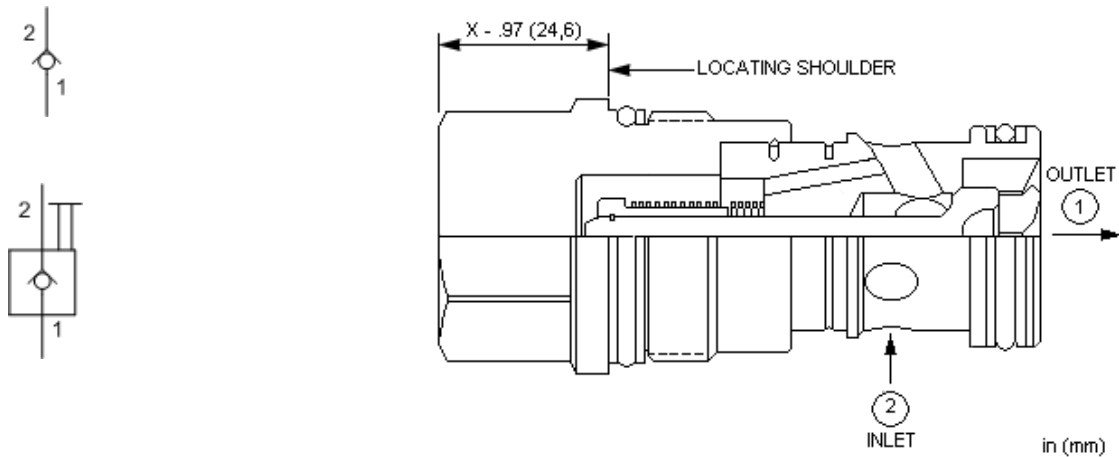
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

CONFIGURATION OPTIONS

Model Code Example: CXEDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

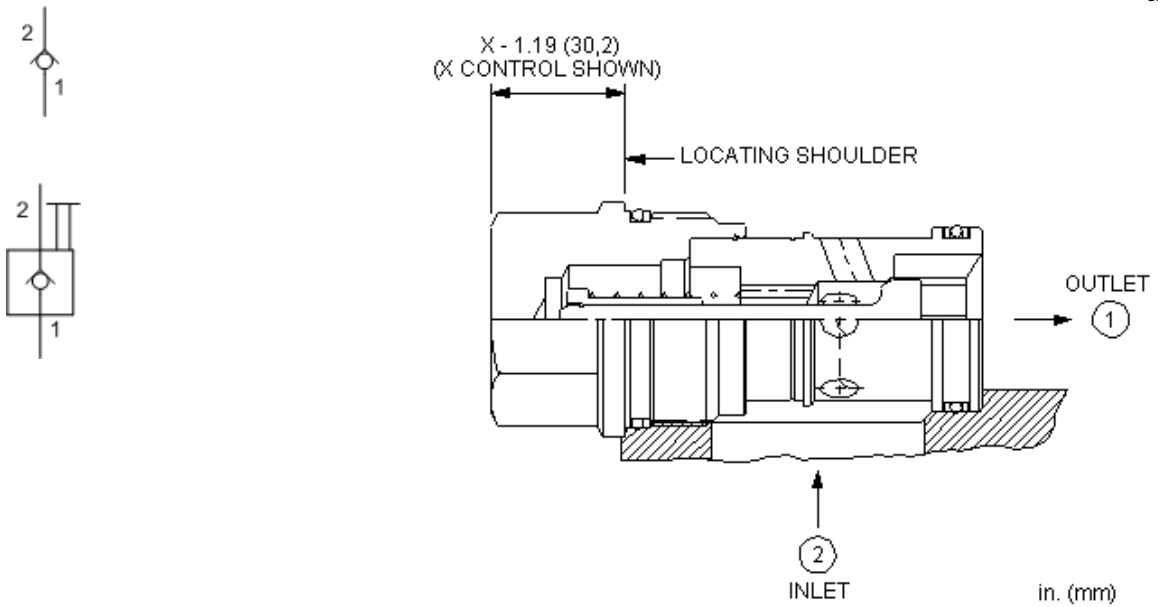
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

CONFIGURATION OPTIONS

Model Code Example: CXGDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

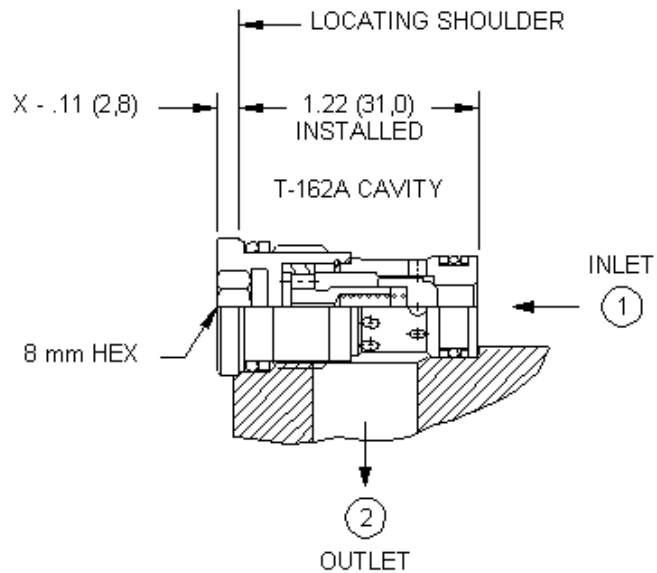
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

CONFIGURATION OPTIONS

Model Code Example: **CXIDXCN**

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



in. (mm)

Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

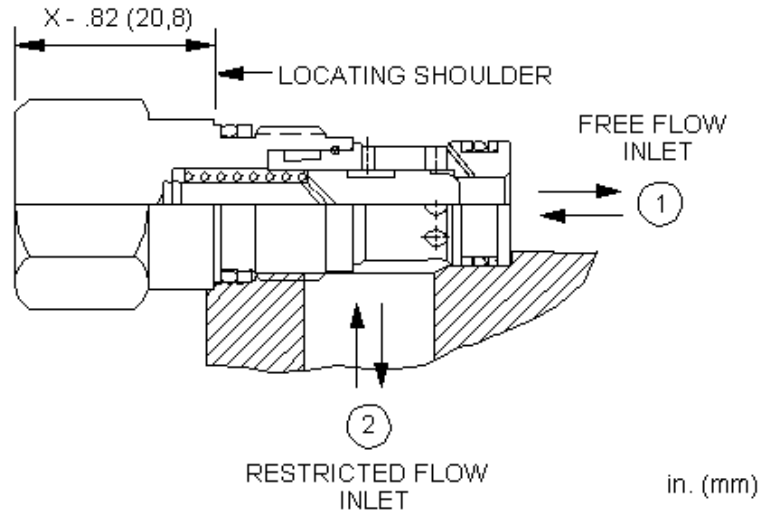
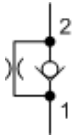
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS

Model Code Example: CXBGXAN

CONTROL	(X) CRACKING PRESSURE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	A 4 psi (0,3 bar) B 15 psi (1 bar) C 30 psi (2 bar) D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

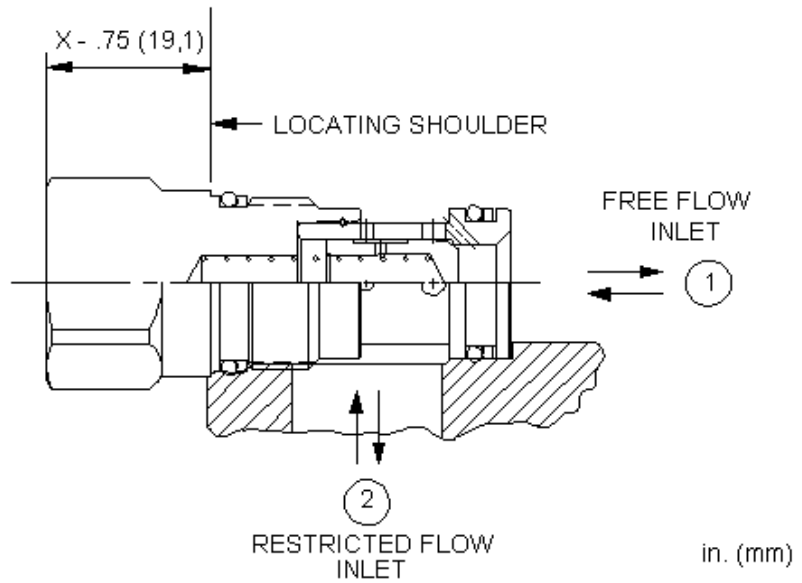
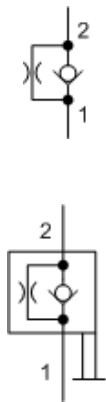
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 1,6 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS

Model Code Example: CNBCXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .062 in. (0,4 - 1,6 mm) A 4 psi (0,3 bar) Cracking Pressure, .016 - .062 in. (0,4 - 1,6 mm) B 15 psi (1 bar) Cracking Pressure, .016 - .062 in. (0,4 - 1,6 mm) D 50 psi (3,5 bar) Cracking Pressure, .016 - .062 in. (0,4 - 1,6 mm) E 75 psi (5 bar) Cracking Pressure, .016 - .062 in. (0,4 - 1,6 mm) F 100 psi (7 bar) Cracking Pressure, .016 - .062 in. (0,4 - 1,6 mm)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

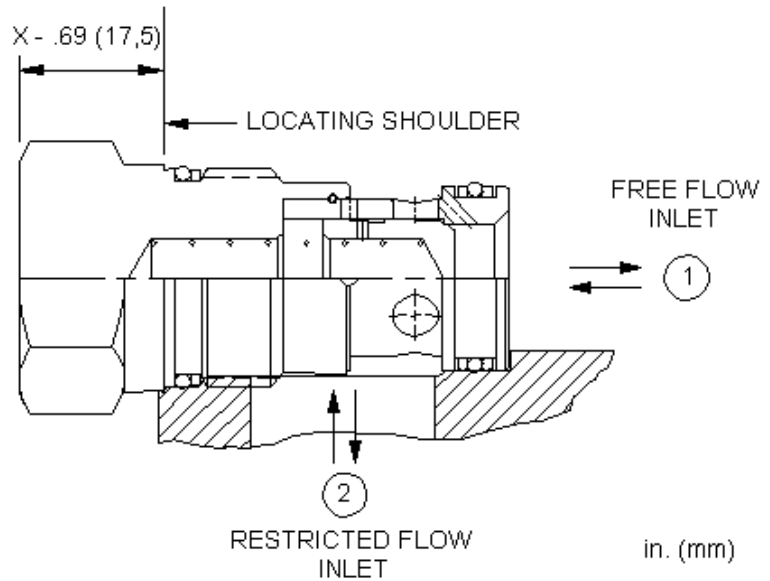
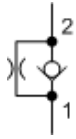
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 2,7 mm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: **CNDCXCN**

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .107 in. (0,4 - 2,7 mm)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar) Cracking Pressure, .016 - .107 in. (0,4 - 2,7 mm)	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	B 15 psi (1 bar) Cracking Pressure, .016 - .107 in. (0,4 - 2,7 mm)		
	D 50 psi (3,5 bar) Cracking Pressure, .016 - .107 in. (0,4 - 2,7 mm)		
	E 75 psi (5 bar) Cracking Pressure, .016 - .107 in. (0,4 - 2,7 mm)		
	F 100 psi (7 bar) Cracking Pressure, .016 - .107 in. (0,4 - 2,7 mm)		



Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

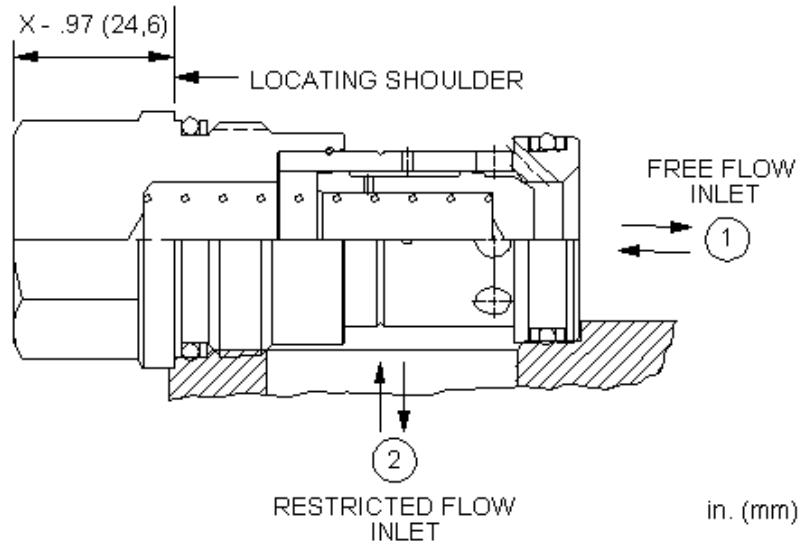
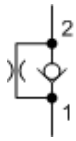
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,2 mm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

CONFIGURATION OPTIONS

Model Code Example: CNFCXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm) A 4 psi (0,3 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm) B 15 psi (1 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm) D 50 psi (3,5 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm) E 75 psi (5 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm) F 100 psi (7 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

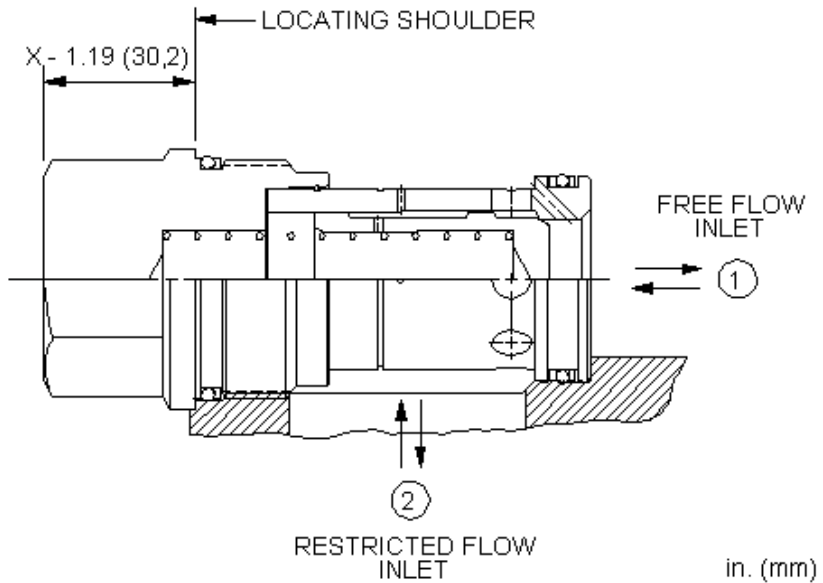
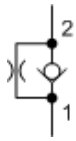
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 6,4 mm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

CONFIGURATION OPTIONS

Model Code Example: CNHCXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm) A 4 psi (0,3 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm) B 15 psi (1 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm) D 50 psi (3,5 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm) E 75 psi (5 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm) F 100 psi (7 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

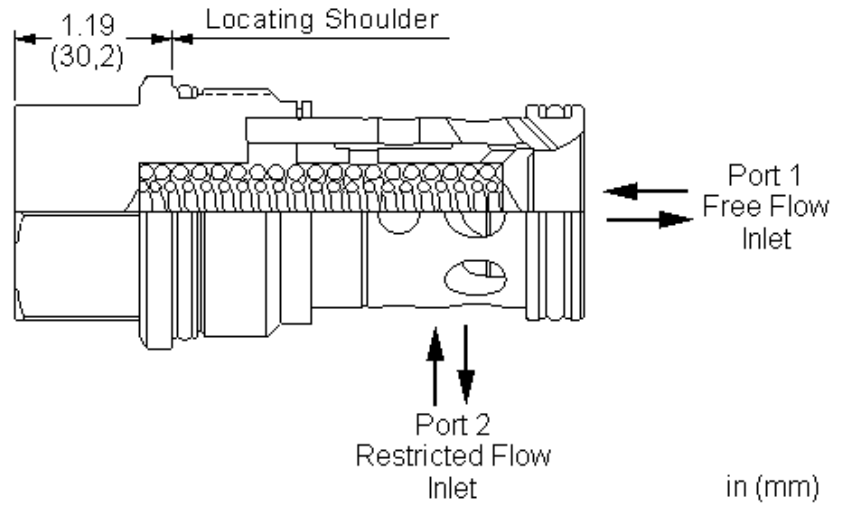
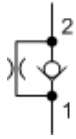
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 9 mm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

CONFIGURATION OPTIONS

Model Code Example: CNJCXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm) A 4 psi (0,3 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm) B 15 psi (1 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm) D 50 psi (3,5 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm) E 75 psi (5 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm) F 100 psi (7 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm) G 150 psi (10 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

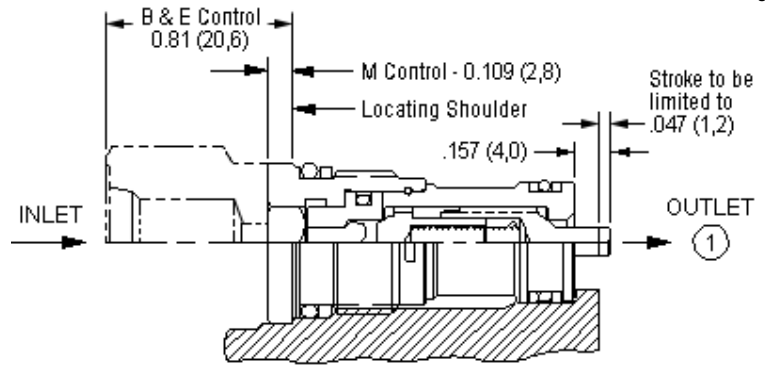
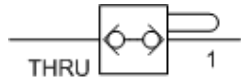
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 9 mm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Viton: 990018006

CONFIGURATION OPTIONS

Model Code Example: CNKCXAN

CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N)
X Not Adjustable	<p>A 4 psi (0,3 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)</p> <p>B 15 psi (1 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)</p> <p>C 30 psi (2 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)</p> <p>D 50 psi (3,5 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)</p> <p>E 75 psi (5 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)</p> <p>F 100 psi (7 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)</p> <p>G 150 psi (10 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)</p> <p>Z 1 psi (0,07 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)</p>	<p>N Buna-N</p> <p>V Viton</p>	



The phaser check is a pair of checks, back-to-back, with the poppet at port 1 mechanically actuated. The valve is meant to be installed into the piston of a cylinder. When the cylinder reaches the end of its stroke the poppet in the phaser check is shoved off its seat allowing flow through the piston. This allows two cylinders to get back into phase.

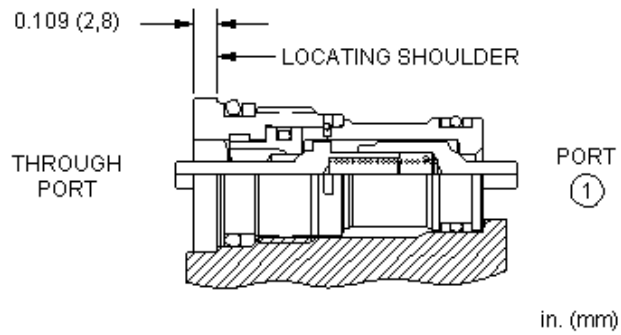
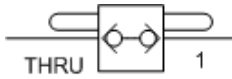
TECHNICAL DATA

Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS

Model Code Example: CDAPMCN

CONTROL	(M)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)
M Mechanical Actuation		C 30 psi (2 bar)		N Buna-N	
B External 1/4 BSPP Port				V Viton	
E External 4-SAE Port					



The phaser check is a pair of checks, back-to-back, with both poppets mechanically actuated. The valve is meant to be installed into the piston or rod of a cylinder. When the cylinder reaches the end of its stroke the poppet in the phaser check is shoved off its seat allowing flow through the piston. This allows two cylinders to get back into phase.

TECHNICAL DATA

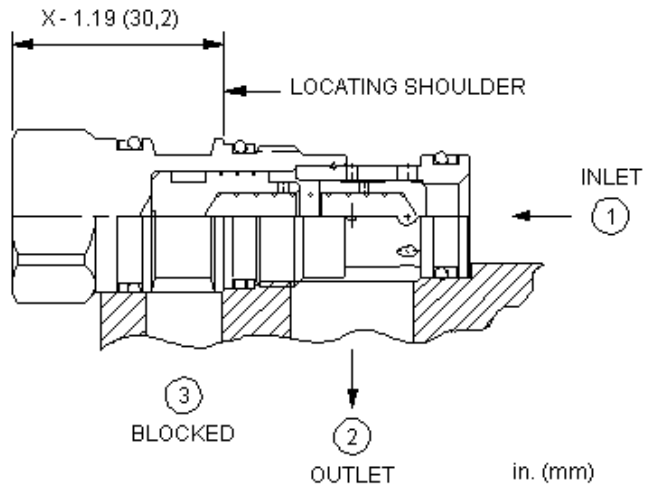
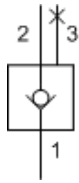
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

NOTES A special tool is required to install this cartridge. Use part number 998-101 to order this tool.

CONFIGURATION OPTIONS

Model Code Example: CDAQMCN

CONTROL	(M)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)
M Mechanical Actuation		C 30 psi (2 bar)		N Buna-N	V Viton



Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

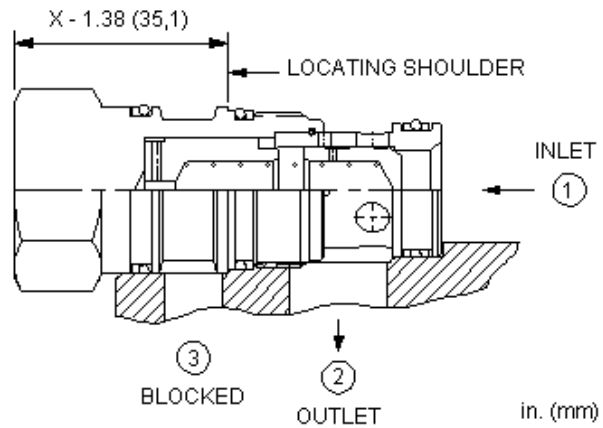
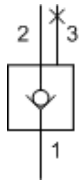
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: CXDCXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar) Z 1 psi (0,07 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

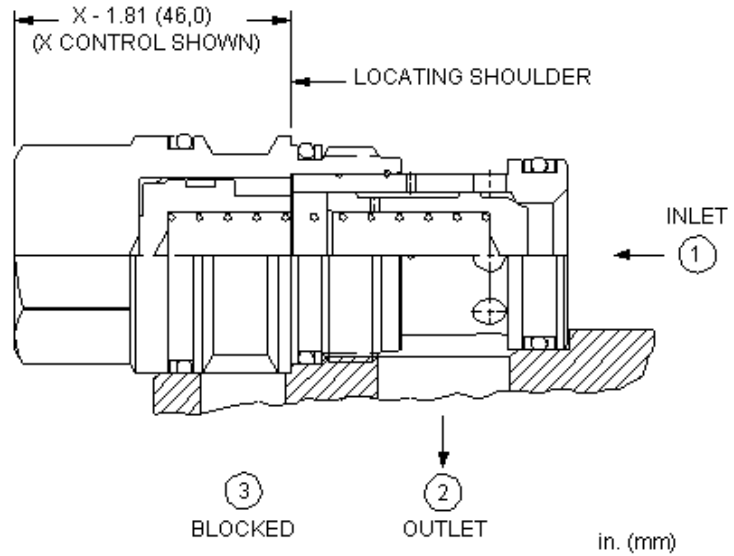
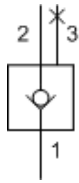
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: CXFCXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar) Z 1 psi (0,07 bar)	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

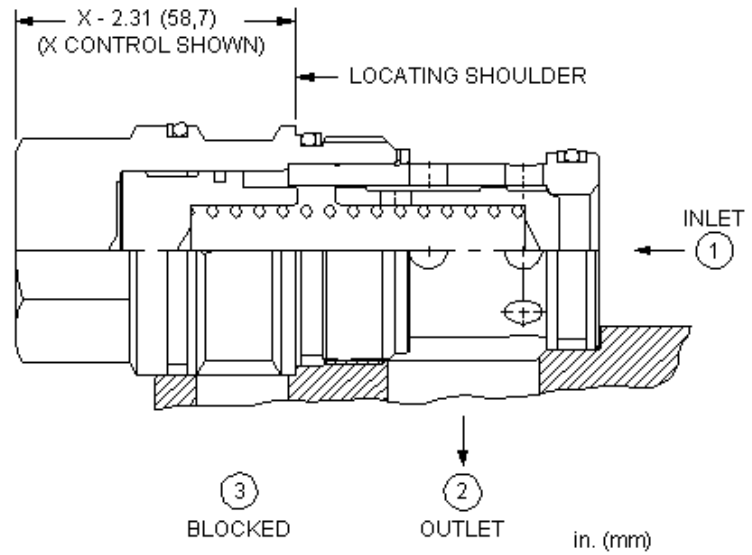
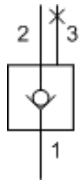
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: CXHCXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar) Z 1 psi (0,07 bar)	N Buna-N V Viton	N Standard Material/Coating /LH Mild Steel, Zinc-Nickel



Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

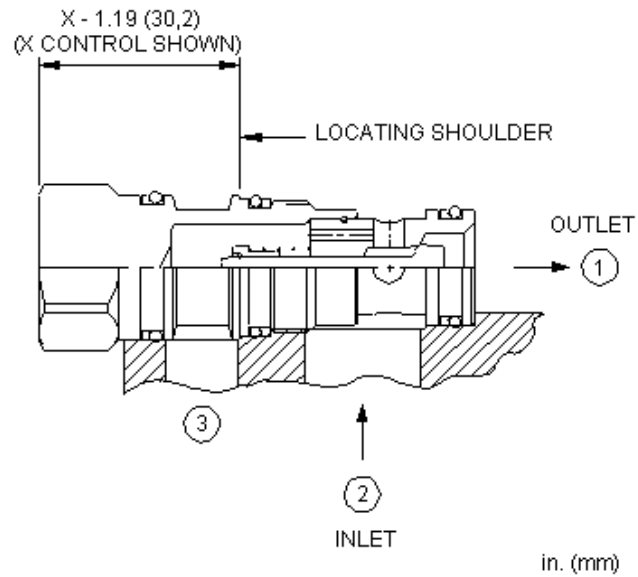
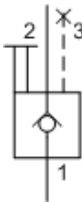
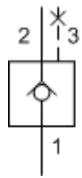
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: CXJCXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)
X Not Adjustable	C 30 psi (2 bar)	N Buna-N	
	A 4 psi (0,3 bar)	V Viton	
	B 15 psi (1 bar)		
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		
	Z 1 psi (0,07 bar)		



Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

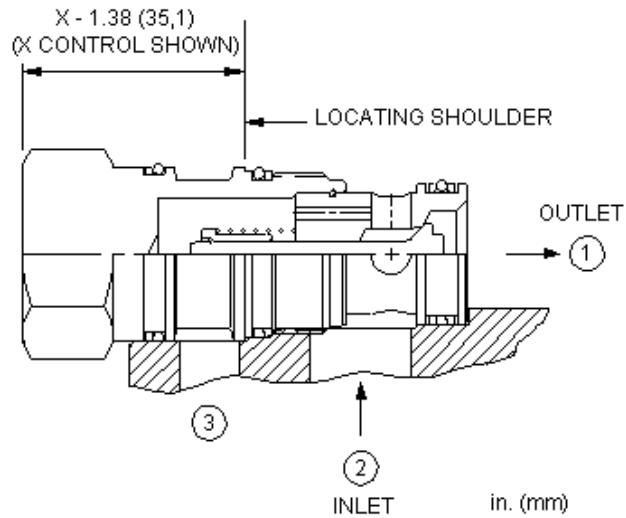
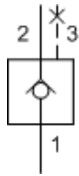
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: CXCEXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	B 15 psi (1 bar)		
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

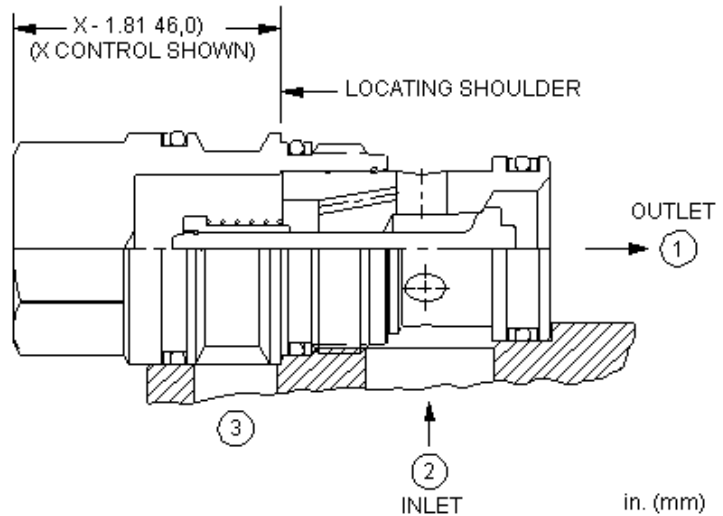
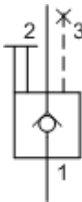
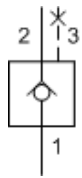
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: CXEEXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

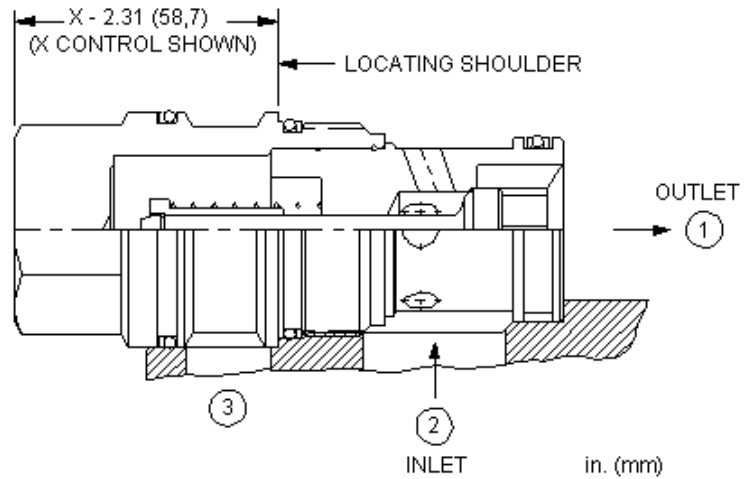
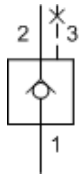
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: CXGEXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

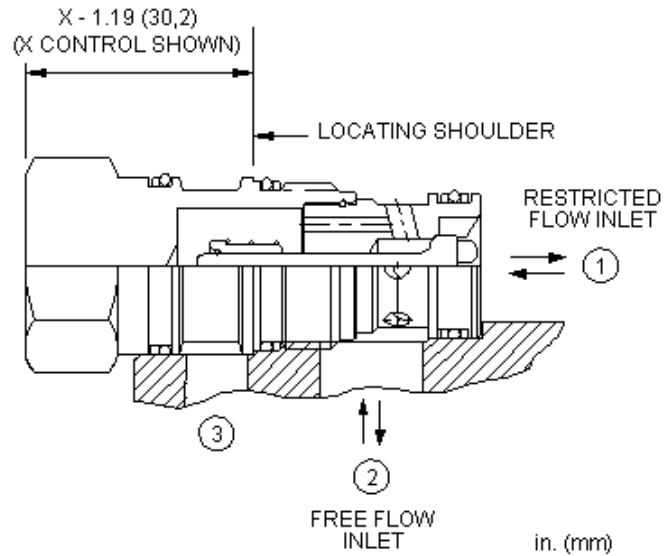
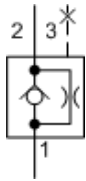
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: CXIEXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

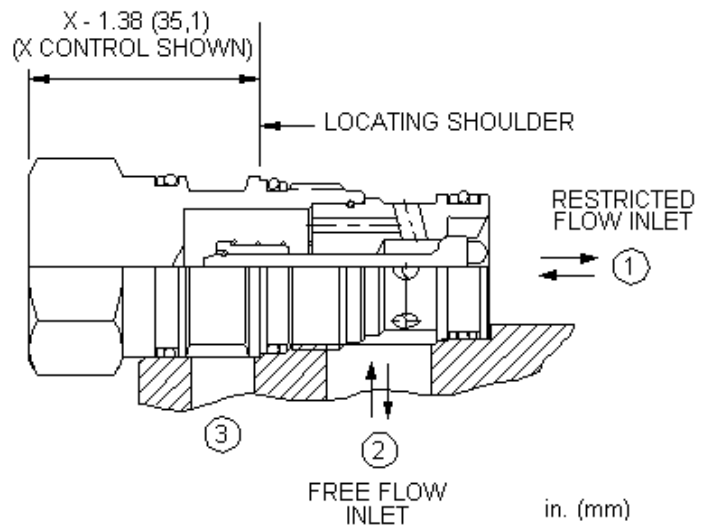
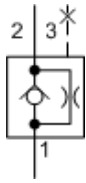
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,9 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: CNCDXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

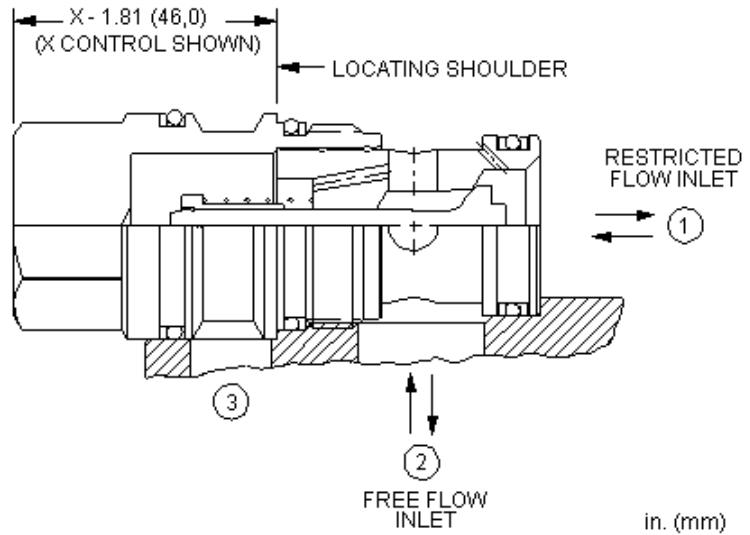
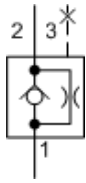
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,4 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: CNEDXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

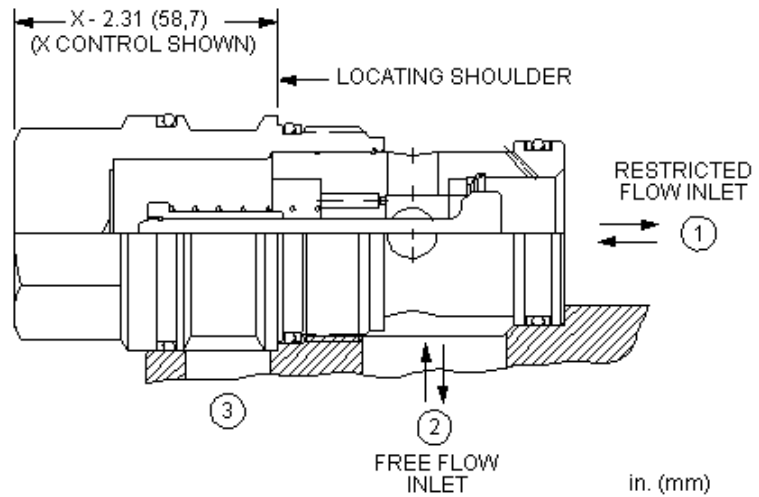
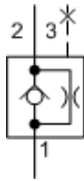
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 5,5 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: CNGDXCN

CONTROL	(X) SETTING RANGE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)		N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)		V Viton		/AP Stainless Steel, Passivated
	B 15 psi (1 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)				
	D 50 psi (3,5 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)				
	E 75 psi (5 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)				
	F 100 psi (7 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)				



Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

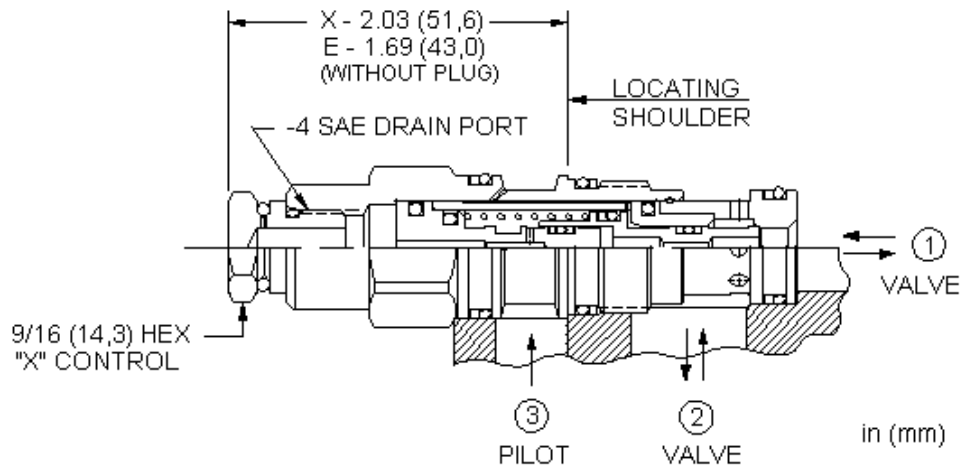
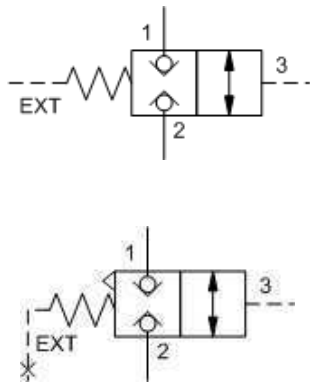
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 5,5 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: **CNIDXCN**

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

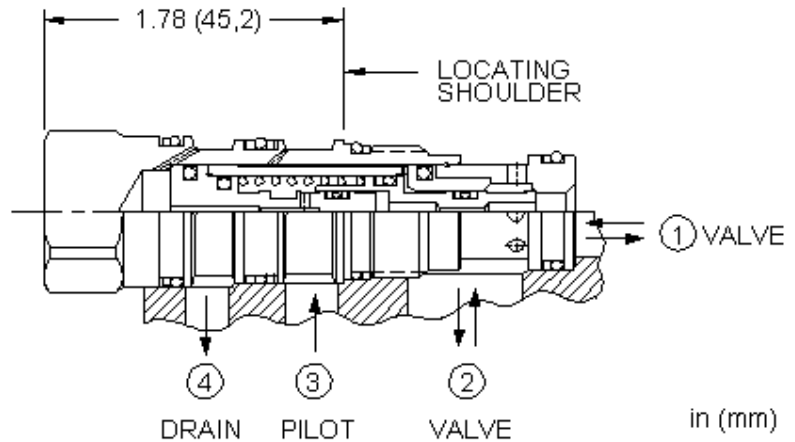
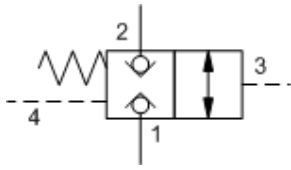
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min. @350 bar
Pilot Volume Displacement	0,16 cc
Seal kit - Cartridge	Buna: 990311007
Seal kit - Cartridge	Viton: 990311006

CONFIGURATION OPTIONS

Model Code Example: **DKDCEHN**

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
E External 4- <small>SAE</small> Drain Port X Standard Pilot, Atmospheric Vent	H 400 psi (28 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating



This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

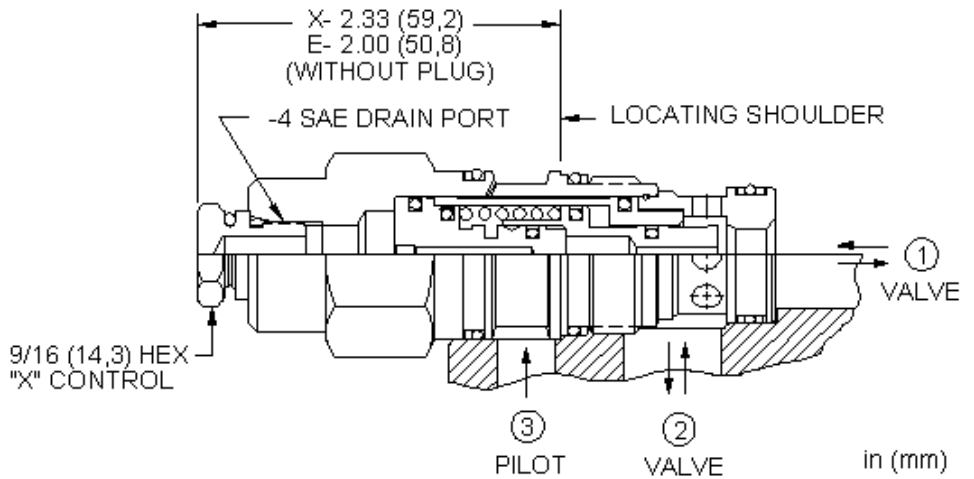
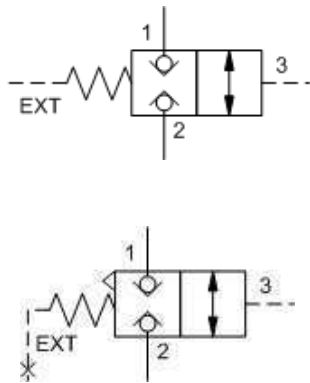
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min. @350 bar
Pilot Volume Displacement	0,16 cc
Pilot Passage into Valve	0,8 mm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: DKDSXHN

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	H 400 psi (28 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.@70 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

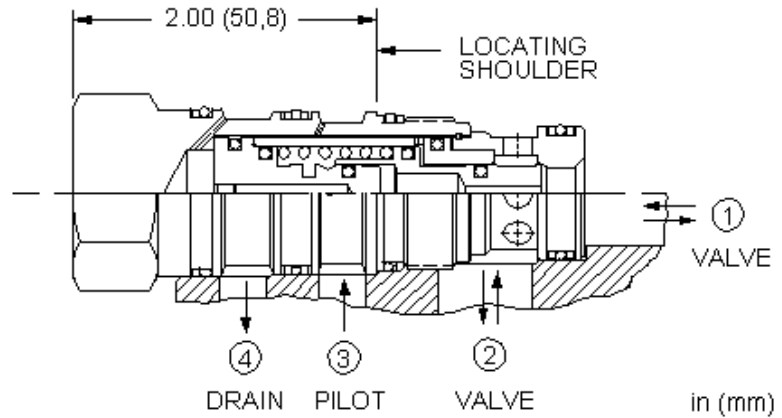
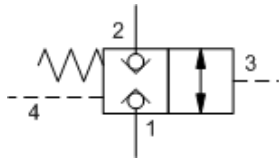
CONFIGURATION OPTIONS

Model Code Example: DKFCEHN

CONTROL (E) **MINIMUM PILOT PRESSURE** (H) **SEAL MATERIAL** (N)

E External 4-**SAE** Drain Port **H** 300 psi (20 bar) **N** Buna-N

X Standard Pilot, Atmospheric Vent V Viton



This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

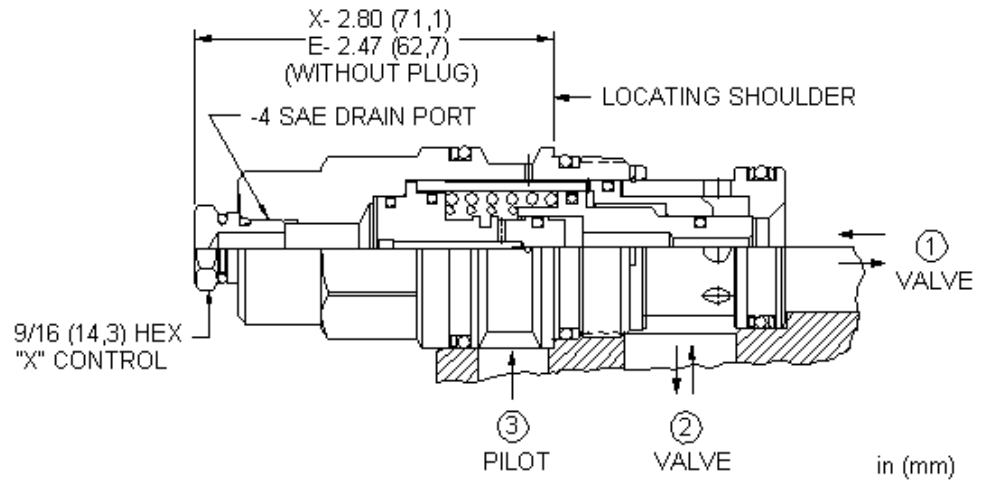
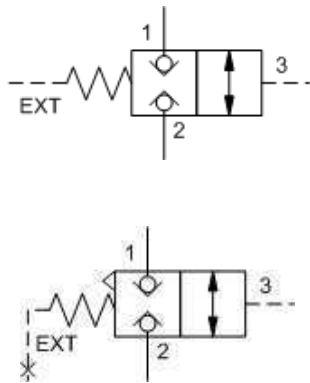
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS

Model Code Example: DKFSXHN

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	H 300 psi (20 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

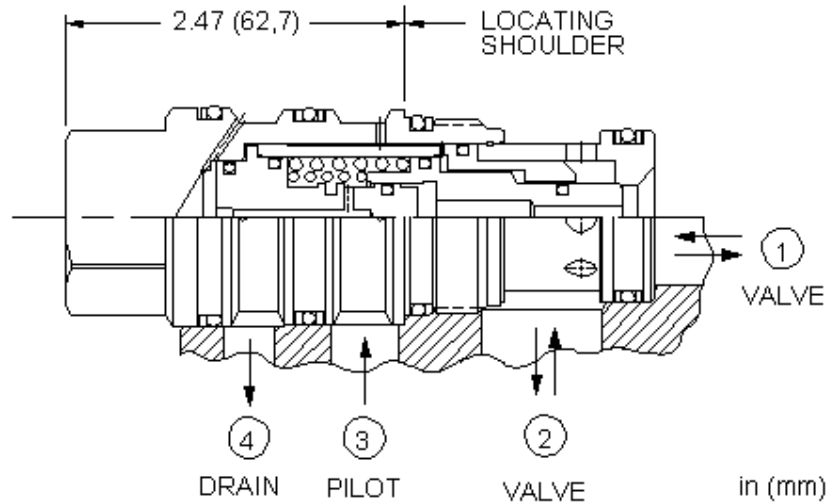
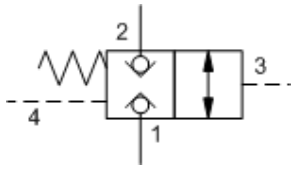
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: DKHCENH

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4- SAE Drain Port	H 300 psi (20 bar)	N Buna-N	
X Standard Pilot, Atmospheric Vent		V Viton	



This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

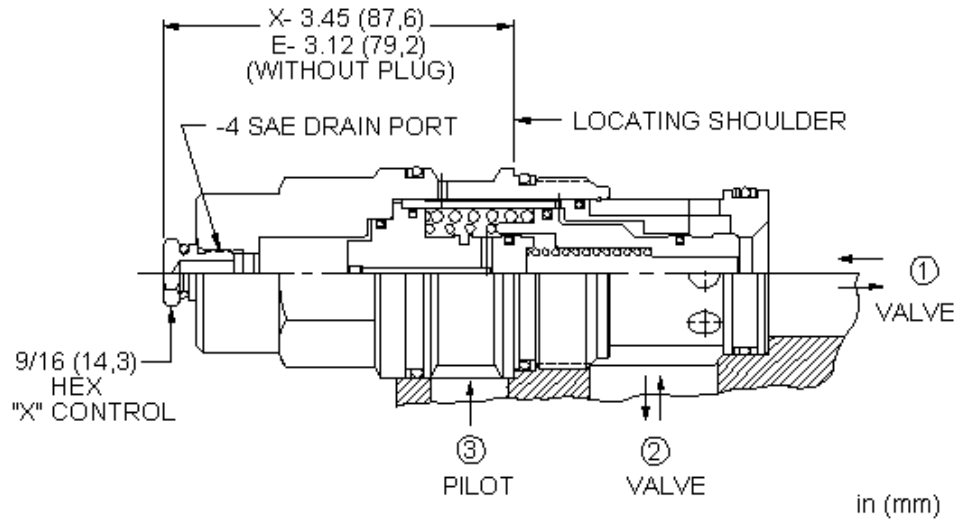
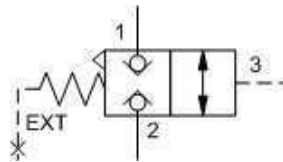
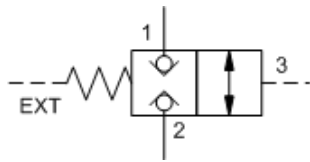
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: **DKHSXHN**

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	H 300 psi (20 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

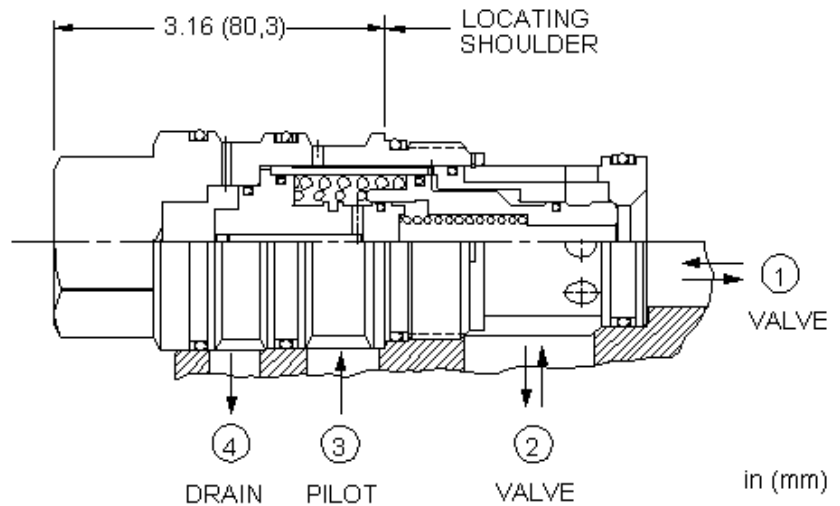
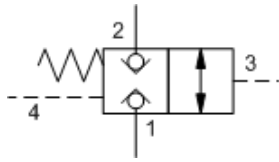
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: **DKJCEHN**

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4- SAE Drain Port X Standard Pilot, Atmospheric Vent	H 300 psi (20 bar)	N Buna-N E EPDM V Viton	



This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

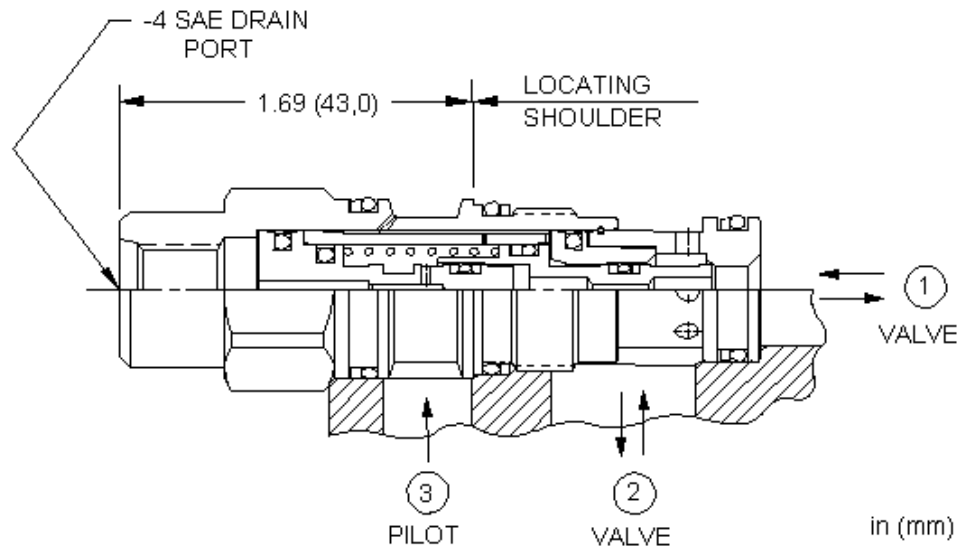
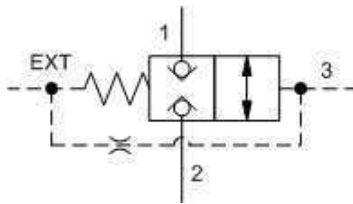
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS

Model Code Example: **DKJSXHN**

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	H 300 psi (20 bar)	N Buna-N E EPDM V Viton	N Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

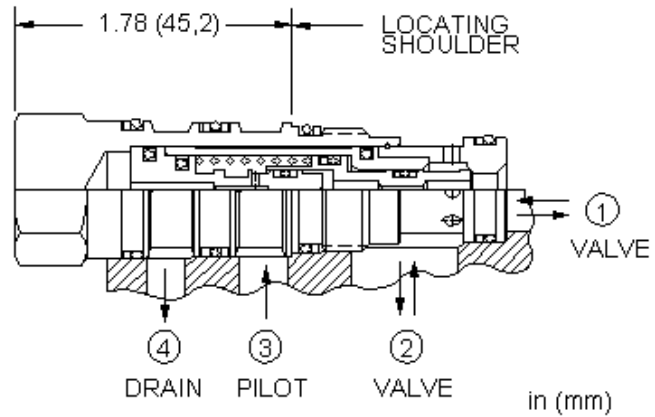
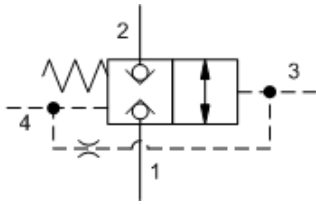
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,16 cc
Pilot Passage into Valve	0,8 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: DKDDEHN

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4-SAE Drain Port	H 400 psi (28 bar)	N Buna-N	V Viton



This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

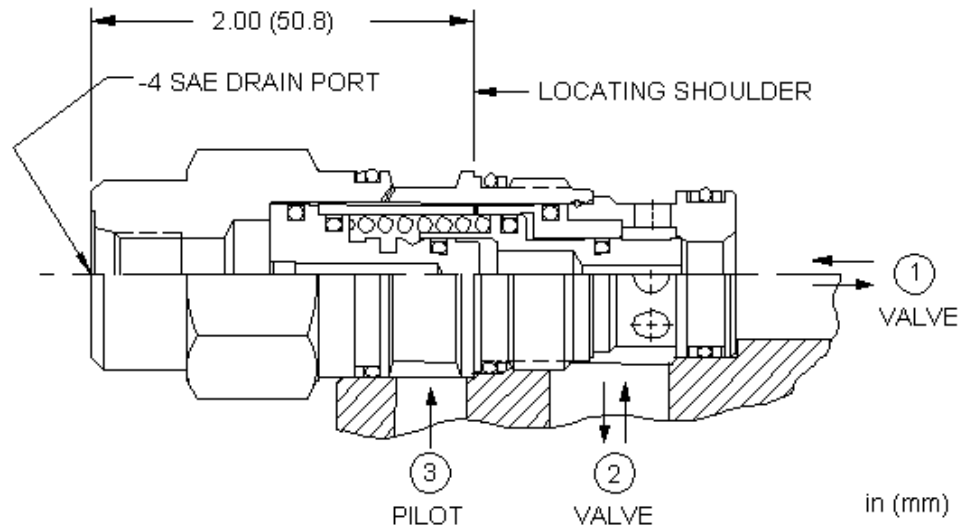
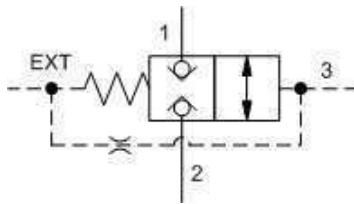
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: DKDRXHN

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Vent to Operate	H 400 psi (28 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

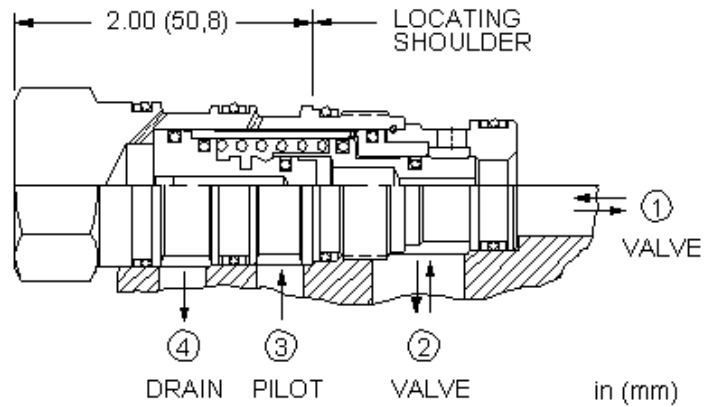
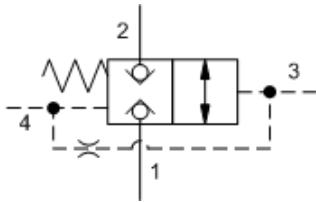
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: DKFDEHN

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4- SAE Drain Port	H 300 psi (20 bar)	N Buna-N	V Viton



This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

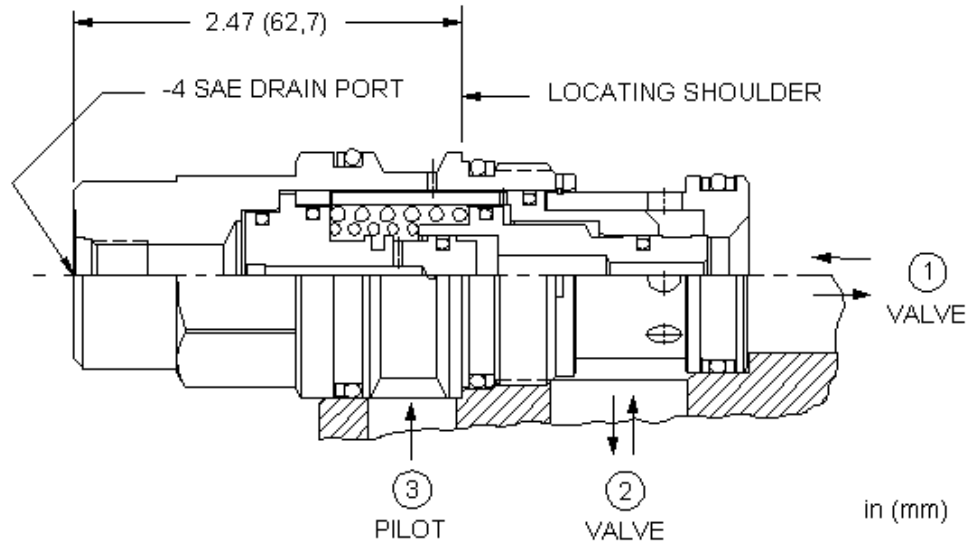
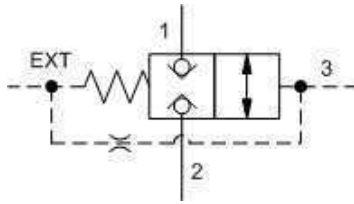
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS

Model Code Example: DKFRXHN

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
X Vent to Operate	H 300 psi (20 bar)	N Buna-N	
		V Viton	



This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

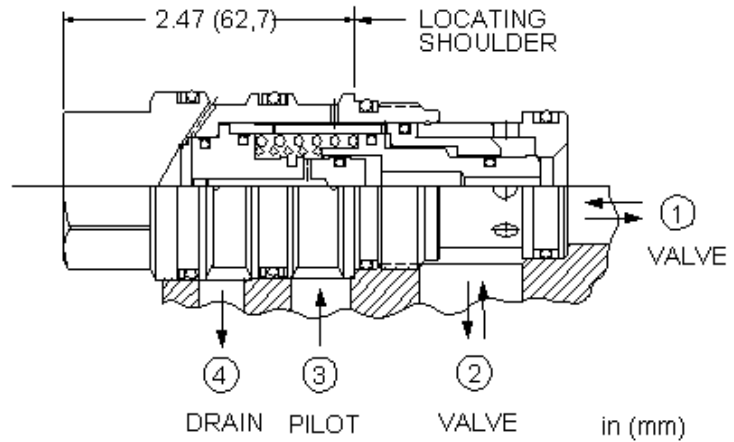
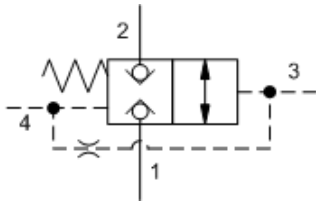
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: DKHDEHN

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4- <small>SAE</small> Drain Port	H 300 psi (20 bar)	N Buna-N	V Viton



This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

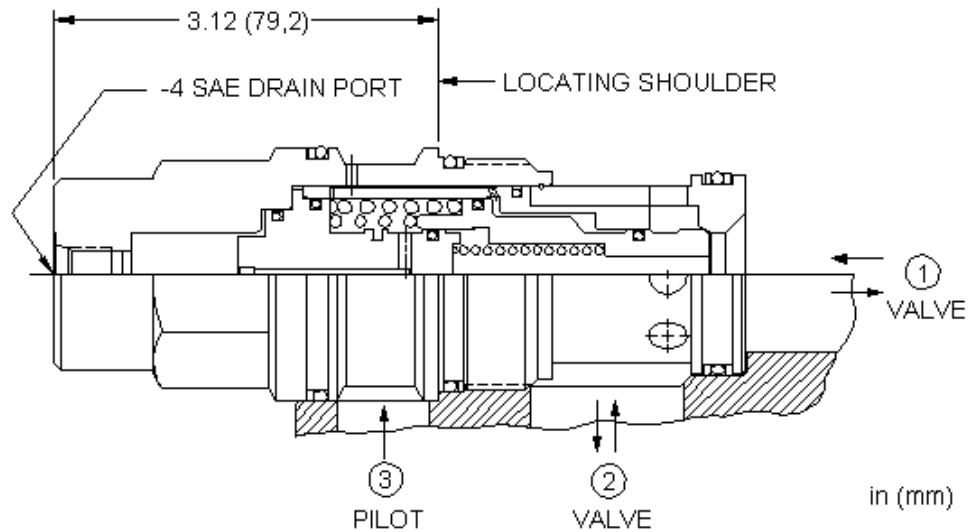
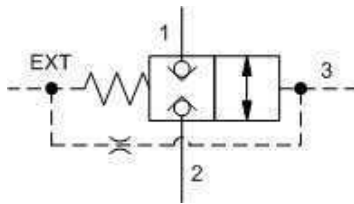
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: DKHRXHN

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
X Vent to Operate	H 300 psi (20 bar)	N Buna-N	
		V Viton	



This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

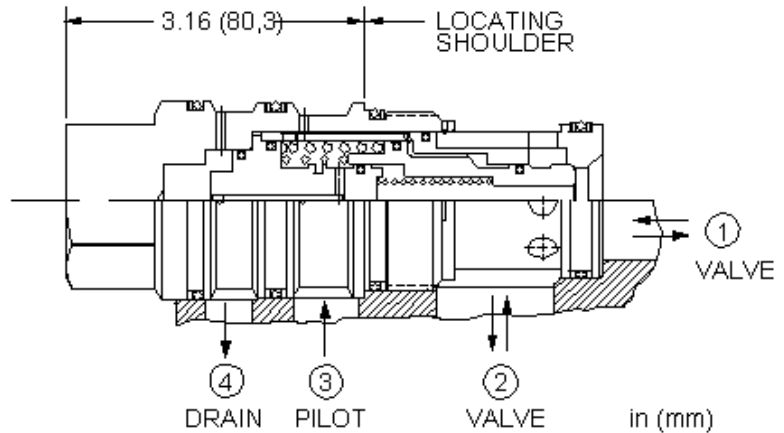
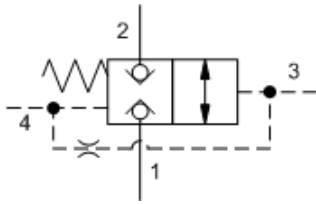
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: DKJDEHN

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4- <small>SAE</small> Drain Port	H 300 psi (20 bar)	N Buna-N	V Viton



This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

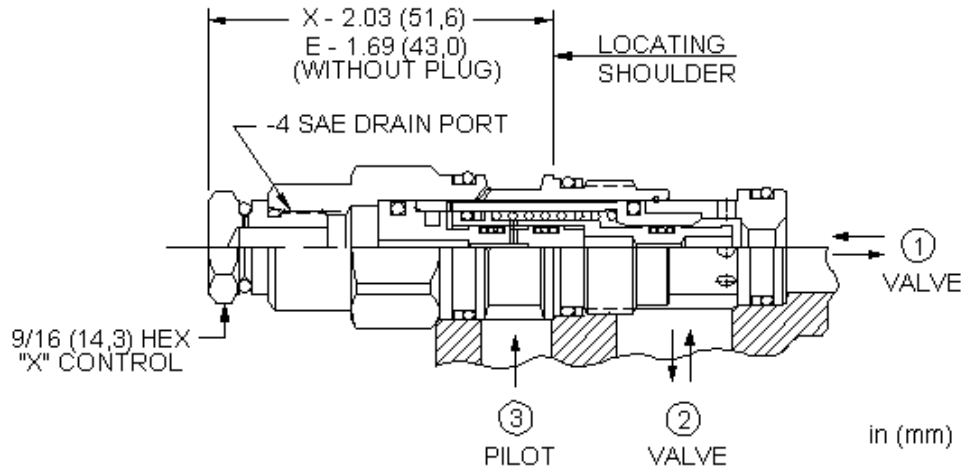
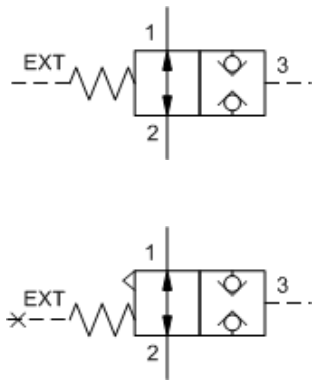
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS

Model Code Example: DKJRXHN

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
X Vent to Operate	H 300 psi (20 bar)	N Buna-N	
		V Viton	



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

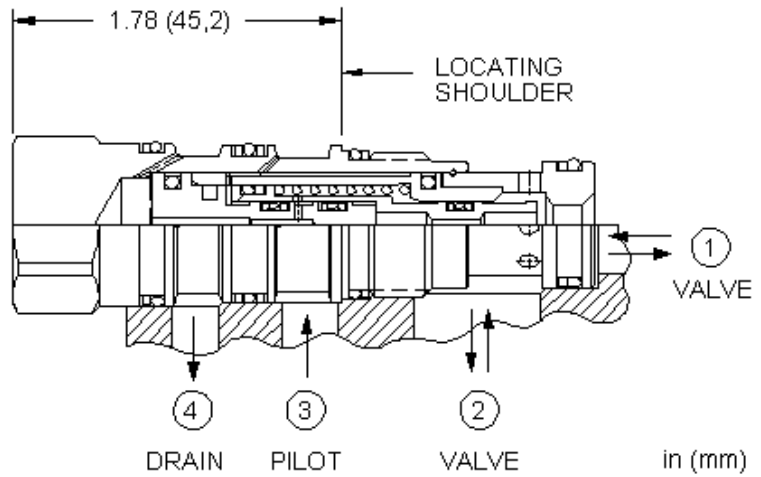
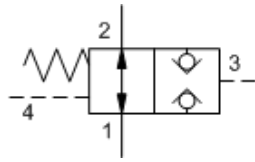
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,16 cc
Seal kit - Cartridge	Buna: 990311007
Seal kit - Cartridge	Viton: 990311006

CONFIGURATION OPTIONS

Model Code Example: DODCEHN

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
E External 4- SAE Drain Port X Standard Pilot, Atmospheric Vent	H 400 psi (28 bar)	N Buna-N V Viton	Standard Material/Coating IAP Stainless Steel, Passivated



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

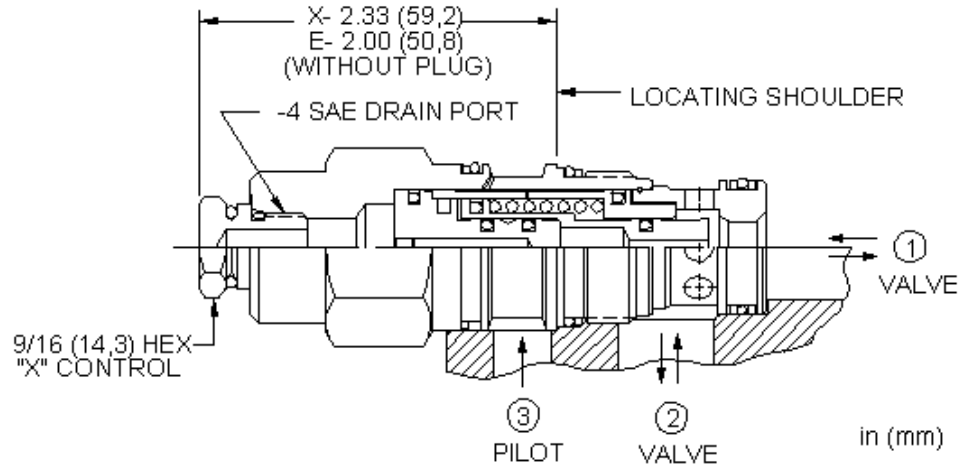
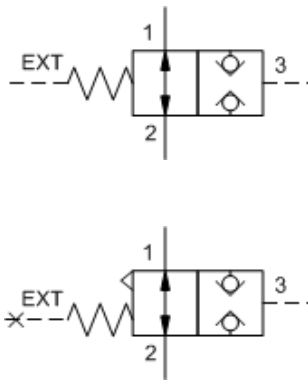
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,16 cc
Pilot Passage into Valve	0,8 mm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: DODSXHN

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	H 400 psi (28 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

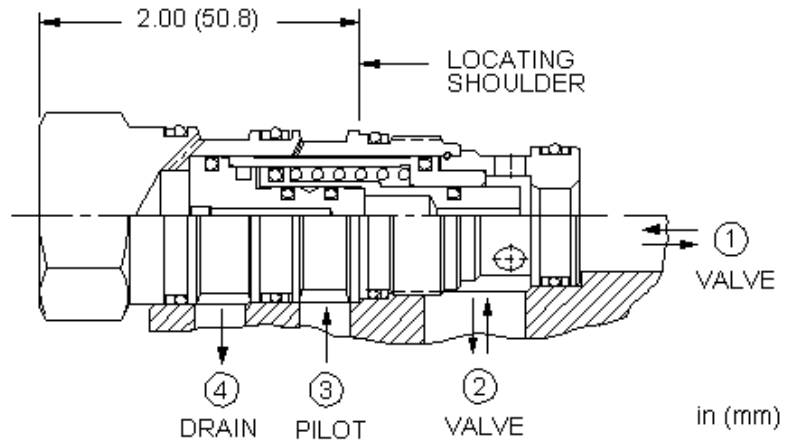
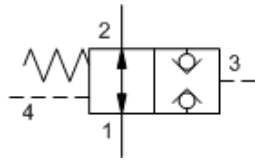
CONFIGURATION OPTIONS

Model Code Example: DOFCEHN

CONTROL (E) **MINIMUM PILOT PRESSURE** (H) **SEAL MATERIAL** (N)

E External 4-**SAE** Drain Port **H** 300 psi (20 bar) **N** Buna-N

X Standard Pilot, Atmospheric Vent V Viton



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

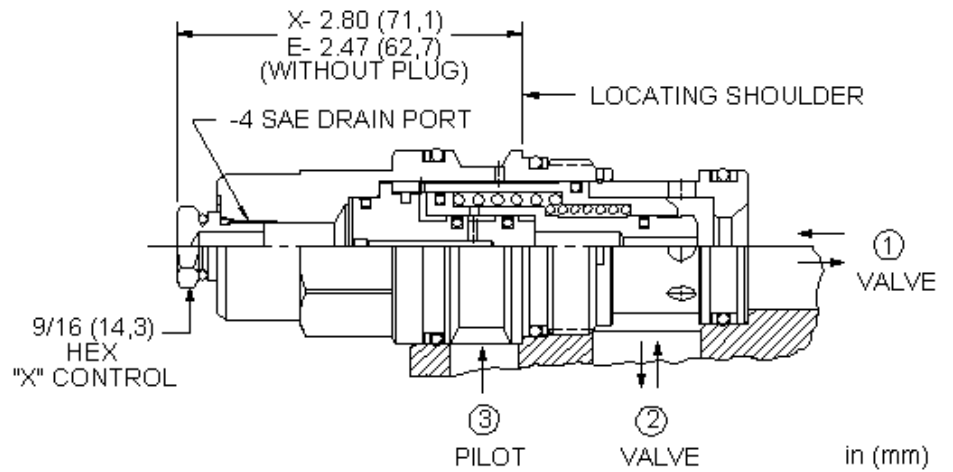
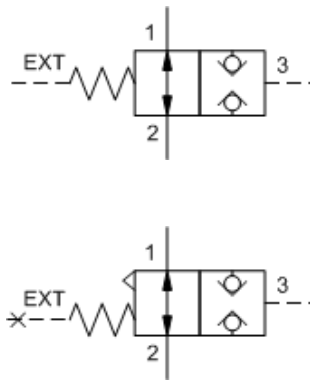
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS

Model Code Example: DOFSXHN

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	H 300 psi (20 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

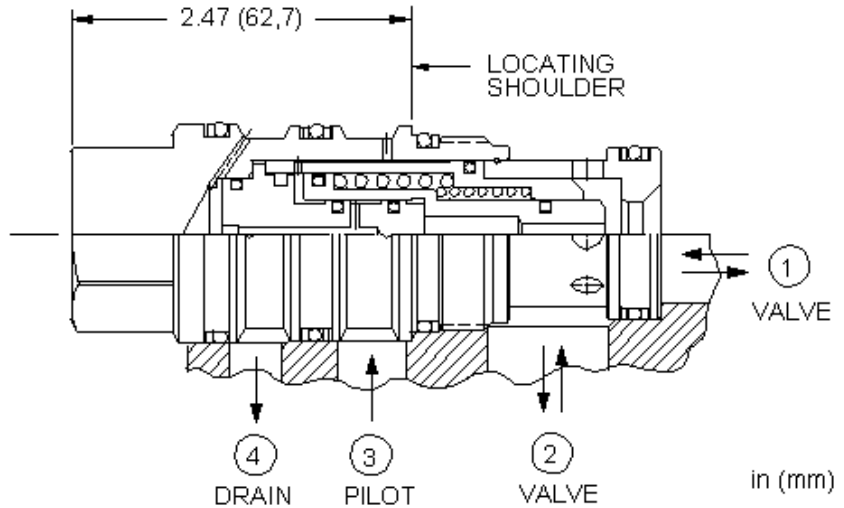
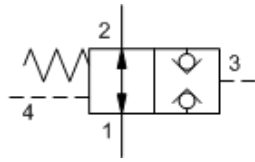
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: DOHCEN

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4- SAE Drain Port X Standard Pilot, Atmospheric Vent	H 300 psi (20 bar)	N Buna-N V Viton	



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

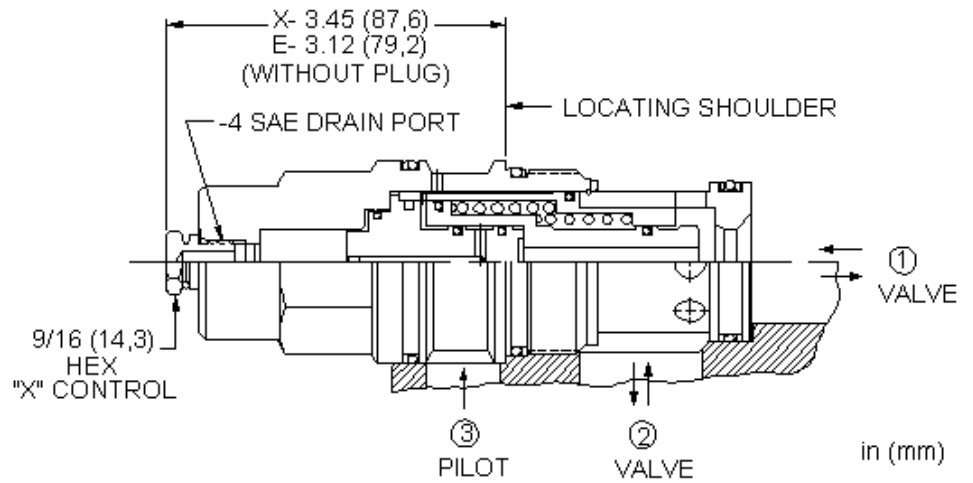
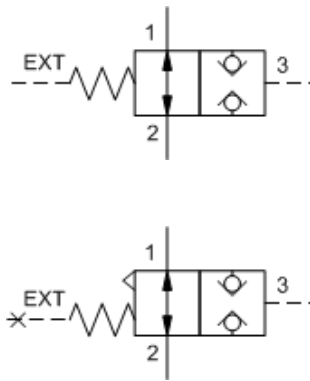
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: DOHSXHN

CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		H 300 psi (20 bar)		N Buna-N E EPDM V Viton		Standard Material/Coating /AP Stainless Steel, Passivated



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

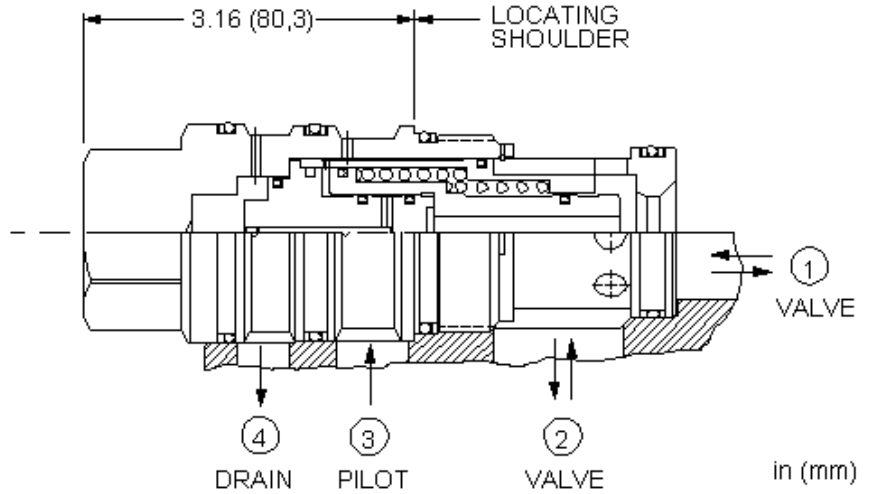
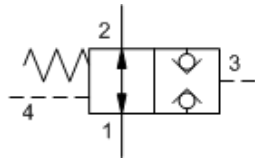
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: DOJCEHN

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4- SAE Drain Port X Standard Pilot, Atmospheric Vent	H 300 psi (20 bar)	N Buna-N V Viton	



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

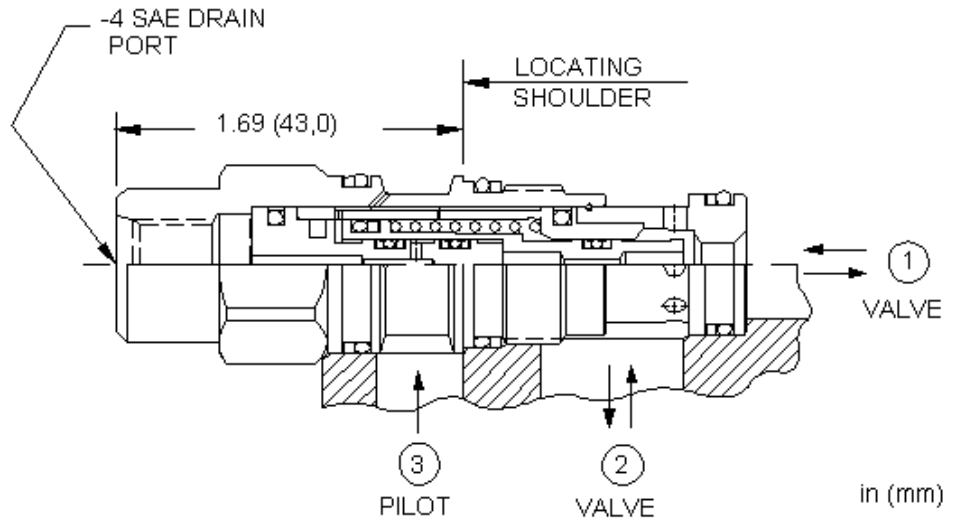
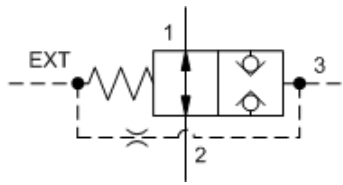
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS

Model Code Example: DOJSXHN

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	H 300 psi (20 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

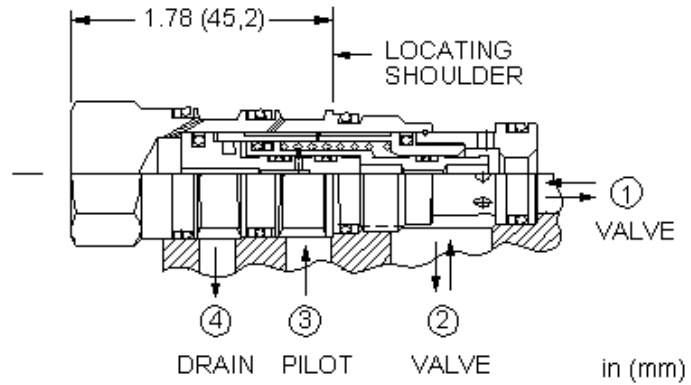
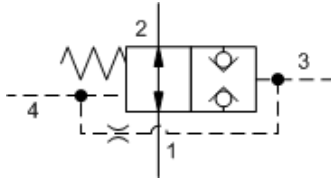
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,16 cc
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: DODDEHN

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4- <i>SAE</i> Drain Port	H 400 psi (28 bar)	N Buna-N V Viton	



This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

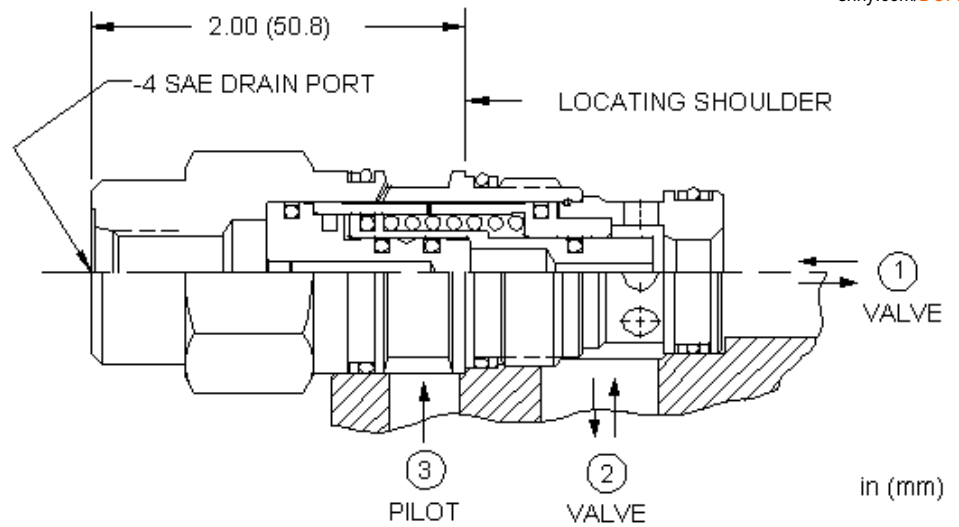
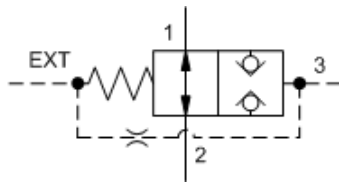
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: **DODRXHN**

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Vent to Operate	H 400 psi (28 bar)	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

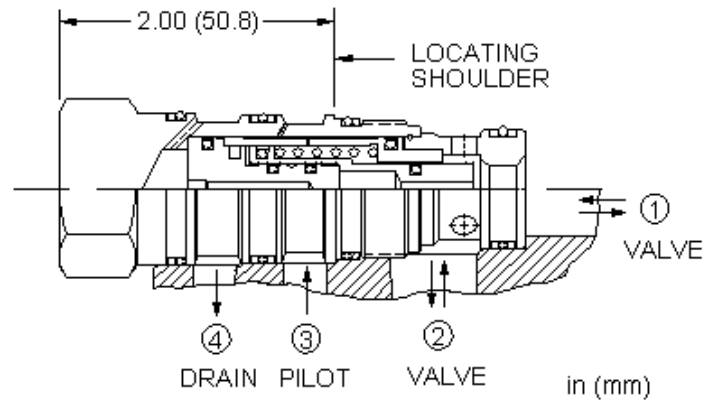
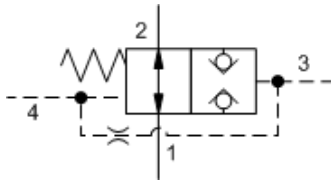
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: DOFDEHN

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4- SAE Drain Port	H 300 psi (20 bar)	N Buna-N	V Viton



This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

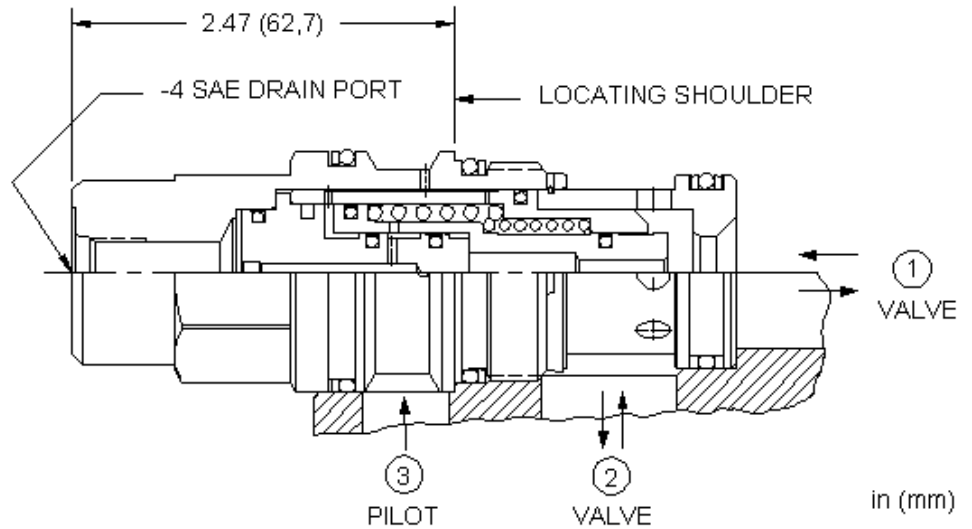
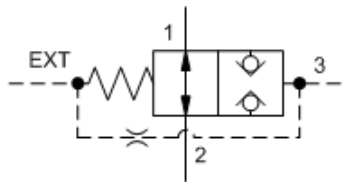
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS

Model Code Example: DOFRXHN

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
X Vent to Operate	H 300 psi (20 bar)	N Buna-N	
		V Viton	



This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

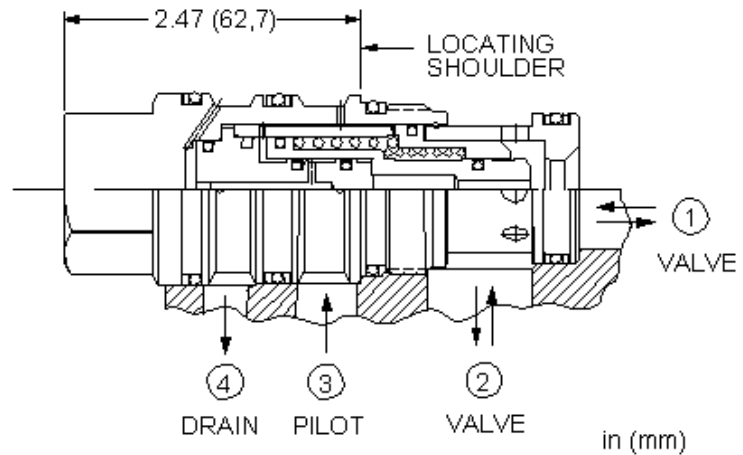
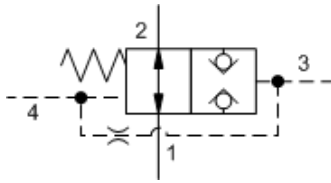
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: DOHDEHN

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4- SAE Drain Port	H 300 psi (20 bar)	N Buna-N V Viton	



This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

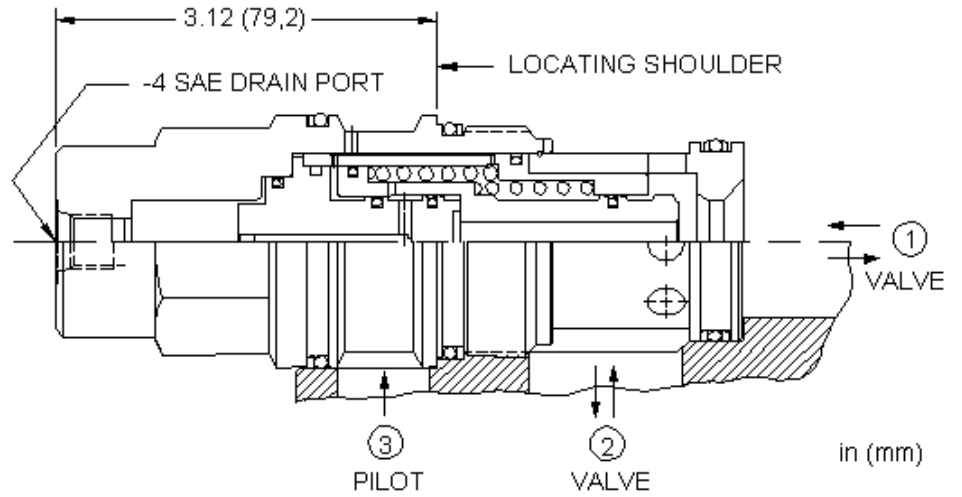
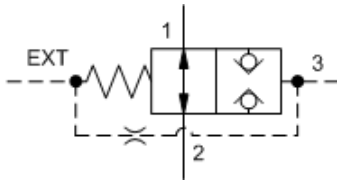
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: DOHRXHN

CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
X Vent to Operate	H 300 psi (20 bar)	N Buna-N	V Viton



This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

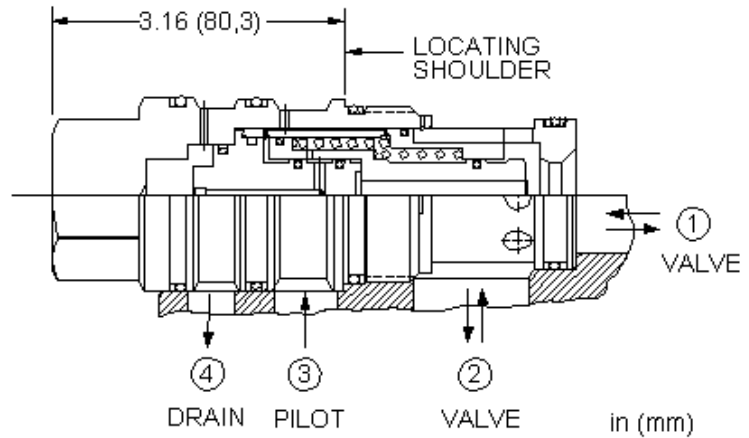
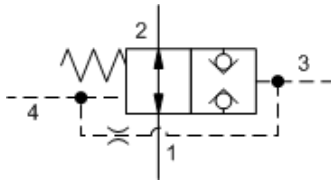
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: DOJDEHN

CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4-SAE Drain Port	H 300 psi (20 bar)	N Buna-N	
		V Viton	



This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

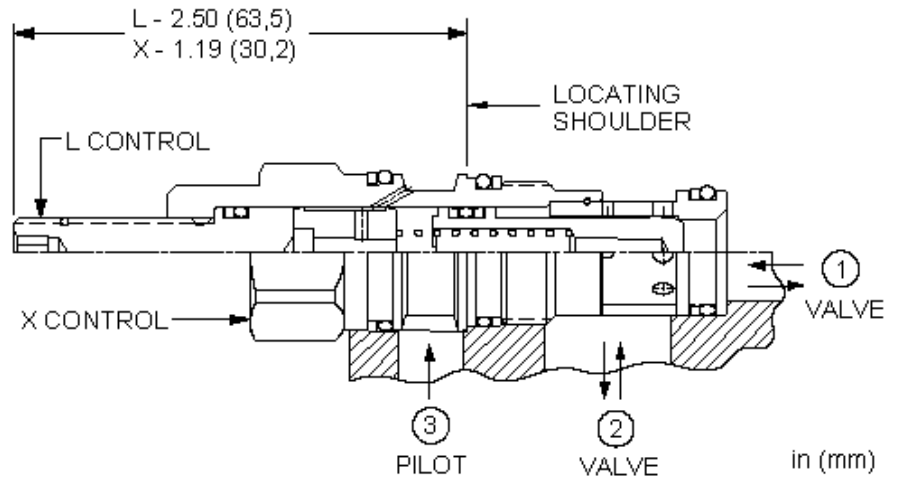
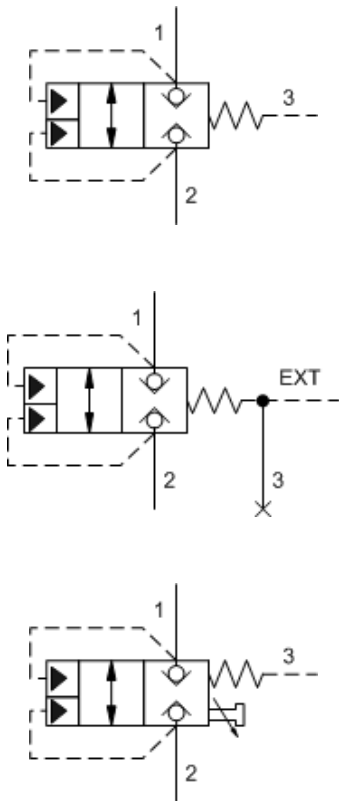
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS

Model Code Example: DOJRXHN

CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
X Vent to Operate		H 300 psi (20 bar)		N Buna-N	
				V Viton	



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

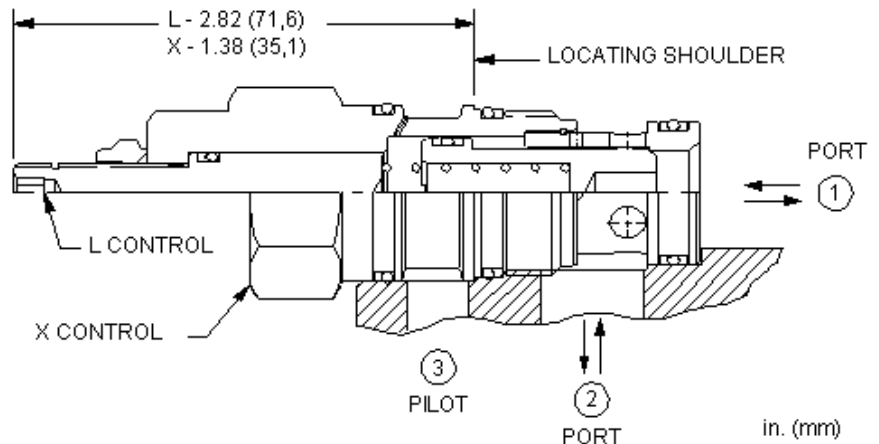
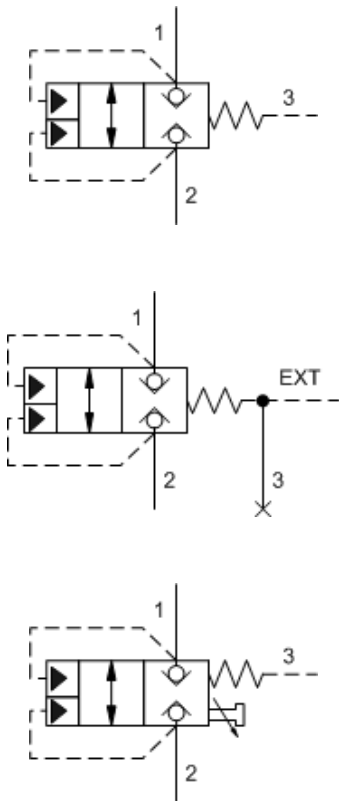
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	0,66 cc
Pilot Passage into Valve	0,8 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: LODCXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

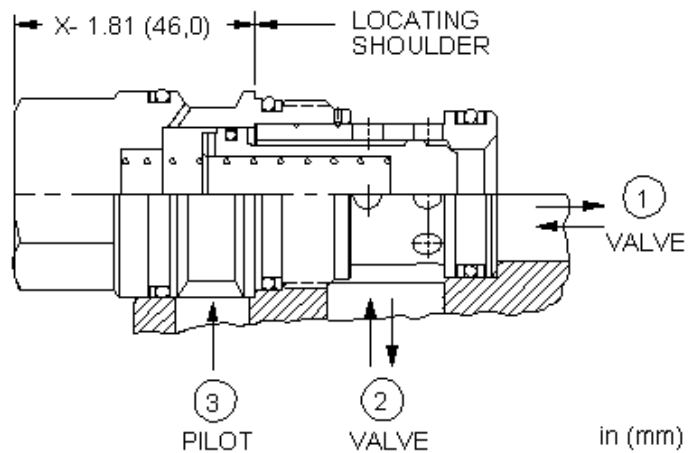
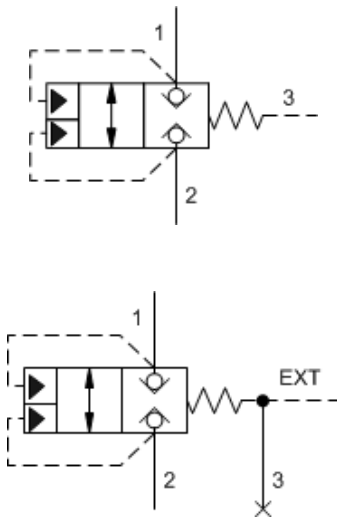
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	1,1 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: LOFCXDN

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



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

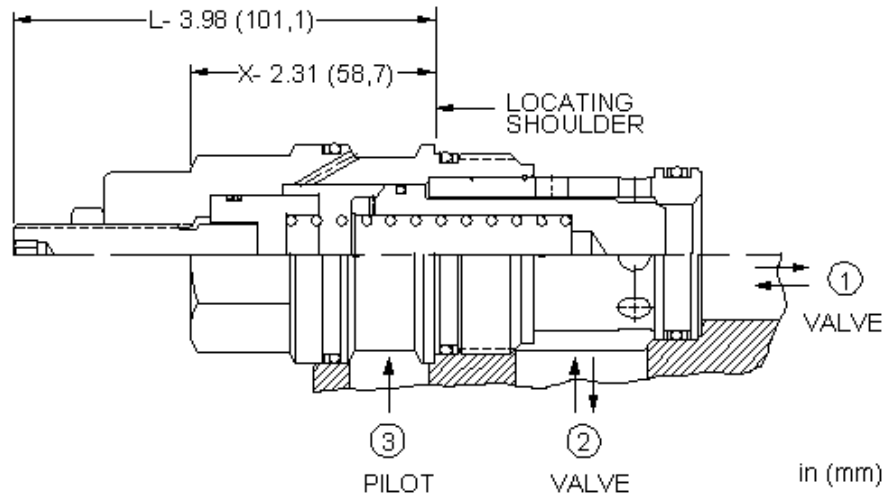
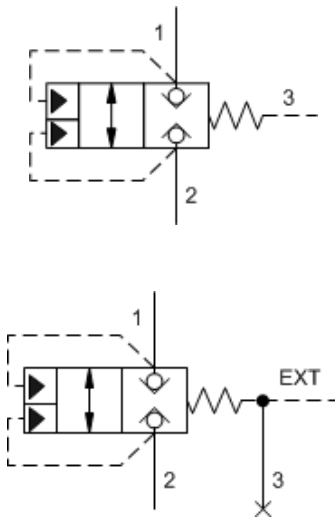
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	4,1 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: LOHCXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

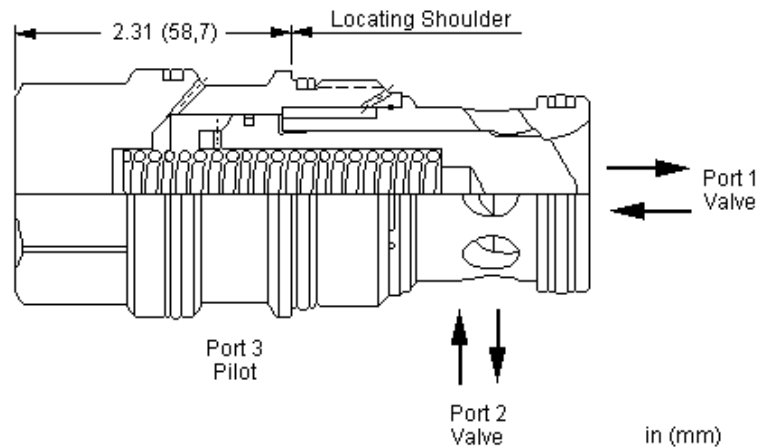
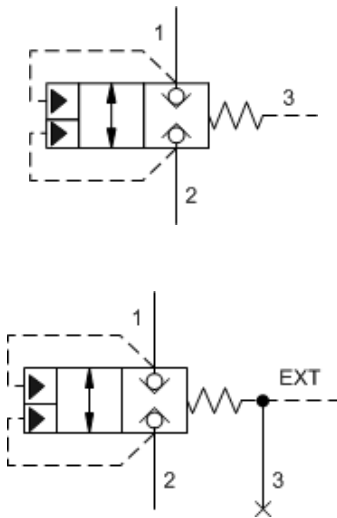
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	6,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOJXND

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

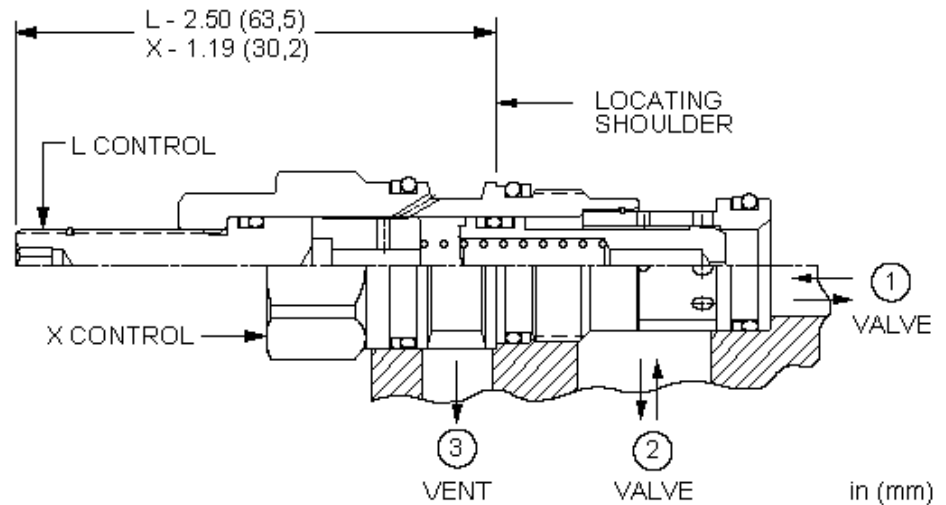
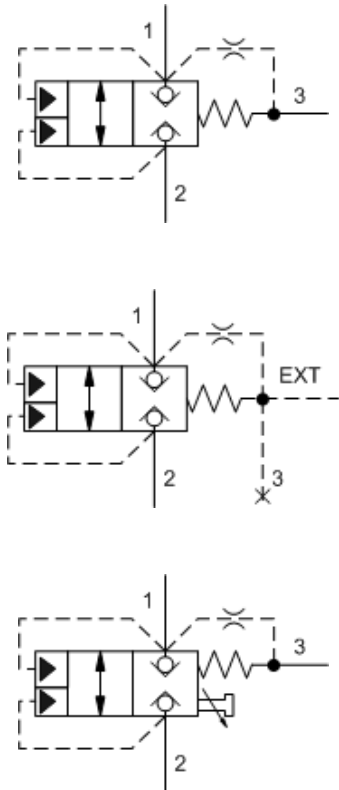
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	7,7 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOKCXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

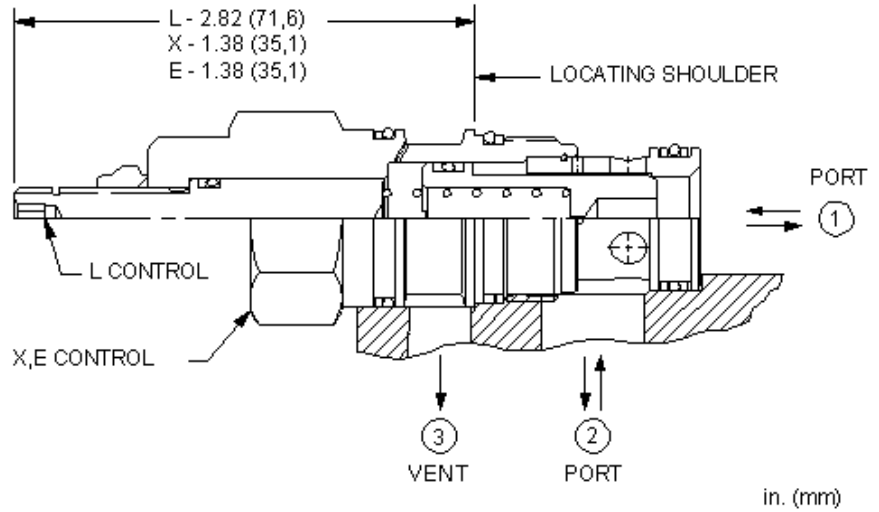
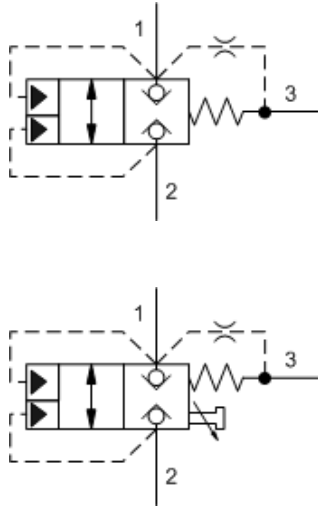
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: LODAXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating IAP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

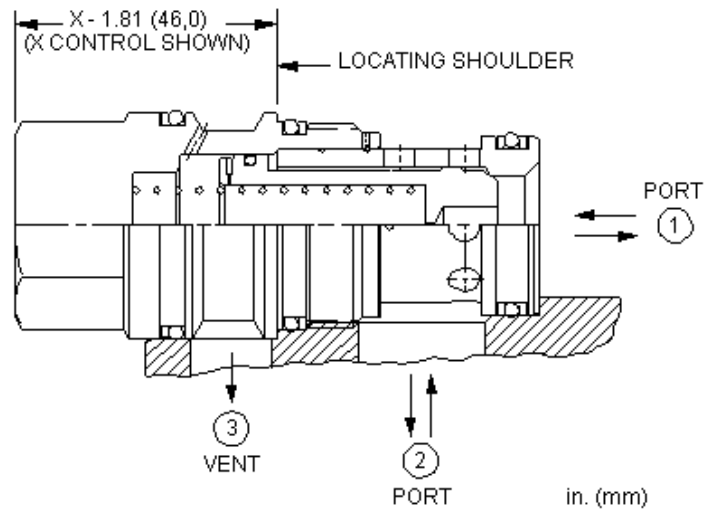
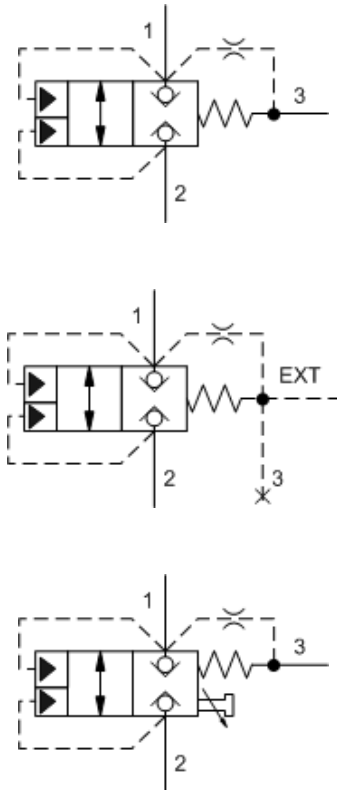
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: LOFAXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating IAP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

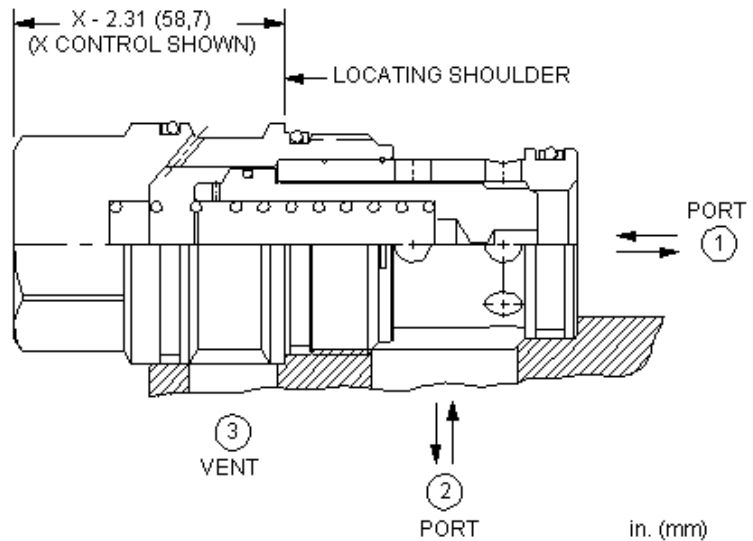
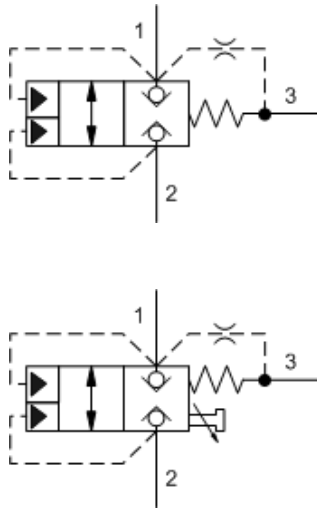
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: LOHAXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

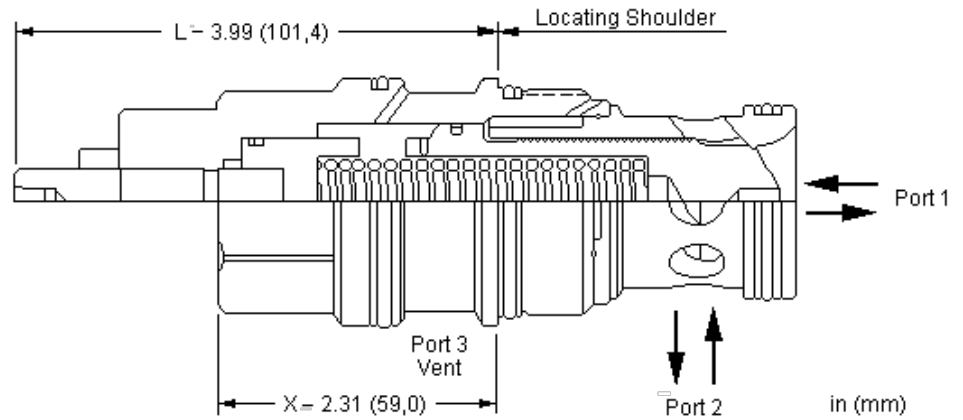
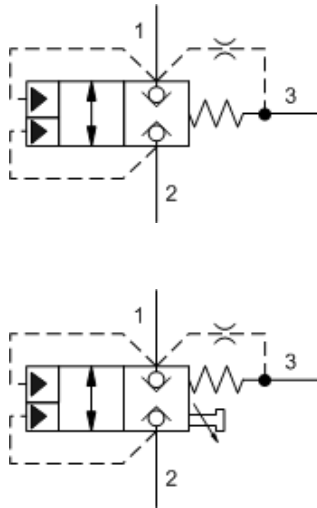
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOJAXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable L Stroke Adjustment	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

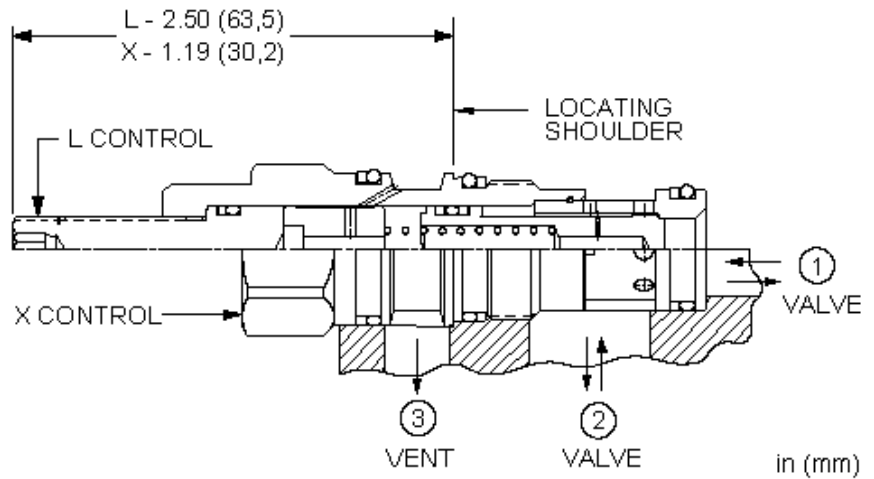
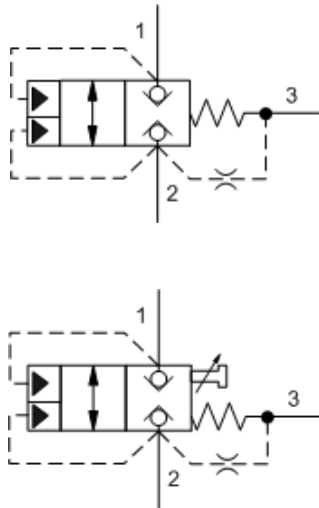
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOKAXDN

CONTROL	(X)	CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable L Stroke Adjustment		D 50 psi (3,5 bar)		N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated



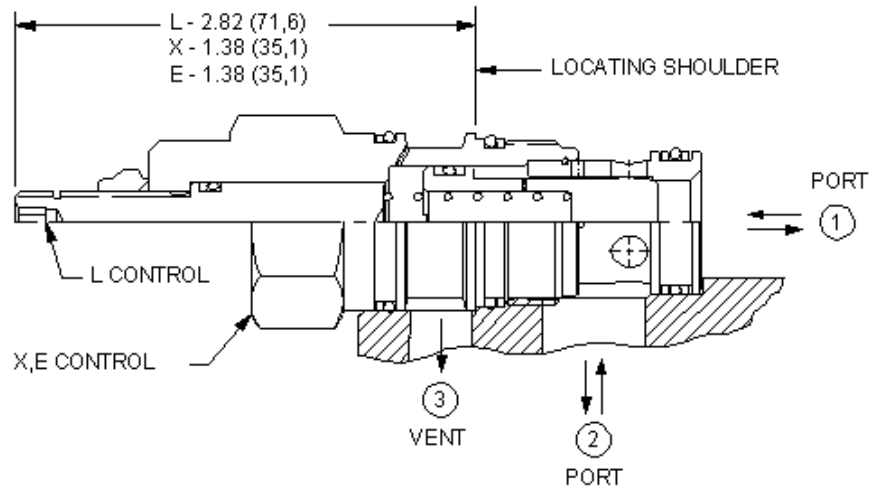
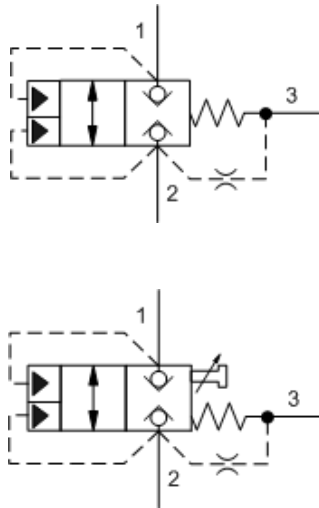
These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS
Model Code Example: LOBBDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

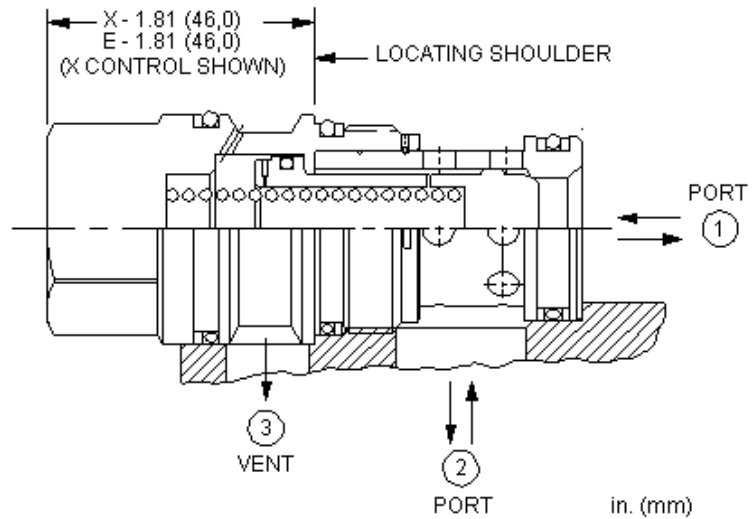
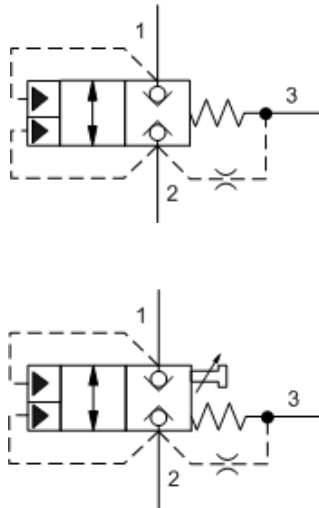
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: LOFBXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

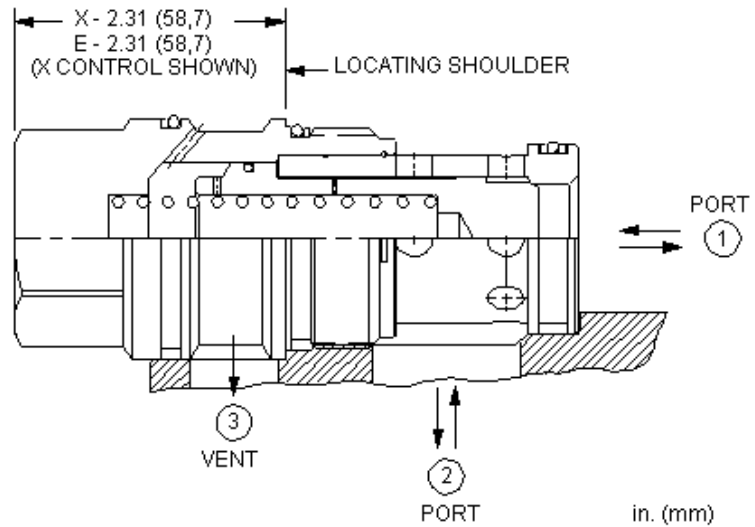
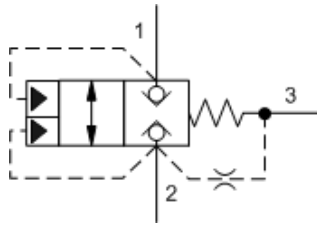
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: LOHBXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

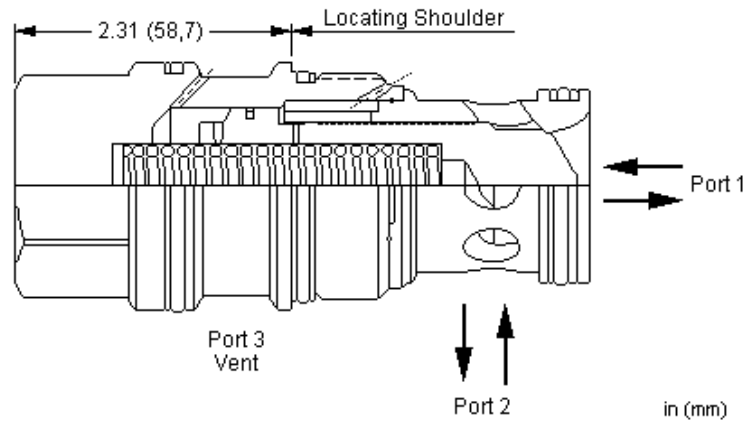
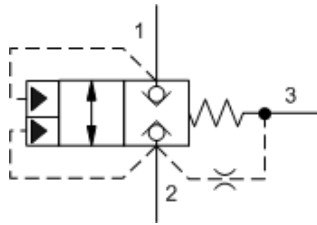
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOJBXDN

CONTROL	(X)	CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		D 50 psi (3,5 bar)		N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

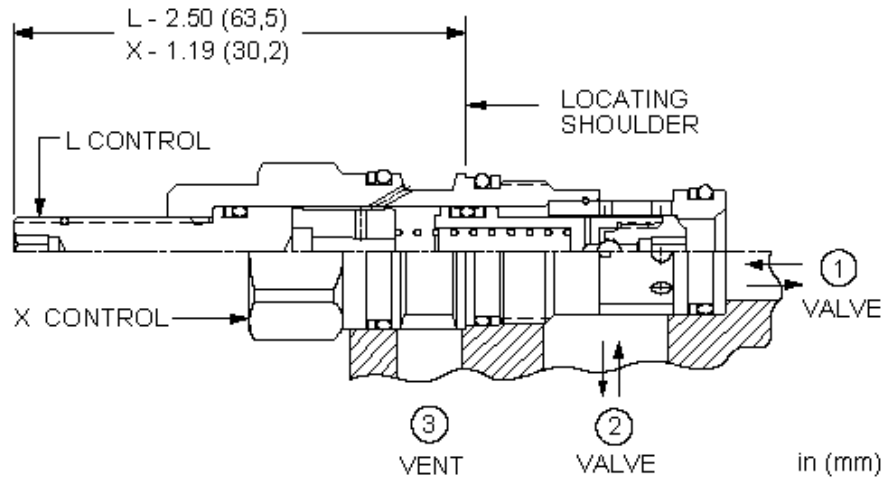
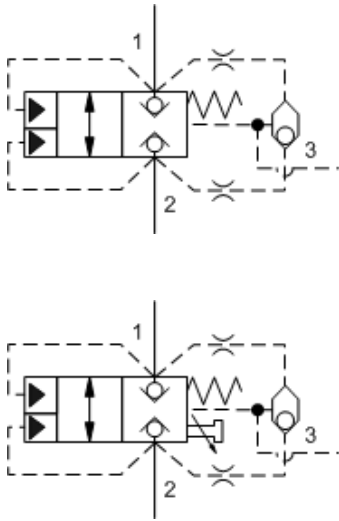
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOKBXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

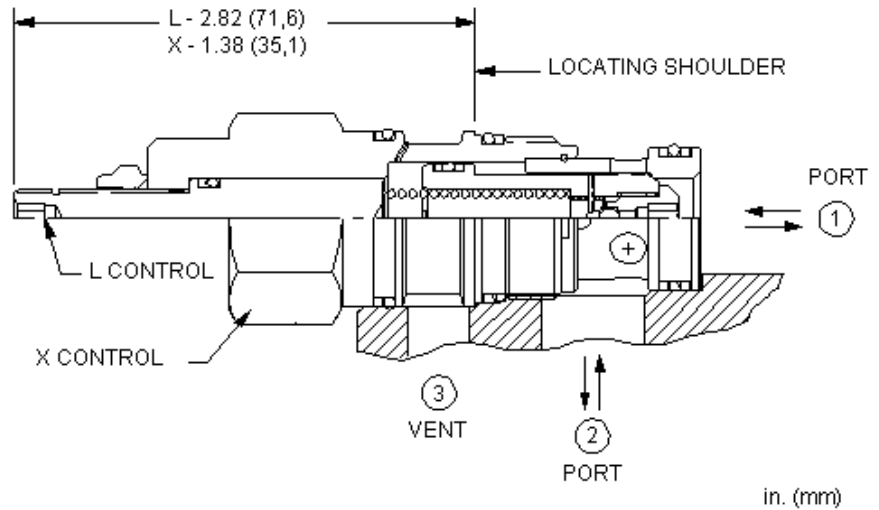
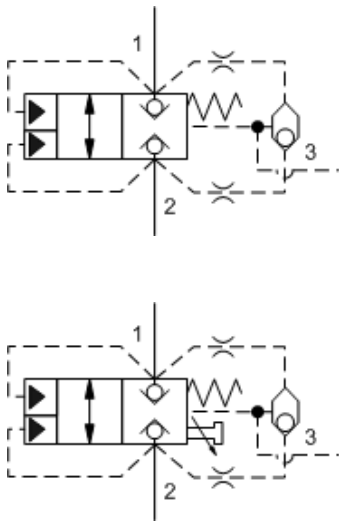
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: LODDXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

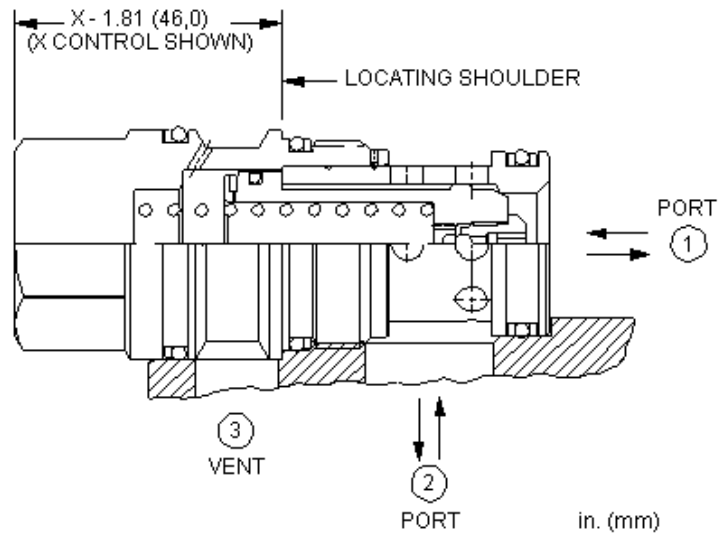
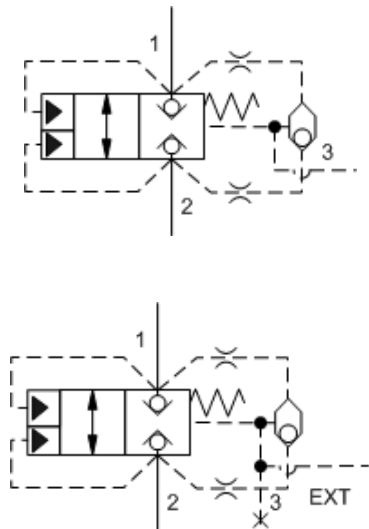
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: LOFDXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

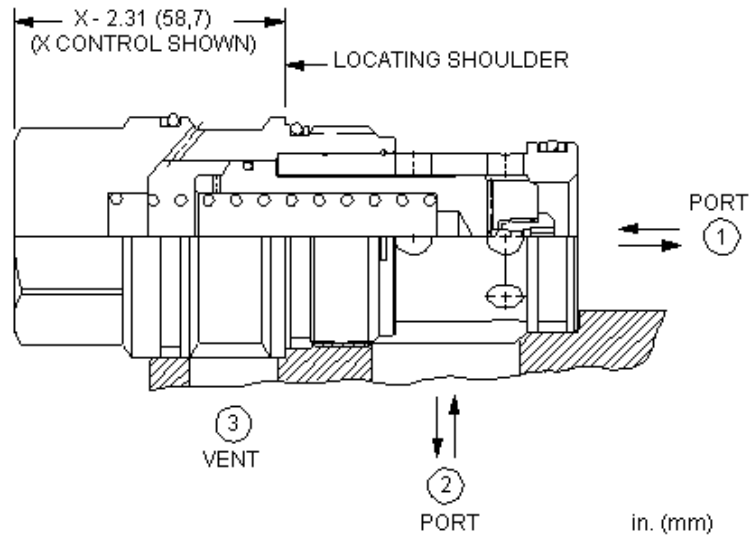
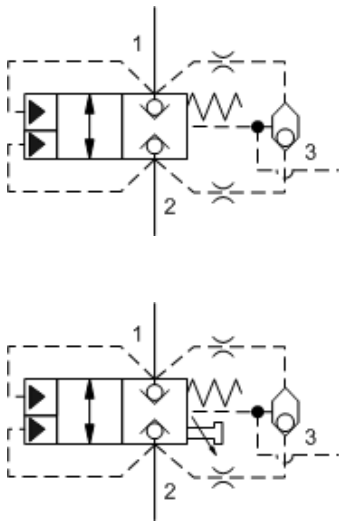
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: LOHDXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

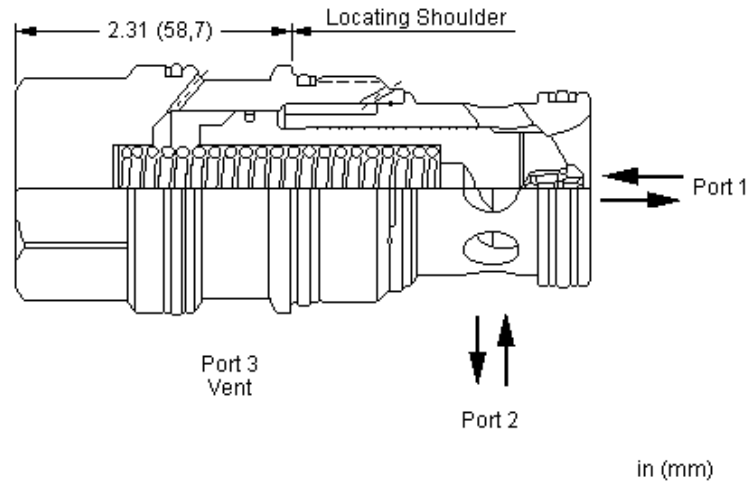
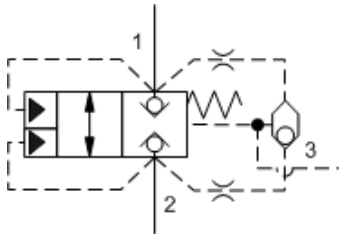
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOJDXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable L Stroke Adjustment	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

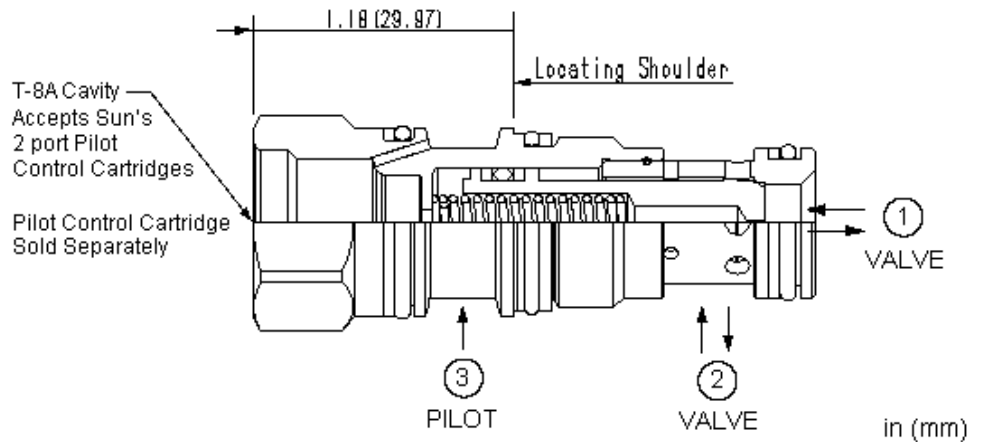
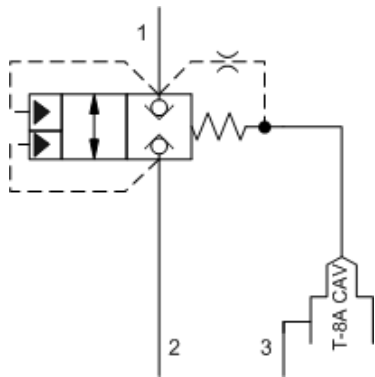
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOKDXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	



This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

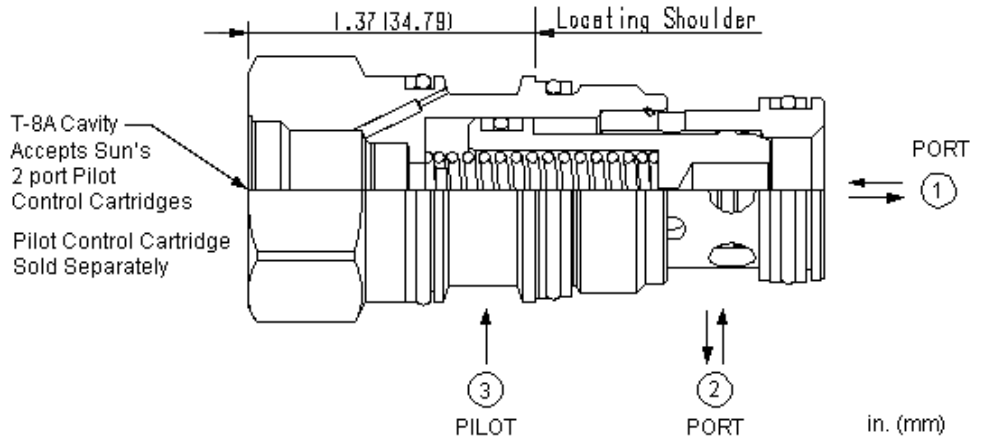
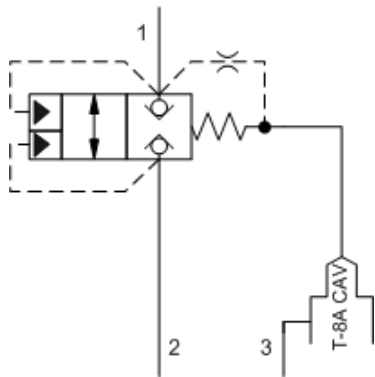
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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: LODA8DN

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



This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

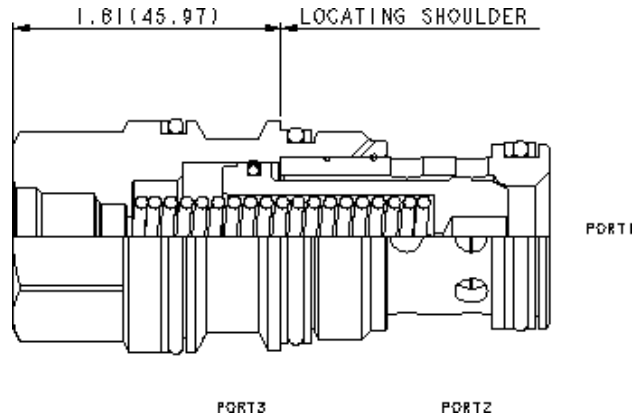
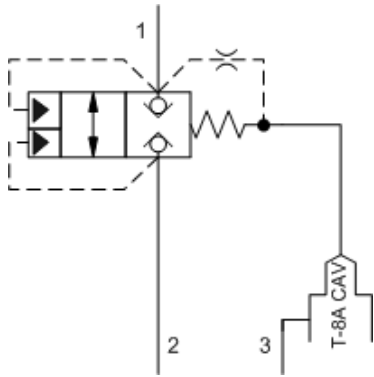
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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: LOFA8DN

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



This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

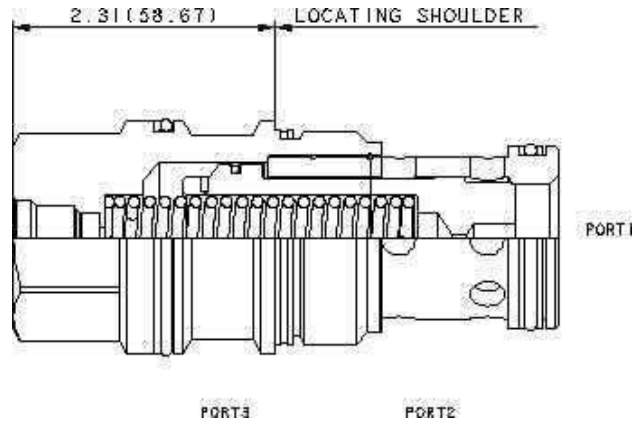
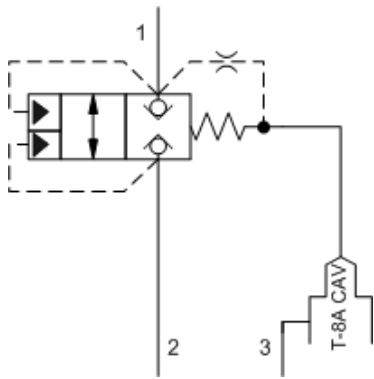
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

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

CONFIGURATION OPTIONS

Model Code Example: LOHA8DN

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



This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

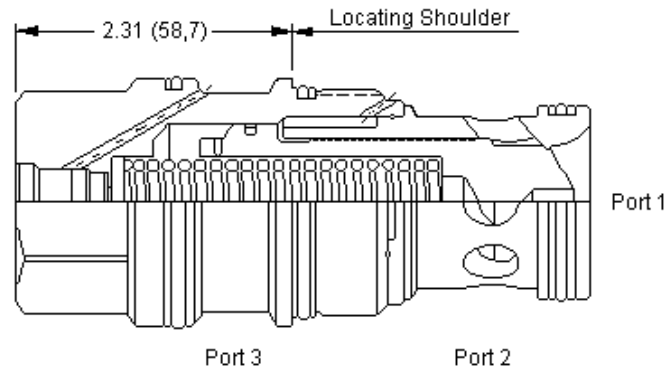
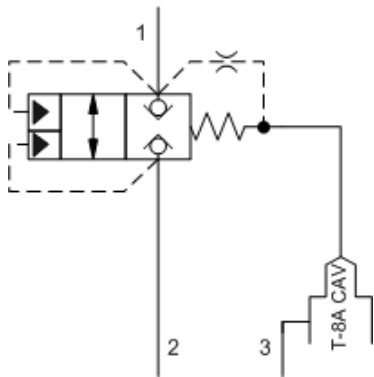
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

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

CONFIGURATION OPTIONS

Model Code Example: LOJA8DN

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



in (mm)

This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

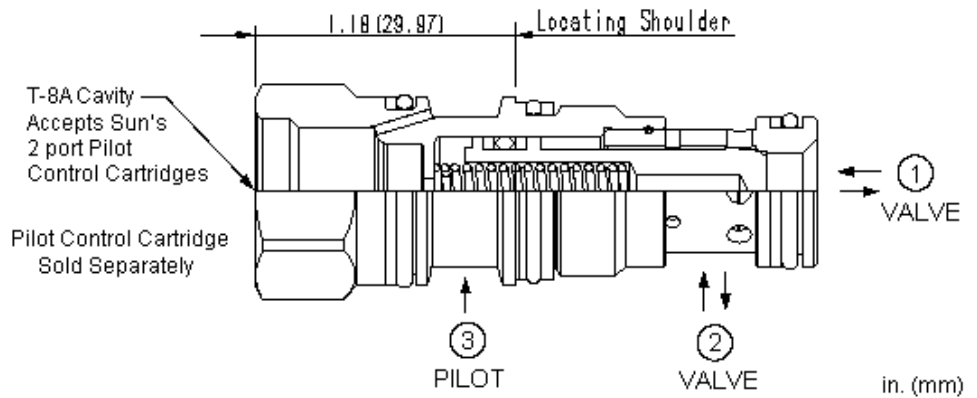
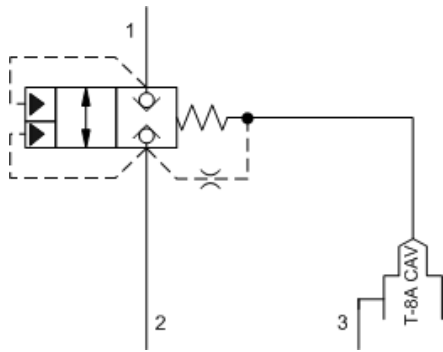
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

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

CONFIGURATION OPTIONS

Model Code Example: LOKA8DN

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



This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

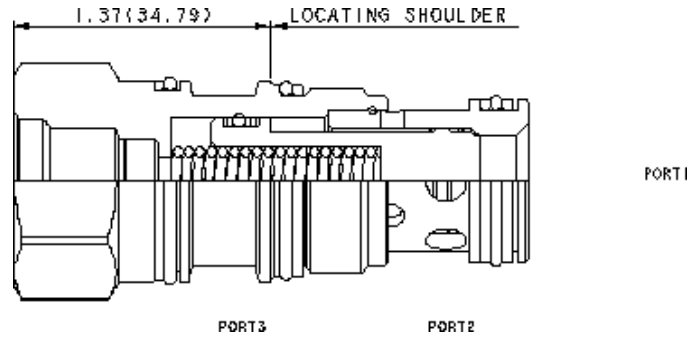
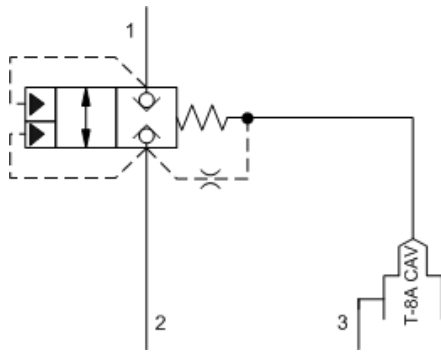
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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: LODB8DN

BIAS PRESSURE	(D)	SEAL MATERIAL	(N)
D 50 psi (3,5 bar)		N Buna-N	
		V Viton	



This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

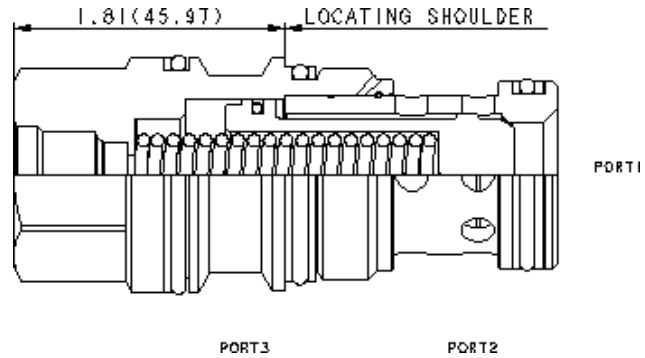
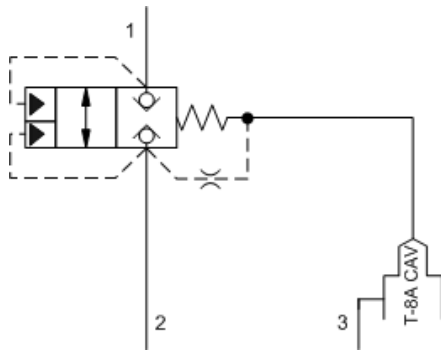
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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: LOFB8DN

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



This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

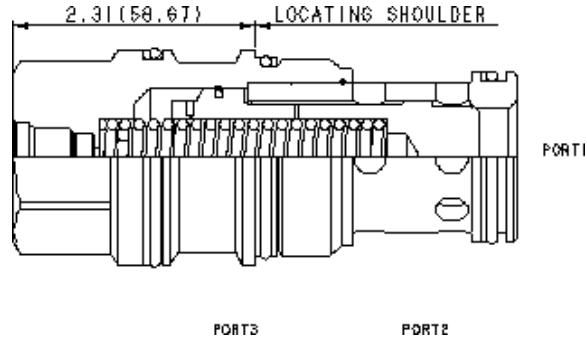
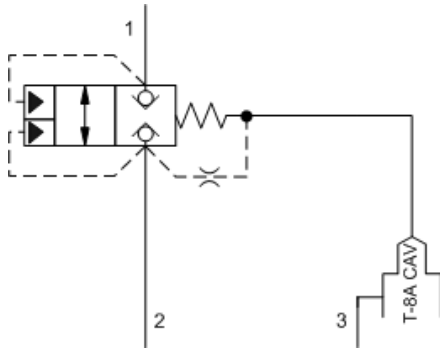
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

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

CONFIGURATION OPTIONS

Model Code Example: LOHB8DN

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



This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

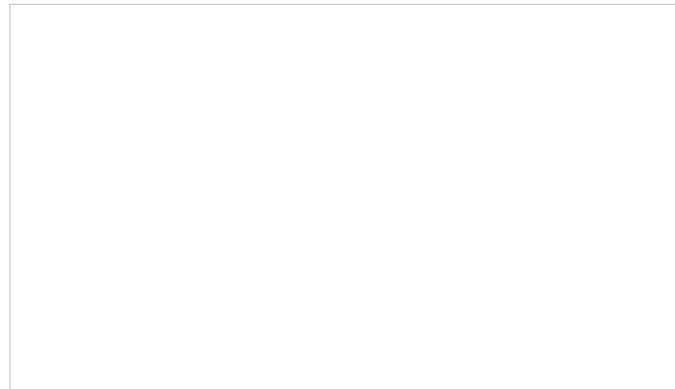
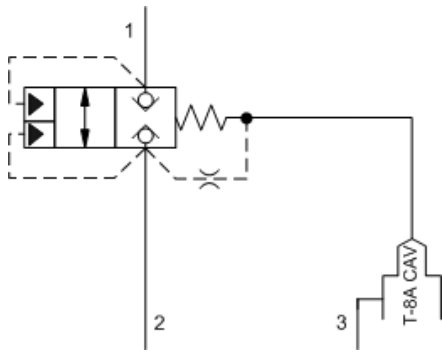
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

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

CONFIGURATION OPTIONS

Model Code Example: **LOJB8DN**

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



This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

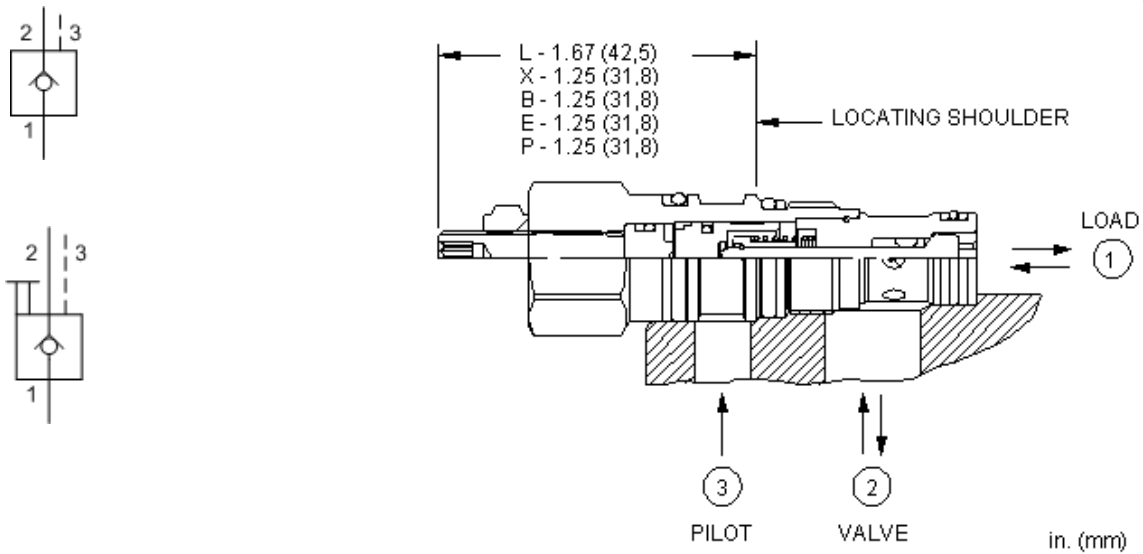
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

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

CONFIGURATION OPTIONS

Model Code Example: LOKB8DN

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



This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

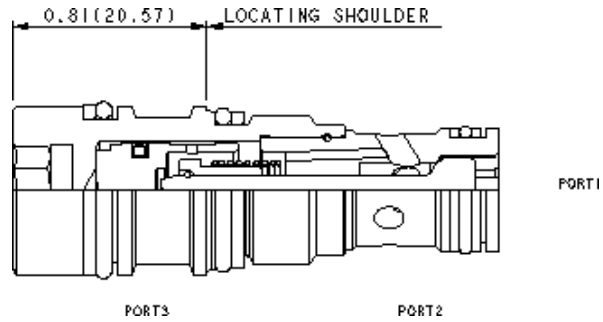
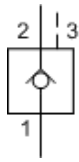
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS

Model Code Example: CKBBXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	E 75 psi (5 bar)	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

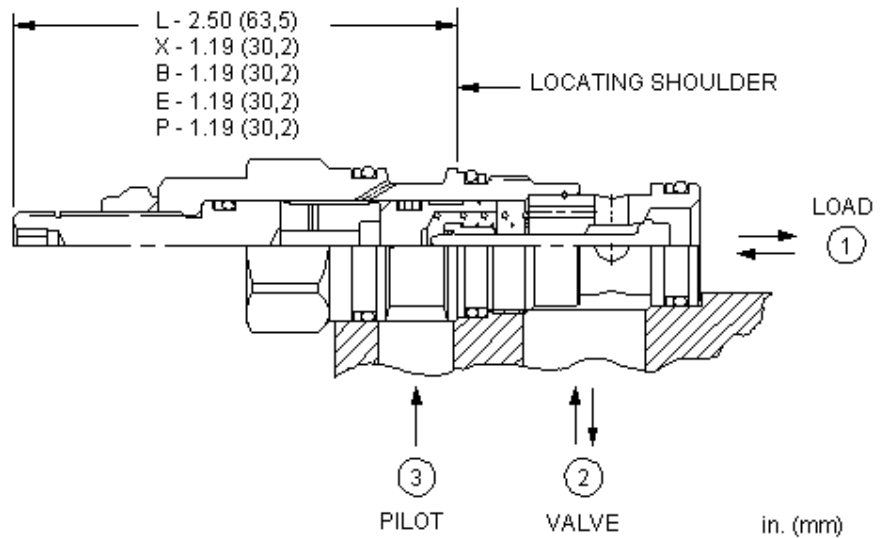
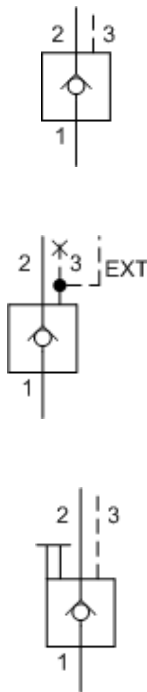
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS

Model Code Example: CKBGXCN

CONTROL	(X)	BIAS PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable, Standard Hydraulic Pilot		C 30 psi (2 bar) E 75 psi (5 bar)		N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated



This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

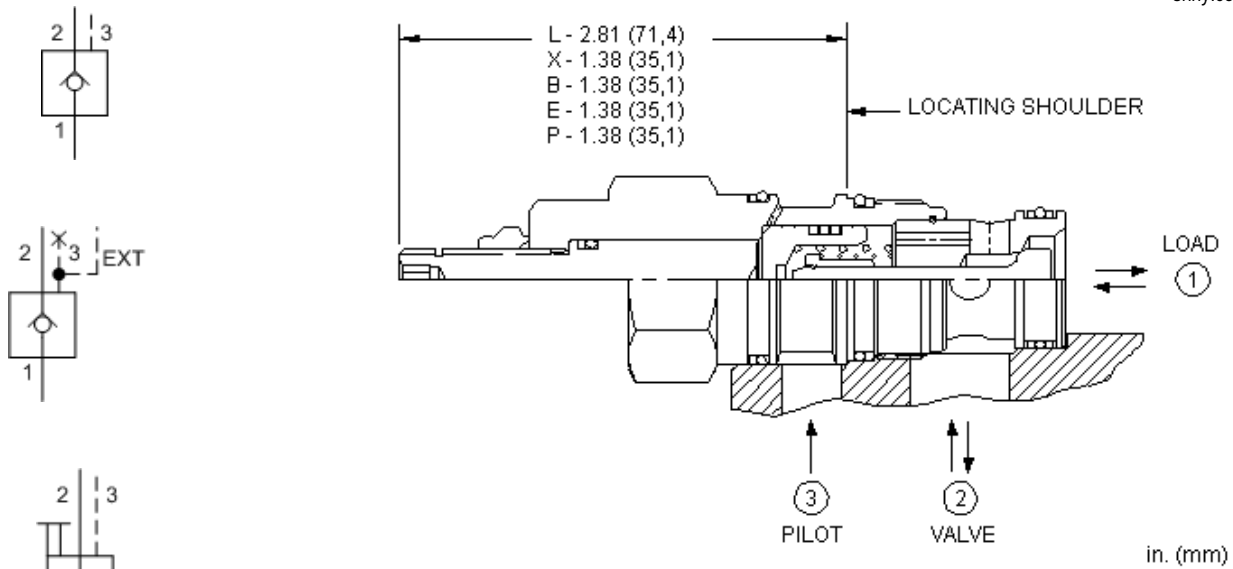
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: CKCBXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



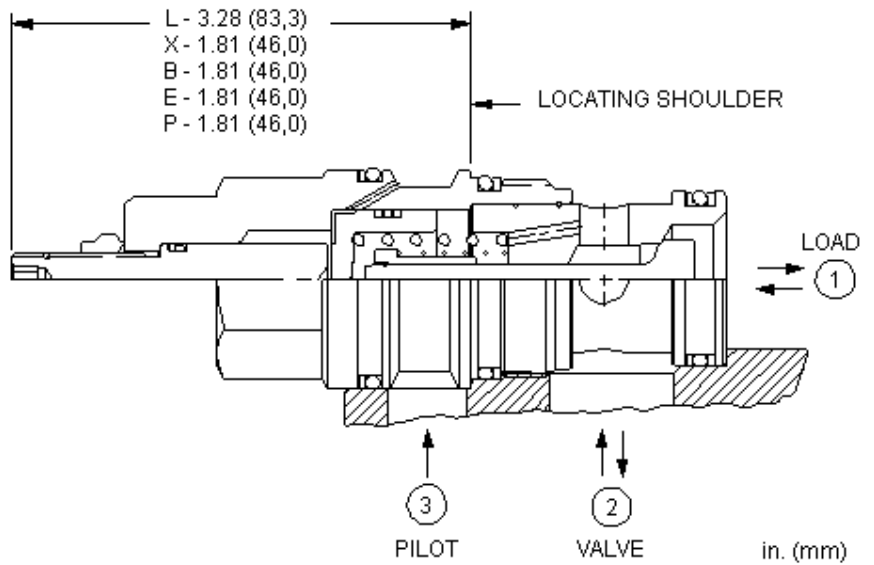
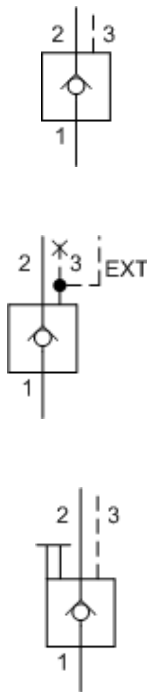
This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: CKEBXC�

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

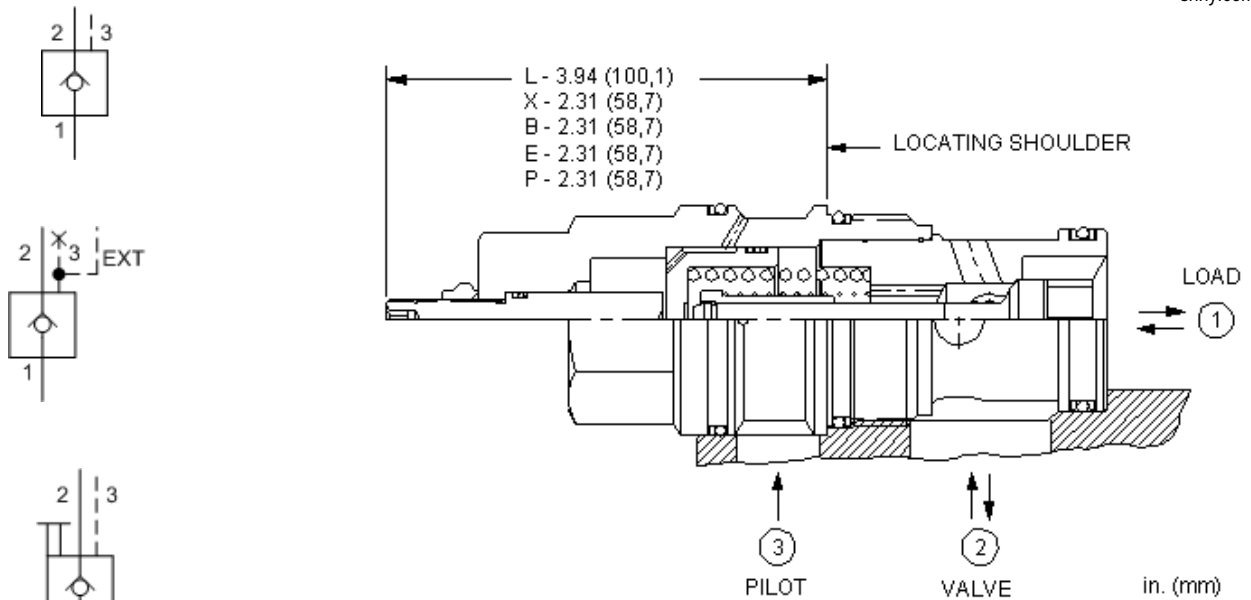
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: CKGBXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

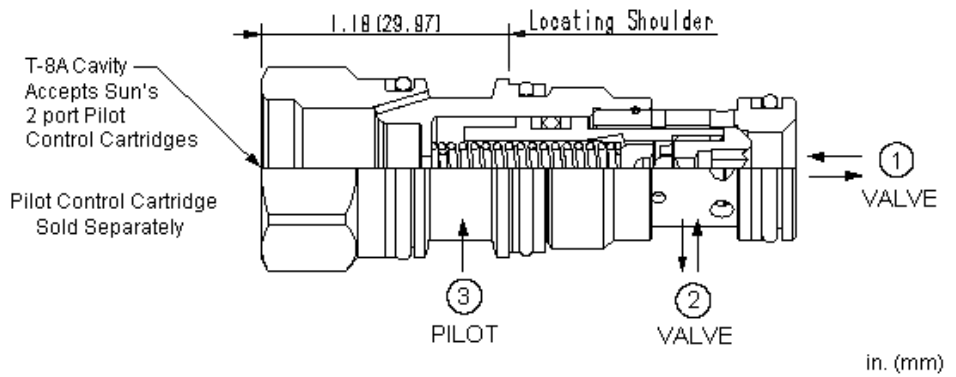
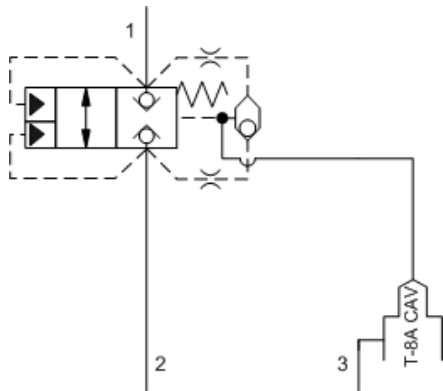
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: CKIBXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

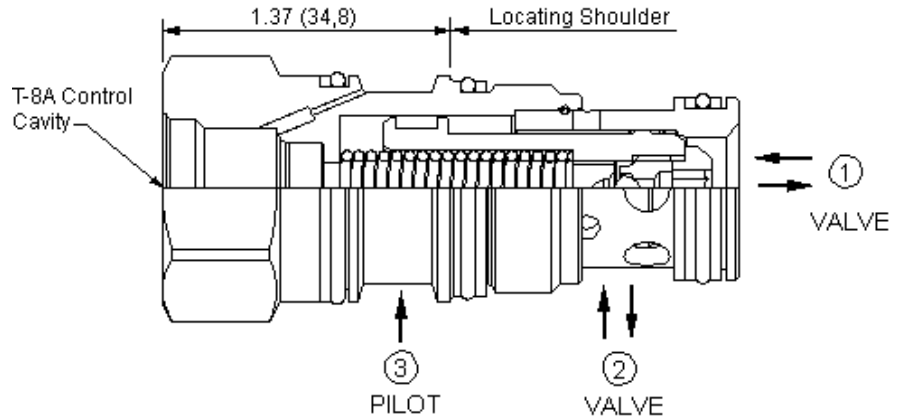
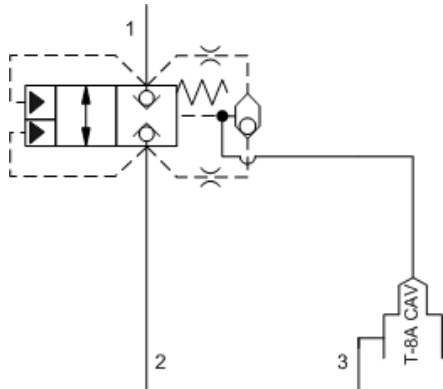
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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

CONFIGURATION OPTIONS

Model Code Example: LODD8DN

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



This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

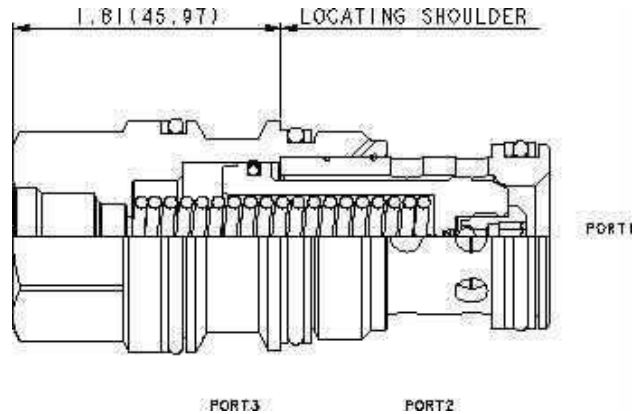
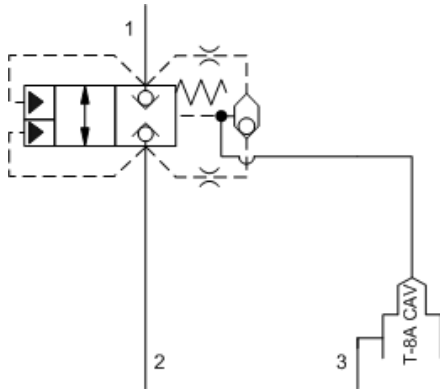
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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

CONFIGURATION OPTIONS

Model Code Example: LOFD8DN

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



This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

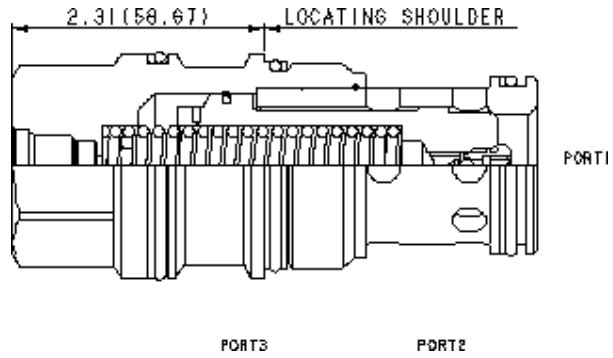
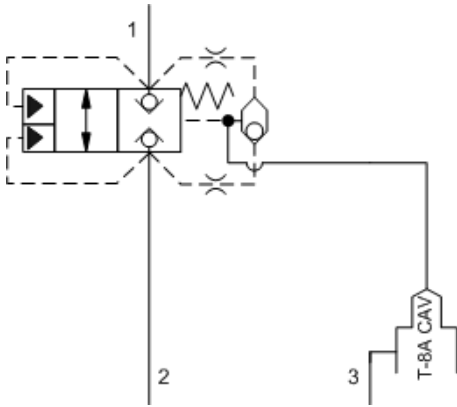
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

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

CONFIGURATION OPTIONS

Model Code Example: LOHD8DN

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



This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

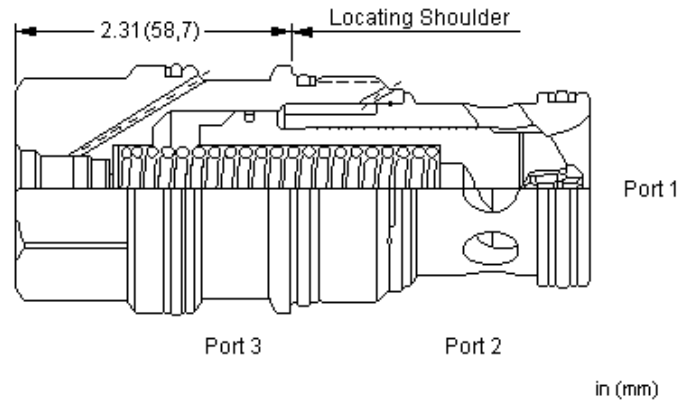
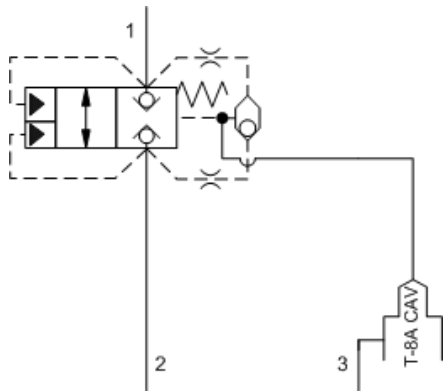
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

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

CONFIGURATION OPTIONS

Model Code Example: LOJD8DN

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



This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

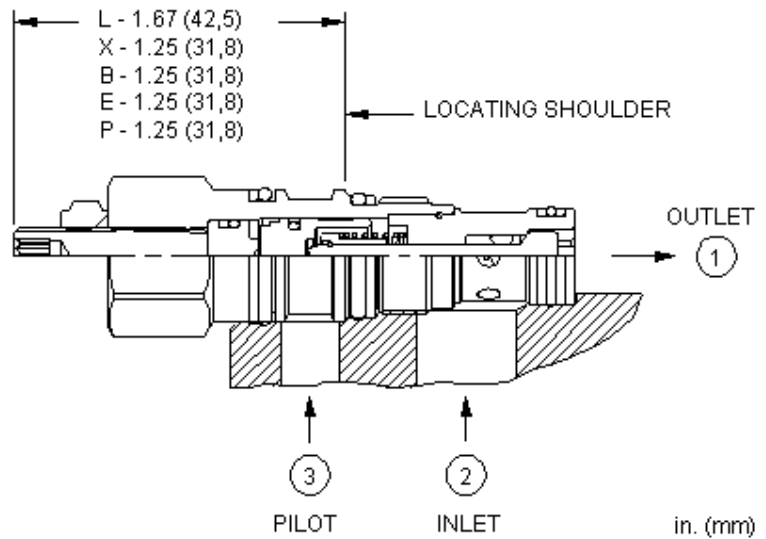
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

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

CONFIGURATION OPTIONS

Model Code Example: LOKD8DN

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



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

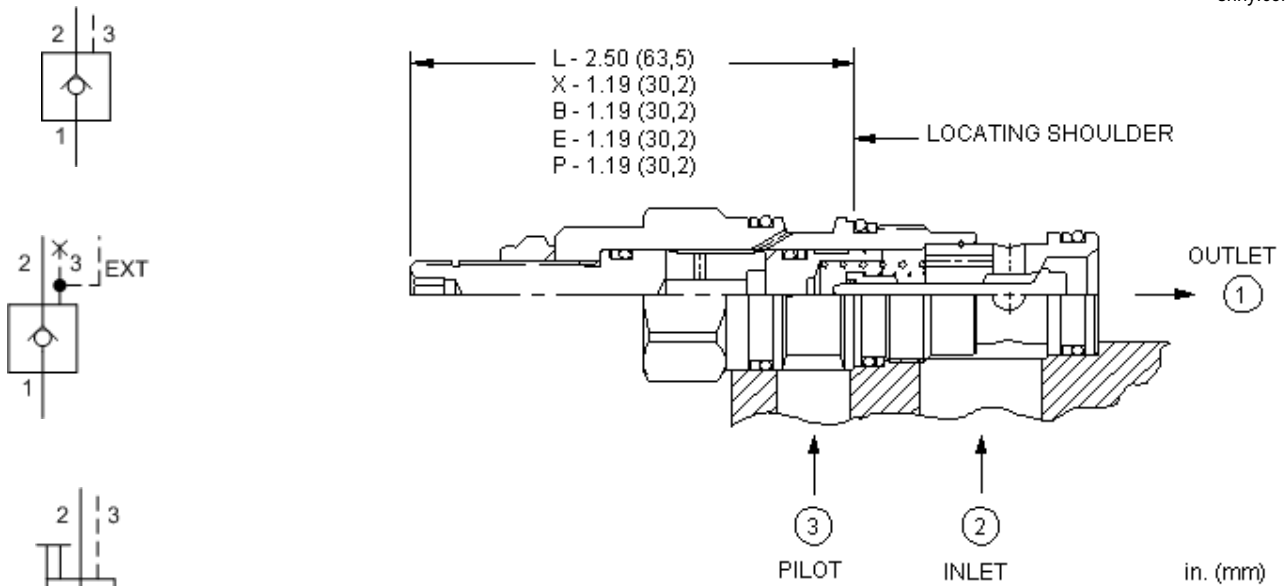
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS

Model Code Example: CKBDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	E 75 psi (5 bar)	E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

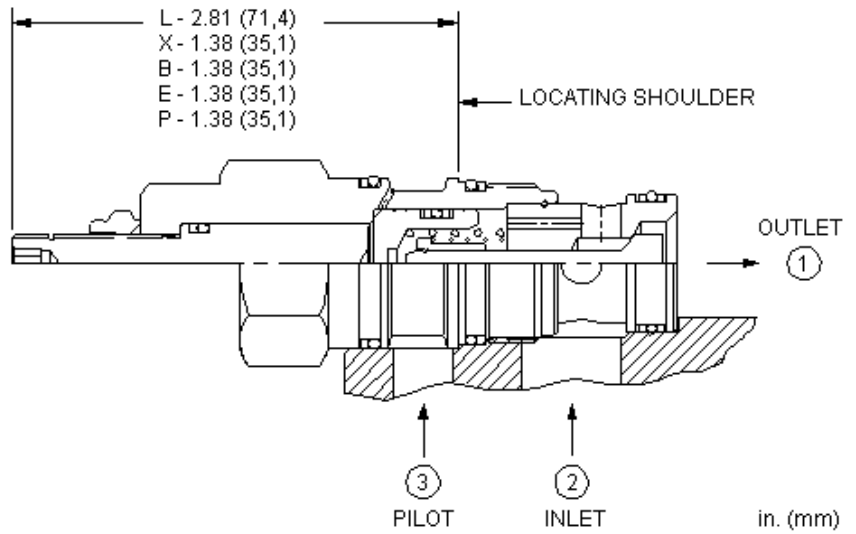
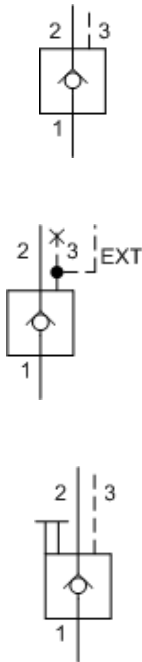
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: CKCDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		
	G 150 psi (10,5 bar)		



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

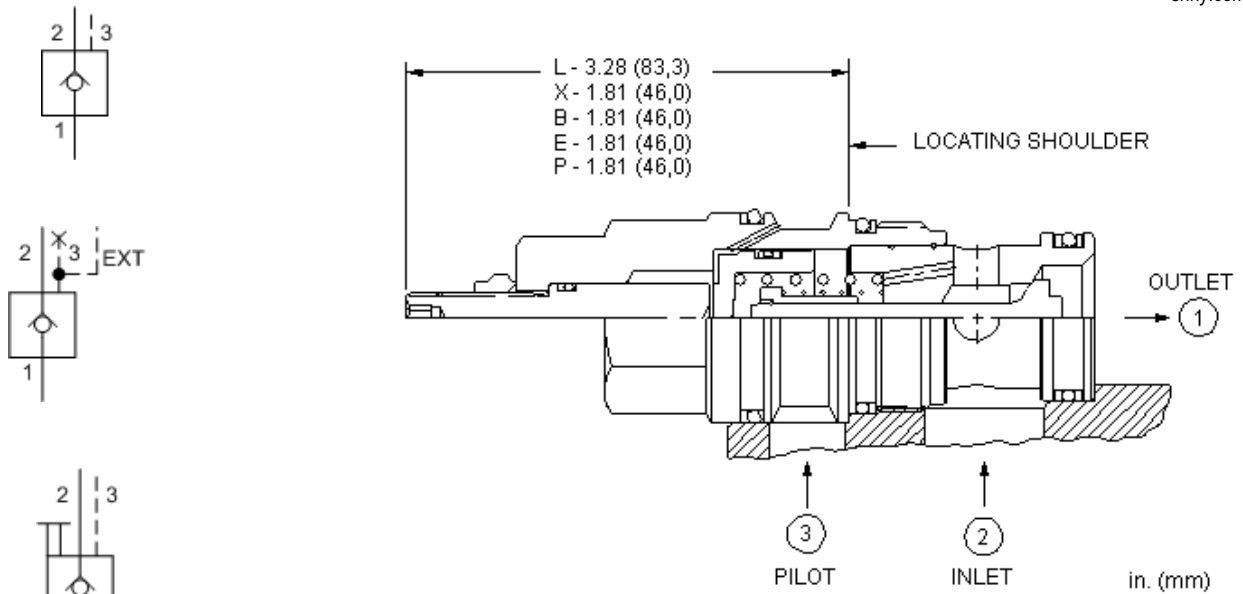
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: CKEDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar)	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



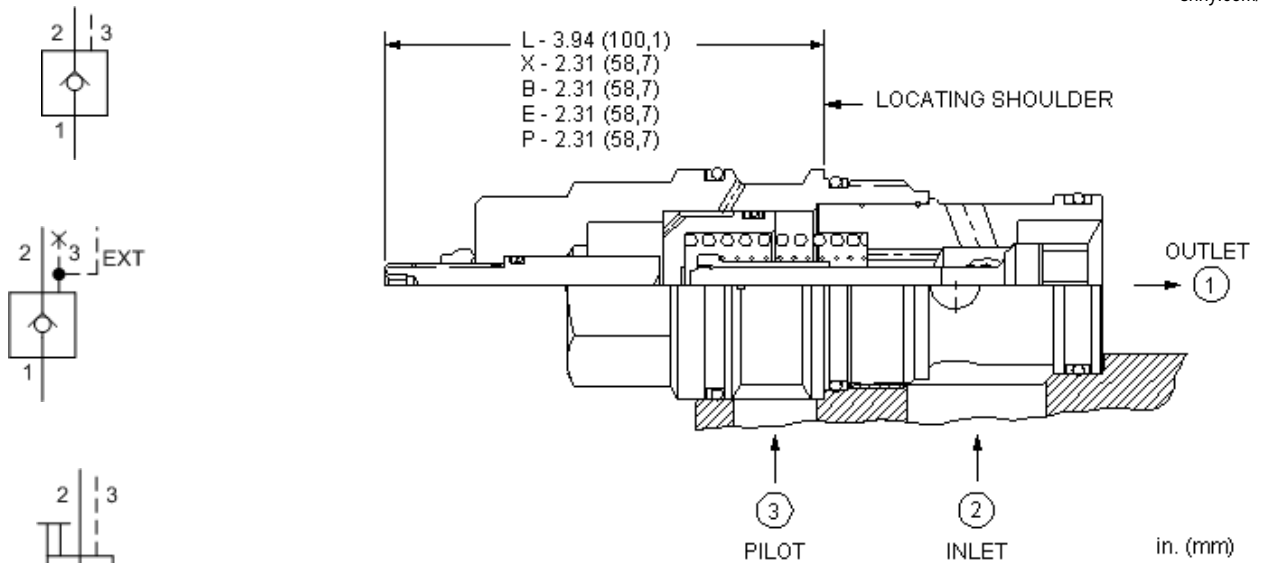
This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS
Model Code Example: CKGDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

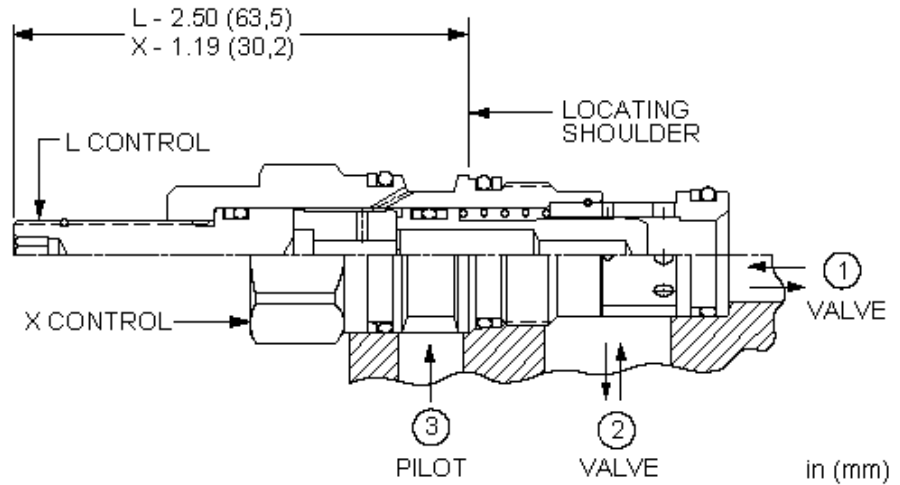
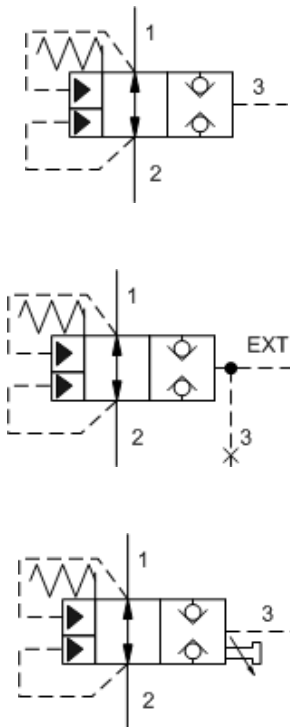
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: CKIDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar)	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



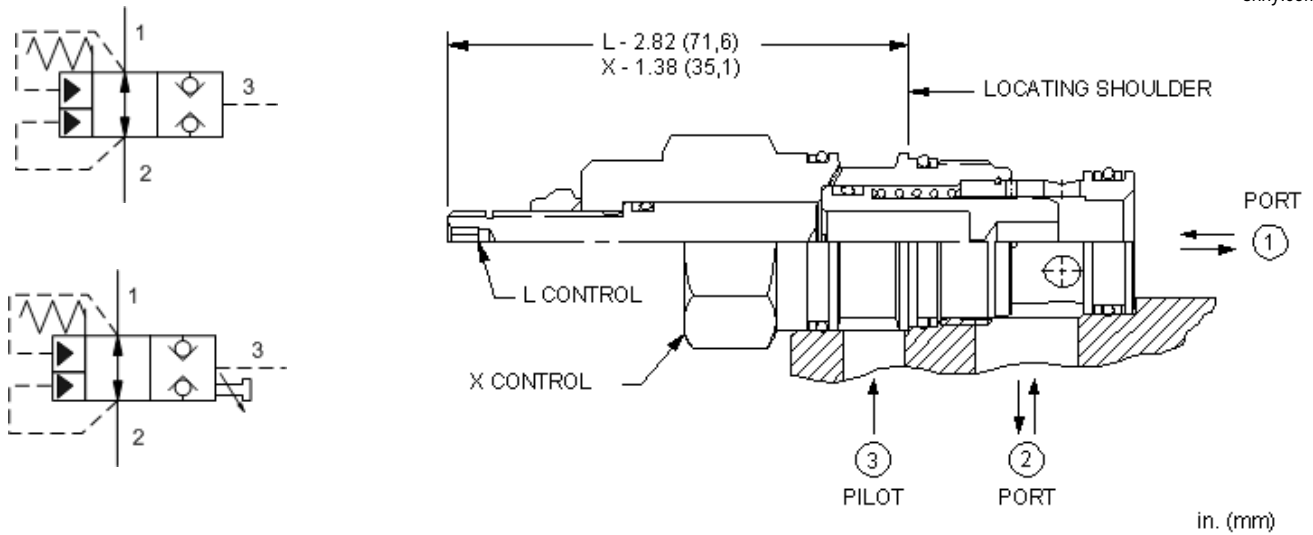
These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	0,66 cc
Pilot Passage into Valve	0,8 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS
Model Code Example: LODOXDN

CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

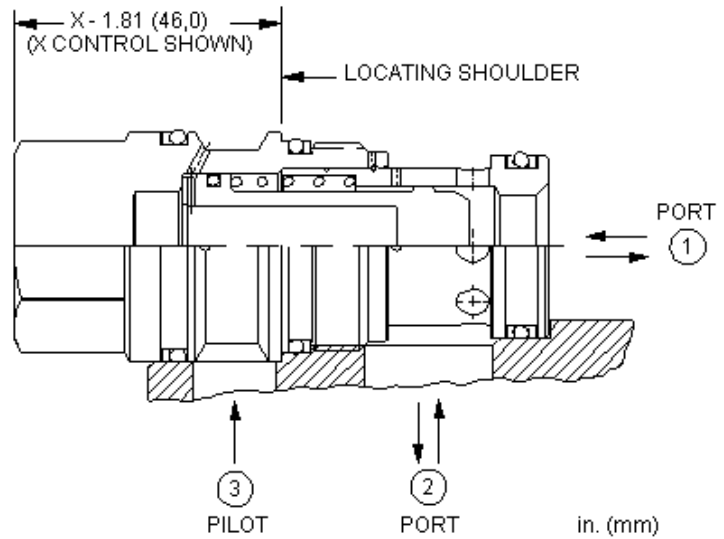
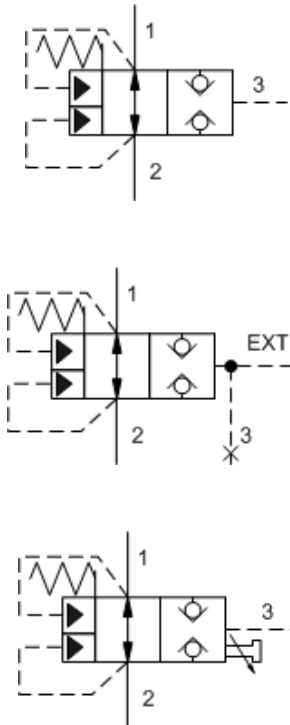
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	1,1 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: LOFOXDN

CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating IAP Stainless Steel, Passivated



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

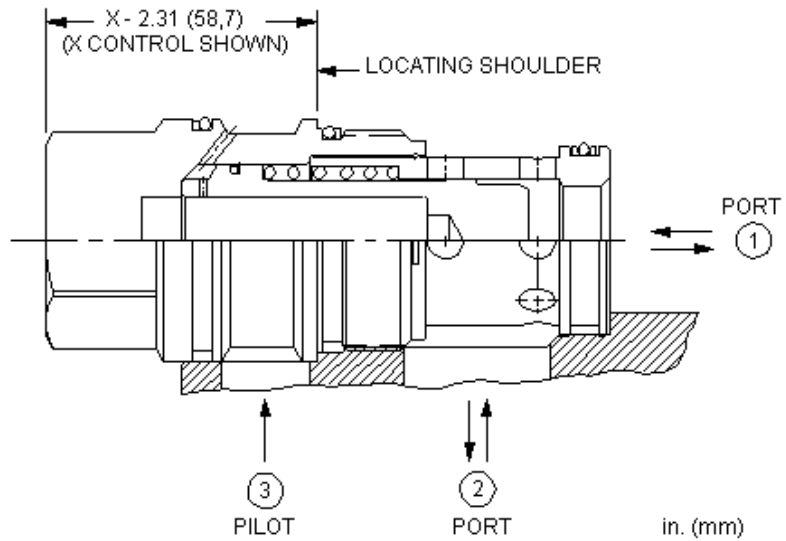
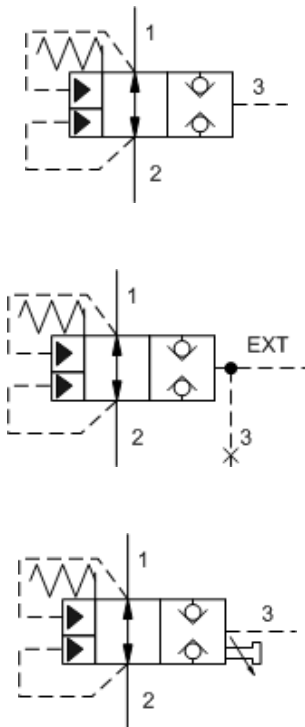
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	4,1 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: LOHOXDN

CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating IAP Stainless Steel, Passivated



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

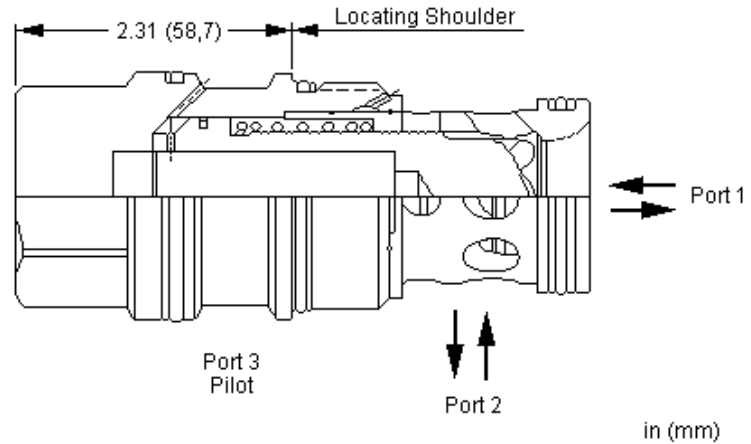
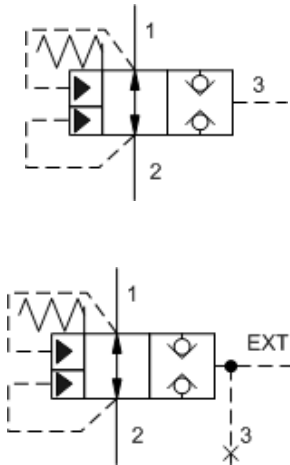
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	6,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOJODN

CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	N Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

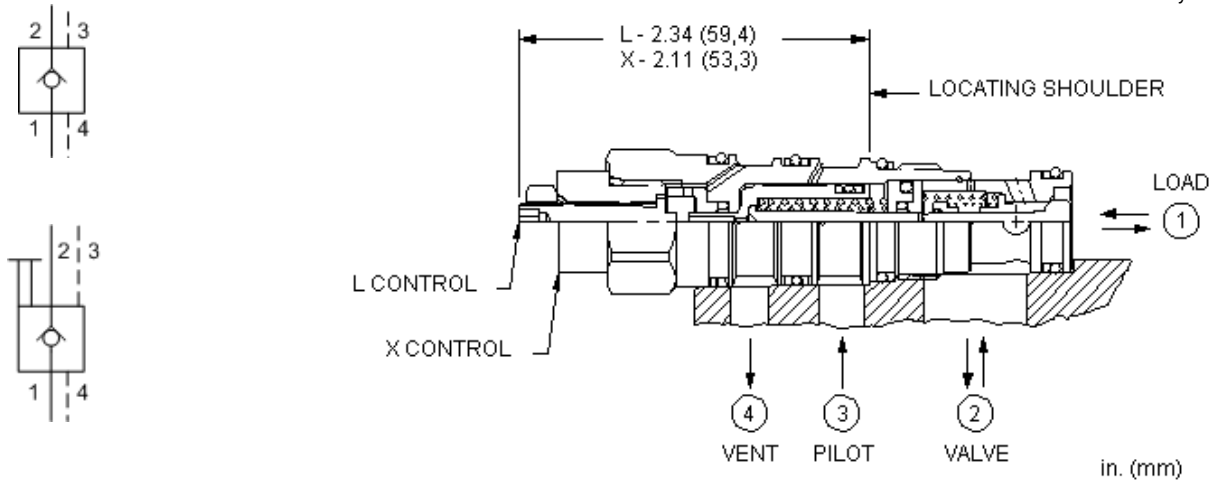
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	7,7 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOKOXDN

CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

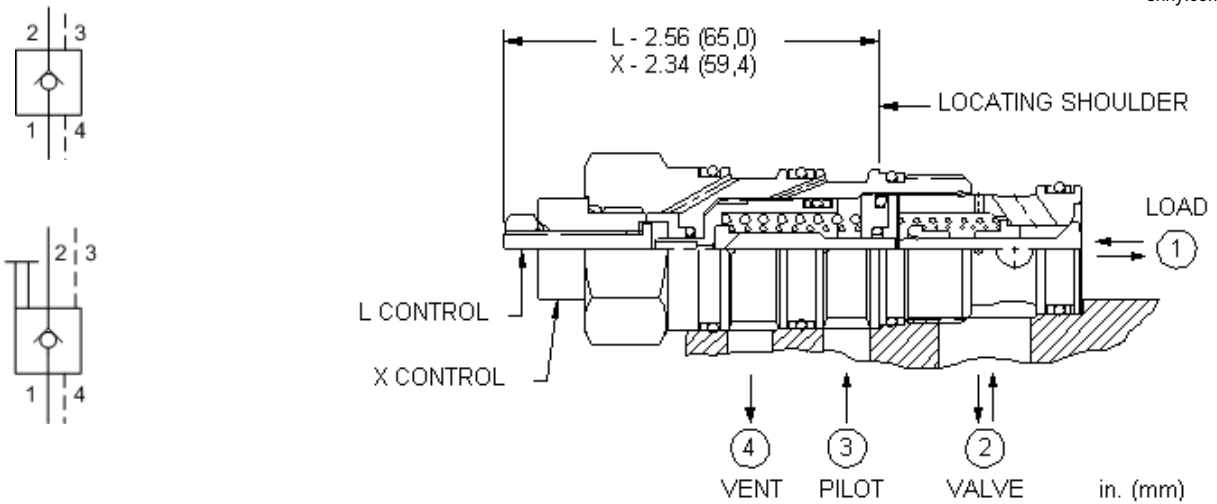
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: CVCVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

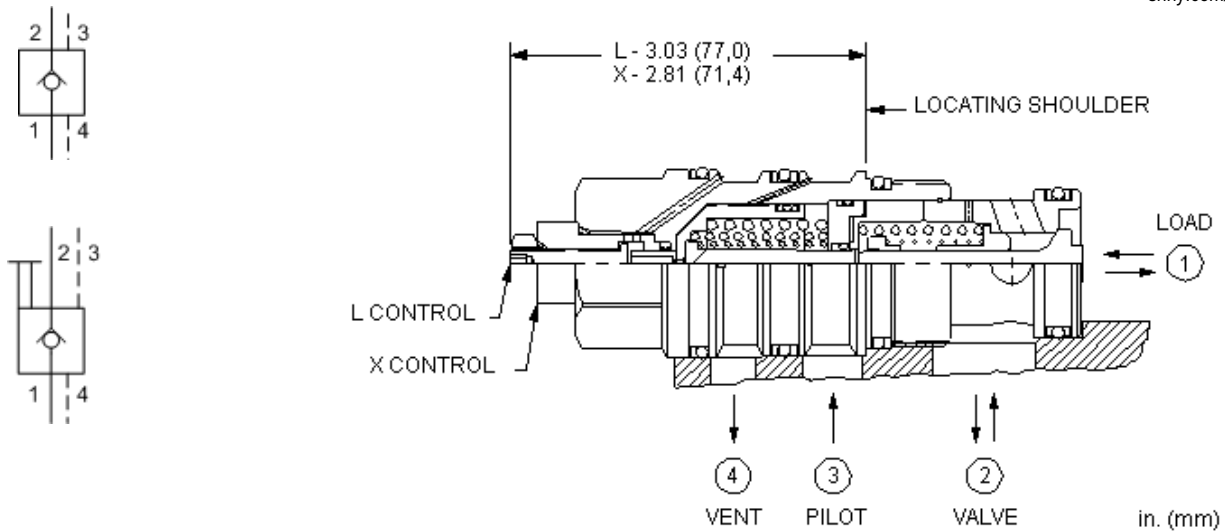
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS

Model Code Example: **CVEVXCN**

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

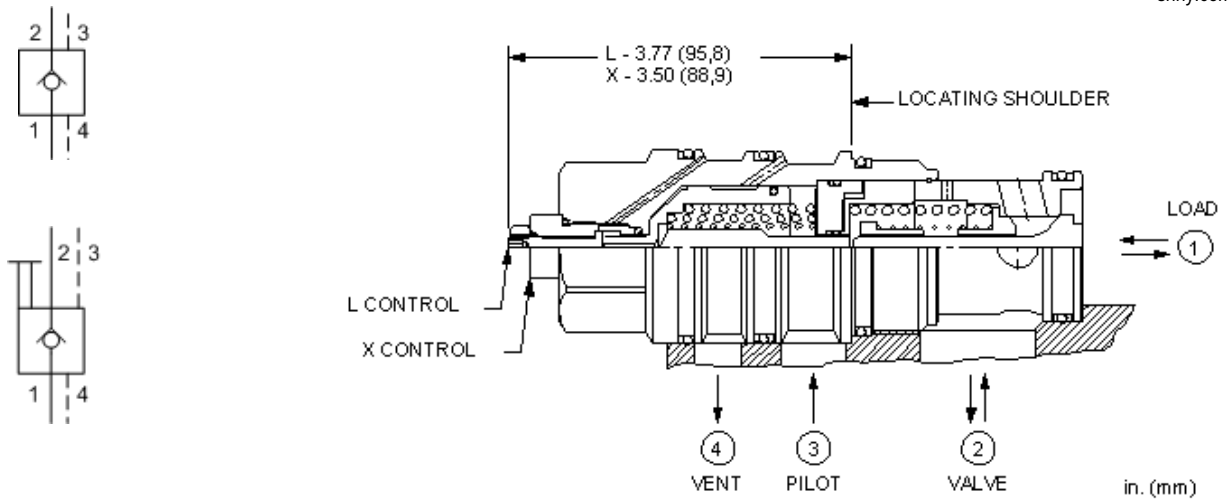
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: CVGVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar)	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

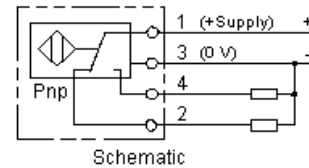
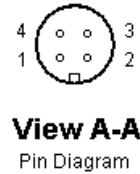
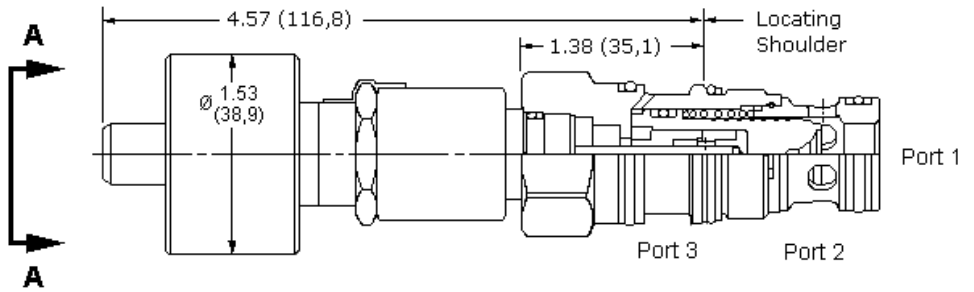
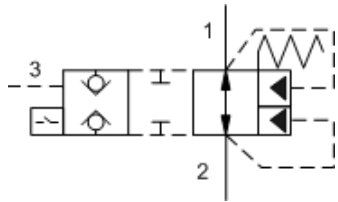
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	4,9 cc
Pilot Passage into Valve	2,3 mm
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS

Model Code Example: CVIVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



in (mm)

These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

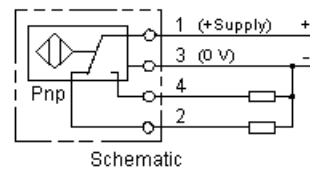
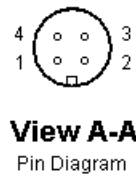
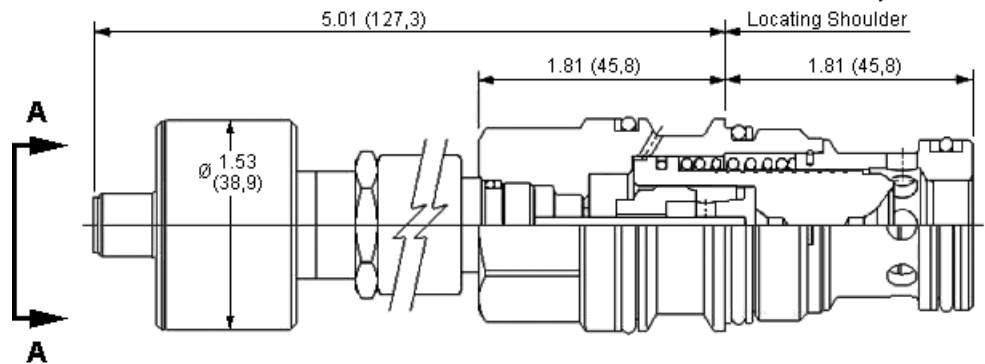
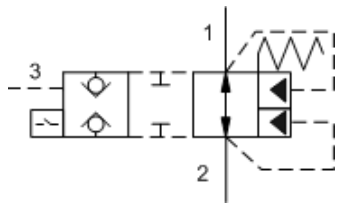
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	1,1 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: LOFOZDN

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



in (mm)

These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

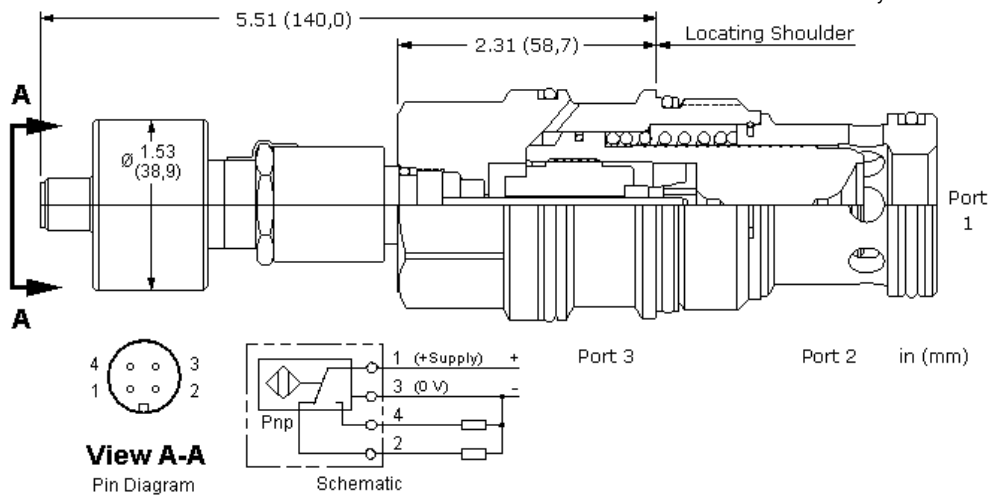
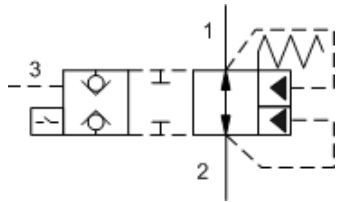
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	4,1 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990117006

CONFIGURATION OPTIONS

Model Code Example: LOHOZDN

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



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

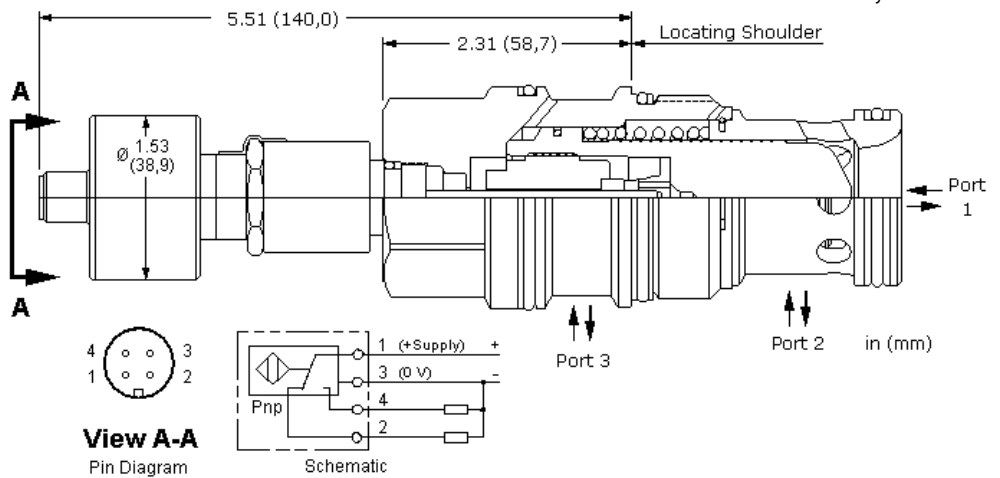
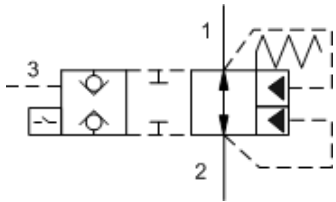
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	6,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: **LOJOZDN**

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



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

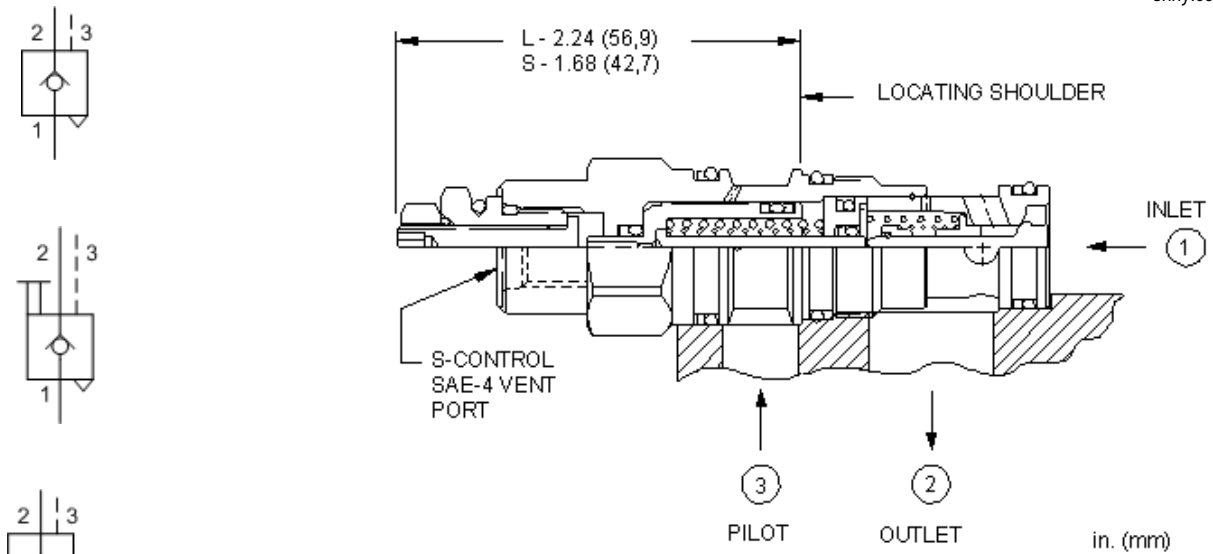
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	7,7 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOKOZDN

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



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

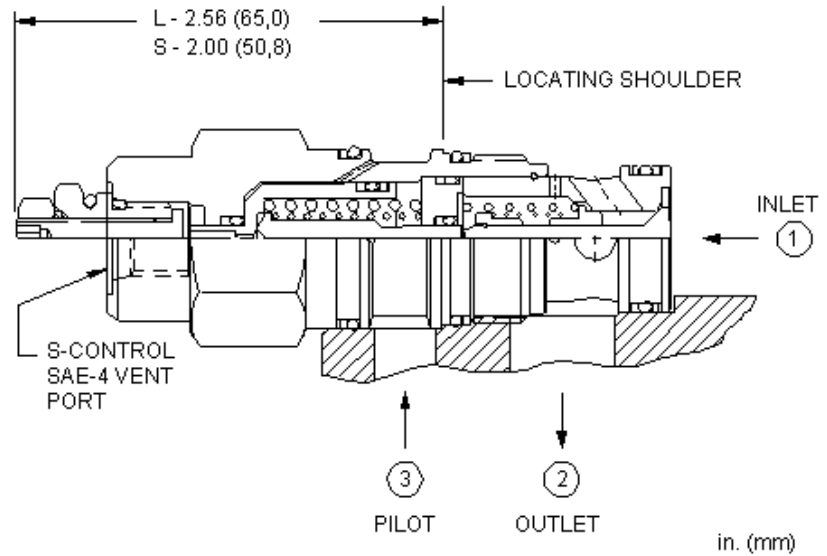
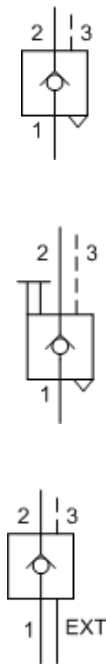
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990311007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990311006

CONFIGURATION OPTIONS

Model Code Example: CKCVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot, Atmospheric Vent	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
S External 4- <i>SAE</i> Vent Port	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

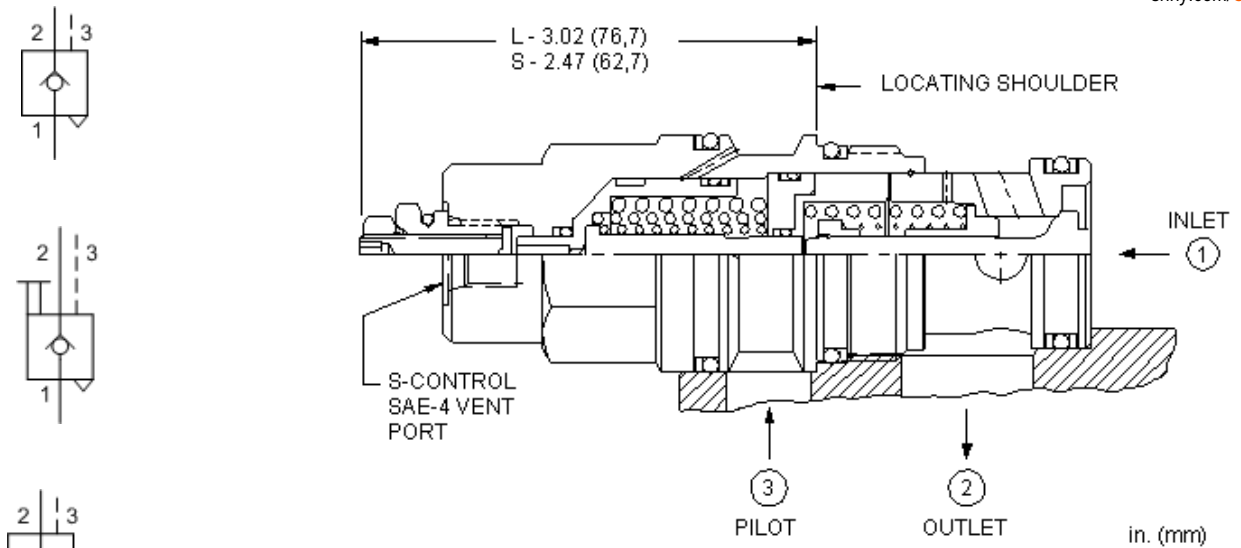
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: CKEVXCN

CONTROL (X)	CRACKING PRESSURE (C)	SEAL MATERIAL (N)
X Standard Pilot, Atmospheric Vent	C 30 psi (2 bar)	N Buna-N
S External 4- SAE Vent Port	A 4 psi (0,3 bar)	V Viton
	B 15 psi (1 bar)	
	D 50 psi (3,5 bar)	
	E 75 psi (5 bar)	
	F 100 psi (7 bar)	



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

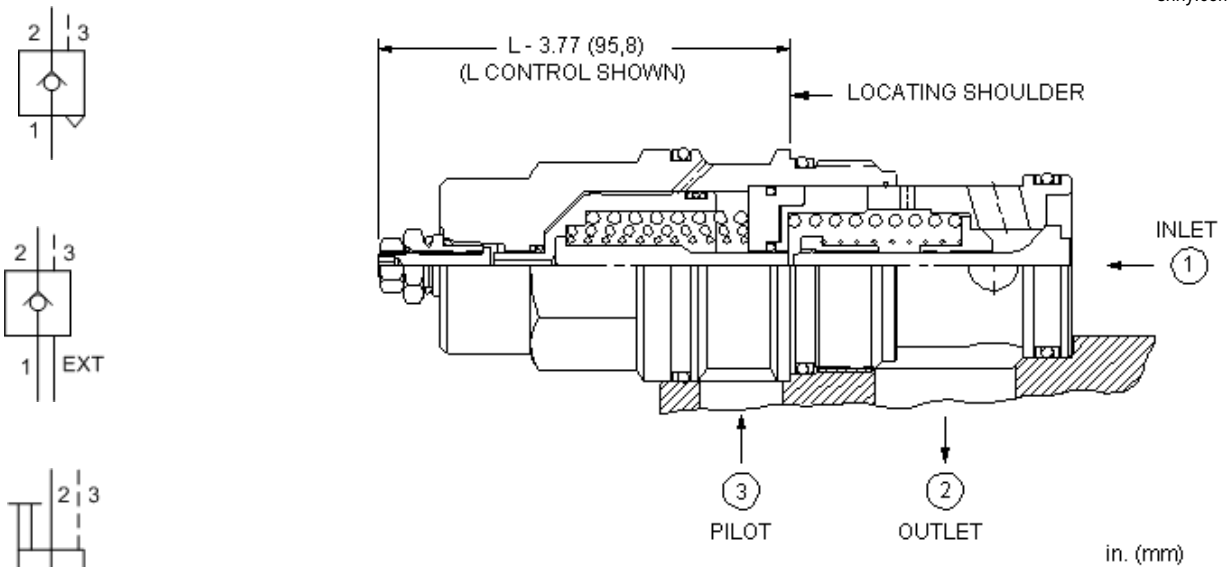
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: CKGVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot, Atmospheric Vent	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
S External 4- <small>SAE</small> Vent Port	A 4 psi (0,3 bar)	V Viton	IAP Stainless Steel, Passivated
	B 15 psi (1 bar)		
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

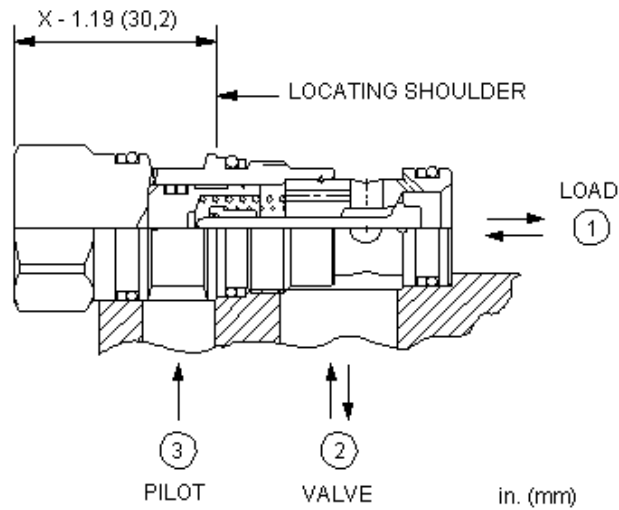
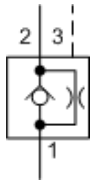
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: CKIVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot, Atmospheric Vent	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
S External 4-SAE Vent Port	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)		
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



This valve is a pilot to open check valve with a bypass orifice. It incorporates a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and restricts flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. The pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

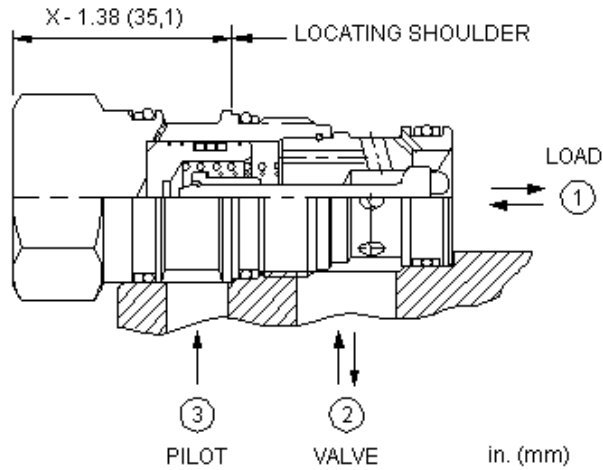
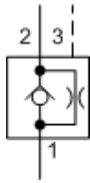
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,9 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: CNCEXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N)
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm) A 4 psi (0,3 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm) B 15 psi (1 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm) D 50 psi (3,5 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm) E 75 psi (5 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm) F 100 psi (7 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm)	N Buna-N V Viton	



This valve is a pilot to open check valve with a bypass orifice. It incorporates a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and restricts flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. The pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

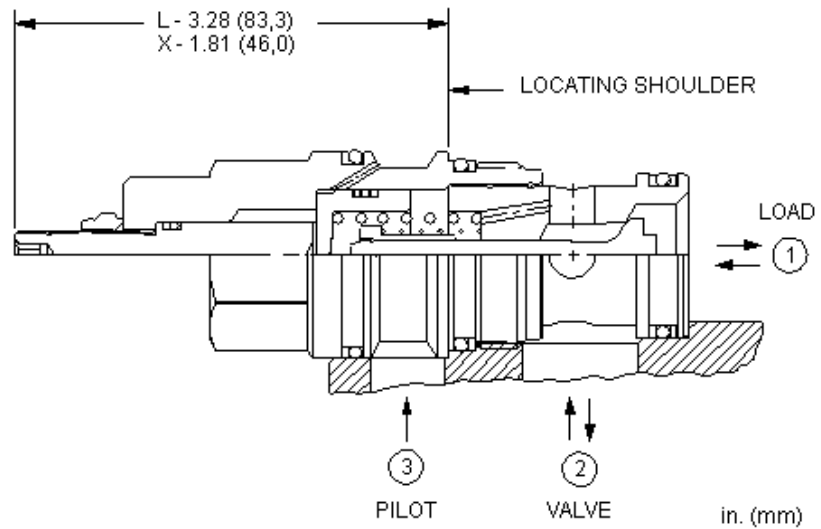
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,4 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: CNEEXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N)
X Not Adjustable	<p>C 30 psi (2 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p> <p>A 4 psi (0,3 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p> <p>B 15 psi (1 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p> <p>D 50 psi (3,5 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p> <p>E 75 psi (5 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p> <p>F 100 psi (7 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p>	<p>N Buna-N</p> <p>V Viton</p>	



This valve is a pilot to open check valve with a bypass orifice. It incorporates a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and restricts flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. The pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range. An 'L' control option is available to manually release the load. See Option Selection below.

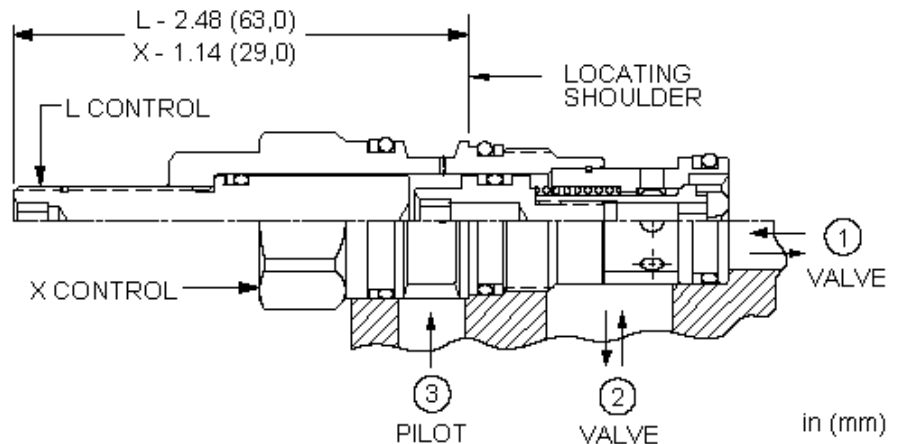
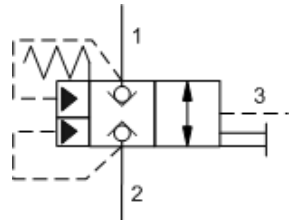
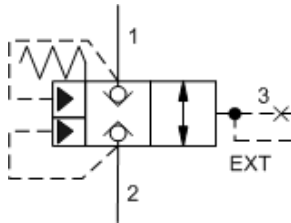
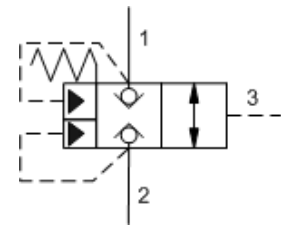
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 5,5 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: CNGEXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N)
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)	N Buna-N	
	A 4 psi (0,3 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)	V Viton	
	B 15 psi (1 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)		
	D 50 psi (3,5 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)		
	E 75 psi (5 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)		
	F 100 psi (7 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)		



These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

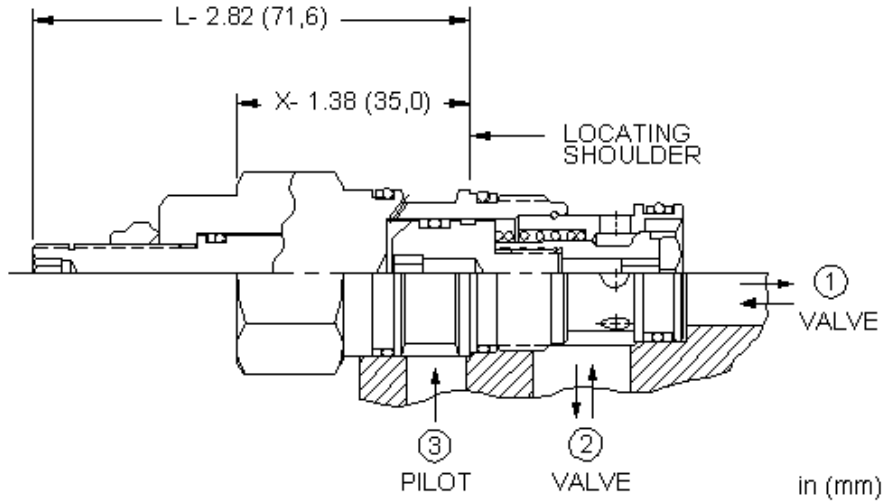
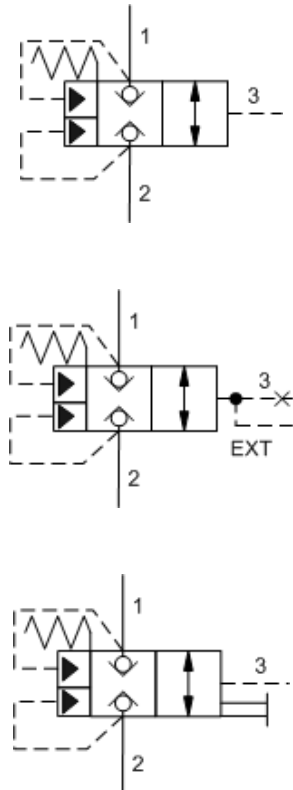
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@70 bar
Pilot Volume Displacement	0,33 cc
Pilot Passage into Valve	0,8 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: LKDCXDN

CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



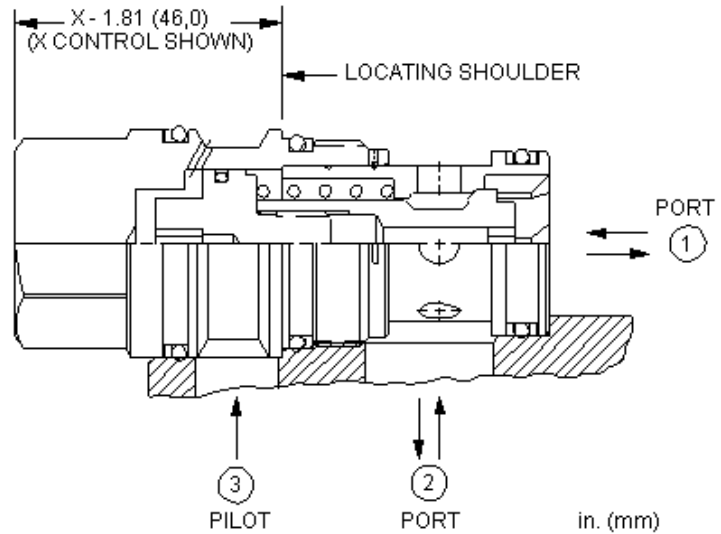
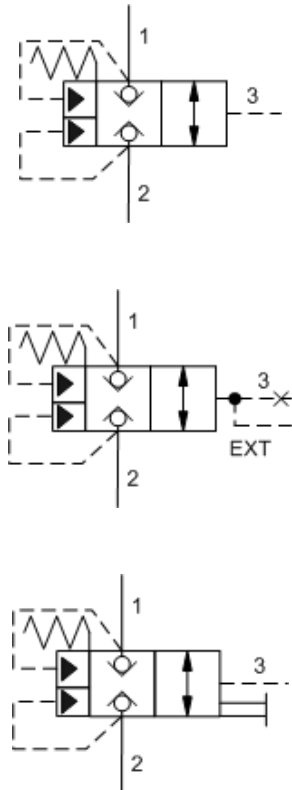
These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@70 bar
Pilot Volume Displacement	0,98 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: LKFCXDN

CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

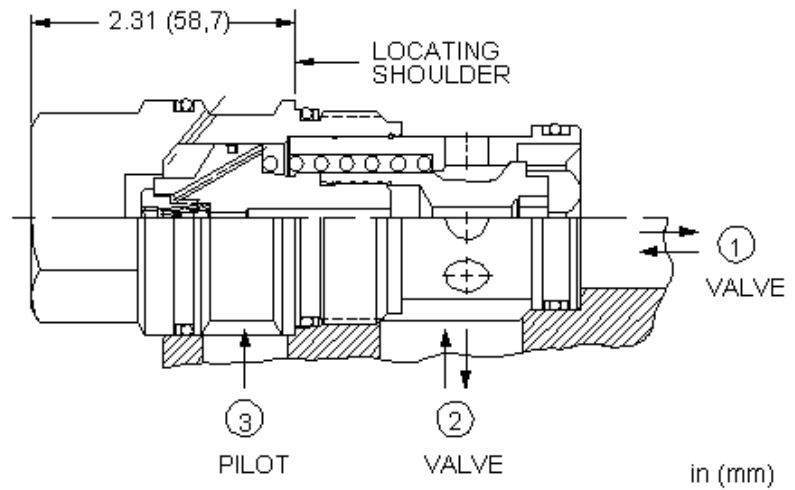
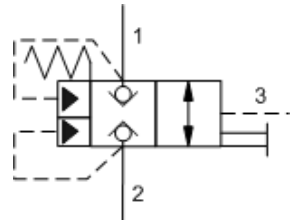
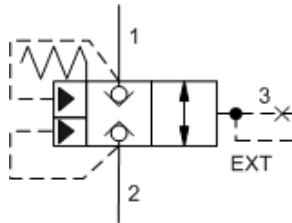
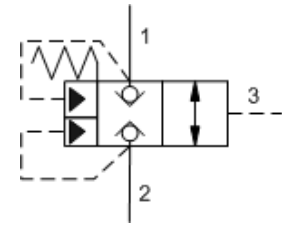
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@70 bar
Pilot Volume Displacement	2,5 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: LKHCXDN

CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

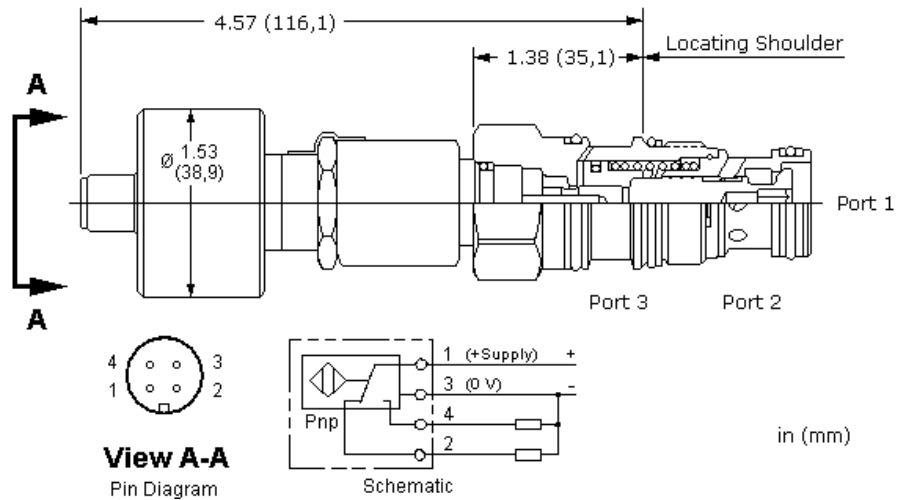
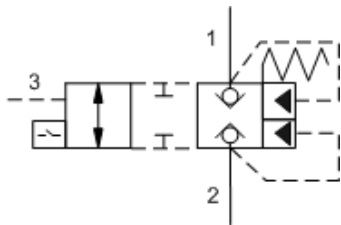
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@70 bar
Pilot Volume Displacement	4,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LKJCDN

CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	D 50 psi (3,5 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is closed.

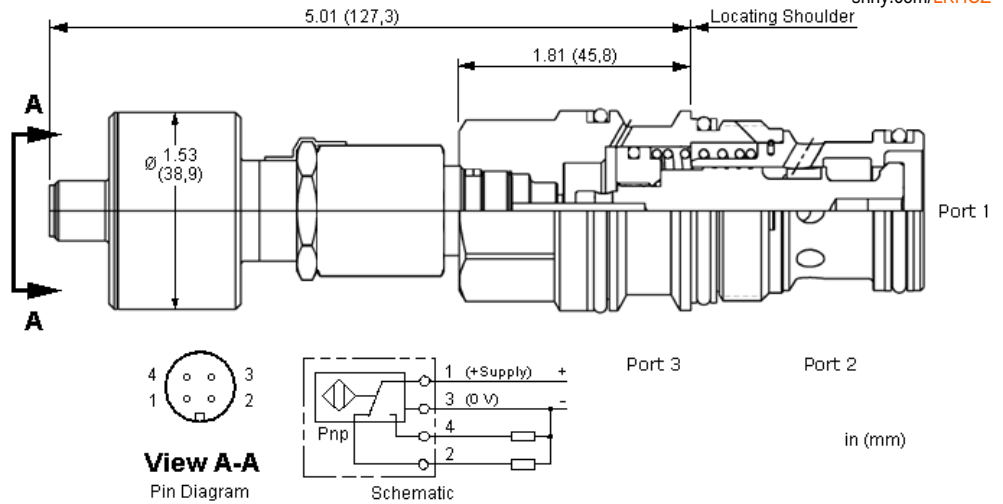
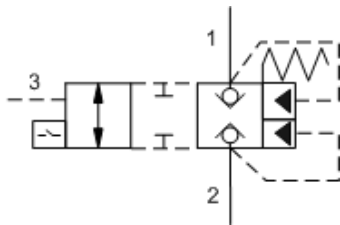
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	0,98 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min. @70 bar
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: LKFCZDN

MINIMUM PILOT PRESSURE	(D)	SEAL MATERIAL	(N)
D 50 psi (3,5 bar)		N Buna-N	
		E EPDM	
		V Viton	



These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is closed.

TECHNICAL DATA

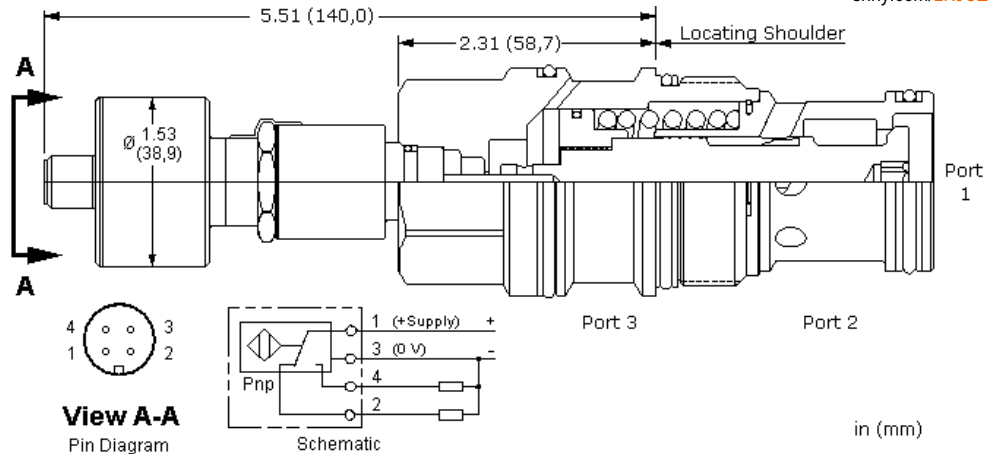
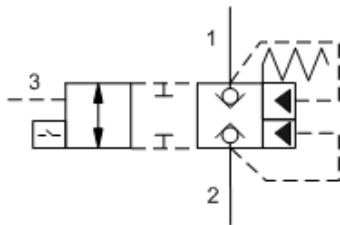
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	2,5 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: LKHCZDN

MINIMUM PILOT PRESSURE (D) SEAL MATERIAL (N)

D 50 psi (3,5 bar)	N Buna-N
	E EPDM
	V Viton



These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is closed.

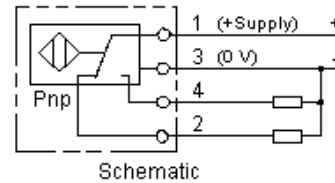
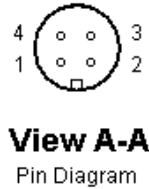
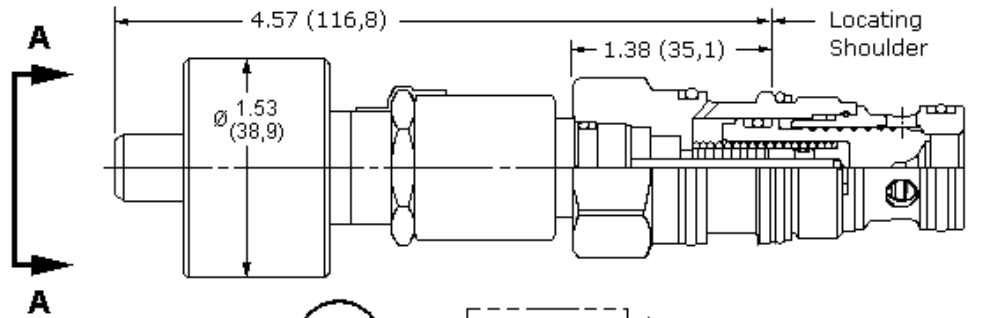
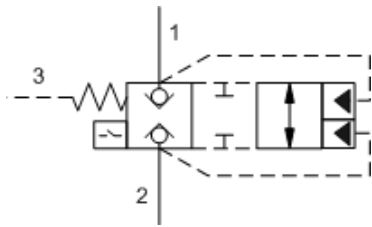
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	4,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min. @70 bar
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LKJ CZDN

MINIMUM PILOT PRESSURE	(D)	SEAL MATERIAL	(N)
D 50 psi (3,5 bar)		N Buna-N	
		V Viton	



in (mm)

These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

TECHNICAL DATA

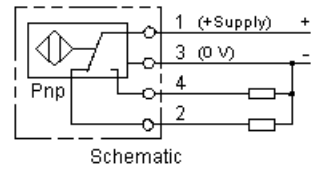
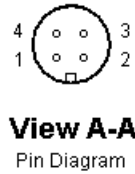
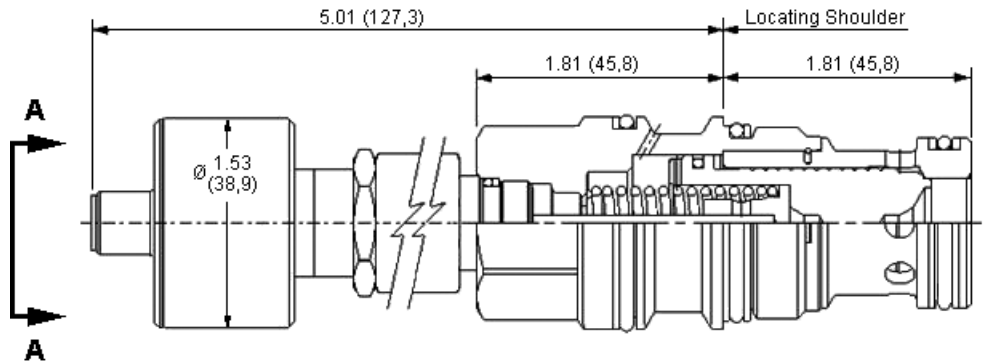
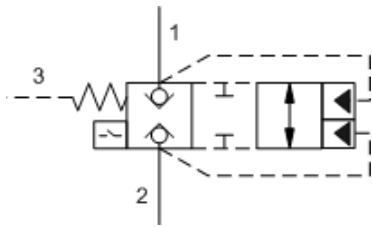
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	1,1 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min. @70 bar
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: LOFCZDN

NOMINAL CONTROL PRESSURE (D) SEAL MATERIAL (N)

D 50 psi (3,5 bar)	N Buna-N
	V Viton



in (mm)

These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

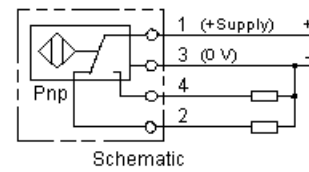
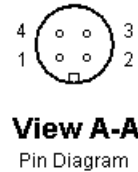
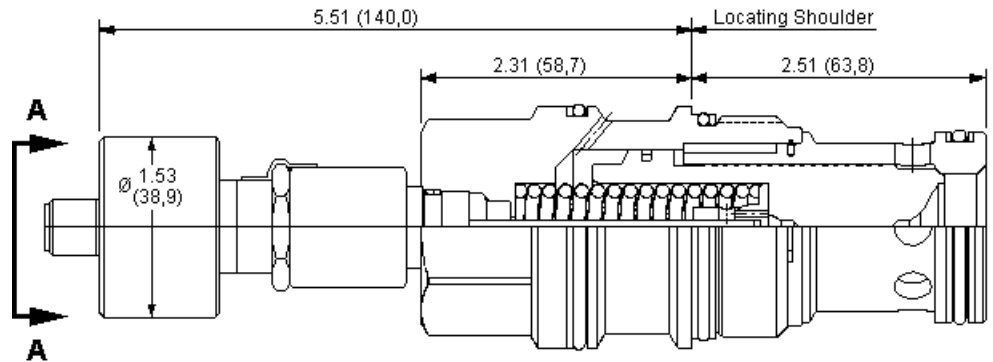
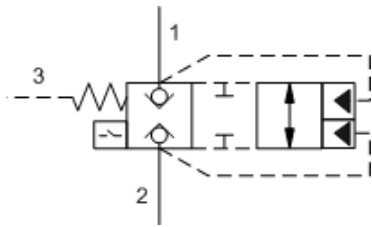
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	4,1 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: LOHCZDN

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



in (mm)

These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

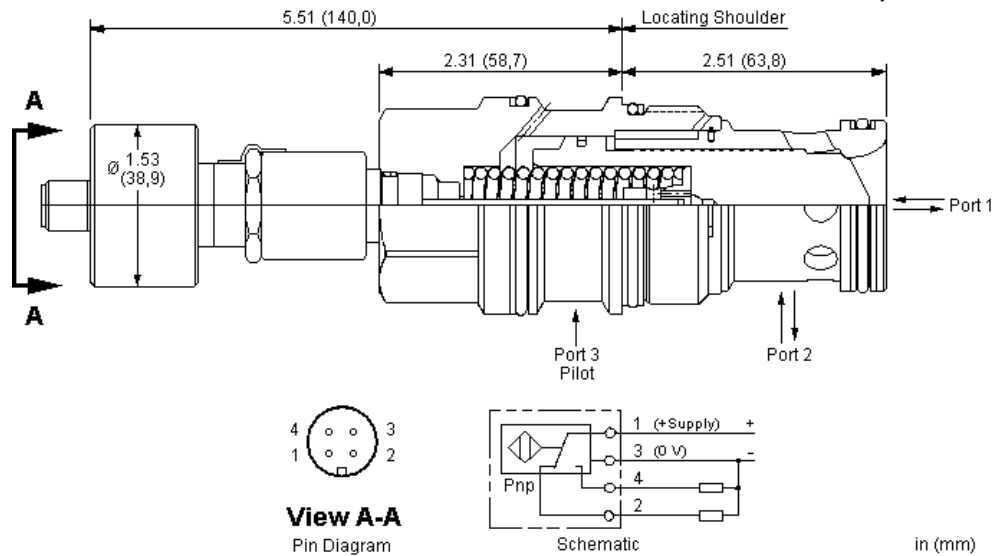
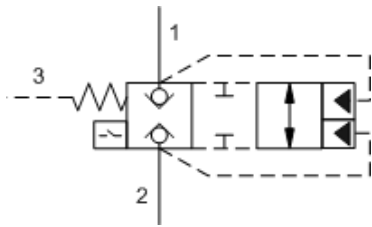
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	6,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOJ CZDN

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



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

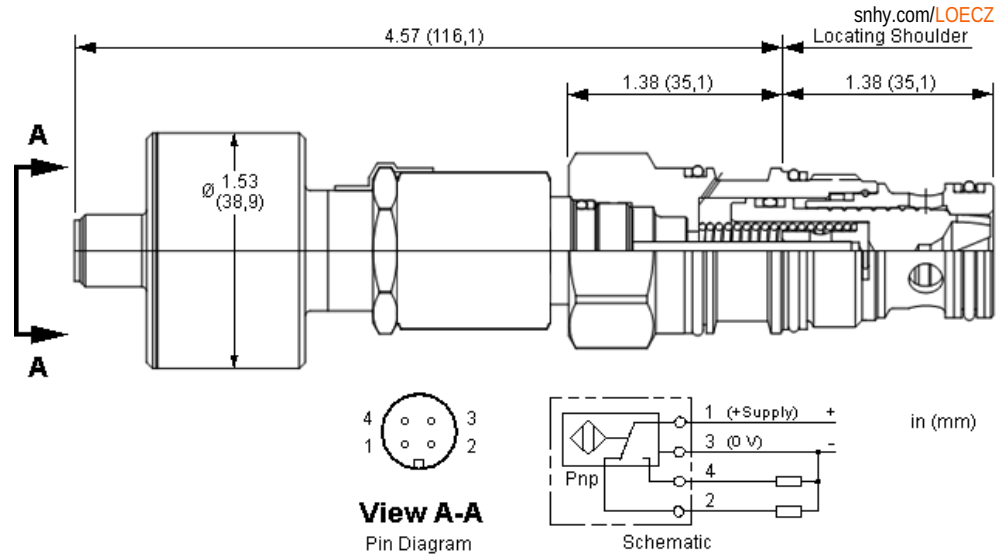
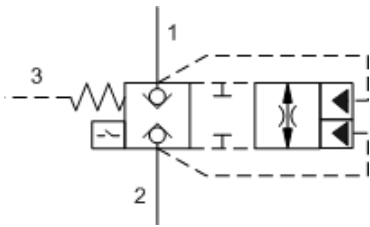
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	7,7 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: LOK CZDN

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



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

TECHNICAL DATA

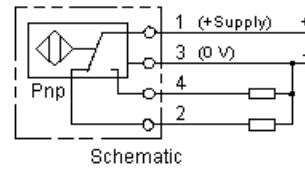
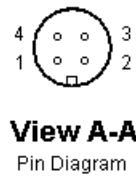
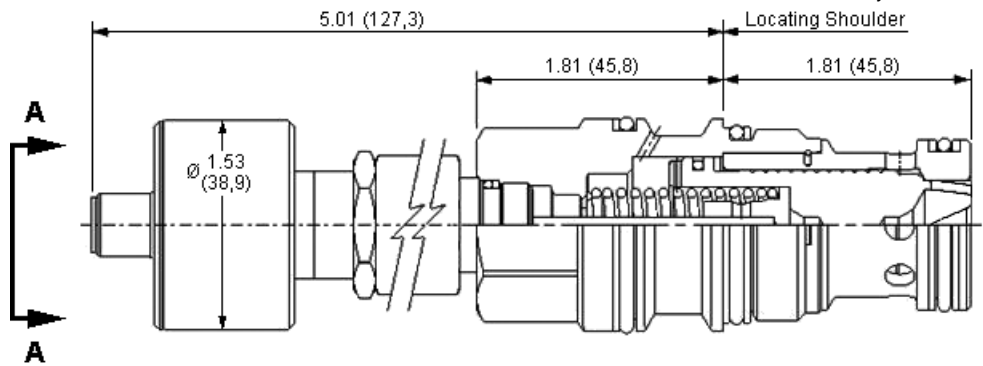
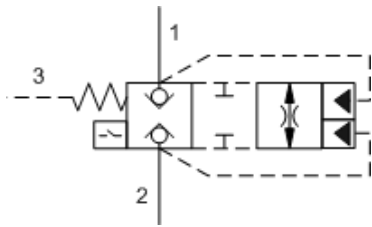
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	1,1 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min. @70 bar
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: LOECZDN

NOMINAL CONTROL PRESSURE (D) SEAL MATERIAL (N)

D 50 psi (3,5 bar) **N** Buna-N
V Viton



in (mm)

These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

TECHNICAL DATA

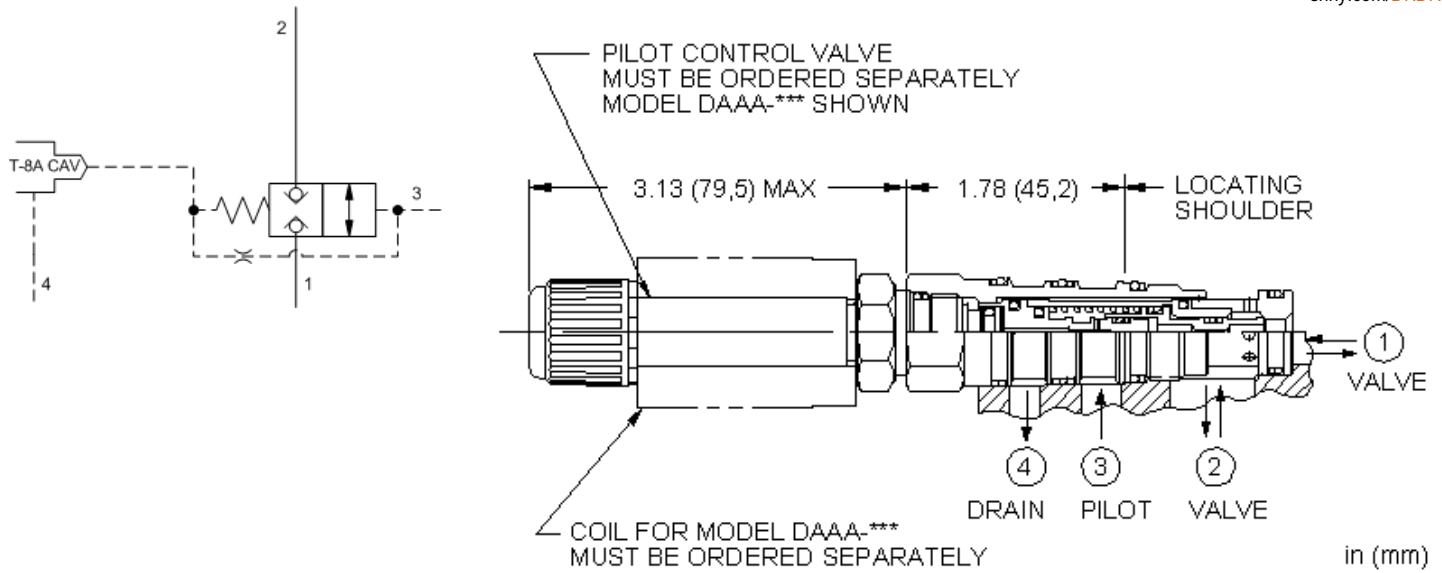
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	4,1 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: LOGCZDN

NOMINAL CONTROL PRESSURE (D) SEAL MATERIAL (N)

D 50 psi (3,5 bar)	N Buna-N
	V Viton



This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

TECHNICAL DATA

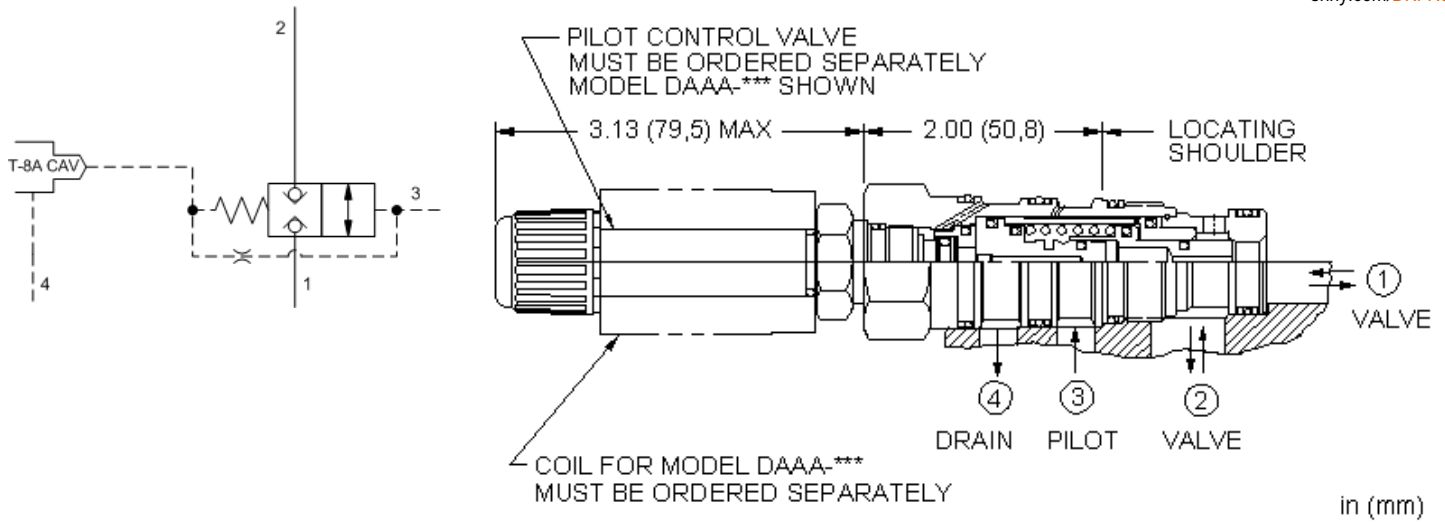
Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
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: DKDR8HN

MINIMUM PILOT PRESSURE (H)	SEAL MATERIAL (N)
H 400 psi (28 bar)	N Buna-N
	V Viton



This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

TECHNICAL DATA

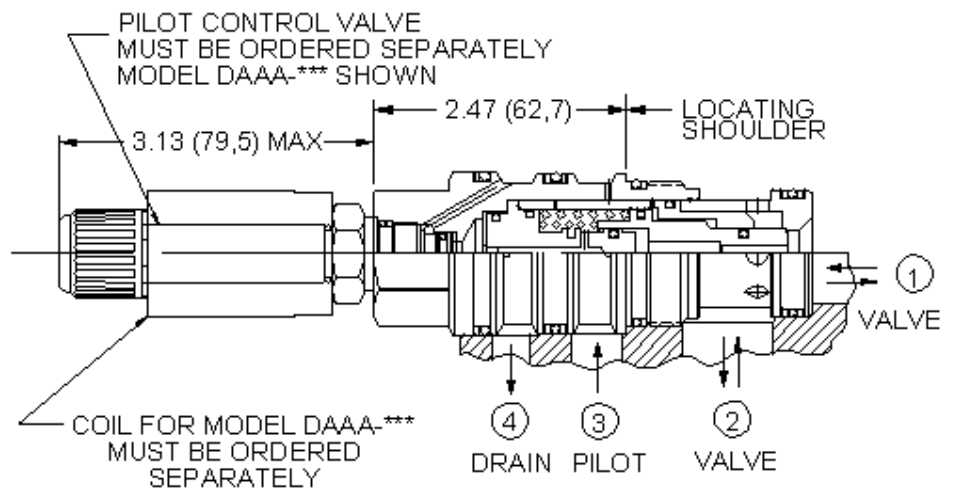
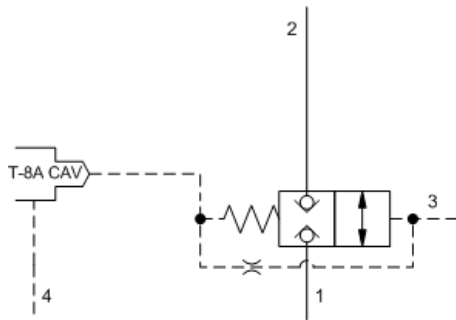
Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
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: DKFR8HN

MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
H 300 psi (20 bar)		N Buna-N	
		V Viton	



This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
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
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

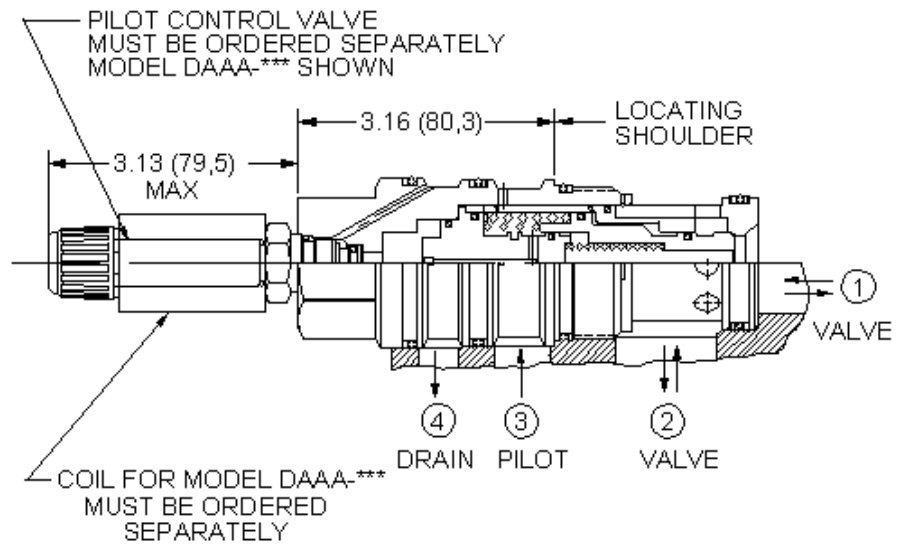
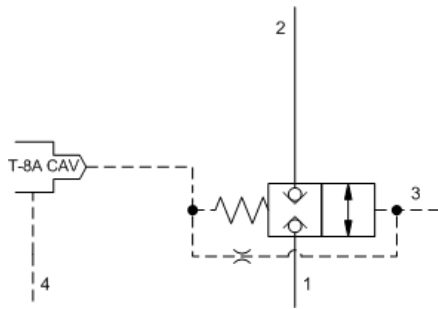
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: DKHR8HN

MINIMUM CONTROL PRESSURE (H) SEAL MATERIAL (N)

H 300 psi (20 bar)	N Buna-N
	V Viton



This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
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
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

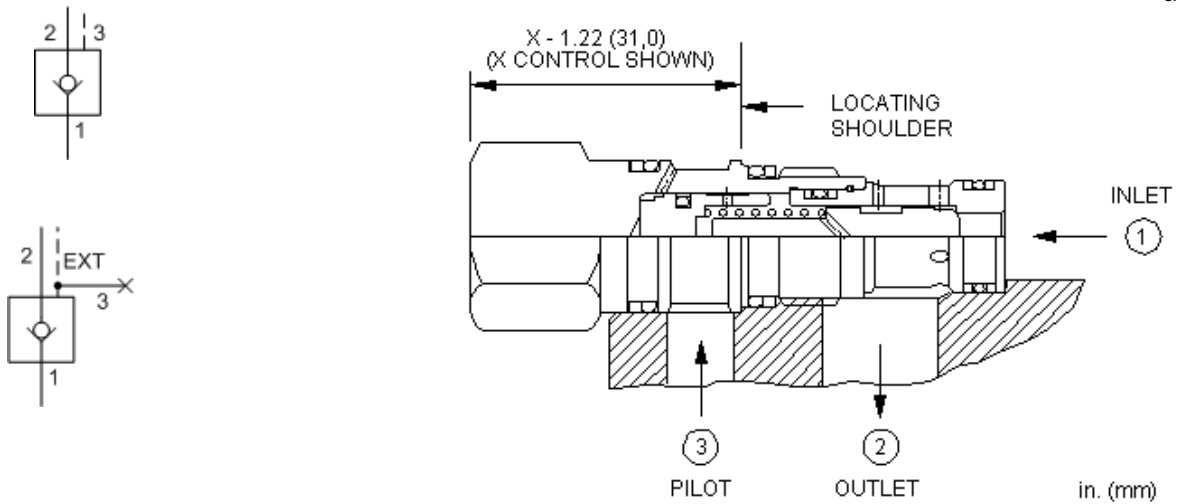
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS

Model Code Example: DKJR8HN

MINIMUM CONTROL PRESSURE (H) SEAL MATERIAL (N)

H 300 psi (20 bar)	N Buna-N
	V Viton



This valve is a spring biased closed, pilot-to-close check cartridge that has a 3:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 3:1. This valve is most often used in regeneration circuits.

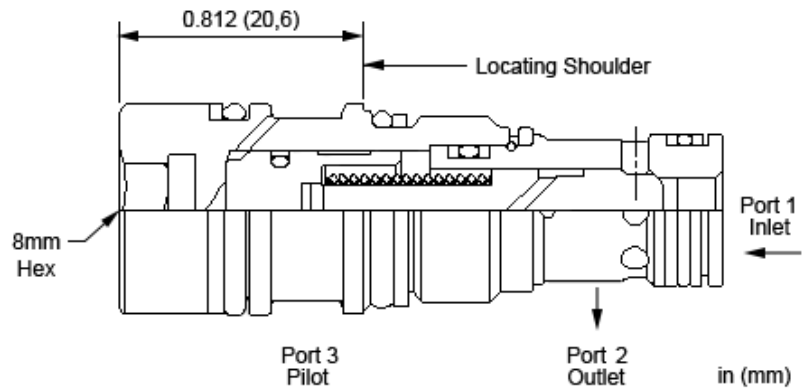
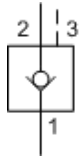
TECHNICAL DATA

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	EPDM: 990163014
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS

Model Code Example: COBAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
B External 1/4 BSPP Pilot Port, Port 3 blocked	D 50 psi (3,5 bar)	E EPDM	/AP Stainless Steel, Passivated
	E 75 psi (5 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	F 100 psi (7 bar)		



This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

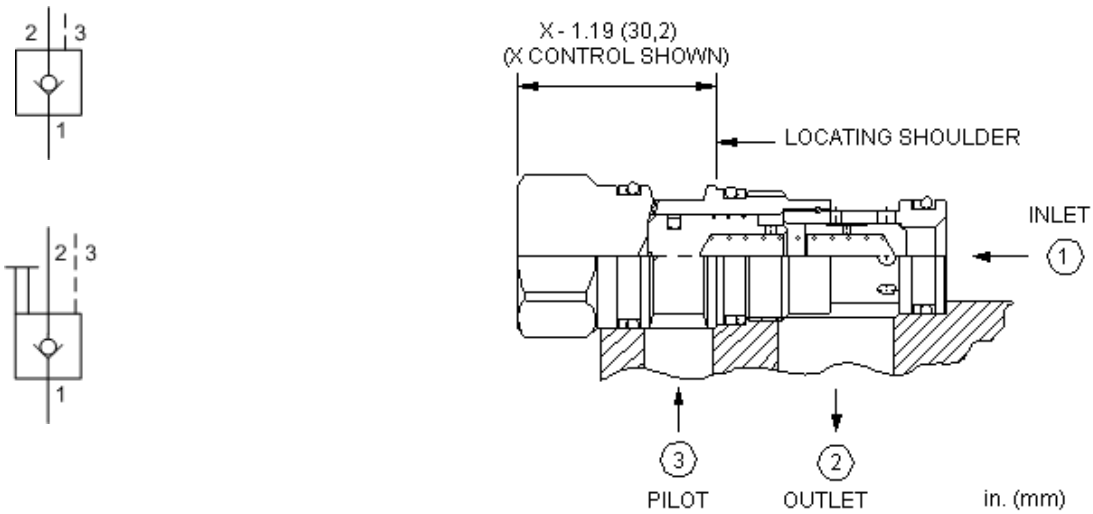
TECHNICAL DATA

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS

Model Code Example: **COBGXCN**

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable, Standard Hydraulic Pilot	C 30 psi (2 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

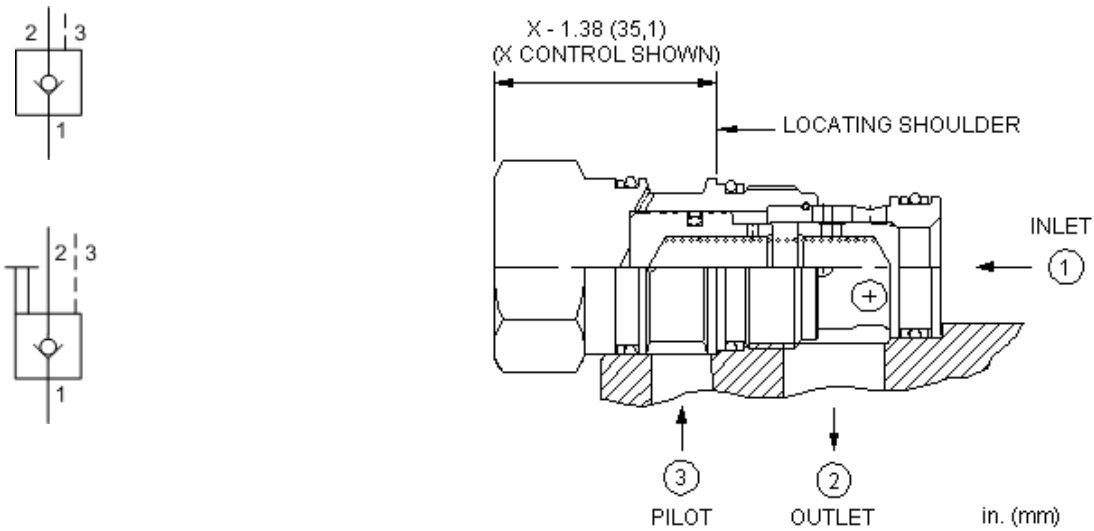
TECHNICAL DATA

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: CODAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		
	G 150 psi (10,5 bar)		



This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

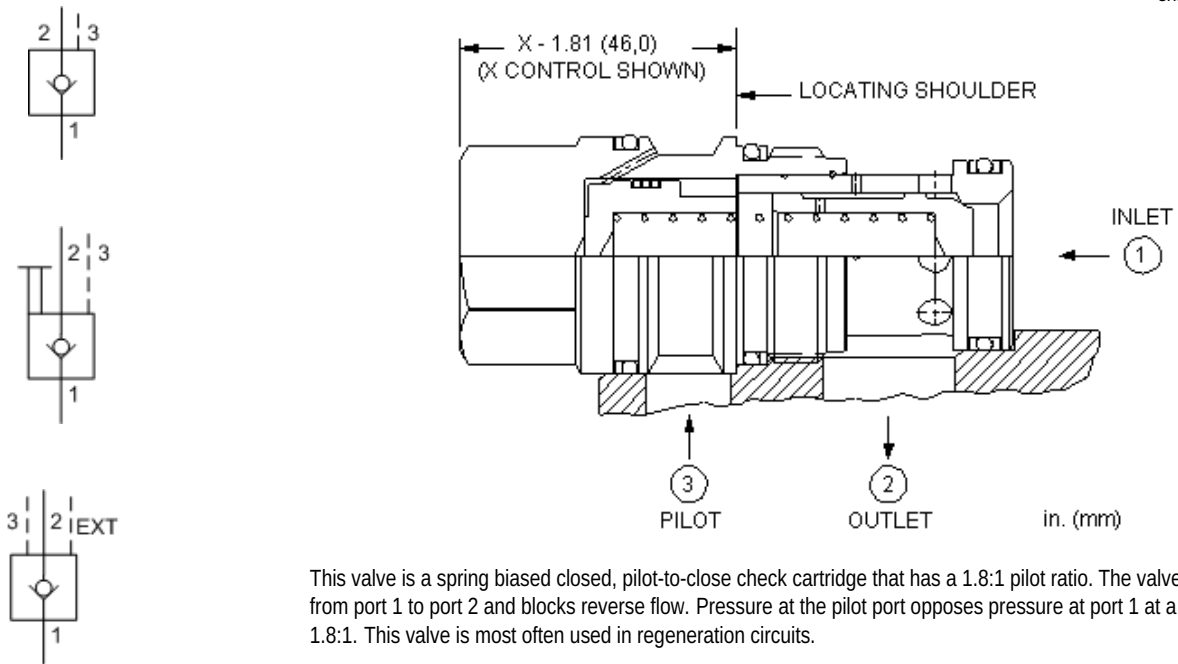
TECHNICAL DATA

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: COFAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		
	J 135 psi (9,5 bar)		



This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

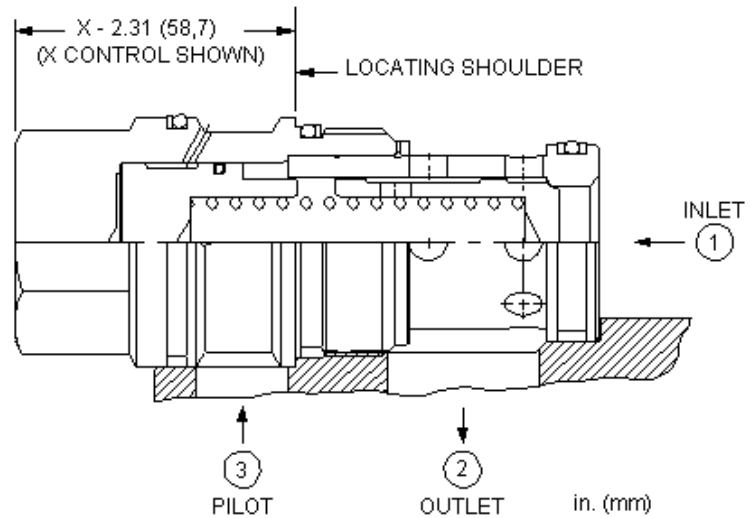
TECHNICAL DATA

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: COHAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar) A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar) G 150 psi (10,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

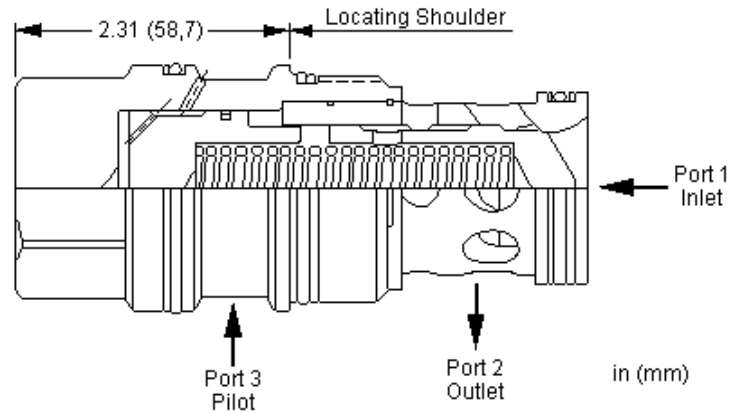
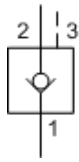
TECHNICAL DATA

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: COJAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		
	G 150 psi (10,5 bar)		



This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

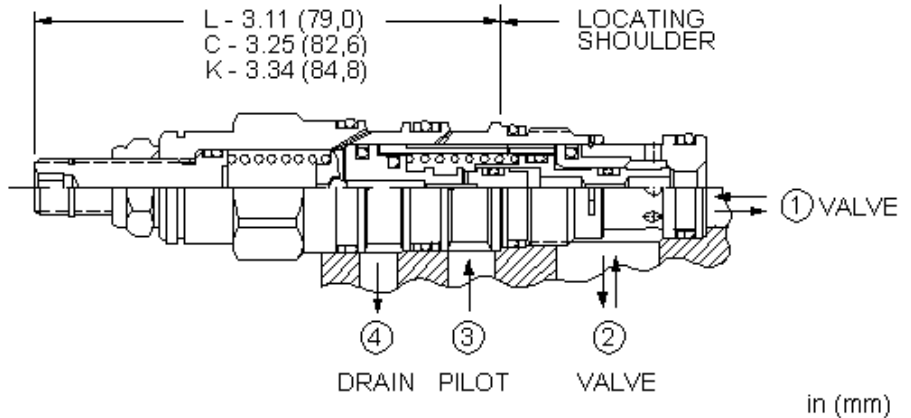
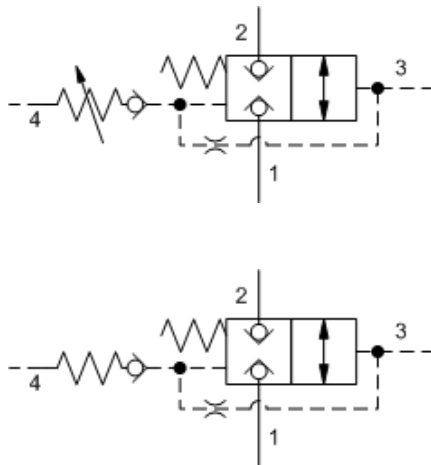
TECHNICAL DATA

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: COKAXAN

CONTROL	(X) CRACKING PRESSURE	(A) SEAL MATERIAL	(N)
X Not Adjustable	A 4 psi (0,3 bar)	N Buna-N	
	B 15 psi (1 bar)	V Viton	
	C 30 psi (2 bar)		
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

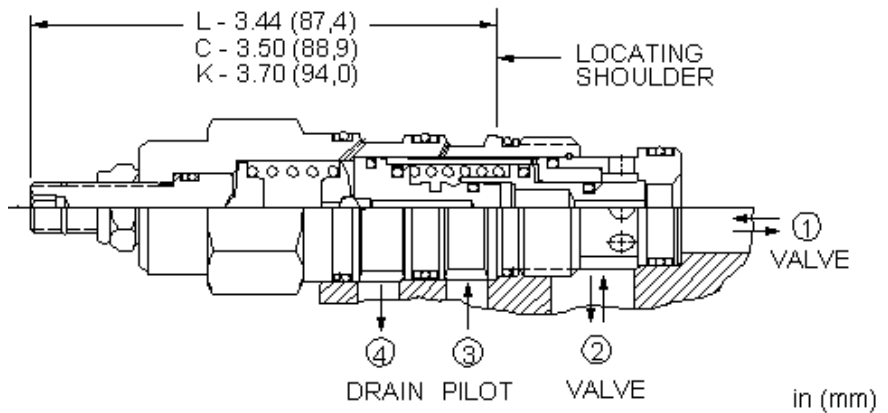
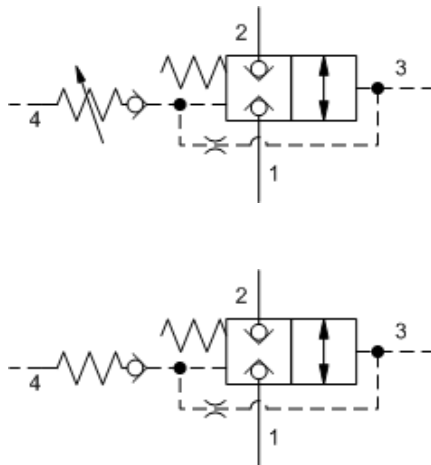
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
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: DKDPLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 400 - 3000 psi (28 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	IAP Stainless Steel, Passivated
K Handknob	W 400 - 4500 psi (28 - 315 bar), 1000 psi (70 bar) Standard Setting		



This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

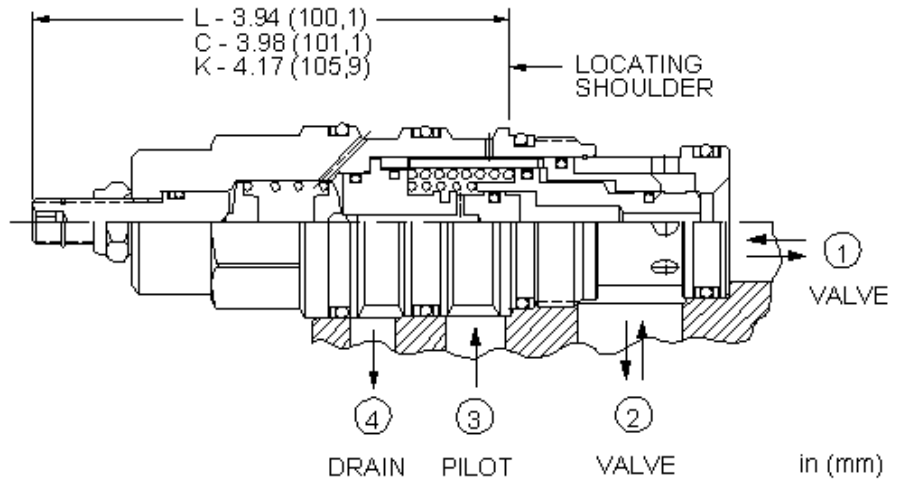
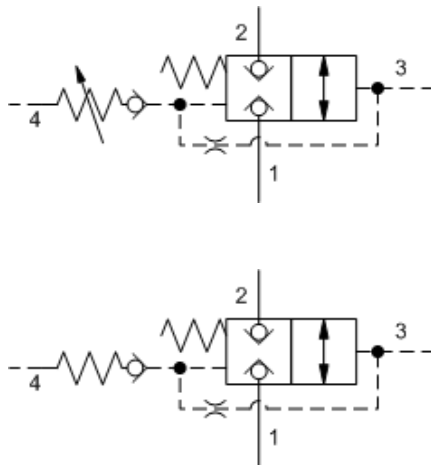
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
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: DKFPLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 250 - 3000 psi (18 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 250 - 1500 psi (18 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
	W 250 - 4500 psi (18 - 315 bar), 1000 psi (70 bar) Standard Setting		



This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

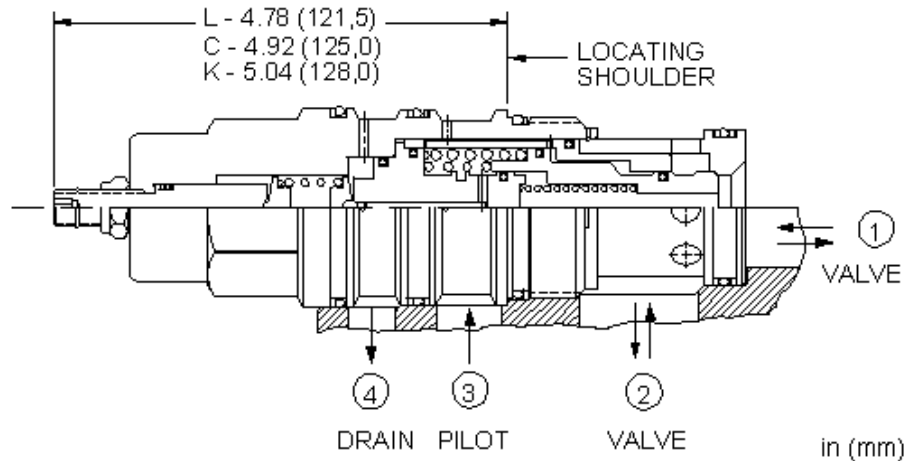
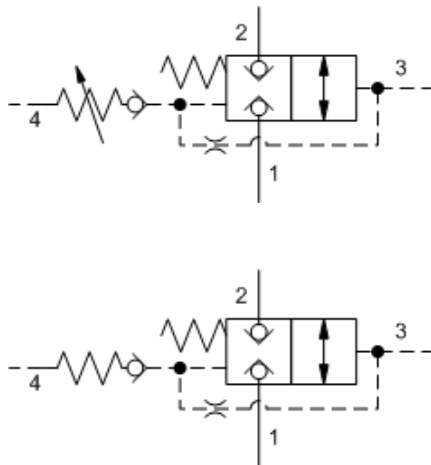
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: DKHPLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment	A	200 - 3000 psi (14 - 210 bar), 1000 psi (70 bar) Standard Setting	N	Buna-N	
C Tamper Resistant - Factory Set	B	200 - 1500 psi (14 - 105 bar), 1000 psi (70 bar) Standard Setting	V	Viton	
K Handknob	D	200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting			
	W	200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting			



This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

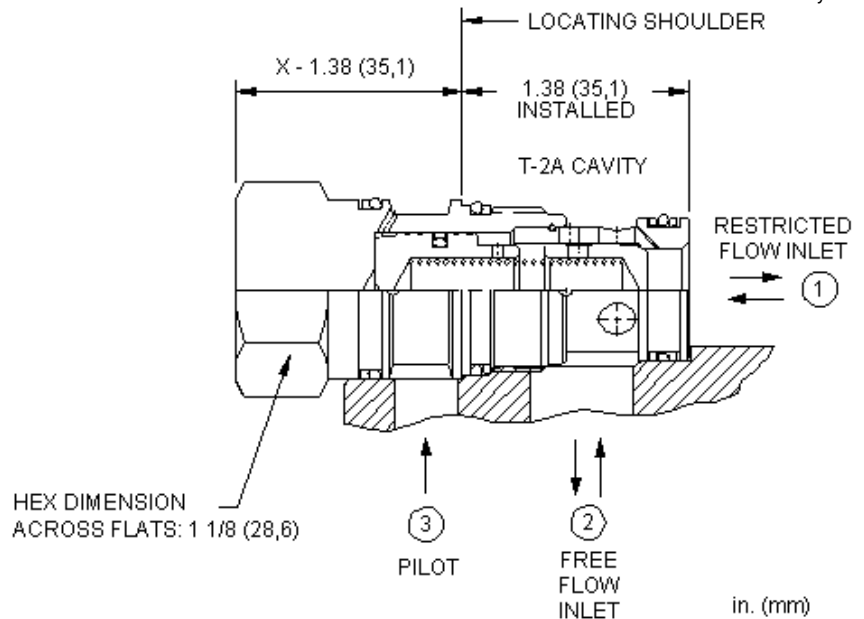
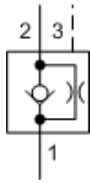
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS

Model Code Example: DKJPLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 200 - 3000 psi (14 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 200 - 1500 psi (14 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting		



This valve is a spring biased closed, pilot-to-close check cartridge with a bypass orifice. It incorporates a steel seat and is non-vented. The valve allows flow from port 1 to port 2 and restricts flow from port 2 to port 1. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 1.8:1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

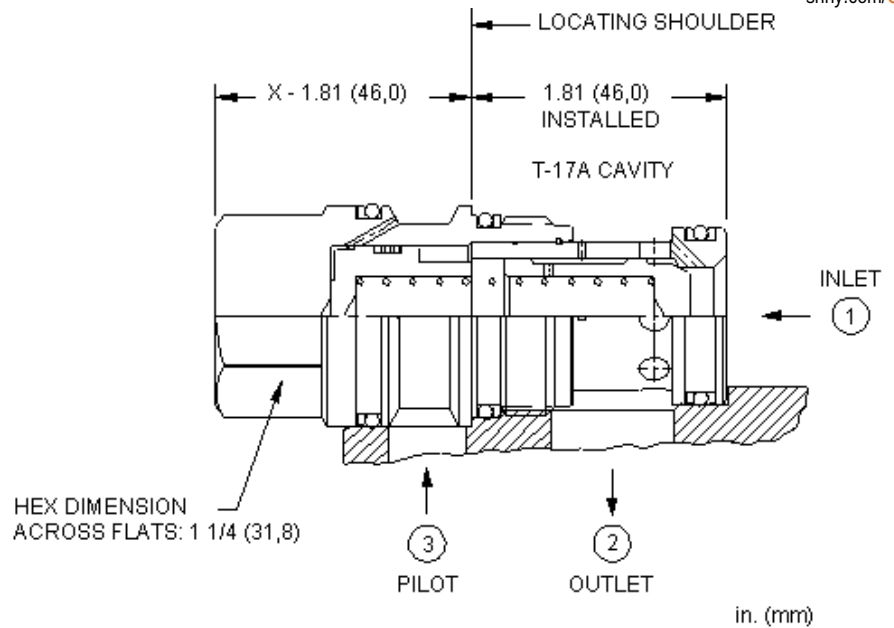
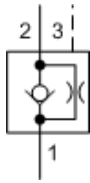
TECHNICAL DATA

Pilot Ratio	1.8:1
Orifice Range	0,4 - 3,2 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: CNFEXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N)
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm)	N Buna-N	V Viton
	A 4 psi (0,3 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm)		
	B 15 psi (1 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm)		
	D 50 psi (3,5 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm)		
	E 75 psi (5 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm)		
	F 100 psi (7 bar) Cracking Pressure, .016 - .127 in. (0,4 - 3,2 mm)		



This valve is a spring biased closed, pilot-to-close check cartridge with a bypass orifice. It incorporates a steel seat and is non-vented. The valve allows flow from port 1 to port 2 and restricts flow from port 2 to port 1. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 1.8:1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

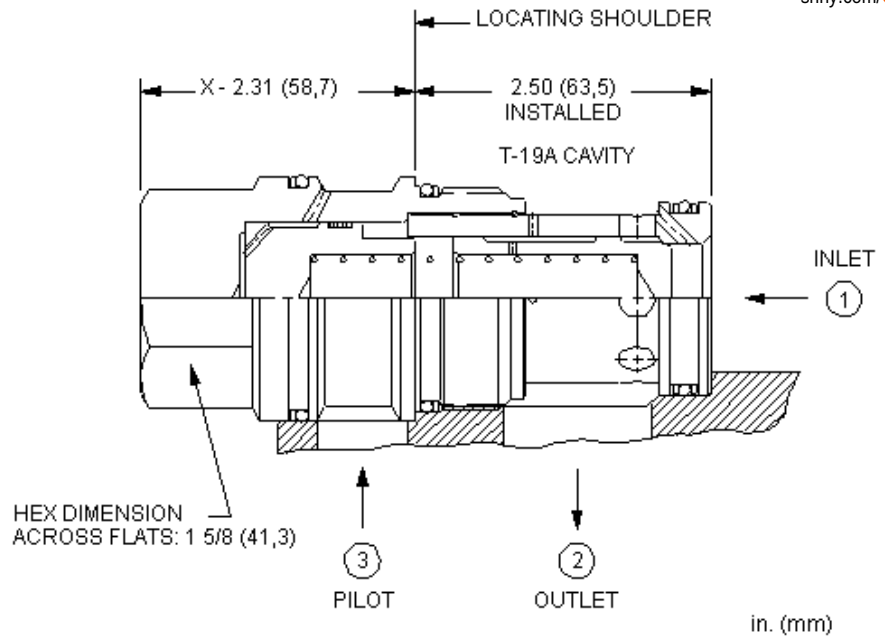
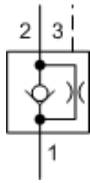
TECHNICAL DATA

Orifice Range	0,4 - 6,4 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: CNHEXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N)
X Not Adjustable	<p>C 30 psi (2 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm)</p> <p>A 4 psi (0,3 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm)</p> <p>B 15 psi (1 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm)</p> <p>D 50 psi (3,5 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm)</p> <p>E 75 psi (5 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm)</p> <p>F 100 psi (7 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm)</p>	<p>N Buna-N</p> <p>V Viton</p>	



This valve is a spring biased closed, pilot-to-close check cartridge with a bypass orifice. It incorporates a steel seat and is non-vented. The valve allows flow from port 1 to port 2 and restricts flow from port 2 to port 1. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 1.8:1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

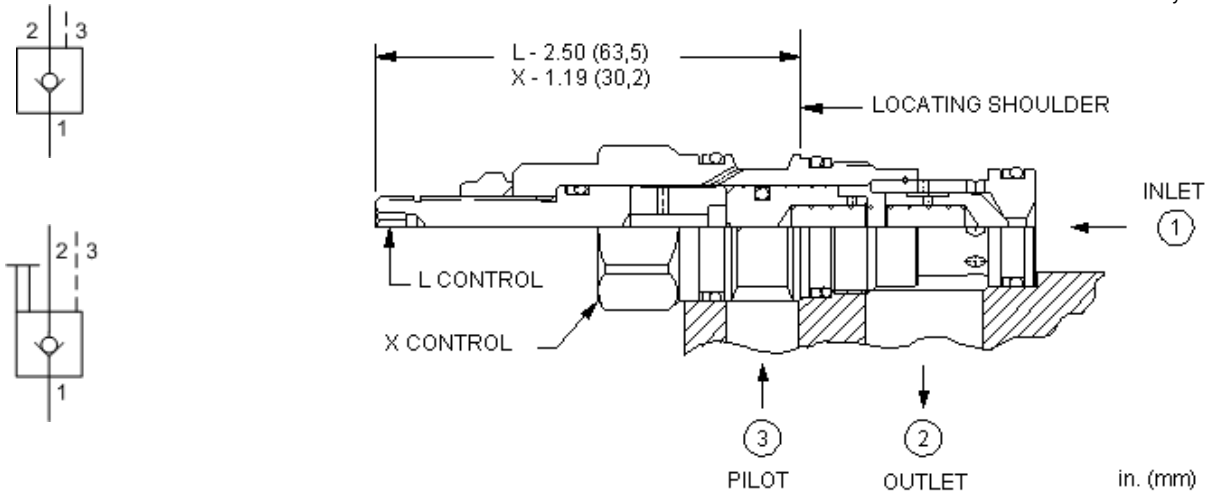
TECHNICAL DATA

Orifice Range	0,4 - 9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: CNJEXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C 30 psi (2 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)		N Buna-N	
		A 4 psi (0,3 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)		V Viton	
		B 15 psi (1 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)			
		D 50 psi (3,5 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)			
		E 75 psi (5 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)			
		F 100 psi (7 bar) Cracking Pressure, .016 - .354 in. (0,4 - 9 mm)			



This valve is a spring biased closed, pilot-to-close check cartridge that has a 20:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 20:1.

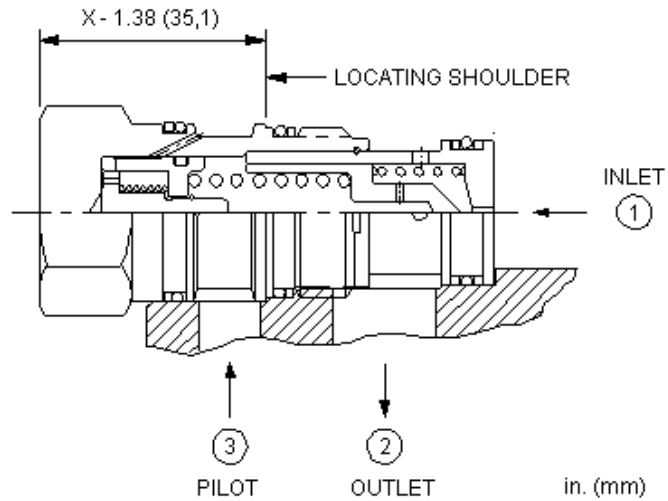
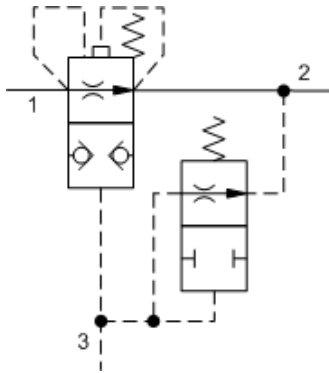
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: CODDXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	D 50 psi (3,5 bar) H 200 psi (14 bar)	N Buna-N V Viton	N Standard Material/Coating /AP Stainless Steel, Passivated



This valve is a pilot-to-close check cartridge that has a 120:1 pilot ratio. The valve is designed specifically to discharge an accumulator when the pump is turned off. With no pressure at the pump port (port 3), the valve is open between the accumulator (port 1) and tank (port 2). 60 psi (4 bar) at port 3 will close the valve for accumulator pressures up to 5000 psi (350 bar). When pump pressure at port 3 is below 300 psi (20 bar) there is a leak path from port 3 to tank (port 2) to ensure accumulator discharge when the pump is turned off. When pump pressure is above 300 psi (20 bar) the leak path closes for efficiency.

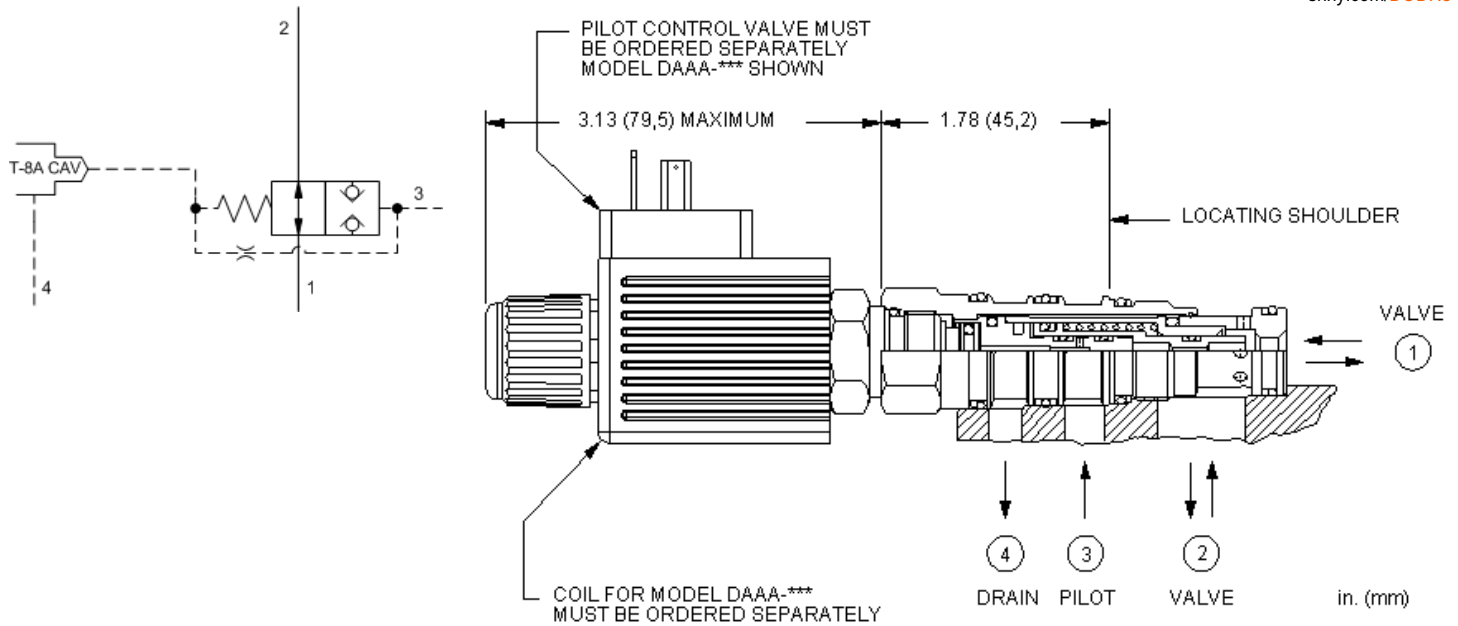
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: COFOXDN

CONTROL	(X)	MINIMUM PILOT PRESSURE	(D)	SEAL MATERIAL	(N)
X Standard Pilot		D 60 psi (4 bar)		N Buna-N	
				V Viton	



This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

TECHNICAL DATA

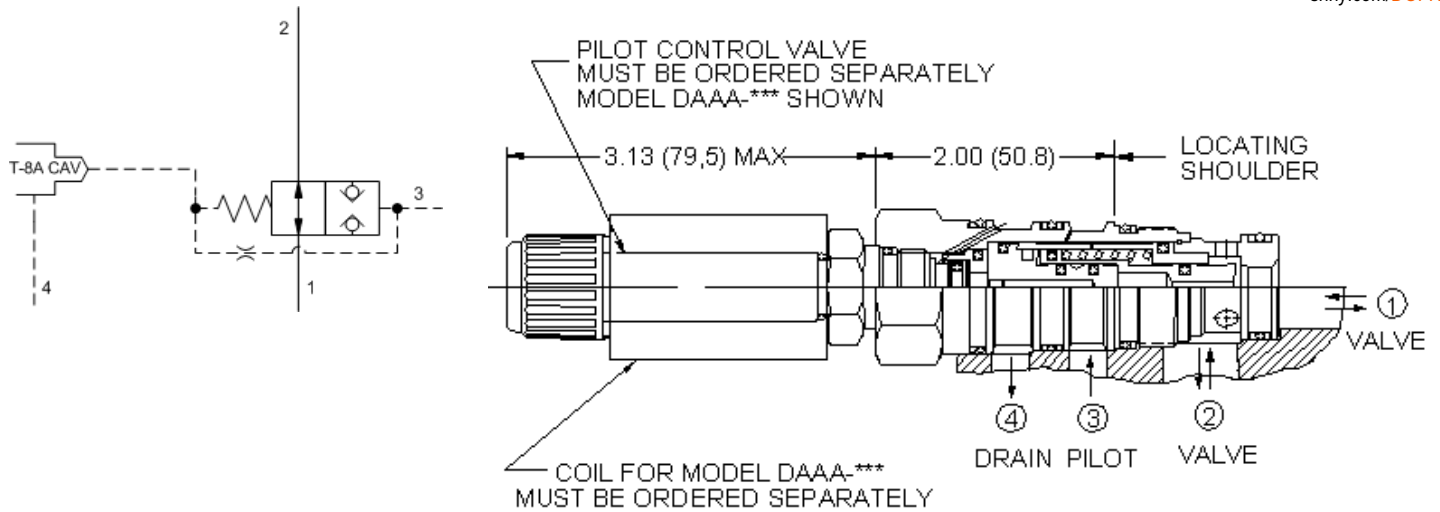
Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
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: DODR8HN

MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
H 400 psi (28 bar)		N Buna-N	
		V Viton	



This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

TECHNICAL DATA

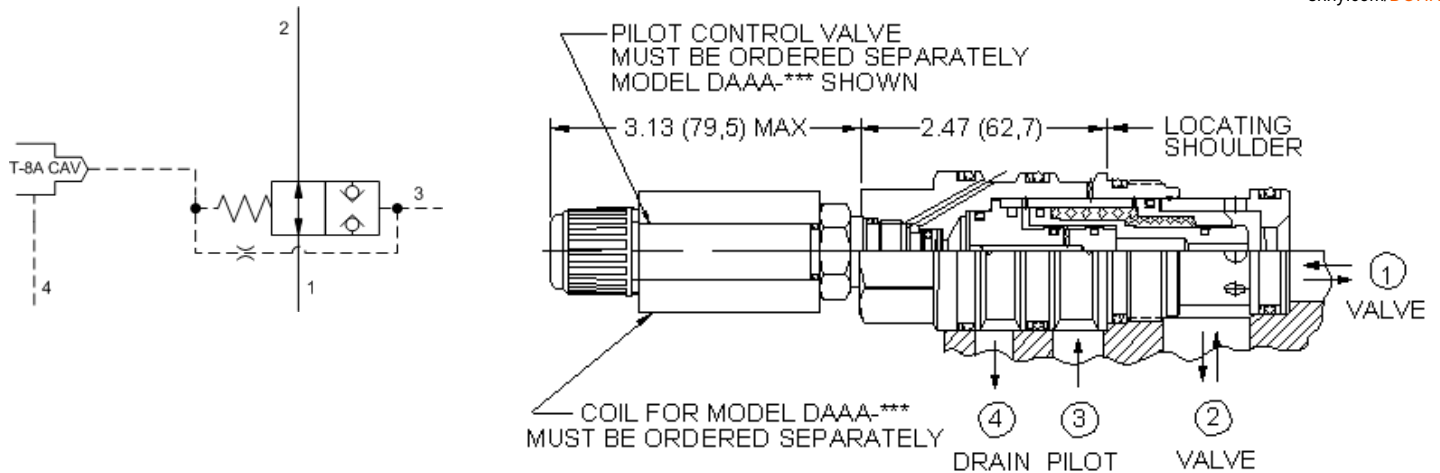
Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
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: DOFR8HN

MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
H 300 psi (20 bar)		N Buna-N	
		V Viton	



This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

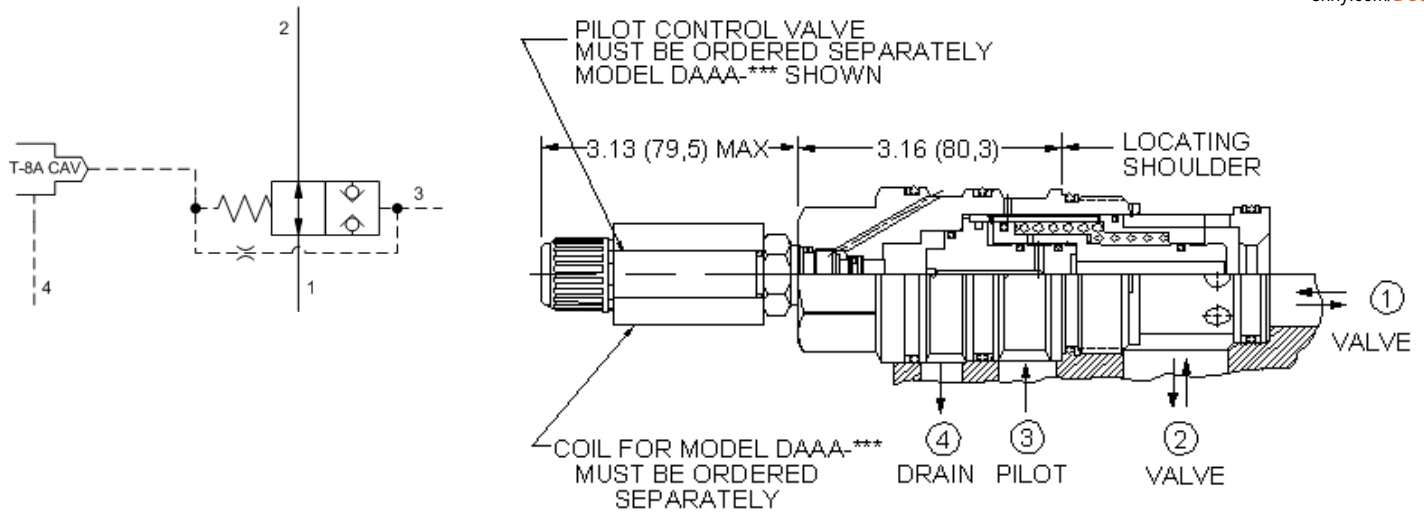
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
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
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: DOHR8HN

MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
H 200 psi (14 bar)		N Buna-N	
		V Viton	



This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

TECHNICAL DATA

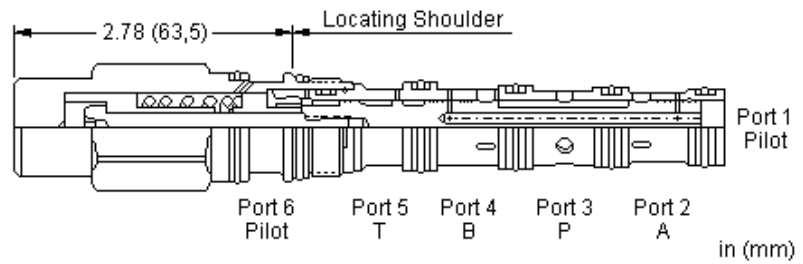
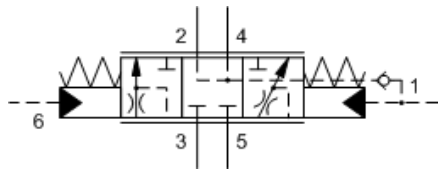
Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

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

CONFIGURATION OPTIONS

Model Code Example: DOJR8HN

MINIMUM PILOT PRESSURE (H)	SEAL MATERIAL (N)
H 300 psi (20 bar)	N Buna-N
	V Viton



This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Load sense is available at port 5 when the spool is shifted to either port 2 or 4.

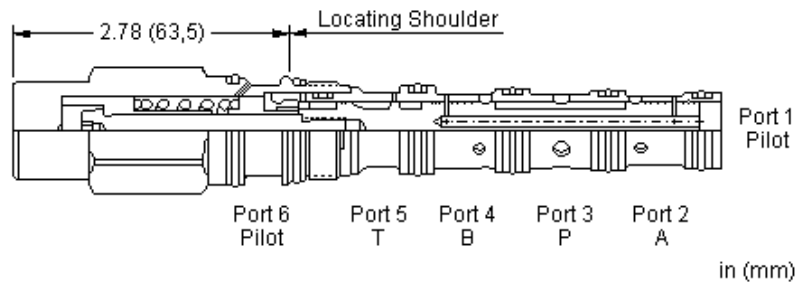
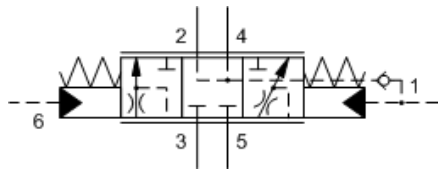
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

CONFIGURATION OPTIONS

Model Code Example: FTCKXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N V Viton	



This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Load sense is available at port 5 when the spool is shifted to either port 2 or 4.

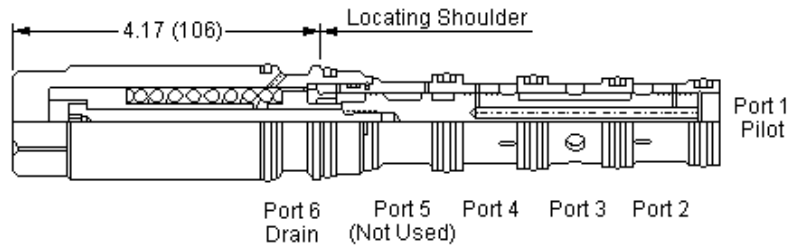
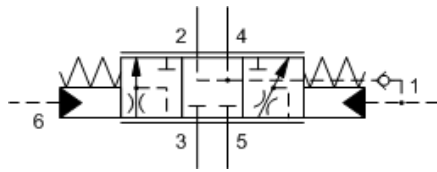
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

CONFIGURATION OPTIONS

Model Code Example: FTDKXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Normally Closed		N Buna-N	
				V Viton	



This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Load sense is available at port 5 when the spool is shifted to either port 2 or 4.

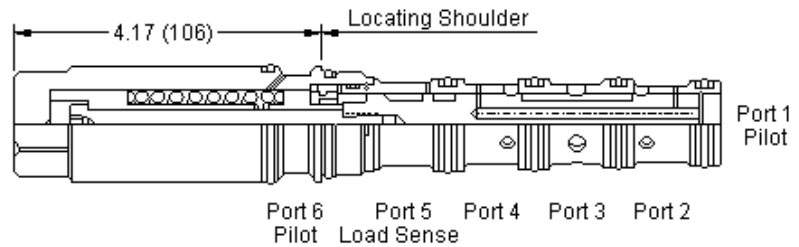
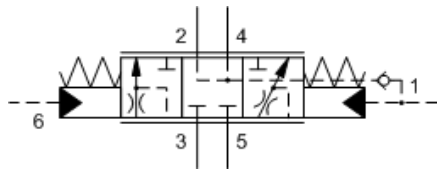
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

CONFIGURATION OPTIONS

Model Code Example: FTEKXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	V Viton



This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Load sense is available at port 5 when the spool is shifted to either port 2 or 4.

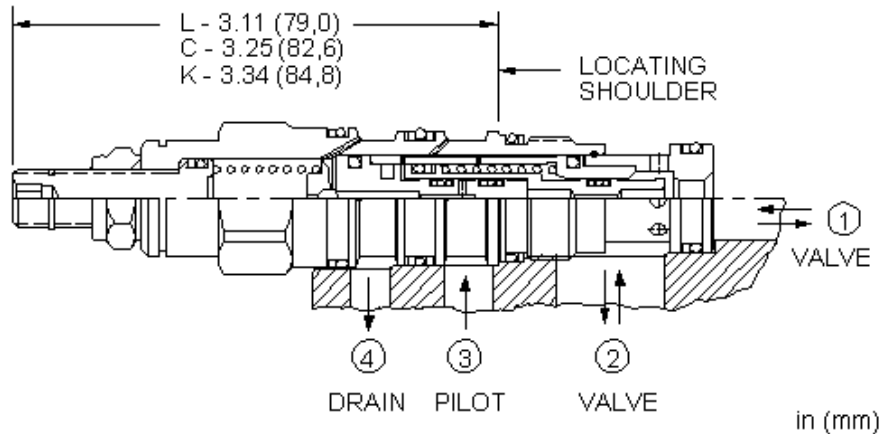
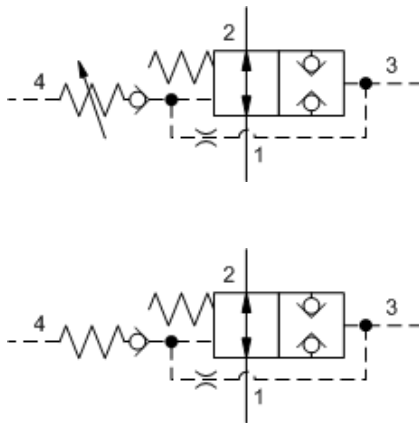
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	4 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

CONFIGURATION OPTIONS

Model Code Example: **FTFKXCN**

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	V Viton



This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

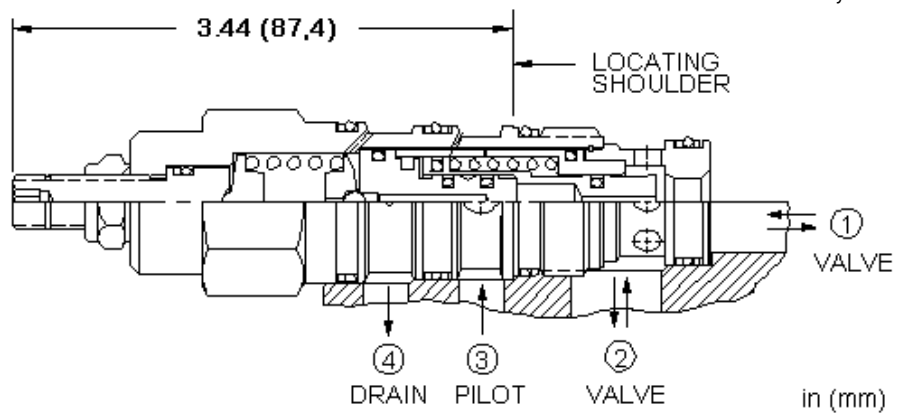
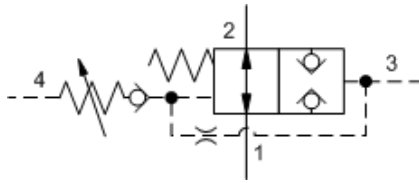
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
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: DODPLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 400 - 3000 psi (28 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	W 400 - 4500 psi (28 - 315 bar), 1000 psi (70 bar) Standard Setting		



This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

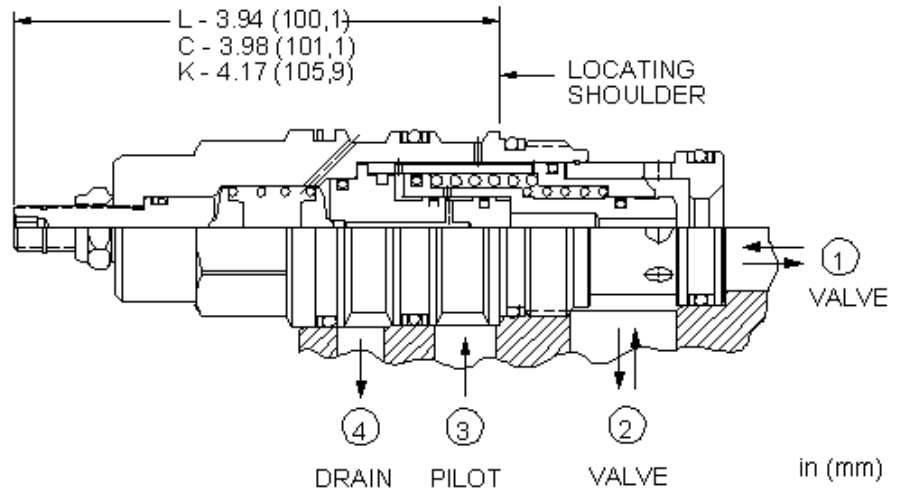
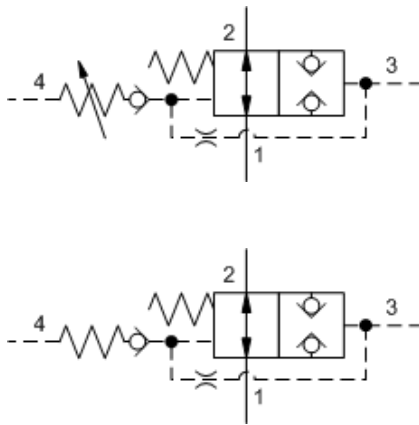
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
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: DOFPLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 200 - 3000 psi (14 - 210 bar), 1000 psi (70 bar) Standard Setting B 200 - 1500 psi (14 - 105 bar), 1000 psi (70 bar) Standard Setting W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

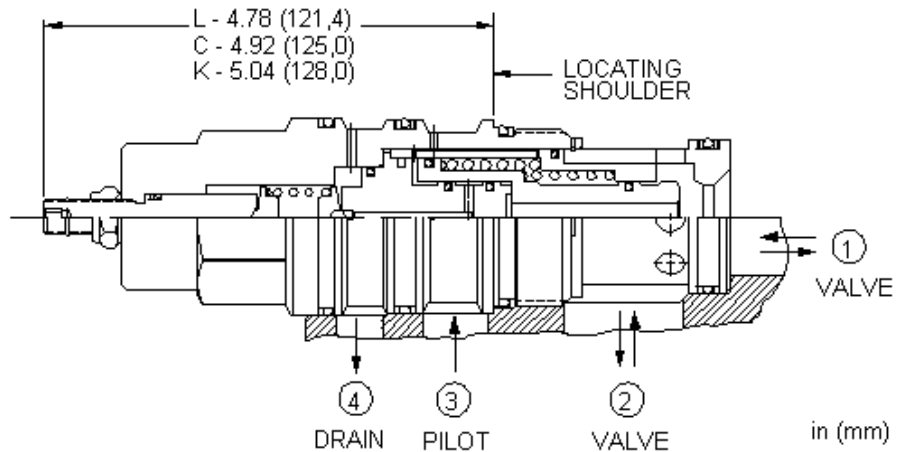
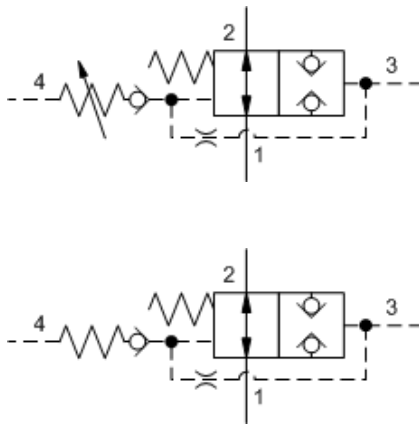
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: DOHPLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 200 - 3000 psi (14 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 200 - 1500 psi (14 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting		



This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

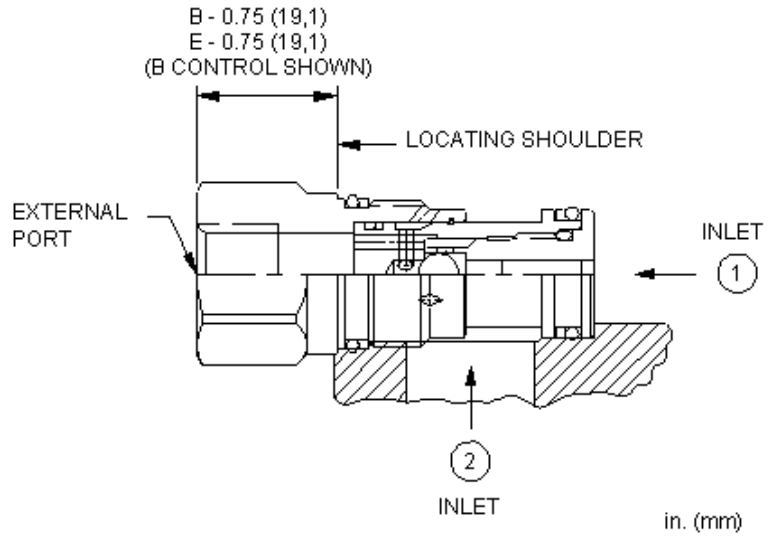
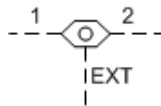
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS

Model Code Example: DOJPLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 200 - 3000 psi (14 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 200 - 1500 psi (14 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	D 200 - 800 psi (14 - 55 bar)		
	W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting		



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at an external port located in the hex-end of the cartridge.

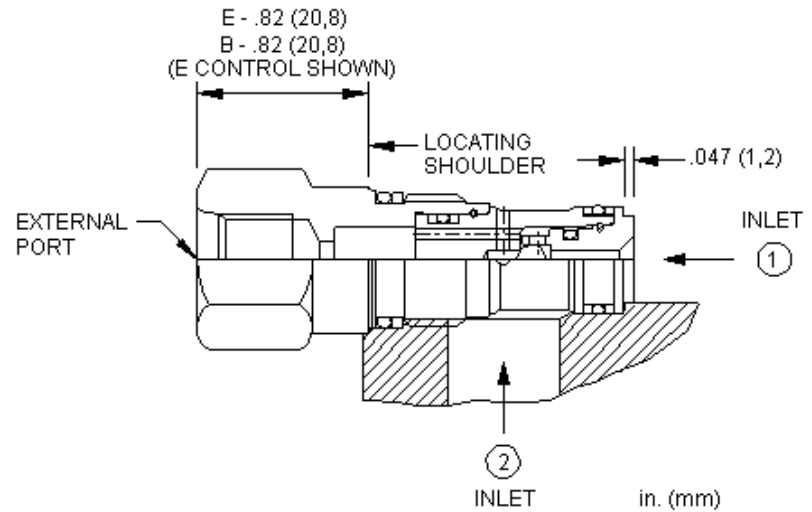
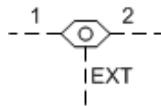
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: CSAAEXN

CONTROL	(E) ADJUSTMENT RANGE	(X)	SEAL MATERIAL	(N)	MATERIAL/COATING
E External 4-SAE Port B External 1/4 BSPP Port	X -		N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at an external port located in the hex-end of the cartridge.

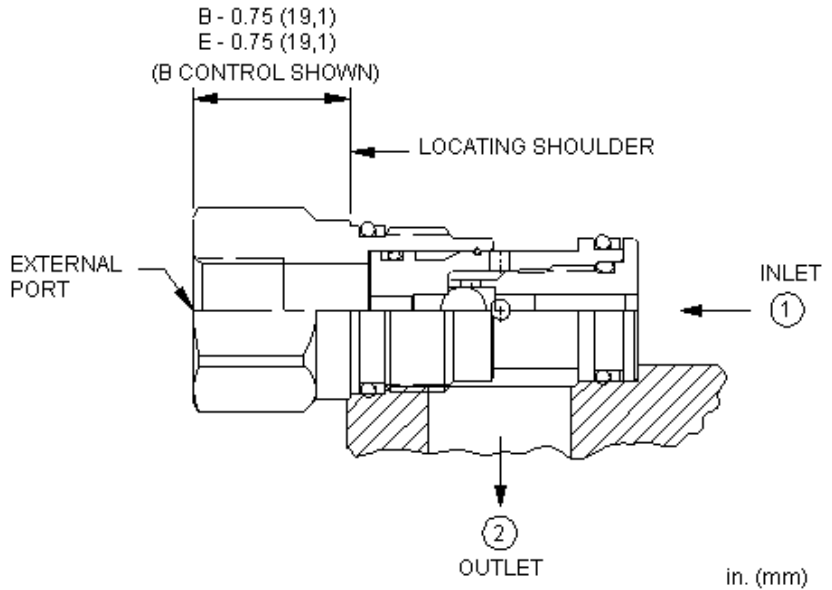
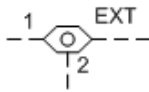
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS

Model Code Example: CSAWBXN

CONTROL	(B) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING
B External 1/4 BSPP Port	X -	N Buna-N	Standard Material/Coating
E External 4- SAE Port		V Viton	IAP Stainless Steel, Passivated



The single ball shuttle connects the higher of two work ports to the signal or common port. It features an external load port located in the hex-end of the cartridge and the signal is sensed at port 2.

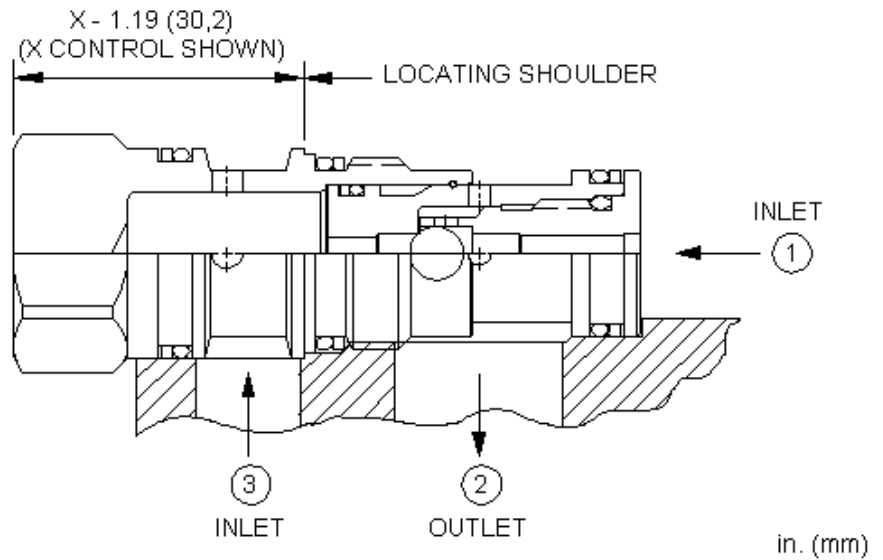
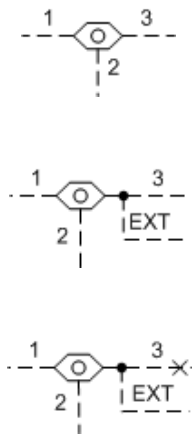
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: CSACBXN

CONTROL	(B) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING
B External 1/4 BSPP Port E External 4-SAE Port	X -	N Buna-N V Viton	N Standard Material/Coating /AP Stainless Steel, Passivated



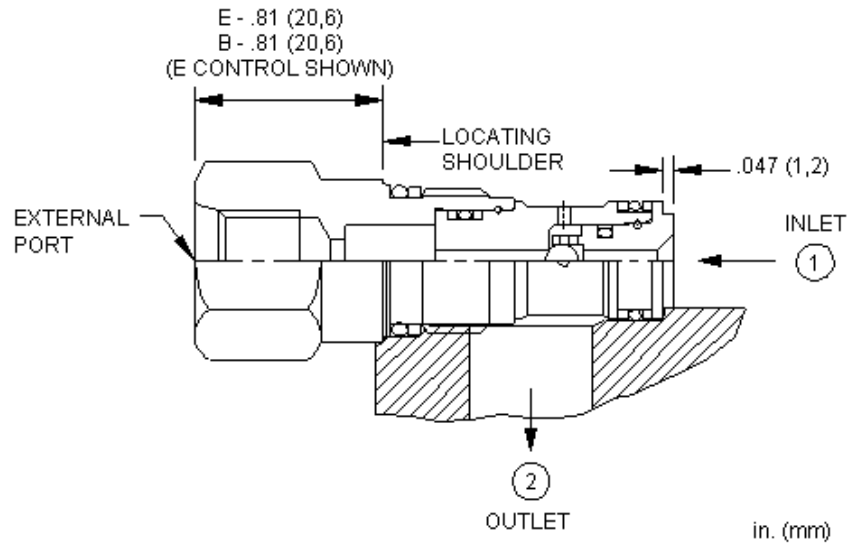
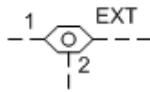
The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 2.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS
Model Code Example: CSADXXN

CONTROL	(X) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	X -	N Buna-N	Standard Material/Coating
A Auxiliary External -4 SAE Port		E EPDM	/AP Stainless Steel, Passivated
B Auxiliary External 1/4 BSPP Port		V Viton	/LH Mild Steel, Zinc-Nickel



The single ball shuttle connects the higher of two work ports to the signal or common port. It features an external load port located in the hex-end of the cartridge and the signal is sensed at port 2.

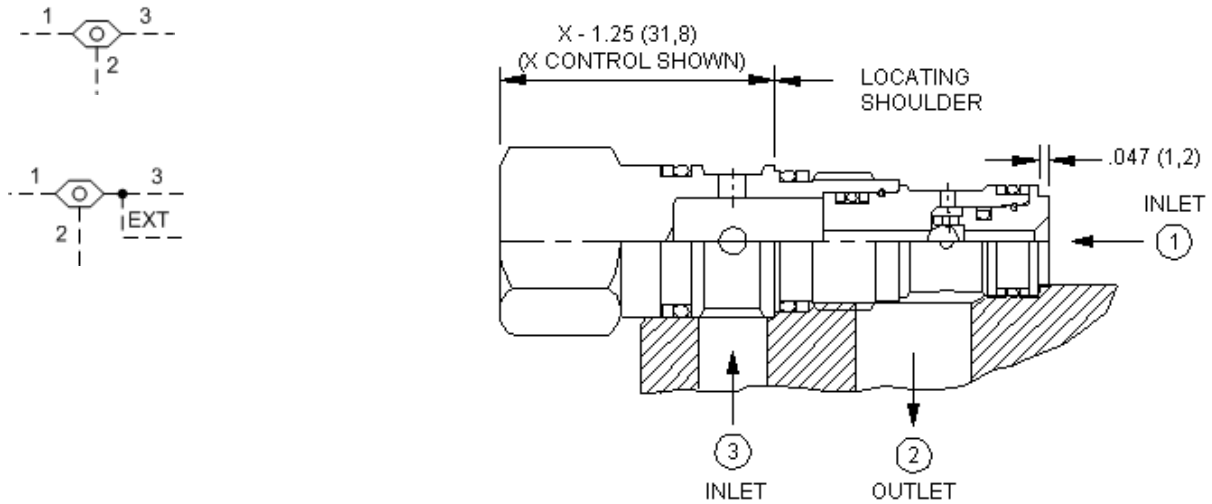
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS

Model Code Example: CSAYBXN

CONTROL	(B)	ADJUSTMENT RANGE	(X)	SEAL MATERIAL	(N)
B External 1/4 BSPP Port	X	-		N Buna-N	
E External 4-SAE Port				V Viton	



in. (mm)

The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 2.

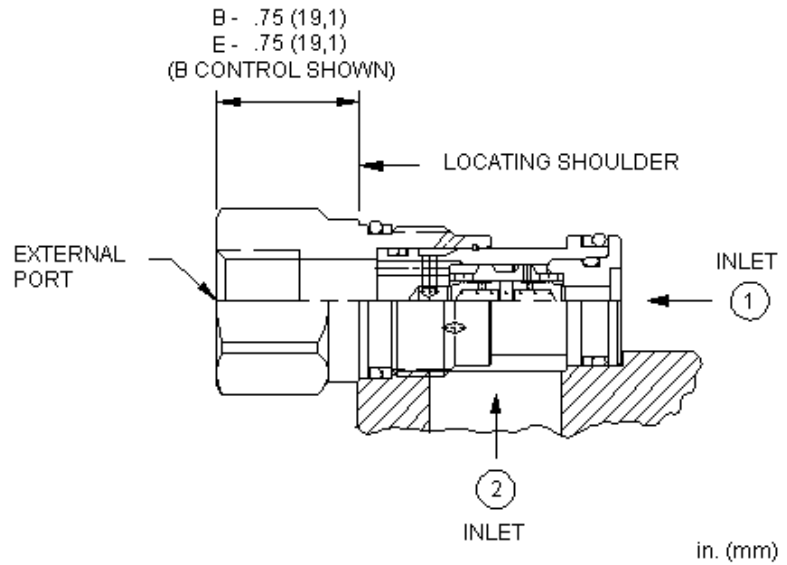
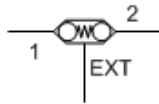
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS

Model Code Example: CSAZXXN

CONTROL	(X) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	X -	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



The back-to-back check valve combines two simple check valves into a single cartridge. It connects the higher of two work ports to the signal or common port. The signal is sensed at an external port located in the hex-end of the cartridge.

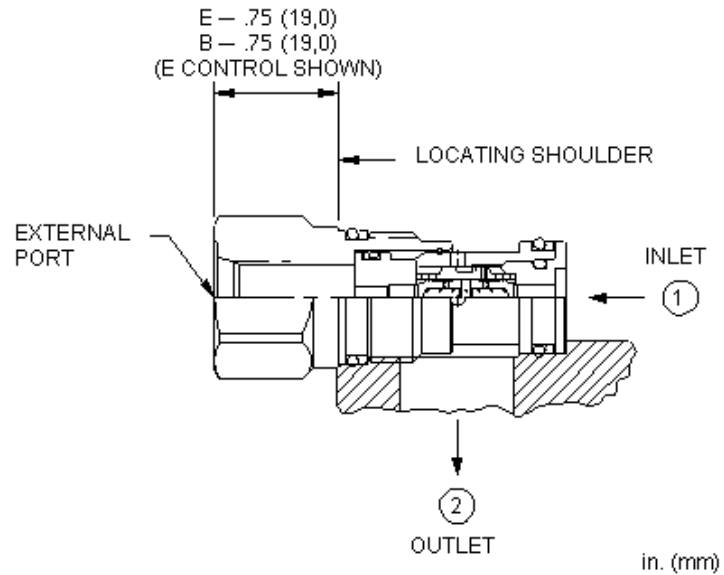
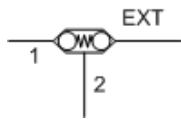
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: CDAABBN

CONTROL	(B) CRACKING PRESSURE	(B) SEAL MATERIAL	(N) MATERIAL/COATING
B External 1/4 BSPP Port E External 4-SAE Port	B 15 psi (1 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



The back-to-back check valve combines two simple check valves into a single cartridge. It connects the higher of two work ports to the signal or common port. It features an external load port located in the hex-end of the cartridge and the signal is sensed at port 2.

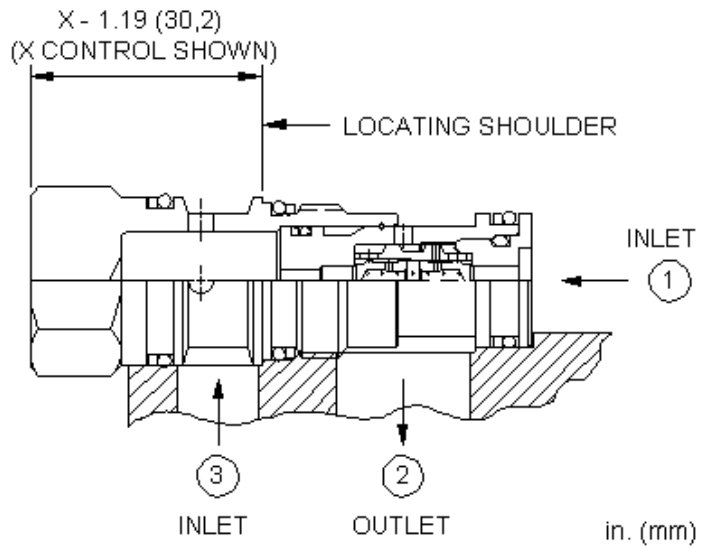
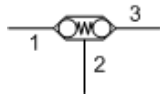
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

CONFIGURATION OPTIONS

Model Code Example: CDACBBN

CONTROL	(B) CRACKING PRESSURE	(B) SEAL MATERIAL	(N) MATERIAL/COATING
B External 1/4 BSPP Port E External 4-SAE Port	B 15 psi (1 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



The back-to-back check valve combines two simple check valves into a single cartridge. It connects the work port with the higher pressure to the signal or common port. The signal is sensed at port 2.

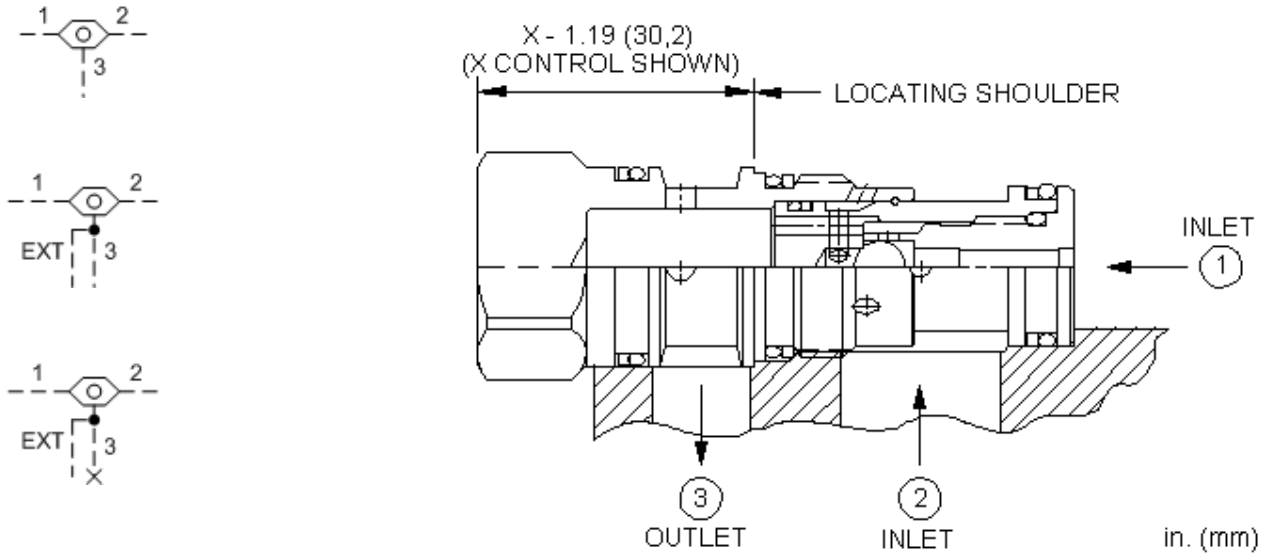
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: CDADXBN

CONTROL	(X) CRACKING PRESSURE	(B) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	B 15 psi (1 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 3.

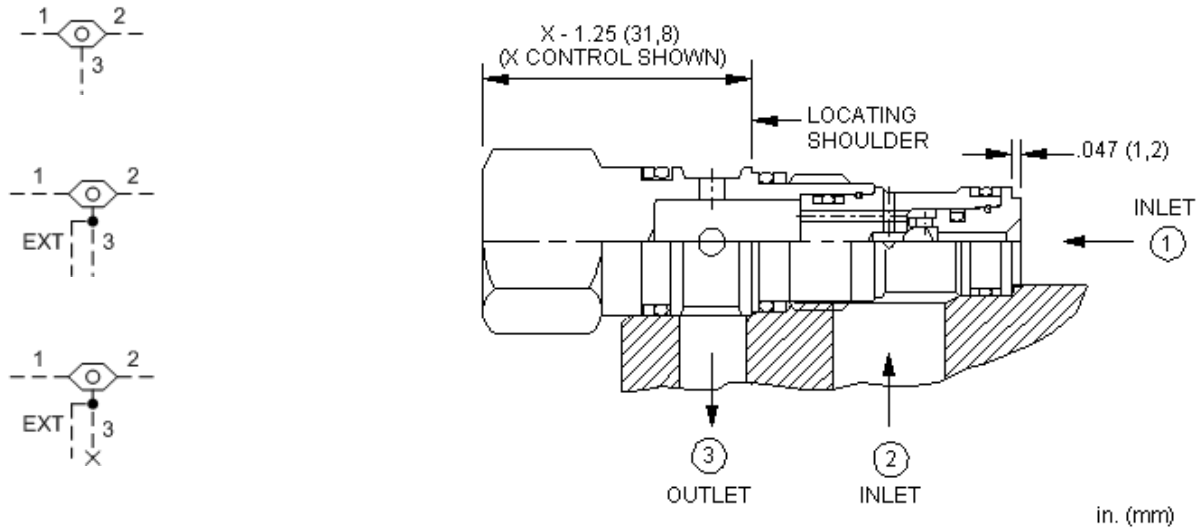
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: CSABXXN

CONTROL	(X) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	X -	N Buna-N	Standard Material/Coating
A Auxiliary External -4 SAE Port		E EPDM	/AP Stainless Steel, Passivated
B Auxiliary External 1/4 BSPP Port		V Viton	/LH Mild Steel, Zinc-Nickel



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 3.

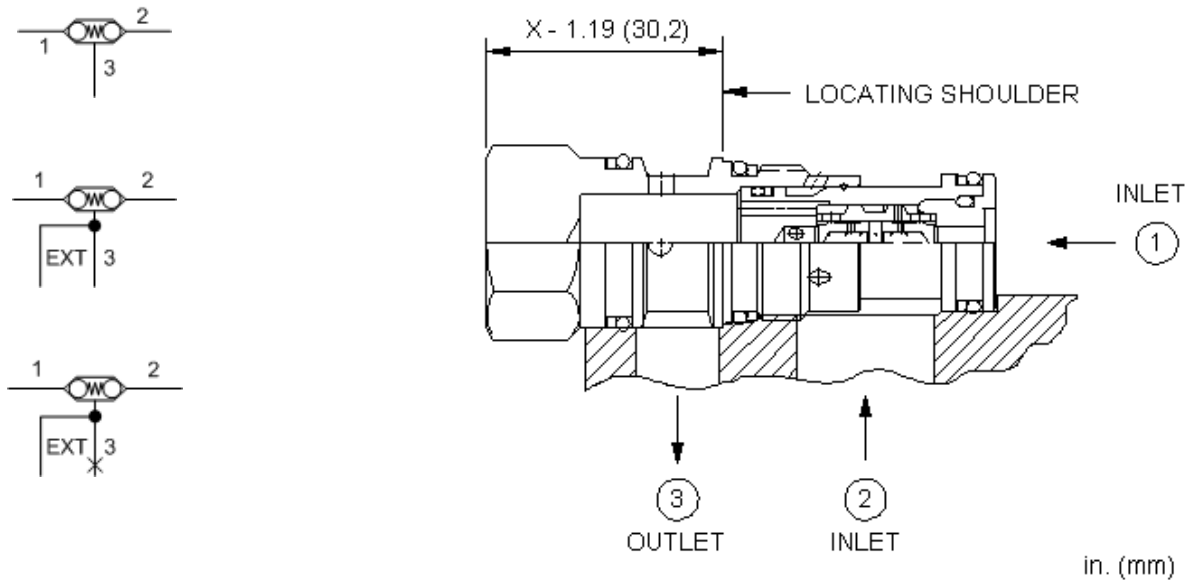
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

CONFIGURATION OPTIONS

Model Code Example: CSAXXXN

CONTROL	(X) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	X -	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



The back-to-back check valve combines two simple check valves into a single cartridge. It connects the work port with the higher pressure to the signal or common port. The signal is sensed at port 3.

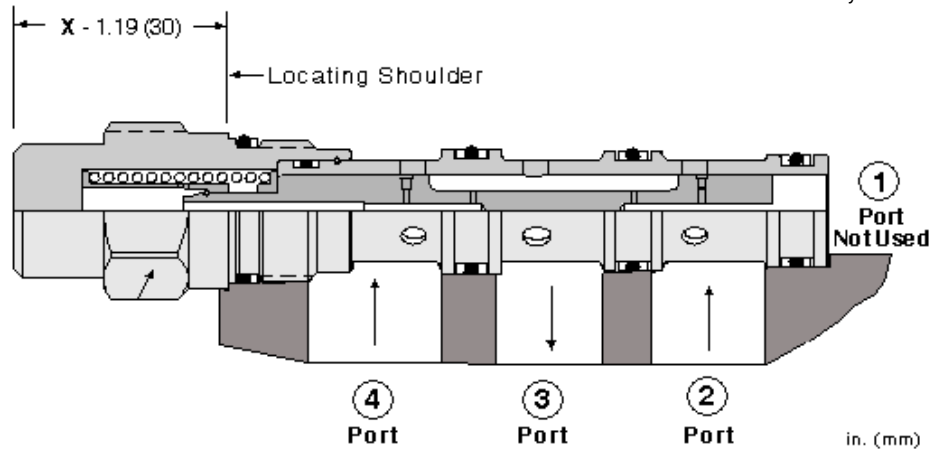
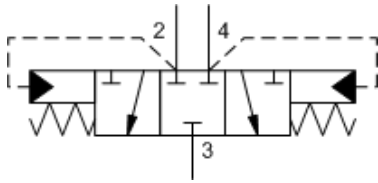
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: CDABXBN

CONTROL	(X) CRACKING PRESSURE	(B) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable A Auxiliary External -4 SAE Port B Auxiliary External 1/4 BSPP Port	B 15 psi (1 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

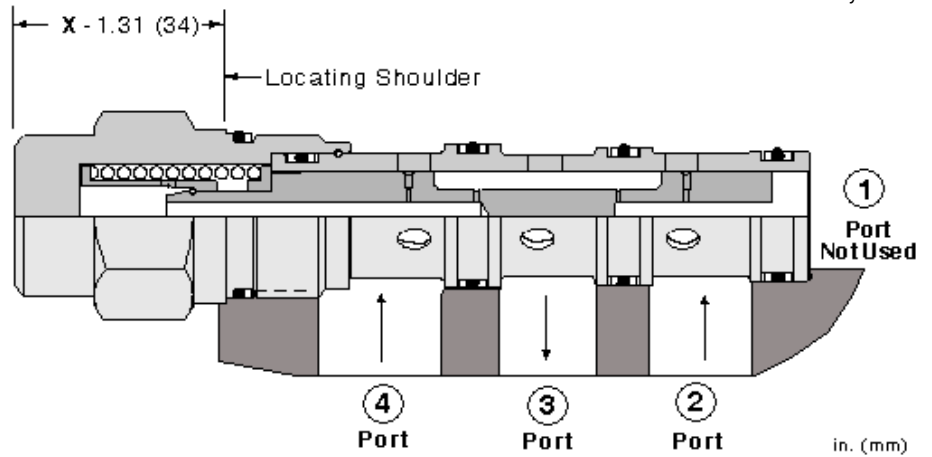
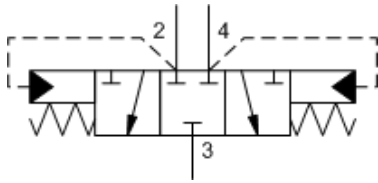
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Pilot Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

CONFIGURATION OPTIONS

Model Code Example: **DSCHXHN**

CONTROL	(X)	SHIFTING PRESSURE	(H)	SEAL MATERIAL	(N)
X Not Adjustable		H 200 psi (14 bar)		N Buna-N	
		G 150 psi (10,5 bar)		V Viton	



Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

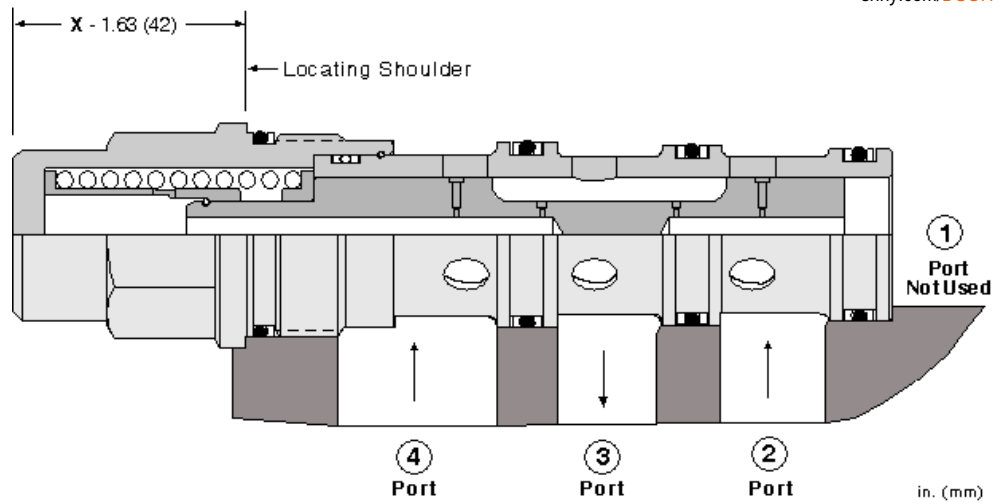
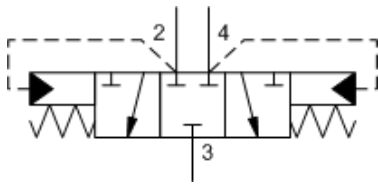
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Pilot Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

CONFIGURATION OPTIONS

Model Code Example: DSEHXHN

CONTROL	(X) SHIFTING PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	H 200 psi (14 bar) G 150 psi (10,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

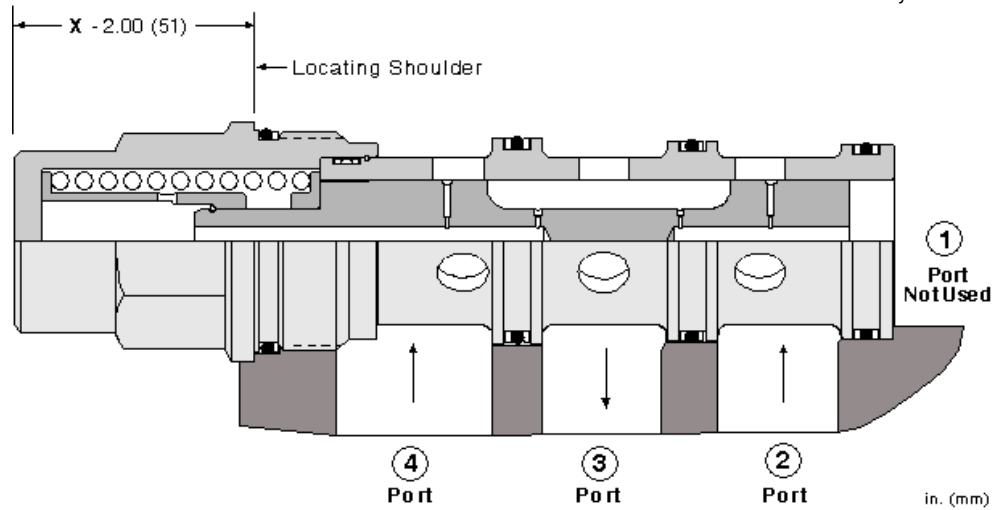
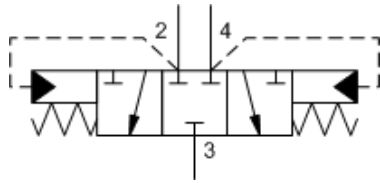
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Pilot Flow	0,75 L/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

CONFIGURATION OPTIONS

Model Code Example: DSGHXHN

CONTROL	(X) SHIFTING PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	H 200 psi (14 bar) G 150 psi (10,5 bar)	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

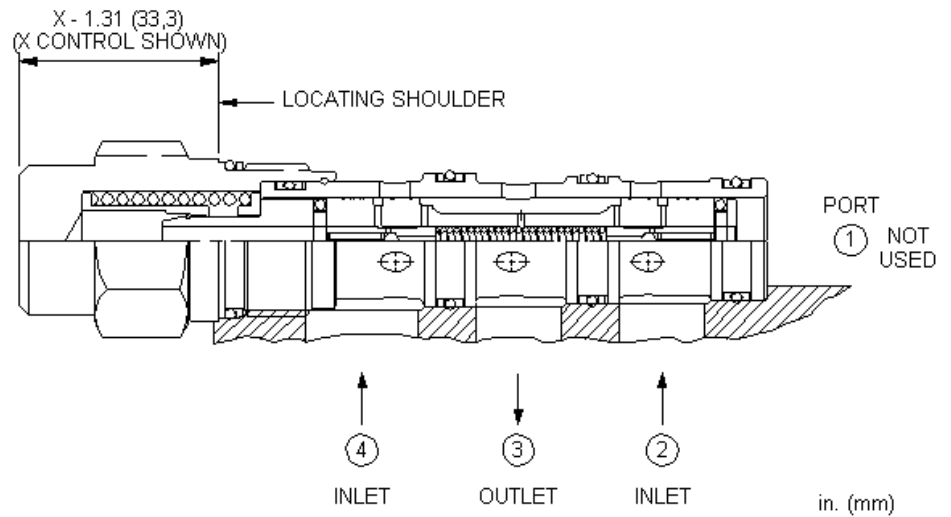
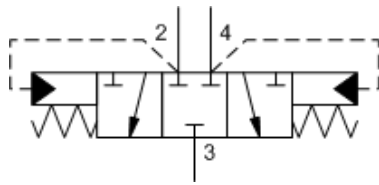
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Pilot Flow	0,75 L/min.
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

CONFIGURATION OPTIONS

Model Code Example: DSIHXHN

CONTROL	(X) SHIFTING PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	H 200 psi (14 bar) G 150 psi (10,5 bar)	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3). The delay shift shuttle prevents flow transients downstream of the hot oil circuit.

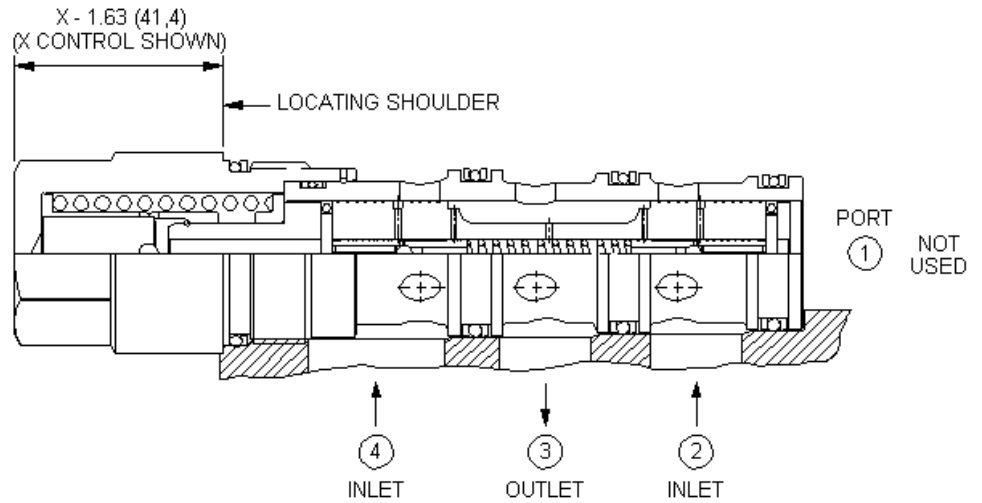
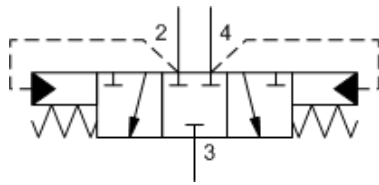
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Pilot Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

CONFIGURATION OPTIONS

Model Code Example: DSDDXEN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N V Viton	Standard Material/Coating IAP Stainless Steel, Passivated



in. (mm)

Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3). The delay shift shuttle prevents flow transients downstream of the hot oil circuit.

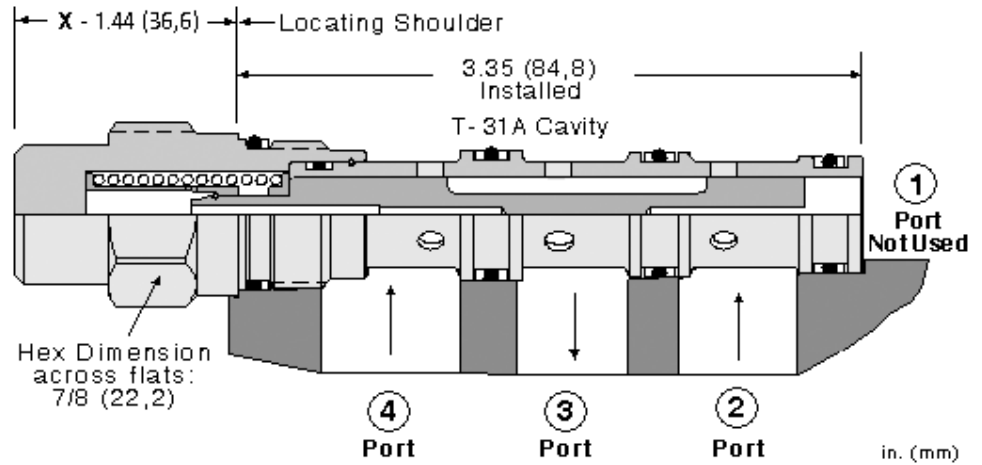
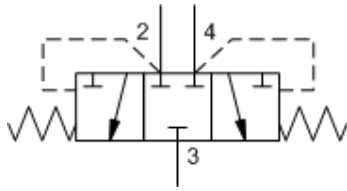
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Pilot Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

CONFIGURATION OPTIONS

Model Code Example: DSFDXEN

CONTROL	(X) SHIFTING PRESSURE	(E) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

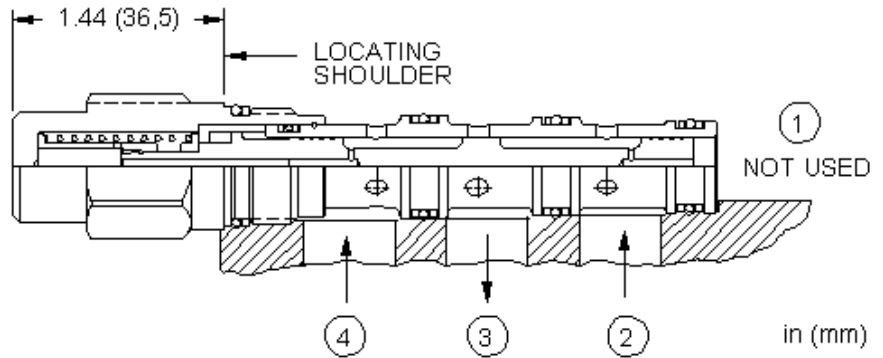
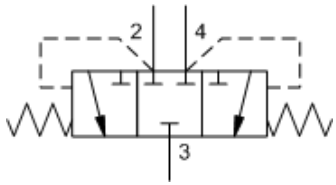
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

CONFIGURATION OPTIONS

Model Code Example: **DSCLXGN**

CONTROL	(X) SHIFTING PRESSURE	(G) SEAL MATERIAL	(N)
X Not Adjustable	G 150 psi (10,5 bar)	N Buna-N	
	C 30 psi (2 bar)	V Viton	
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

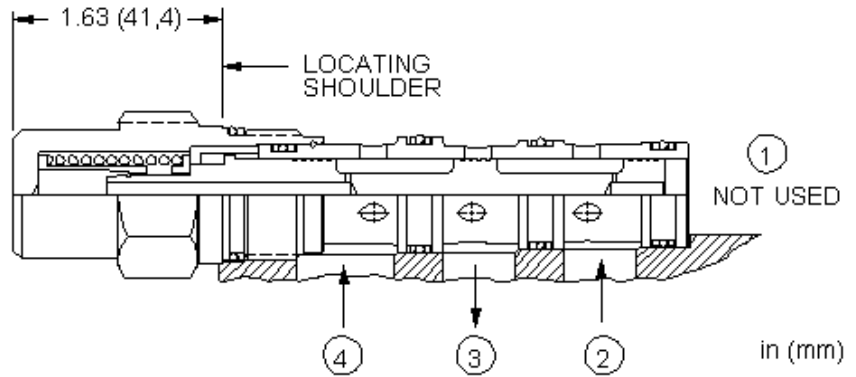
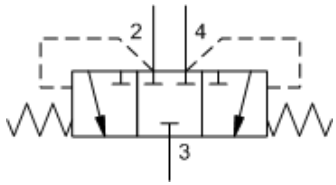
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

CONFIGURATION OPTIONS

Model Code Example: DSCSXGN

CONTROL	(X) SHIFTING PRESSURE	(G) SEAL MATERIAL	(N)
X Not Adjustable	G 150 psi (10,5 bar) C 30 psi (2 bar) E 75 psi (5 bar) F 100 psi (7 bar)	N Buna-N V Viton	



High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

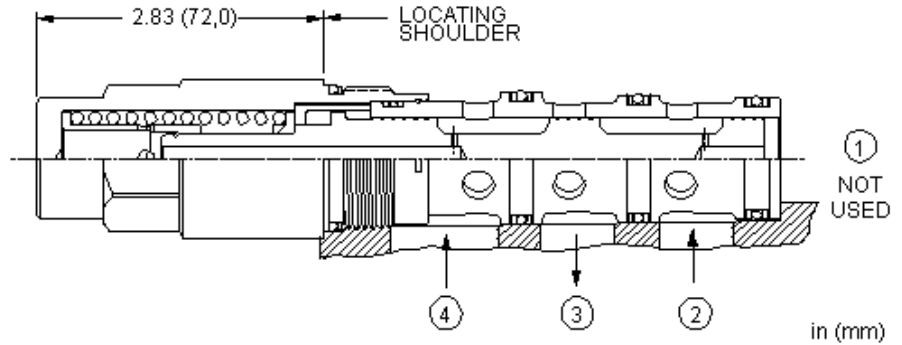
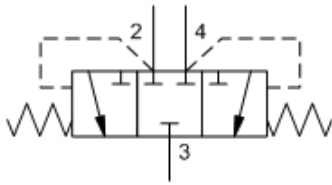
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	50 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

CONFIGURATION OPTIONS

Model Code Example: DSESXGN

CONTROL	(X) SHIFTING PRESSURE	(G) SEAL MATERIAL	(N)
X Not Adjustable	G 150 psi (10,5 bar)	N Buna-N	
	C 30 psi (2 bar)	V Viton	
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

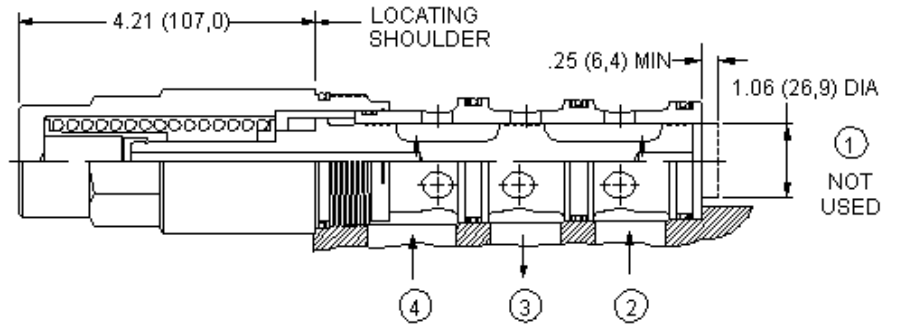
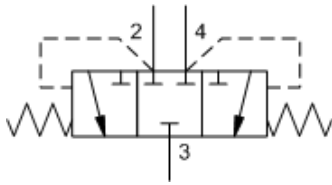
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	65 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	EPDM: 990033014
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

CONFIGURATION OPTIONS

Model Code Example: DSGSXGN

CONTROL	(X) SHIFTING PRESSURE	(G) SEAL MATERIAL	(N)
X Not Adjustable	G 150 psi (10,5 bar)	N Buna-N	
	C 30 psi (2 bar)	E EPDM	
	E 75 psi (5 bar)	V Viton	
	F 100 psi (7 bar)		



in (mm)

High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

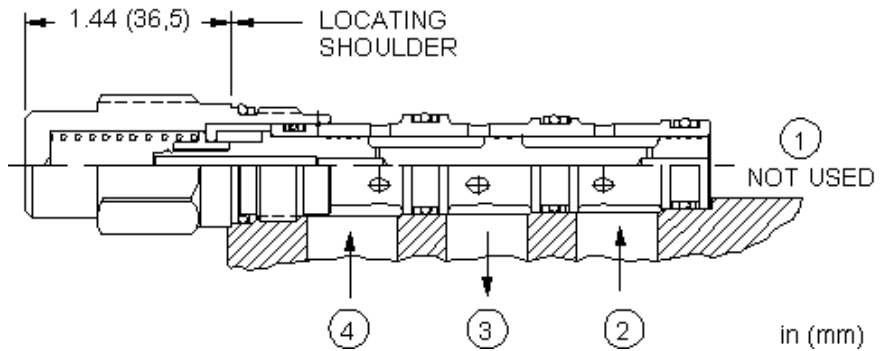
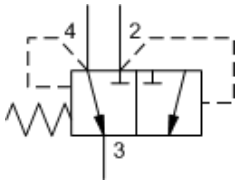
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

CONFIGURATION OPTIONS

Model Code Example: DSISXGN

CONTROL	(X) SHIFTING PRESSURE	(G) SEAL MATERIAL	(N)
X Not Adjustable	G 150 psi (10,5 bar) C 30 psi (2 bar) E 75 psi (5 bar) F 100 psi (7 bar)	N Buna-N V Viton	



Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

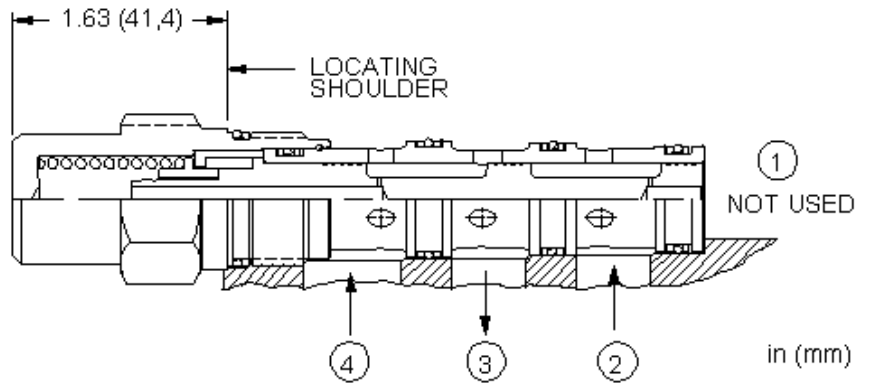
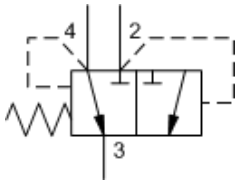
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

CONFIGURATION OPTIONS

Model Code Example: **DSCOXEN**

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar) C 30 psi (2 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

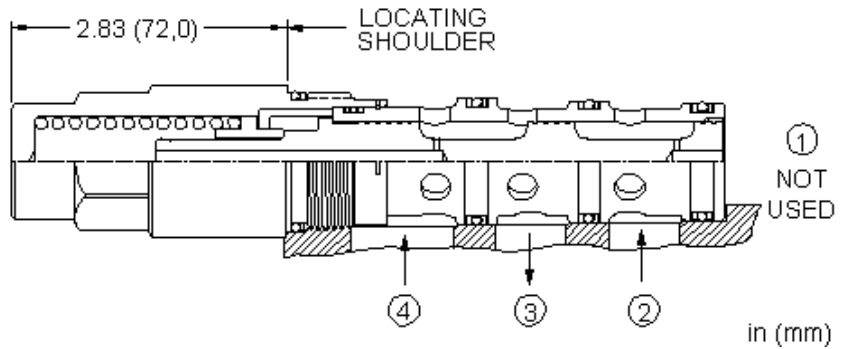
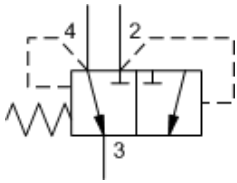
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

CONFIGURATION OPTIONS

Model Code Example: DSEOXEN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar) C 30 psi (2 bar)	N Buna-N V Viton	N Standard Material/Coating /AP Stainless Steel, Passivated



Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

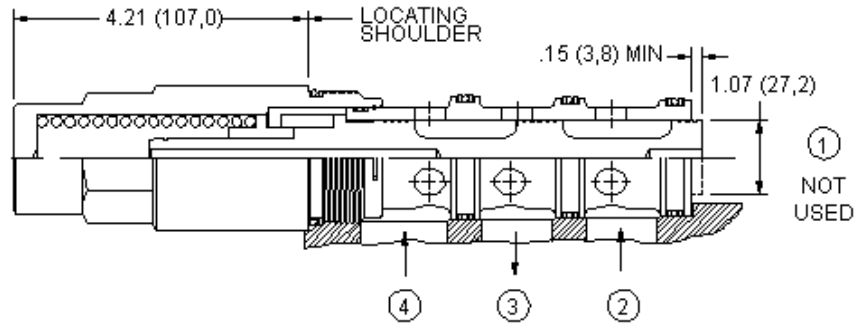
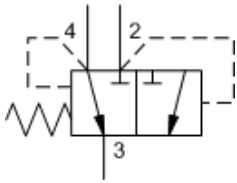
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

CONFIGURATION OPTIONS

Model Code Example: **DSGOXEN**

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar) C 30 psi (2 bar)	N Buna-N V Viton	



Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

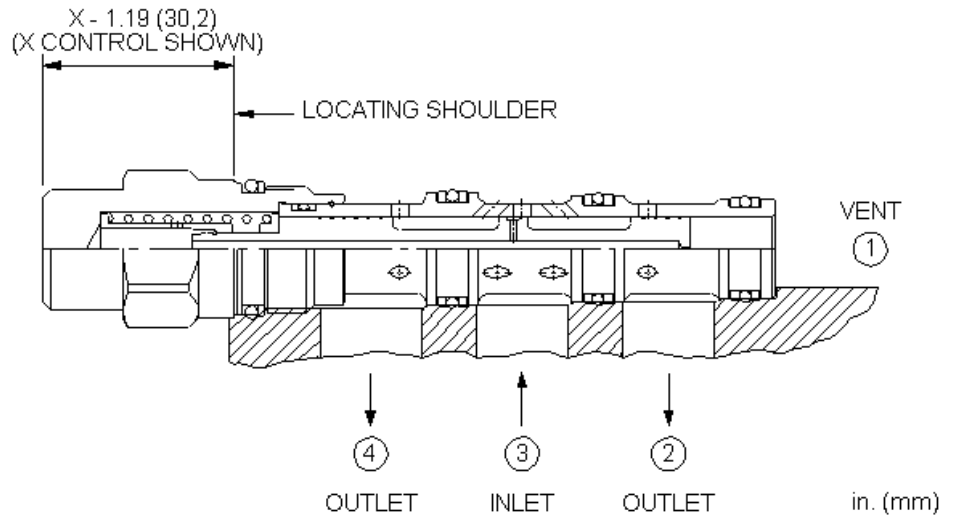
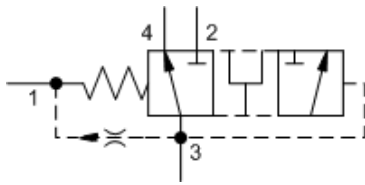
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

CONFIGURATION OPTIONS

Model Code Example: DSIOXEN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar) C 30 psi (2 bar)	N Buna-N V Viton	



This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

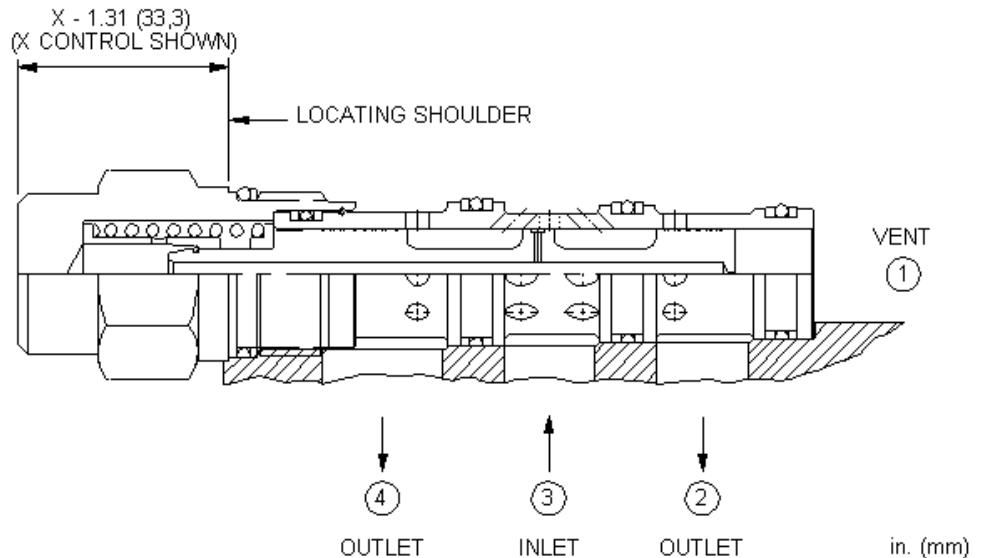
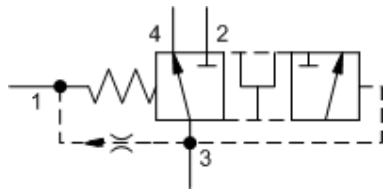
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

CONFIGURATION OPTIONS

Model Code Example: **DSCYXEN**

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	
	C 30 psi (2 bar)	V Viton	
	D 50 psi (3,5 bar)		



This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

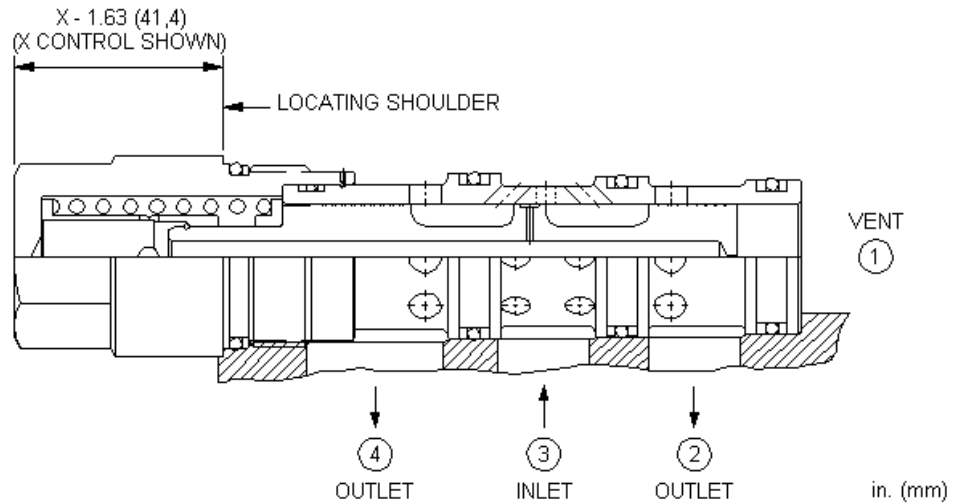
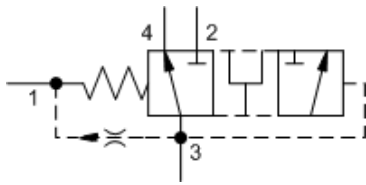
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

CONFIGURATION OPTIONS

Model Code Example: **DSEYXEN**

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar) C 30 psi (2 bar) D 50 psi (3,5 bar)	N Buna-N V Viton	N Standard Material/Coating /AP Stainless Steel, Passivated



This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

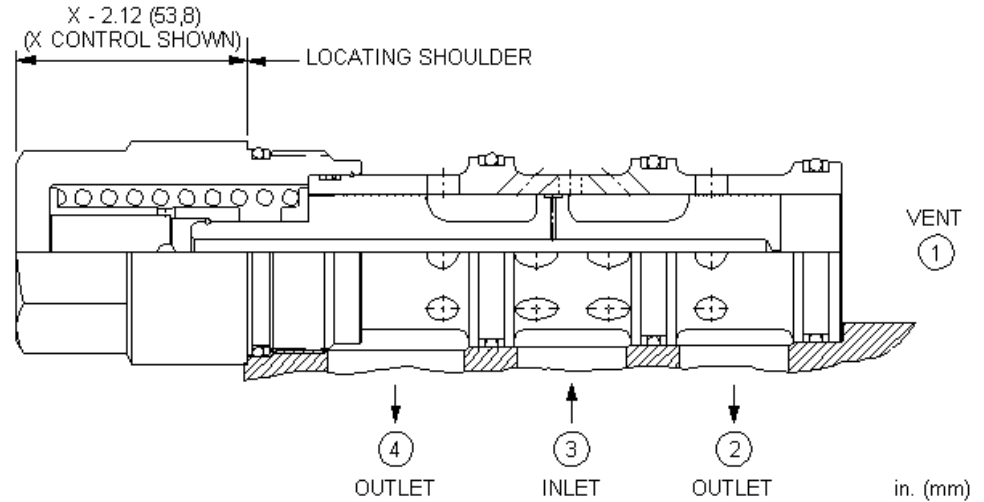
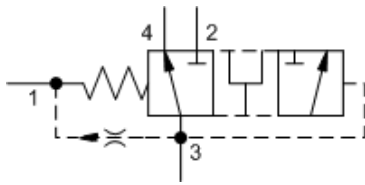
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,60 L/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

CONFIGURATION OPTIONS

Model Code Example: DSGYXEN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	
	C 30 psi (2 bar)	V Viton	
	D 50 psi (3,5 bar)		



This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

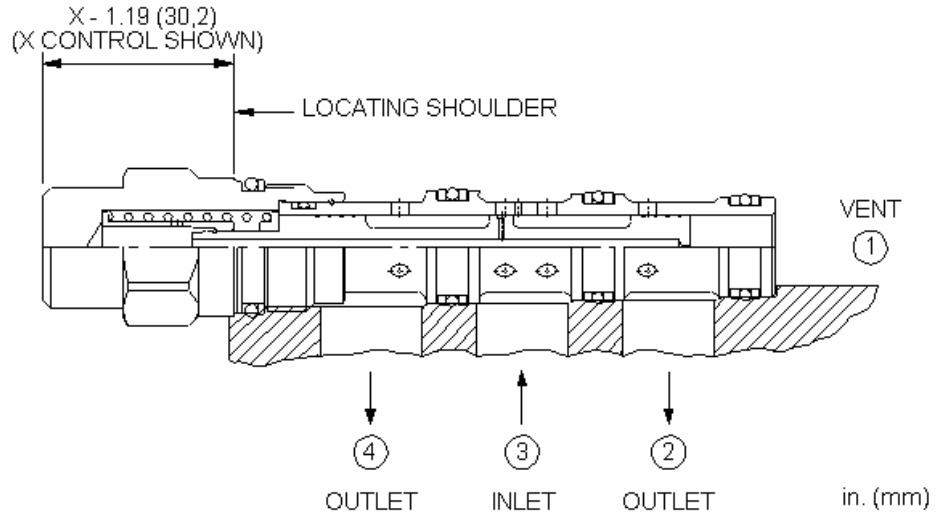
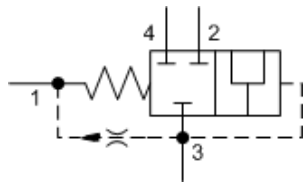
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,60 L/min.
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

CONFIGURATION OPTIONS

Model Code Example: DSIYXEN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar) C 30 psi (2 bar) D 50 psi (3,5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

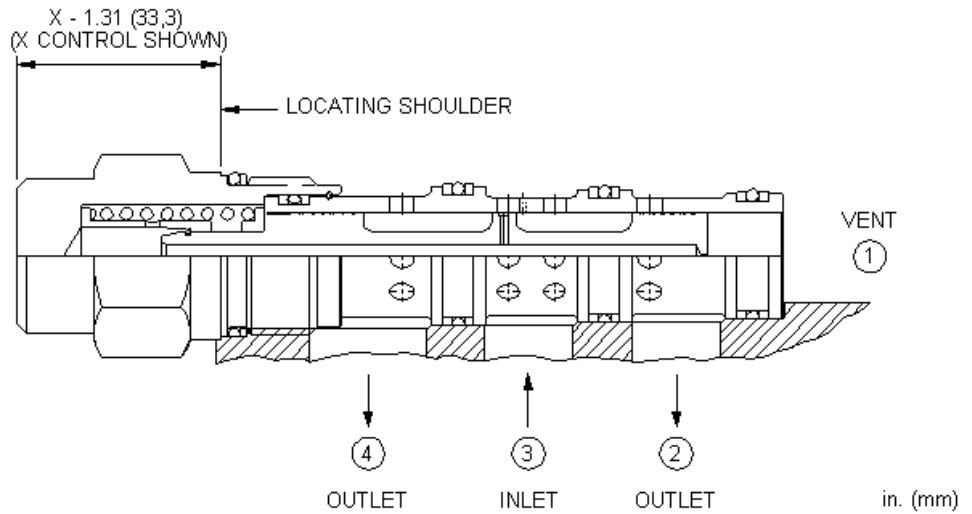
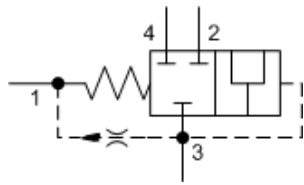
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

CONFIGURATION OPTIONS

Model Code Example: DSCXXEN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar) C 30 psi (2 bar) D 50 psi (3,5 bar)	N Buna-N V Viton	



This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

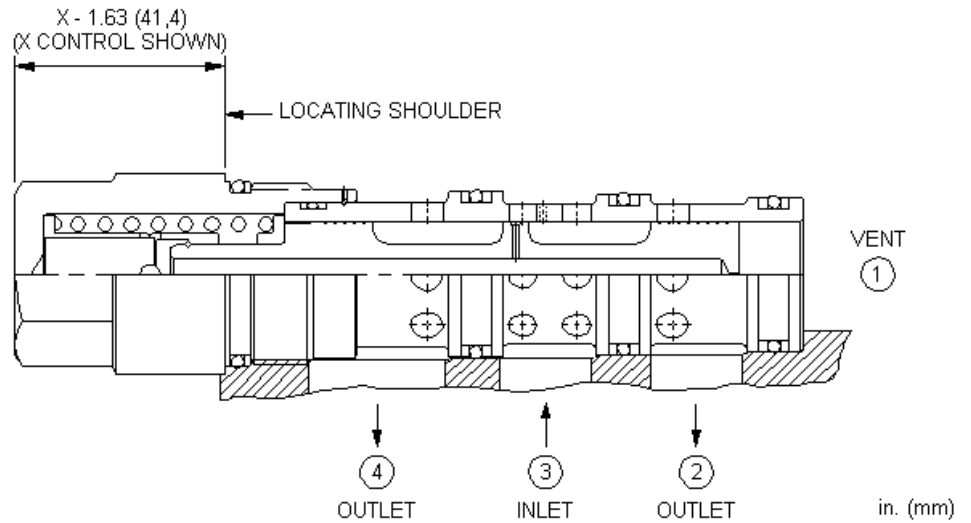
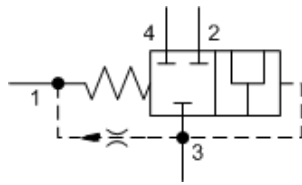
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

CONFIGURATION OPTIONS

Model Code Example: DSEXEN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	
	C 30 psi (2 bar)	V Viton	
	D 50 psi (3,5 bar)		



This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

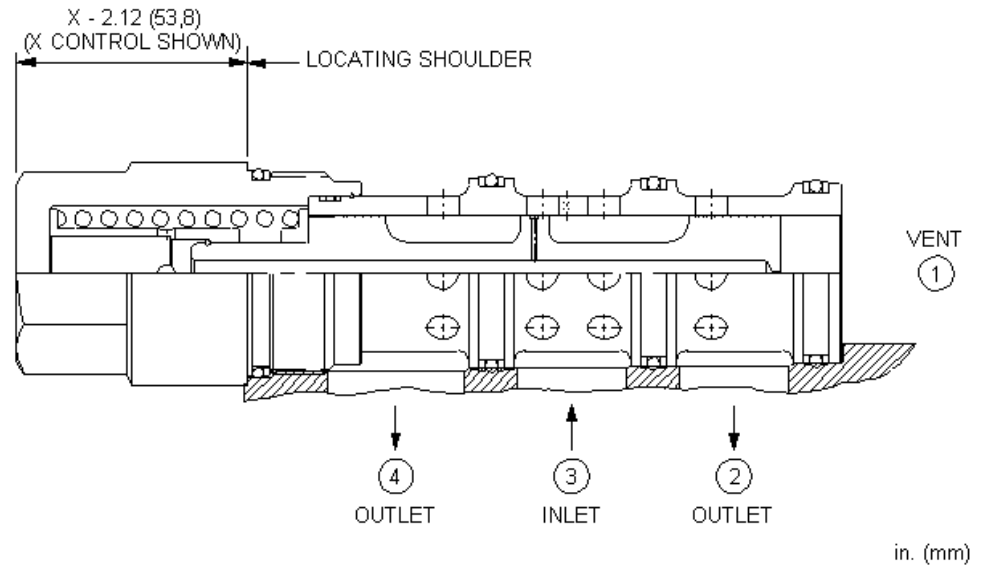
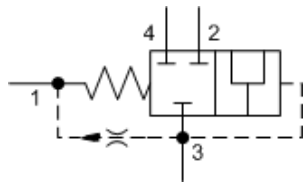
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,60 L/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

CONFIGURATION OPTIONS

Model Code Example: **DSGXEN**

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar) C 30 psi (2 bar) D 50 psi (3,5 bar)	N Buna-N V Viton	



This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

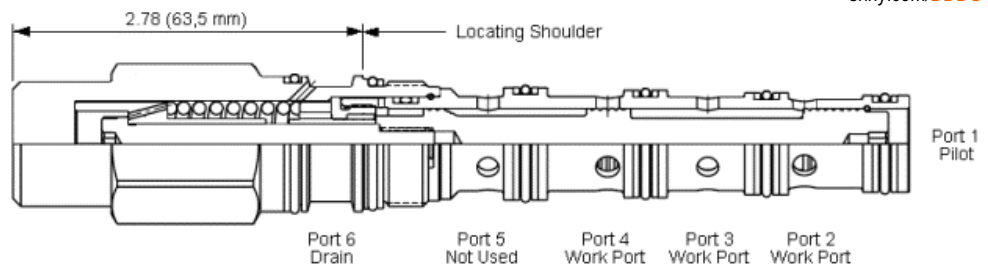
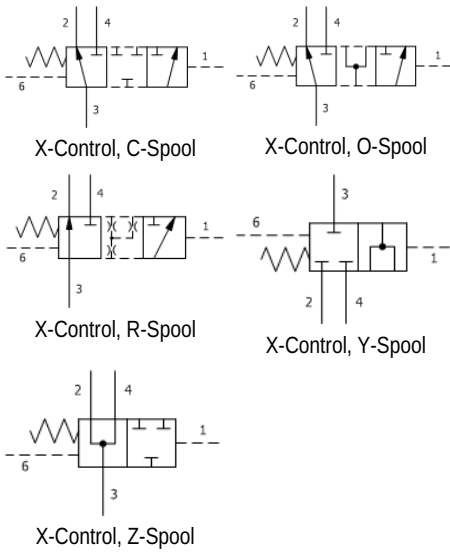
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,60 L/min.
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

CONFIGURATION OPTIONS

Model Code Example: **DSIXXEN**

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar) C 30 psi (2 bar) D 50 psi (3,5 bar)	N Buna-N V Viton	



Two-position, 3-way directional cartridges are 6-port (port 5 is not used) directional valves that can be configured with up to 5 different spool configurations. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

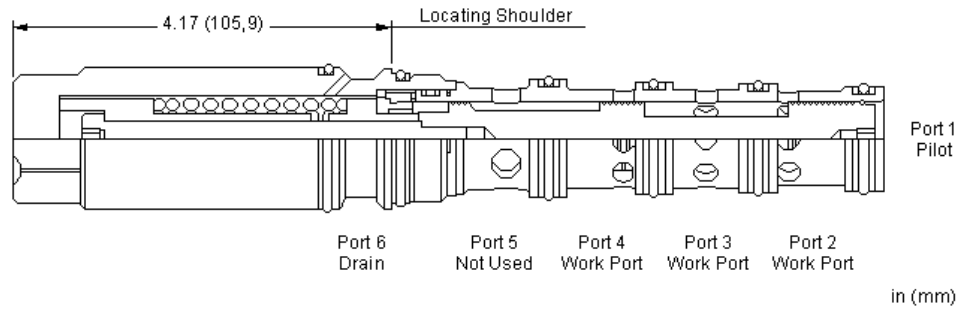
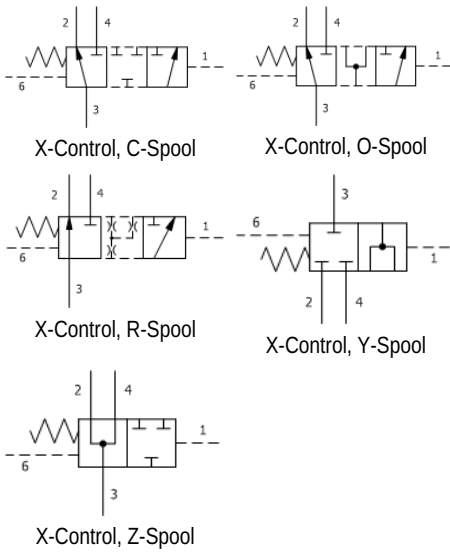
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	10 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min. @70 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

CONFIGURATION OPTIONS

Model Code Example: DDDGXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C Closed Crossover O Open Crossover R Restricted Crossover Y All Ports Blocked Z All Ports Open	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Two-position, 3-way directional cartridges are 6-port (port 5 is not used) directional valves that can be configured with up to 5 different spool configurations. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

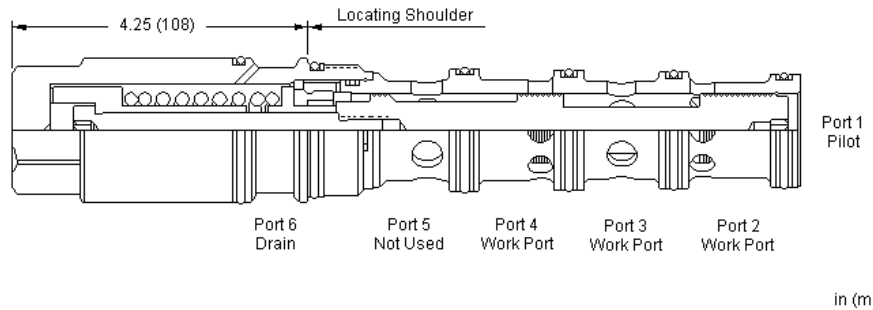
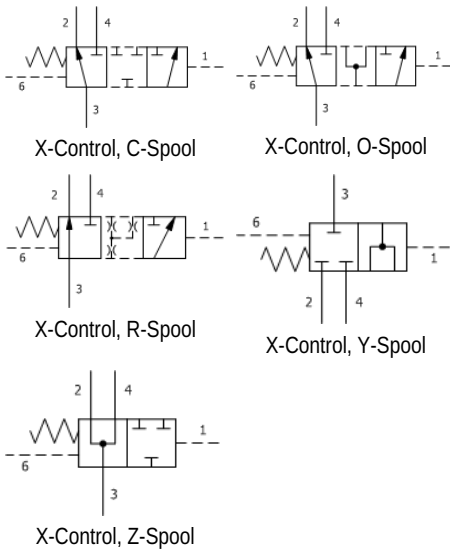
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	11 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	2,1 cc
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

CONFIGURATION OPTIONS

Model Code Example: DDFGXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C Closed Crossover O Open Crossover R Restricted Crossover Y All Ports Blocked Z All Ports Open	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Two-position, 3-way directional cartridges are 6-port (port 5 is not used) directional valves that can be configured with up to 5 different spool configurations. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

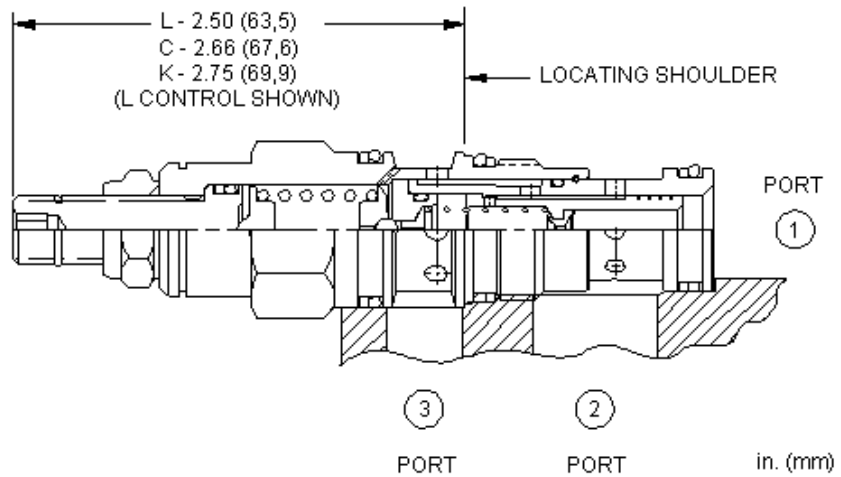
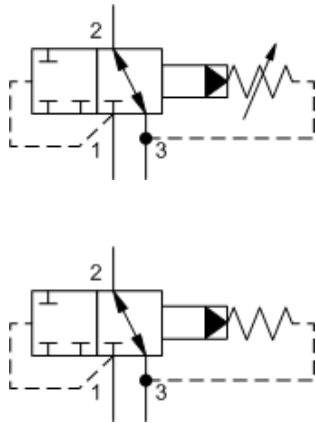
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	20 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	50 cc/min.@70 bar
Pilot Volume Displacement	4,4 cc
Seal kit - Cartridge	Buna: 990054007
Seal kit - Cartridge	Polyurethane: 990054002
Seal kit - Cartridge	Viton: 990054006

CONFIGURATION OPTIONS

Model Code Example: DDHGXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Closed Crossover		N Buna-N	
		O Open Crossover		V Viton	
		R Restricted Crossover			
		Y All Ports Blocked			
		Z All Ports Open			



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

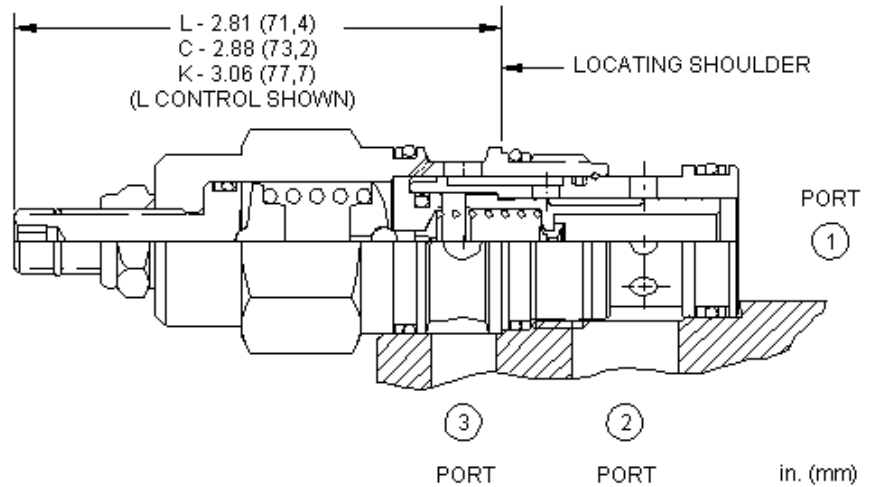
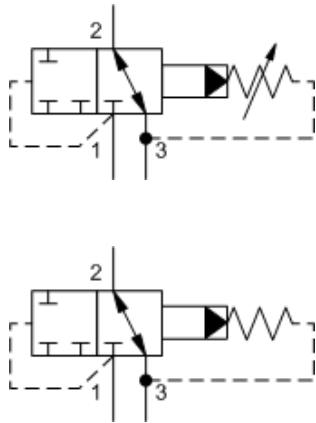
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - 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

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



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

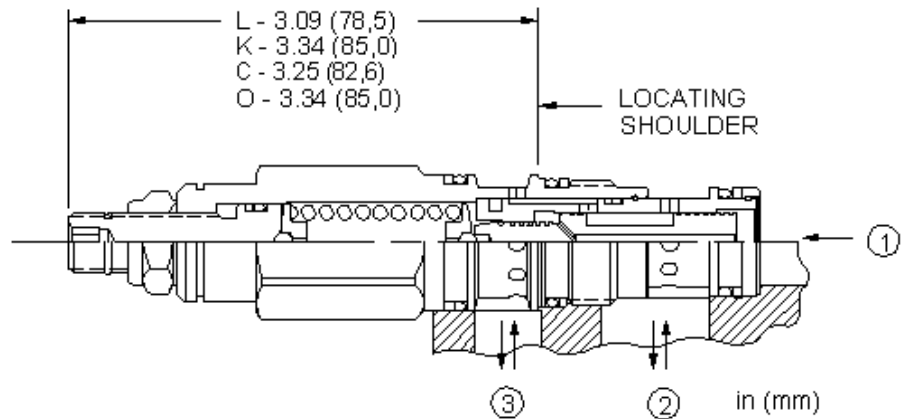
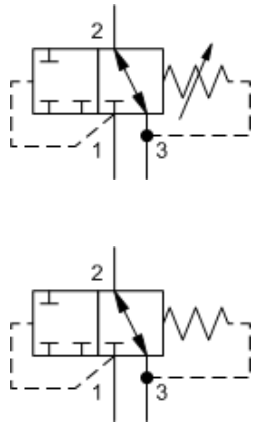
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - 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
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	IAP Stainless Steel, Passivated
K Handknob	C 150 - 6000 psi (10,5 - 420 bar), 3000 psi (210 bar) Standard Setting		
O Handknob with Panel Mount	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 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

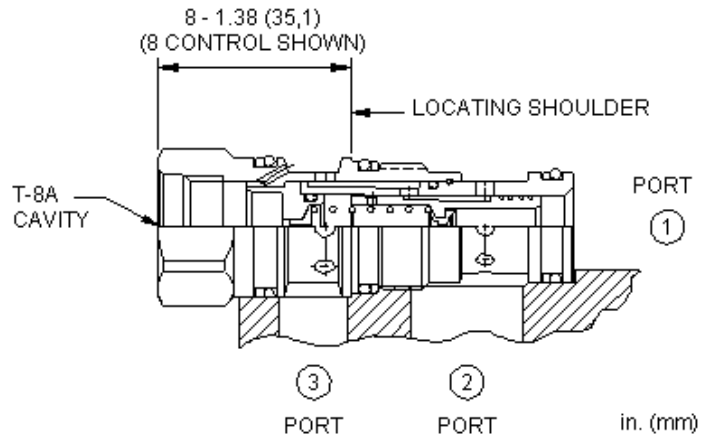
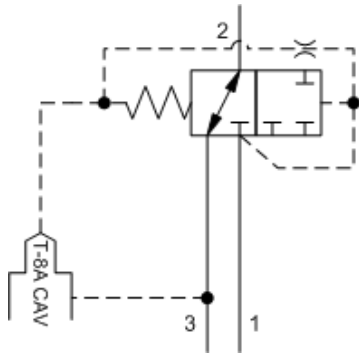
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	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
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	IAP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting		



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

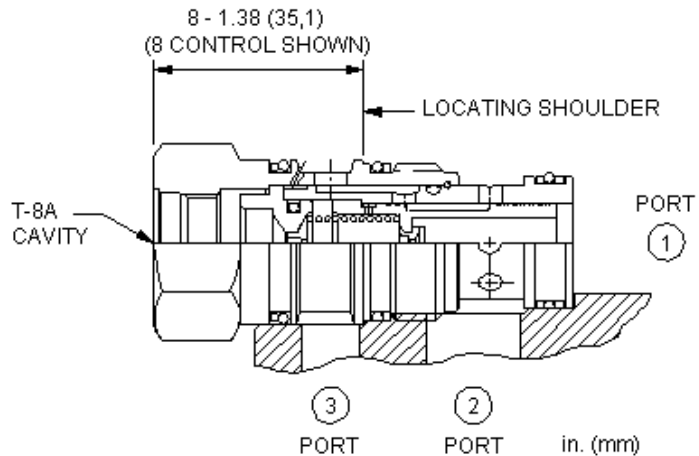
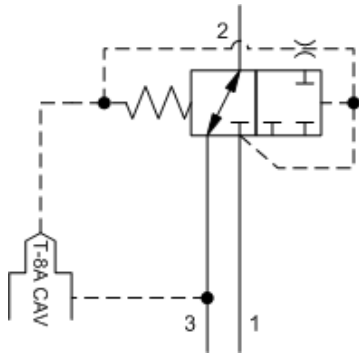
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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

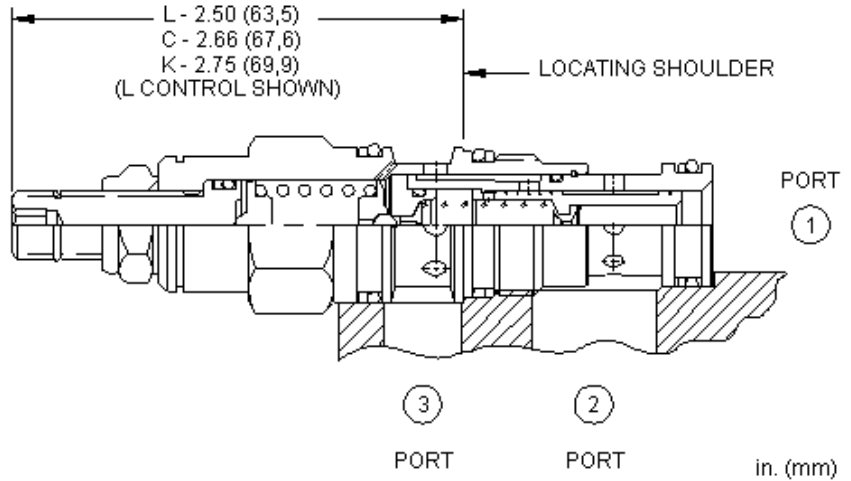
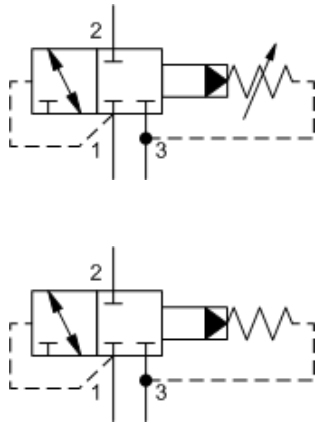
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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

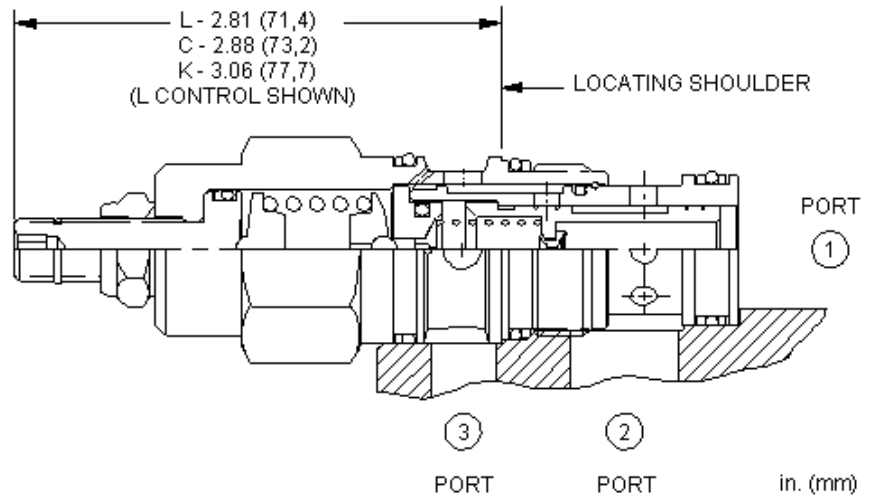
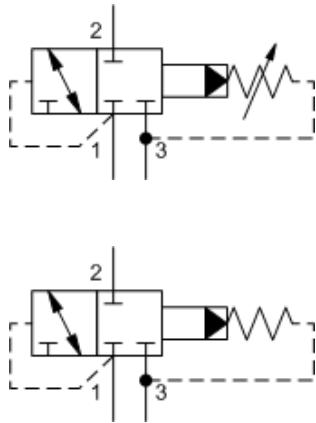
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - 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
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	IAP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



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

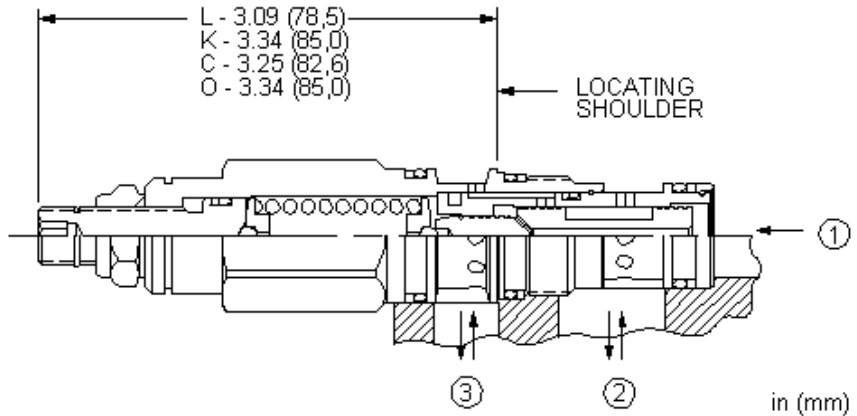
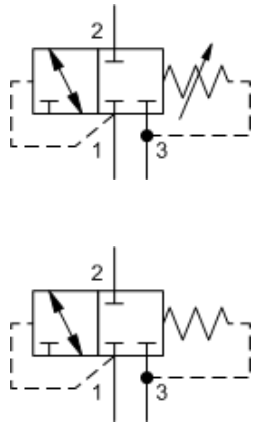
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min. @70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - 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
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,3 - 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

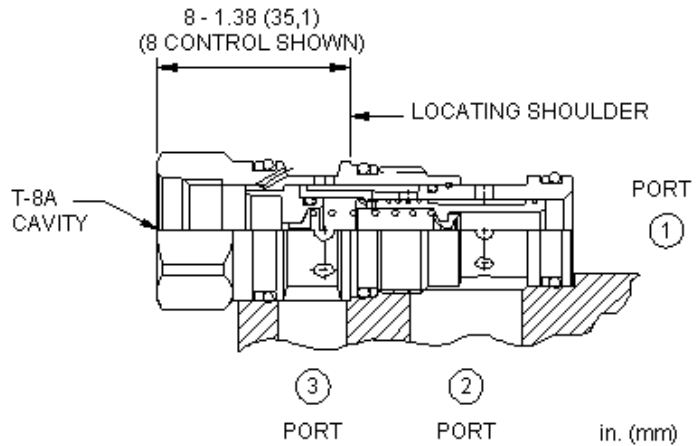
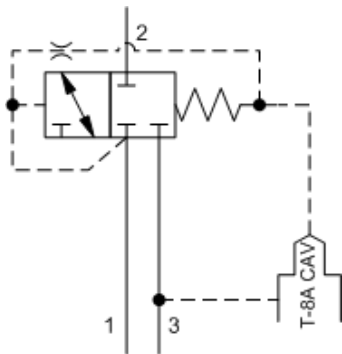
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	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
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting		



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

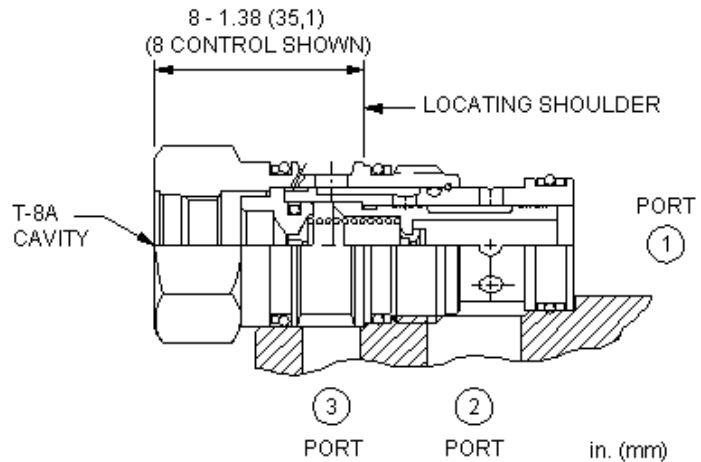
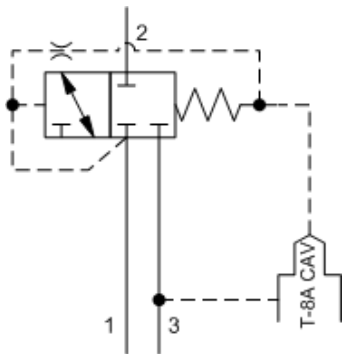
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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

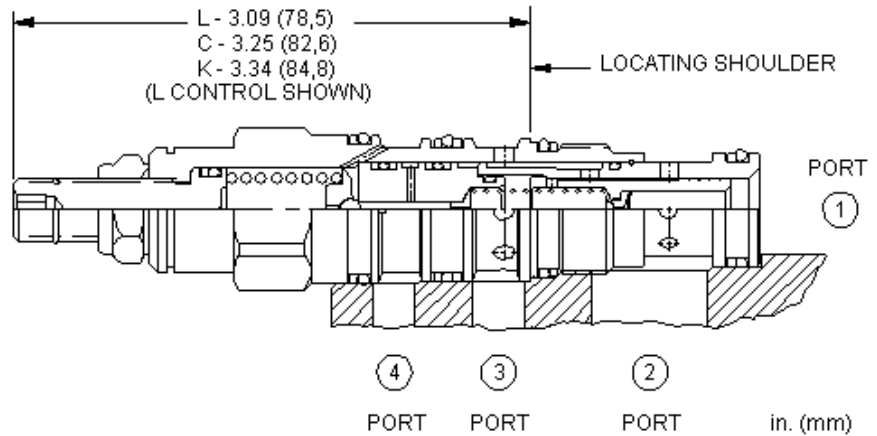
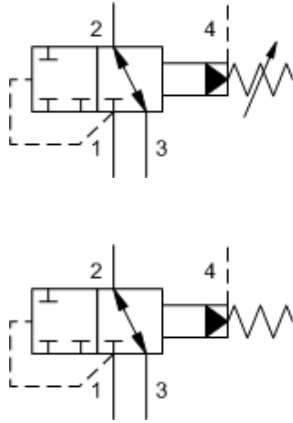
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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.

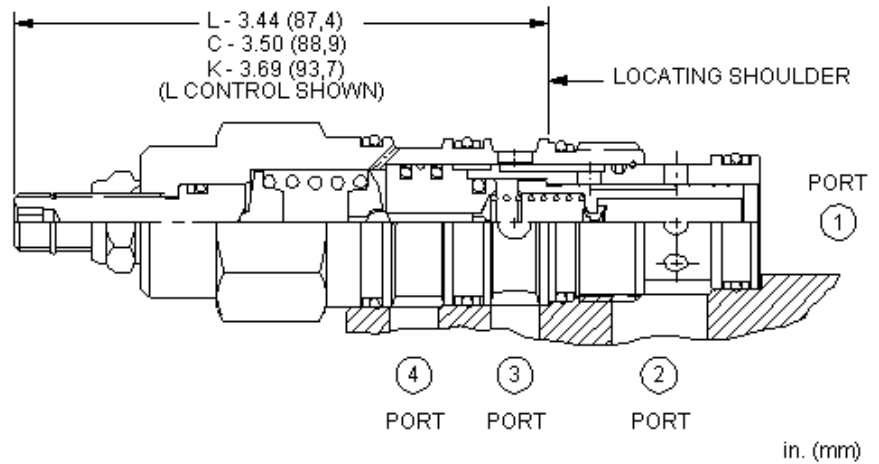
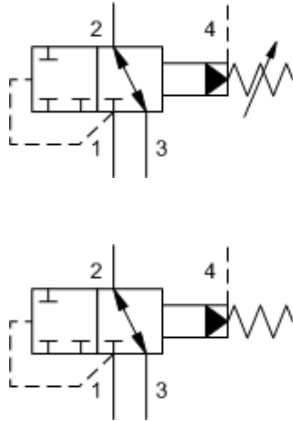
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase 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)
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



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.

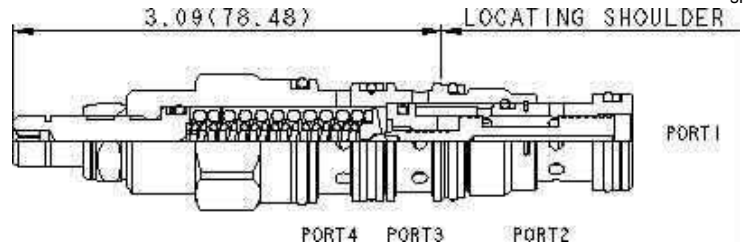
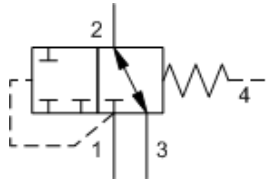
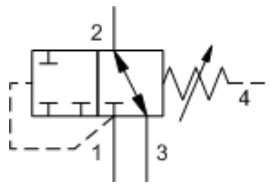
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase 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)
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



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

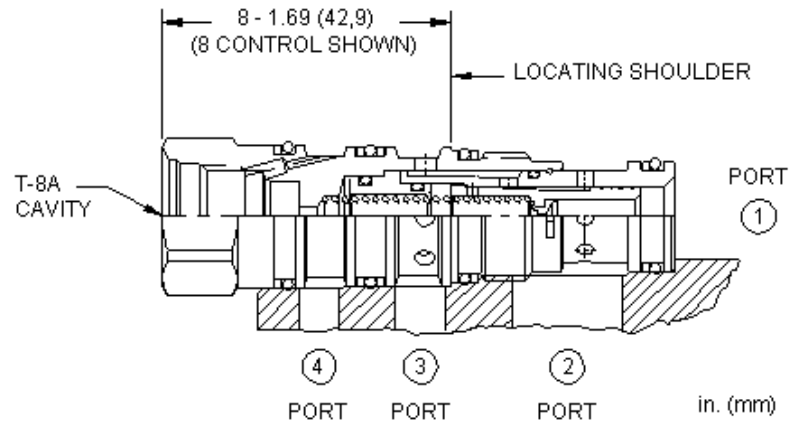
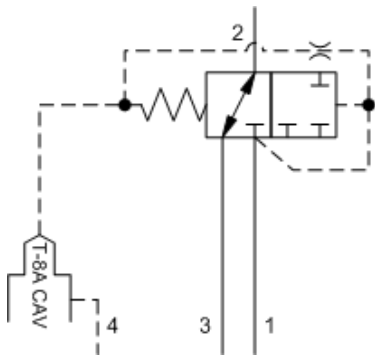
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	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)
L Standard Screw Adjustment	A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set		V Viton	
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting		
O Handknob with Panel Mount	D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting		
	W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting		



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

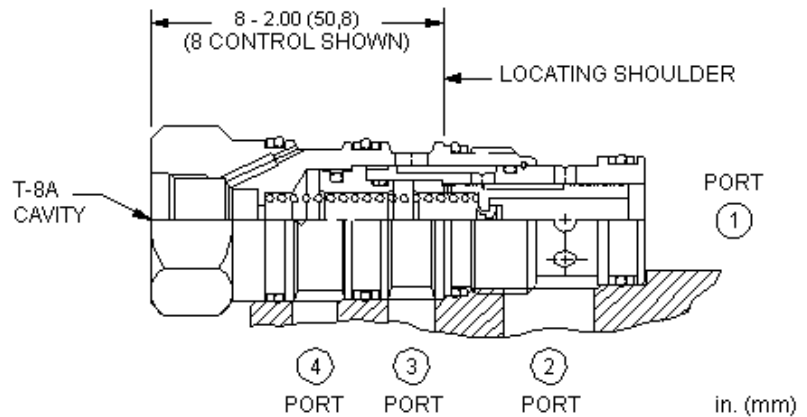
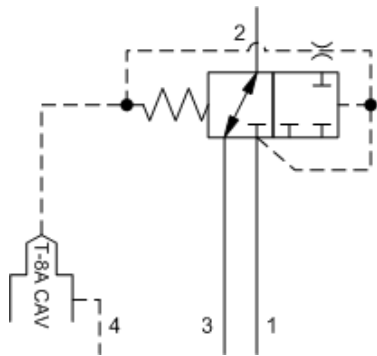
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

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

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

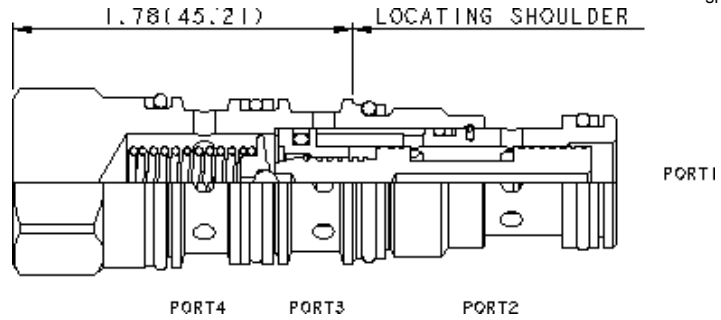
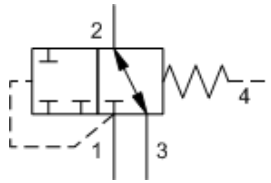
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

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)
8 T-8A Cavity	F 100 psi (7 bar)	N Buna-N V 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.

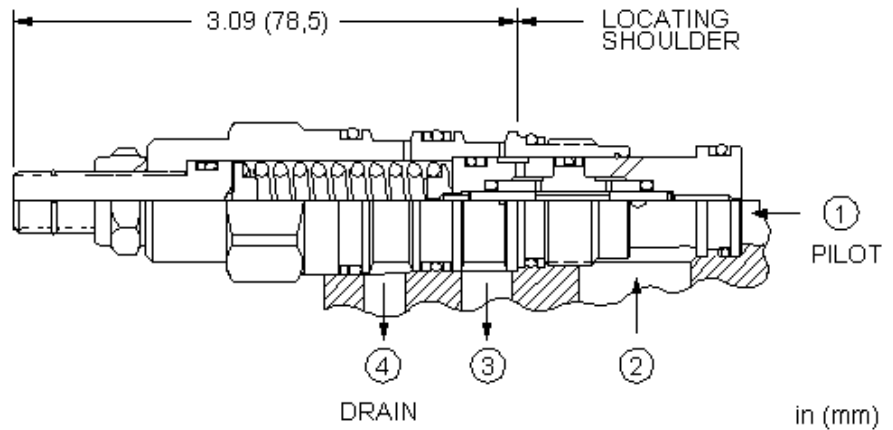
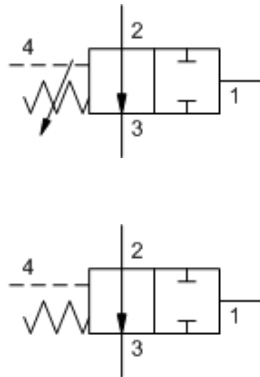
TECHNICAL DATA

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

SHIFTING PRESSURE	(F)	SEAL MATERIAL	(N)
F 100 psi (7 bar)		N Buna-N	
		V 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.

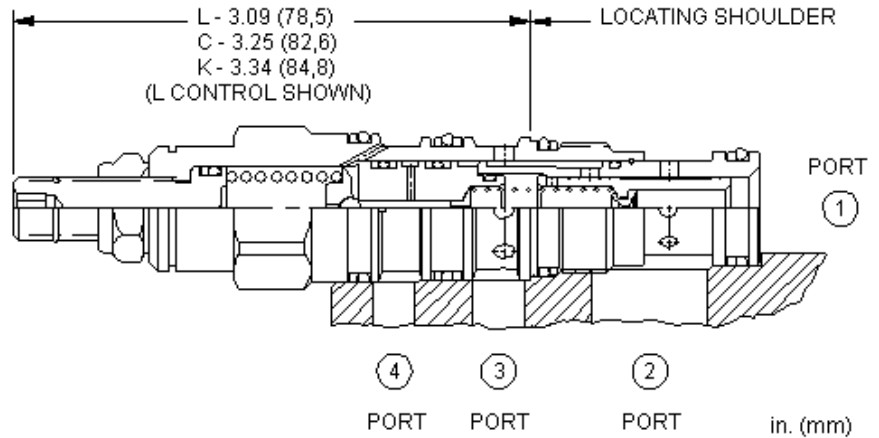
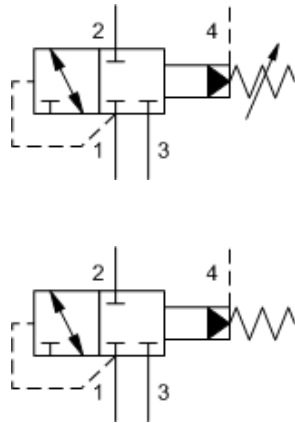
TECHNICAL DATA

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
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



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.

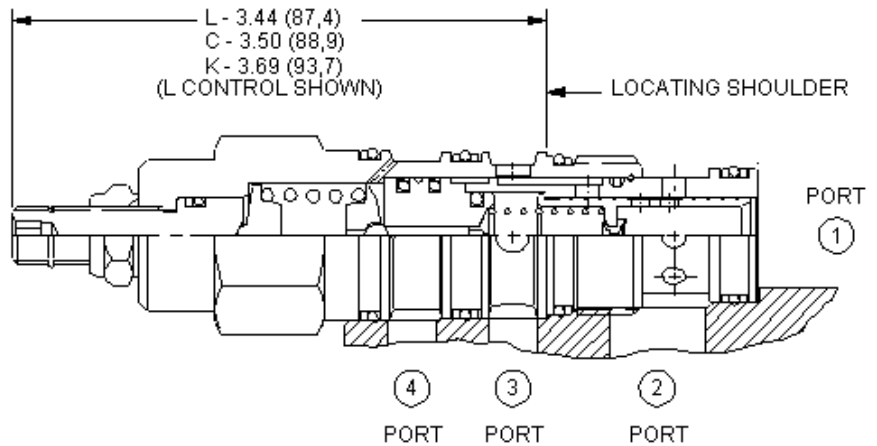
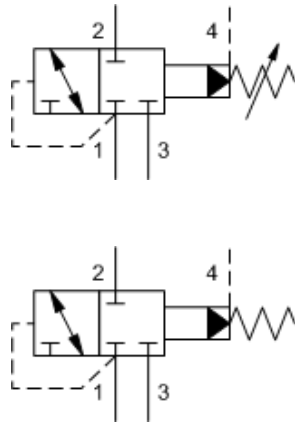
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase 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)
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	J 25 - 1500 psi (1,7 - 105 bar), 1000 psi (70 bar) Standard Setting		
	W 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.

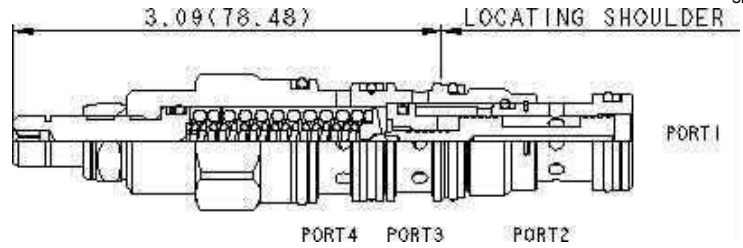
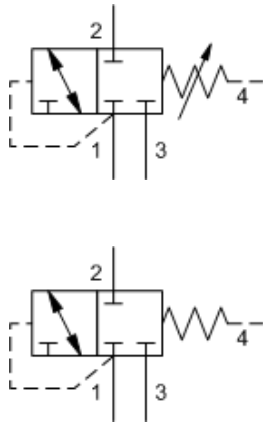
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase 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)
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



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

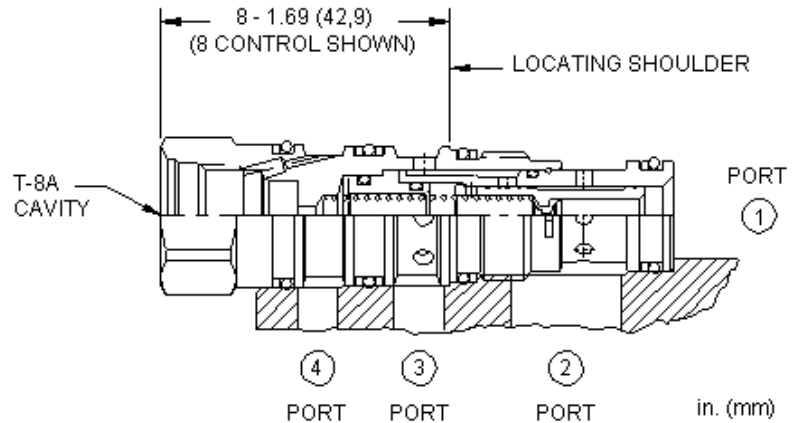
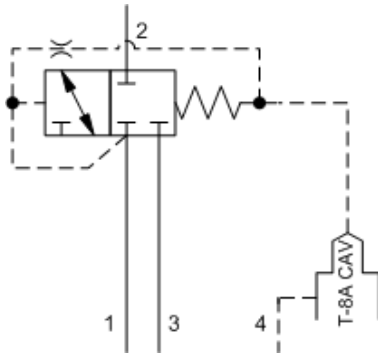
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	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: DRBNLAN

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



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

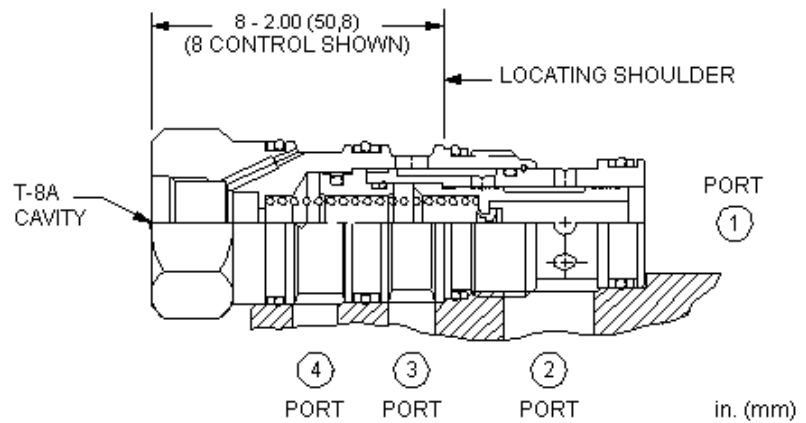
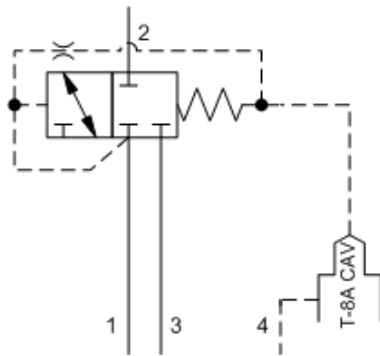
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

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

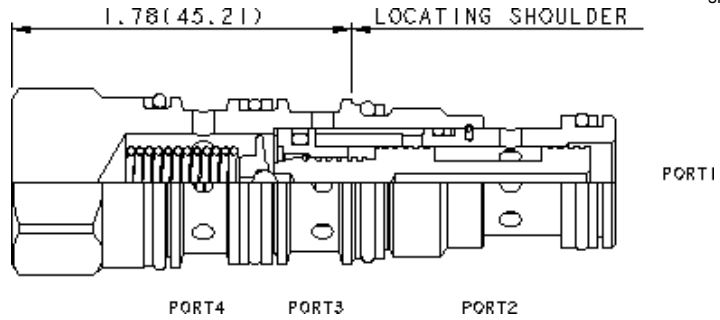
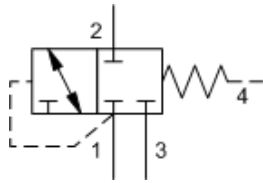
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

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.

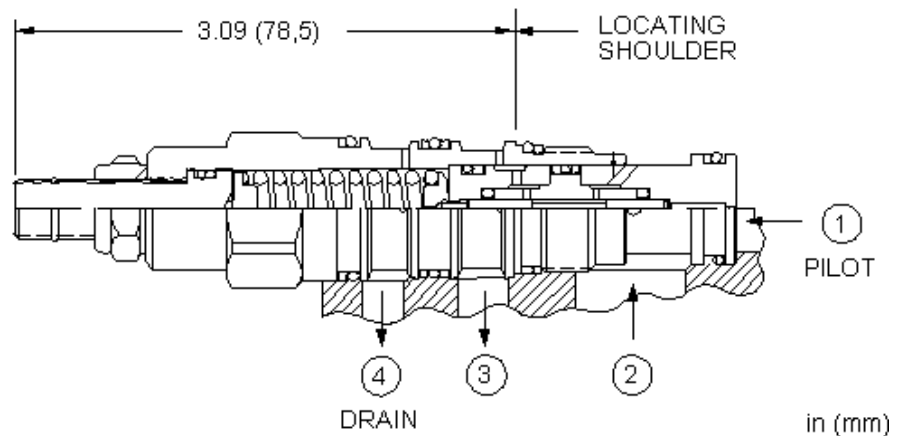
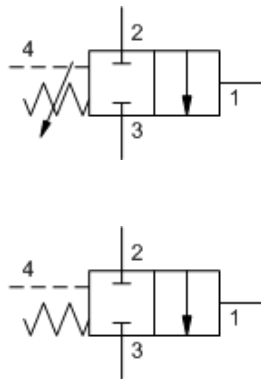
TECHNICAL DATA

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)
F 100 psi (7 bar)		N Buna-N	
		V 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.

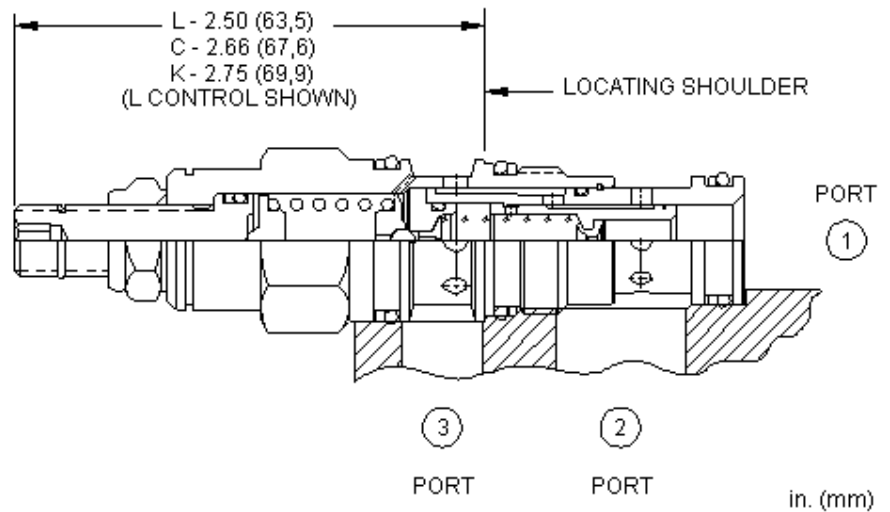
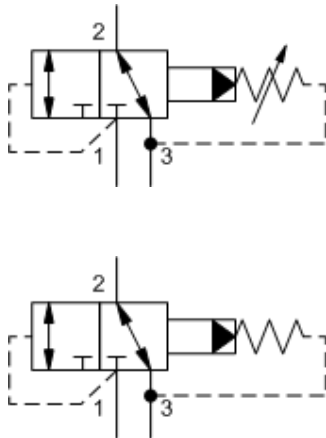
TECHNICAL DATA

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	IAP Stainless Steel, Passivated



Pilot-operated, 3-way directional cartridges (1 blocked, 2 to 3 open) 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

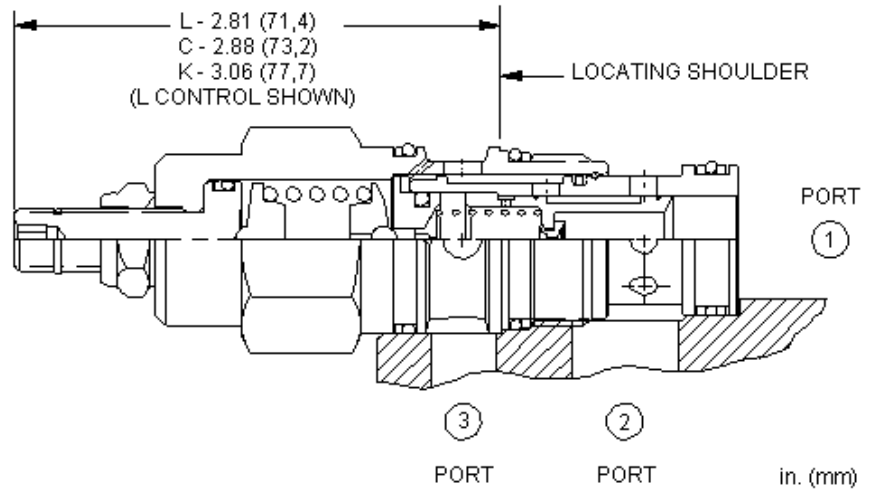
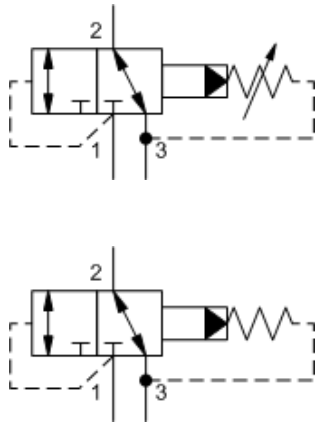
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - 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: DPBCLAN

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



Pilot-operated, 3-way directional cartridges (1 blocked, 2 to 3 open) 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

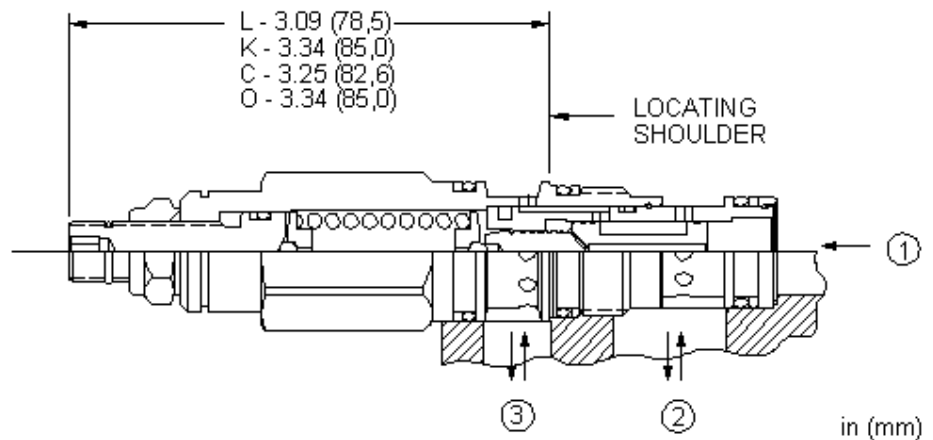
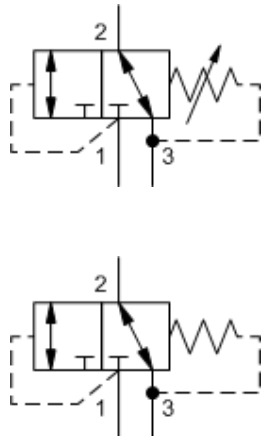
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - 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: DPCCLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	H 35 - 3000 psi (2,4 - 210 bar), 1000 psi (70 bar) Standard Setting		
	W 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting		



Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) 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

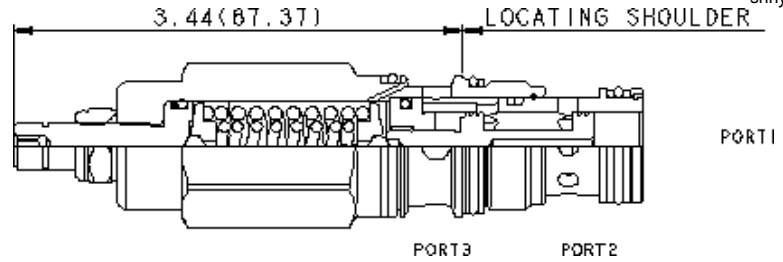
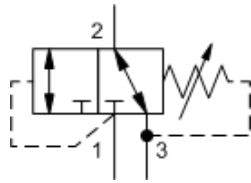
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	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: DRBCLAN

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



Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) 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.

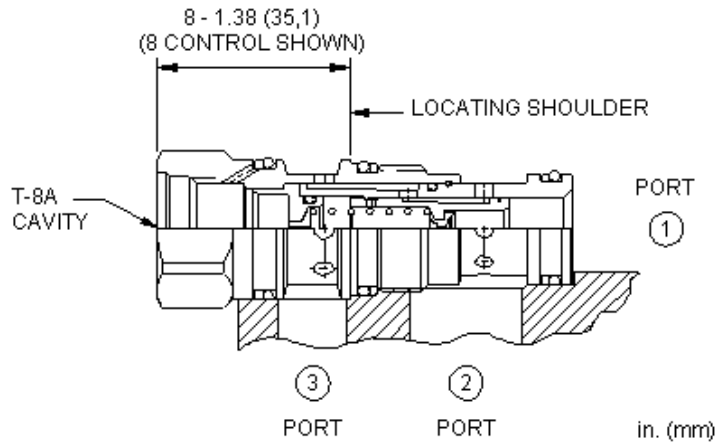
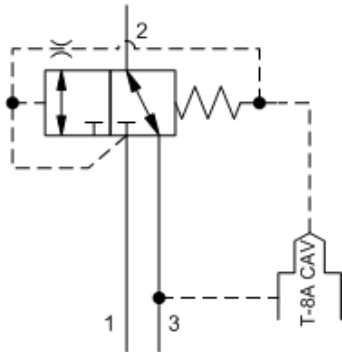
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Polyurethane: 990002002

CONFIGURATION OPTIONS

Model Code Example: DRCCLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	<p>A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting</p> <p>B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting</p> <p>D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting</p> <p>E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting</p> <p>S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting</p>	<p>N Buna-N</p> <p>V Viton</p>	<p>Standard Material/Coating</p> <p>/LH Mild Steel, Zinc-Nickel</p>



This valve is a 3-way directional cartridge (1 blocked, 2 to 3 open) 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

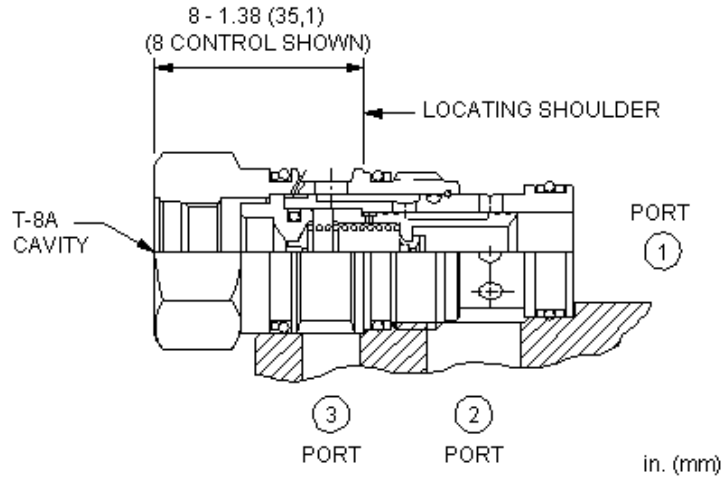
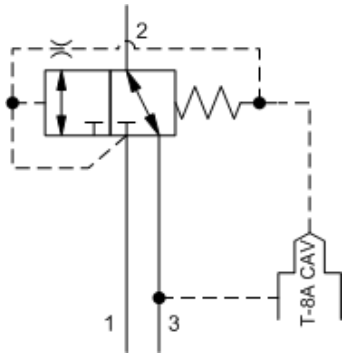
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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: DVBC8FN

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 3-way directional cartridge (1 blocked, 2 to 3 open) 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

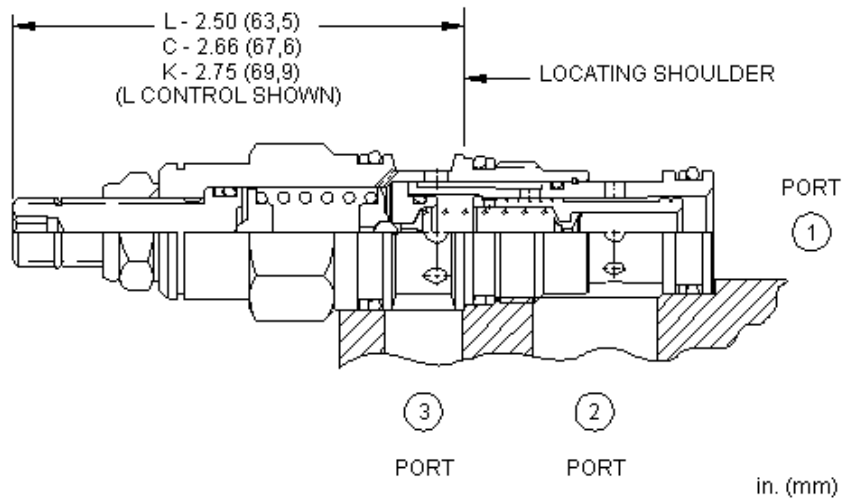
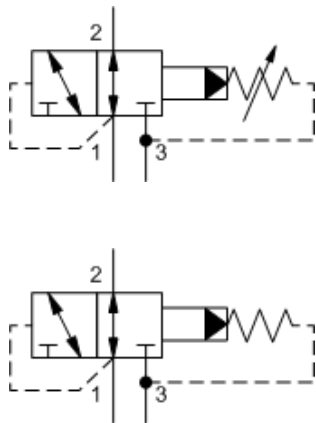
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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: DVCC8FN

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



Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) 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.

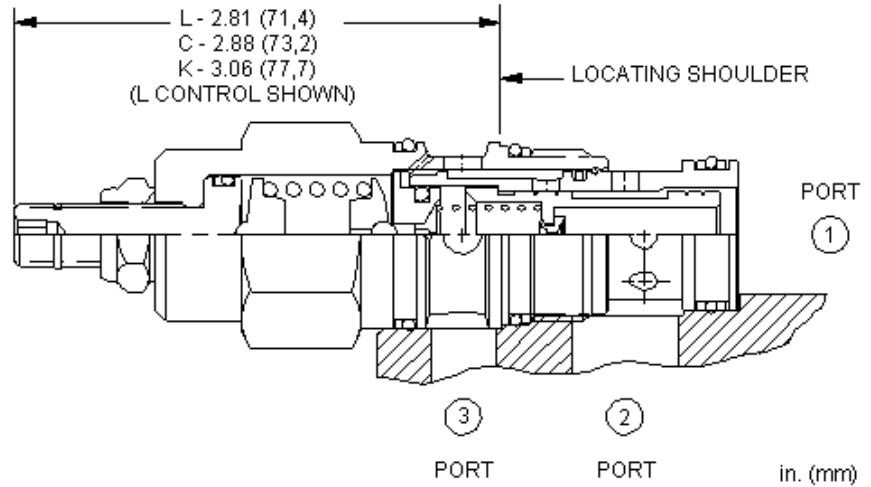
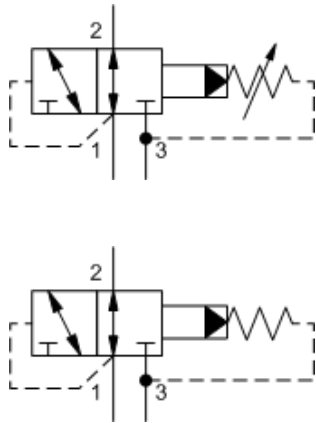
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase 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

CONFIGURATION OPTIONS

Model Code Example: DPBDLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	K 75 - 1500 psi (5 - 105 bar), 1000 psi (70 bar) Standard Setting		
	W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting		



Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) 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.

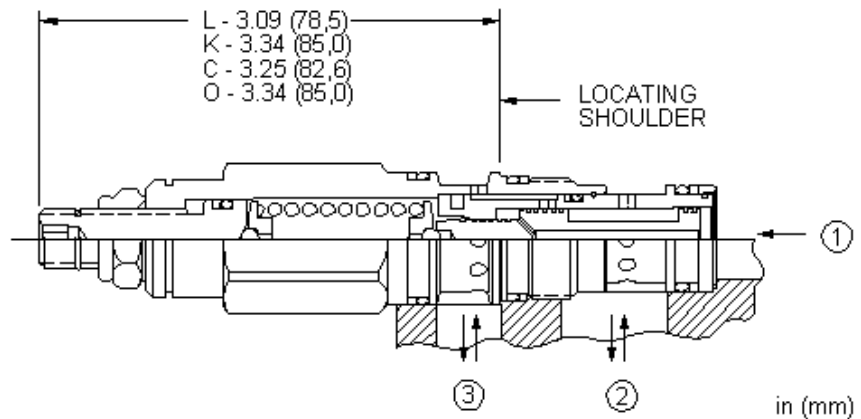
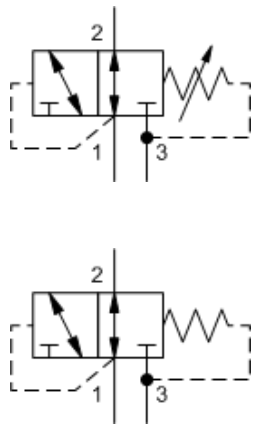
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase 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

CONFIGURATION OPTIONS

Model Code Example: DPCDLAN

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



Direct-acting, 3-way directional cartridges (1 to 2 open, 3 blocked) 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

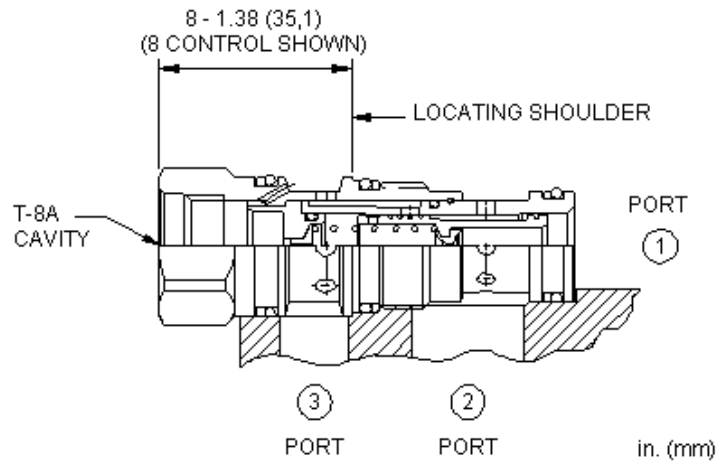
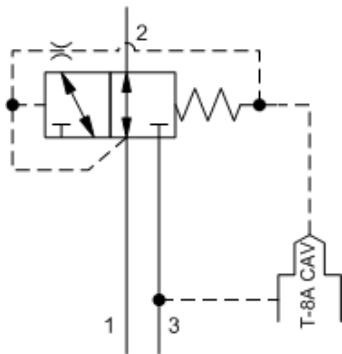
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	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: DRBDLAN

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



This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) 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

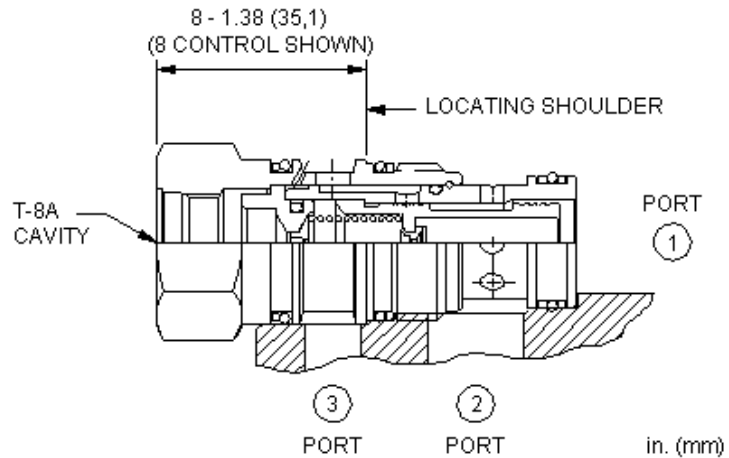
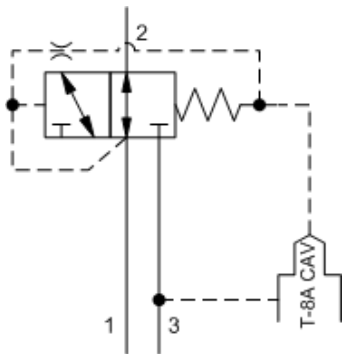
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

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: DVBD8FN

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 3-way directional cartridge (1 to 2 open, 3 blocked) 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

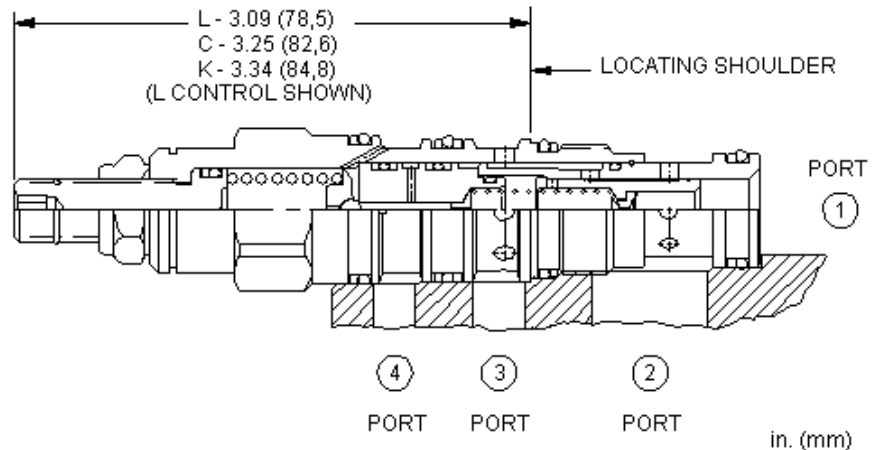
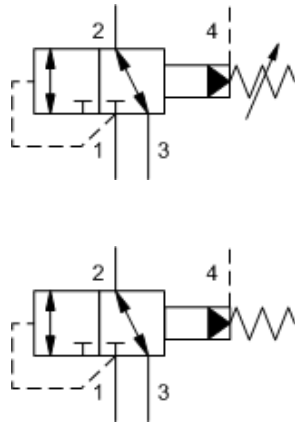
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min. @70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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: DVCD8FN

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



Pilot-operated, 3-way directional cartridges (1 blocked, 2 to 3 open) 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.

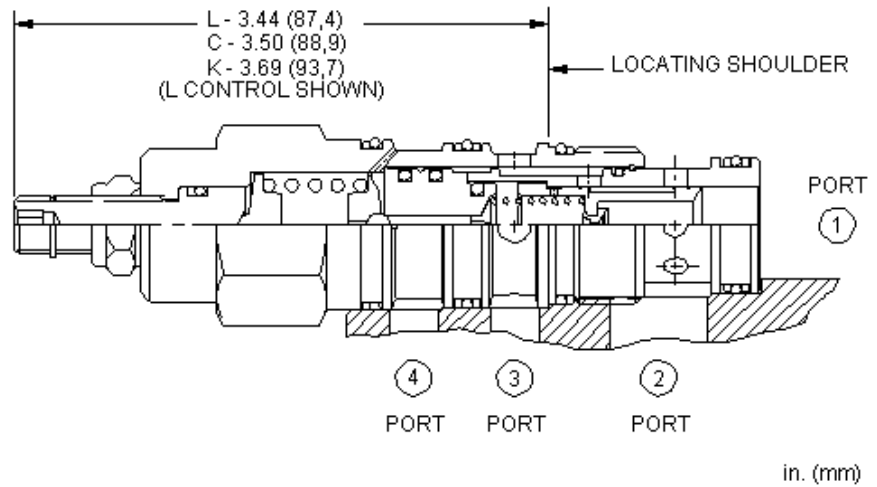
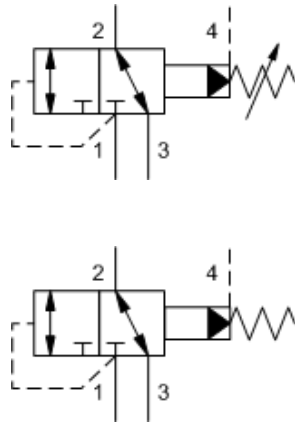
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase 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: DPBOLAN

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



Pilot-operated, 3-way directional cartridges (1 blocked, 2 to 3 open) 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.

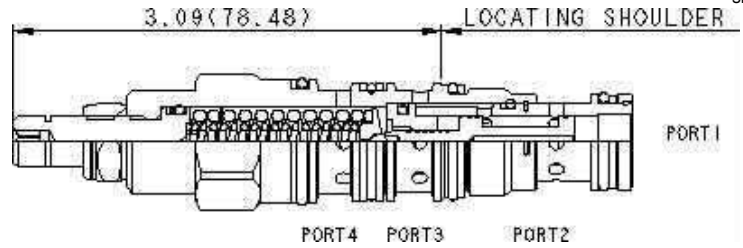
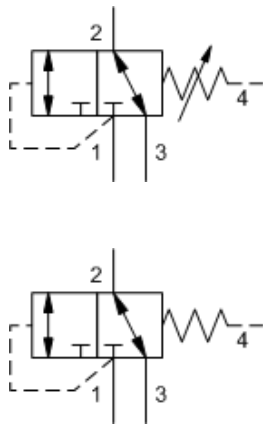
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase 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: DPCOLAN

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



Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) 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

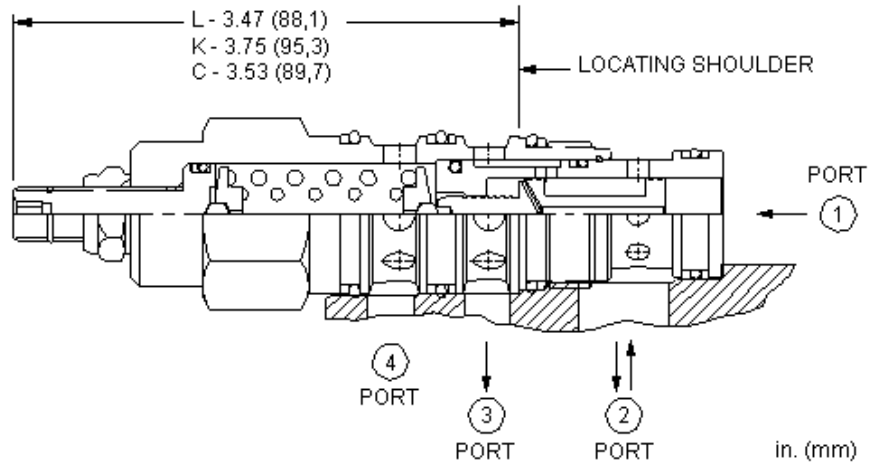
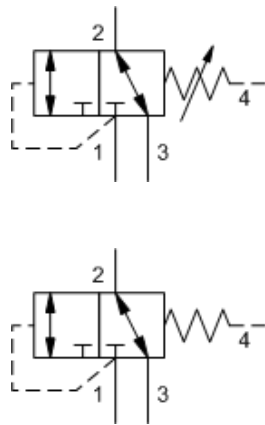
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	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: DRBOLAN

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



Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) 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.

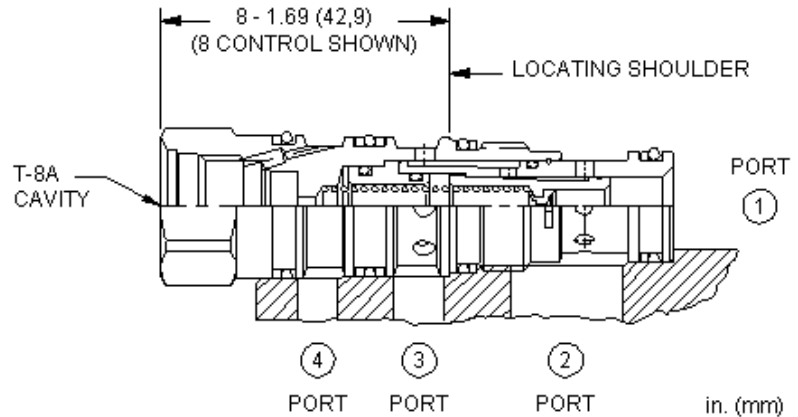
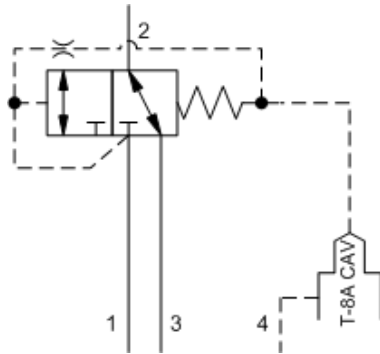
TECHNICAL DATA

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 - Number of Clockwise Turns to Increase 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: DRCOLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
L Standard Screw Adjustment	A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting	V Viton	
K Handknob	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting		



This valve is a 3-way directional cartridge (1 blocked, 2 to 3 open) 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

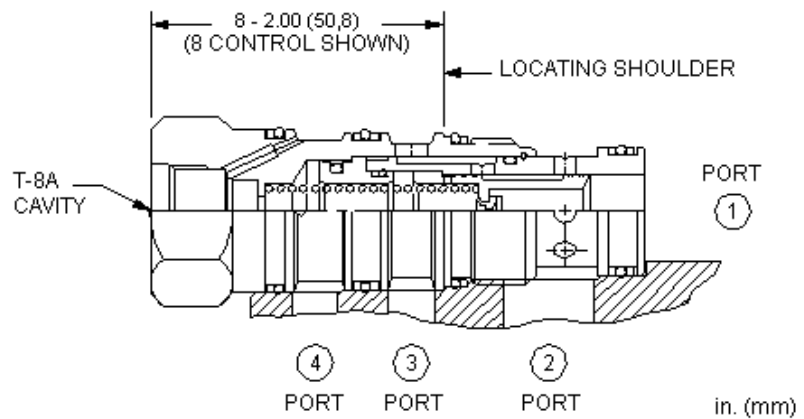
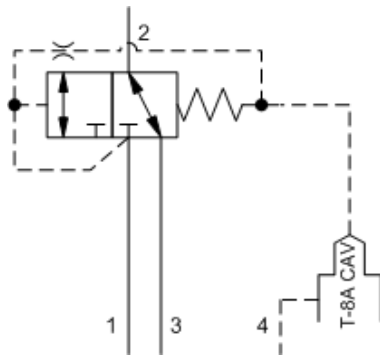
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

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: DVBO8FN

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 3-way directional cartridge (1 blocked, 2 to 3 open) 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

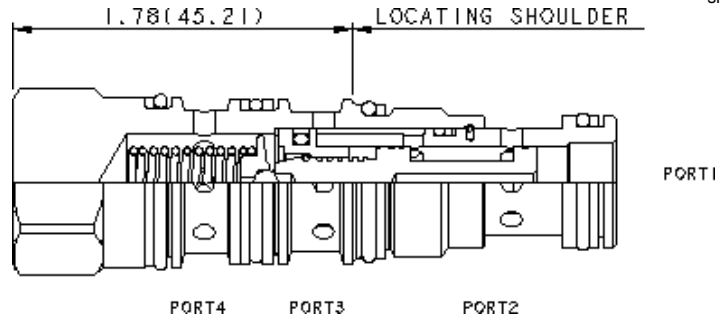
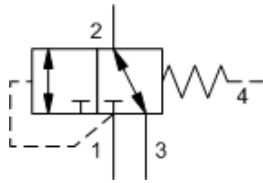
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

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

CONFIGURATION OPTIONS

Model Code Example: DVCO8FN

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



Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) 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.

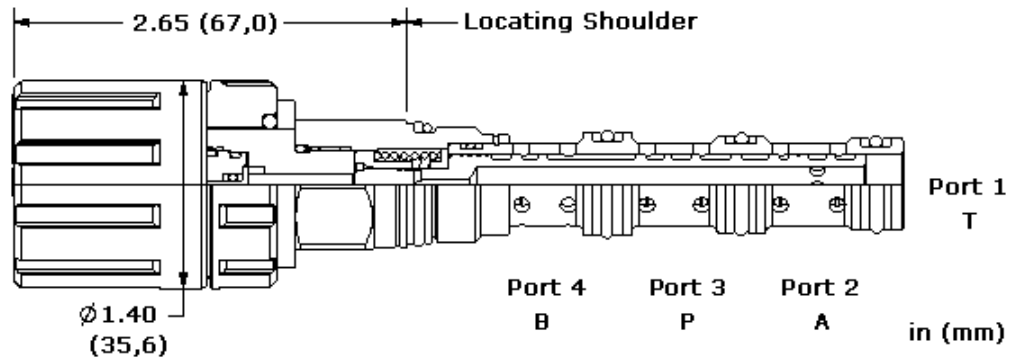
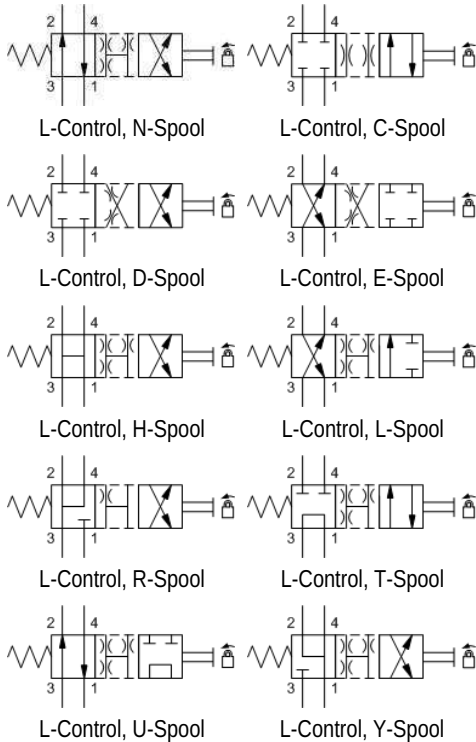
TECHNICAL DATA

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: DRBOXFN

SHIFTING PRESSURE	(F)	SEAL MATERIAL	(N)
F 100 psi (7 bar)		N Buna-N	
		V Viton	



This manually operated, 2-position, 4-way directional cartridge is a direct-acting, balanced spool valve used to control the direction of flow in a hydraulic circuit. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

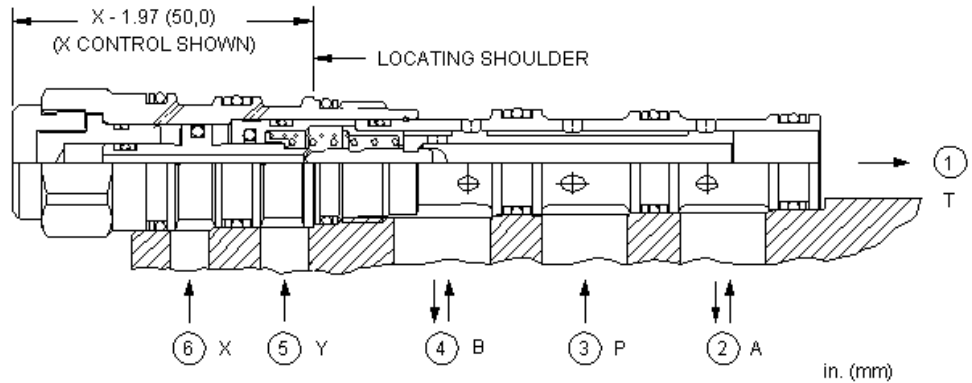
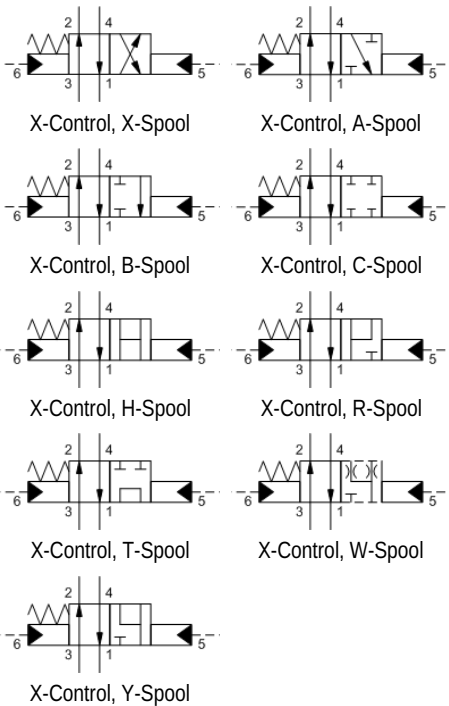
TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@210 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006

CONFIGURATION OPTIONS

Model Code Example: **DNDMLNN**

CONTROL	(L) SPOOL CONFIGURATION	(N) SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	N Through, Shift to Cross	N Buna-N	
D Twist/Lock (Dual) Manual Override	C Closed, Shift to Through	E EPDM	
T Twist (Momentary) Manual Override	D Closed, Shift to Cross	V Viton	
	E Cross, Shift to Closed		
	H Open, Shift to Cross		
	L Cross, Shift to P to A, B and T Blocked		
	R Regen, Shift to Cross		
	T Tandem, Shift to Through		
	U Through, Shift to Tandem		
	Y Motor, Shift to Cross		



Two-position, 4-way directional cartridges are spring-offset, 6-port directional valves that can be configured from a choice of 9 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

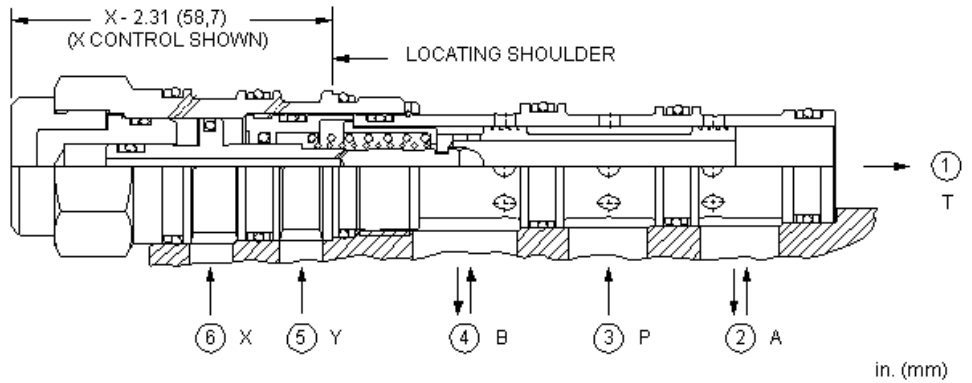
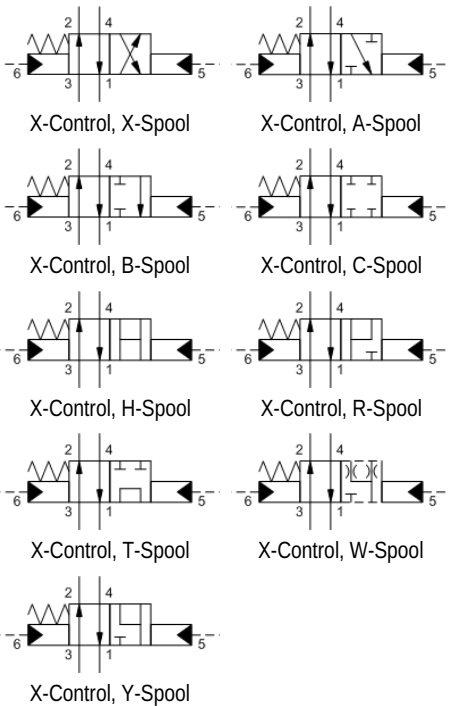
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	12 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990061007
Seal kit - Cartridge	Polyurethane: 990061002
Seal kit - Cartridge	Viton: 990061006

CONFIGURATION OPTIONS

Model Code Example: DCCFXXN

CONTROL	(X) SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	X P to B and A to T Center A A to T Center B B to T Center C Blocked Center H Open Center R Regen Center T Tandem Center W A and B Bleed to T Center Y A and B to T Center	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Two-position, 4-way directional cartridges are spring-offset, 6-port directional valves that can be configured from a choice of 9 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

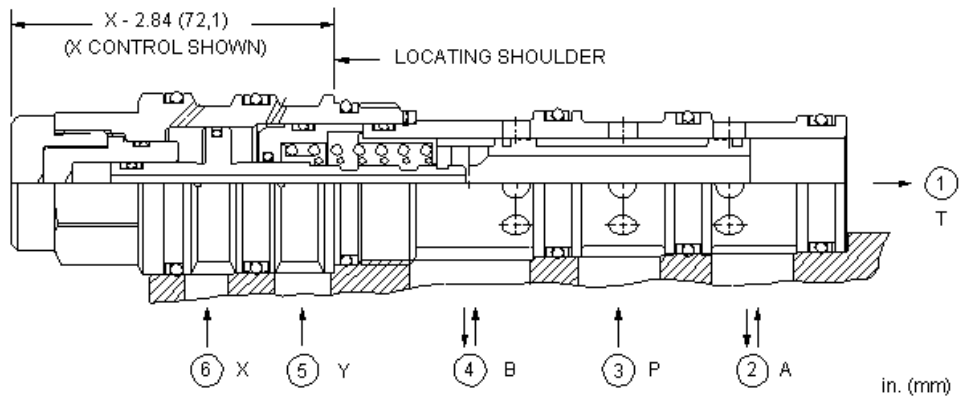
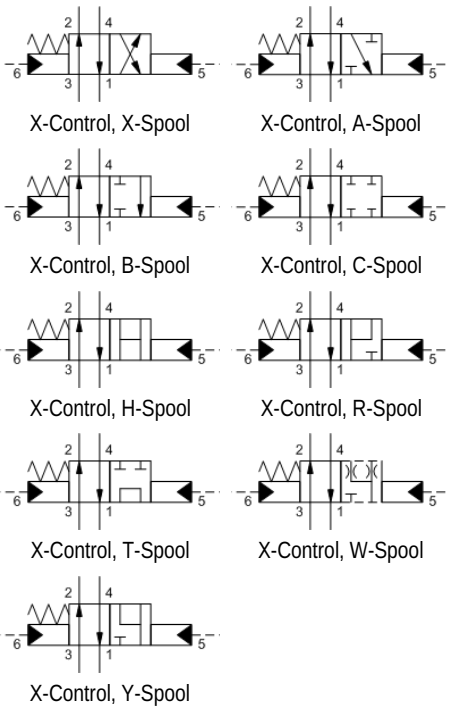
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	10,5 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min. @70 bar
Pilot Volume Displacement	0,98 cc
Seal kit - Cartridge	Buna: 990062007
Seal kit - Cartridge	Polyurethane: 990062002
Seal kit - Cartridge	Viton: 990062006

CONFIGURATION OPTIONS

Model Code Example: DCDFXXN

CONTROL	(X) SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N)
X Not Adjustable	X P to B and A to T Center	N Buna-N	
	A A to T Center	E EPDM	
	B B to T Center	V Viton	
	C Blocked Crossover		
	H Open Crossover		
	R Regen Center		
	T Tandem Center		
	W A and B Bleed to T Center		
	Y A and B to T Center		



Two-position, 4-way directional cartridges are spring-offset, 6-port directional valves that can be configured from a choice of 9 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

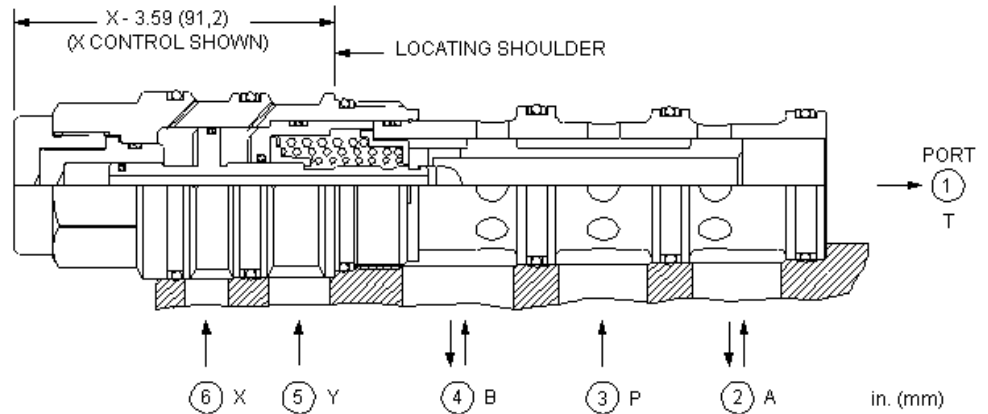
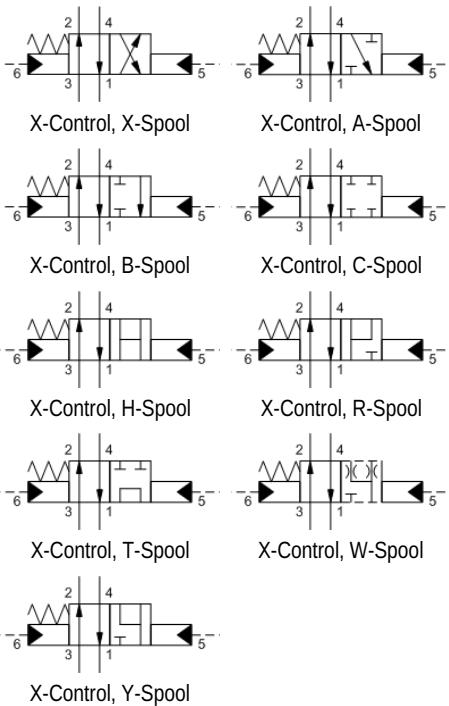
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	9 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min. @70 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990063007
Seal kit - Cartridge	Polyurethane: 990063002
Seal kit - Cartridge	Viton: 990063006

CONFIGURATION OPTIONS

Model Code Example: **DCEFXXN**

CONTROL	(X) SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N)
X Standard Pilot	X P to B and A to T Center A A to T Center B B to T Center C Blocked Center H Open Center R Regen Center T Tandem Center W A and B Bleed to T Center Y A and B to T Center	N Buna-N V Viton	



Two-position, 4-way directional cartridges are spring-offset, 6-port directional valves that can be configured from a choice of 9 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

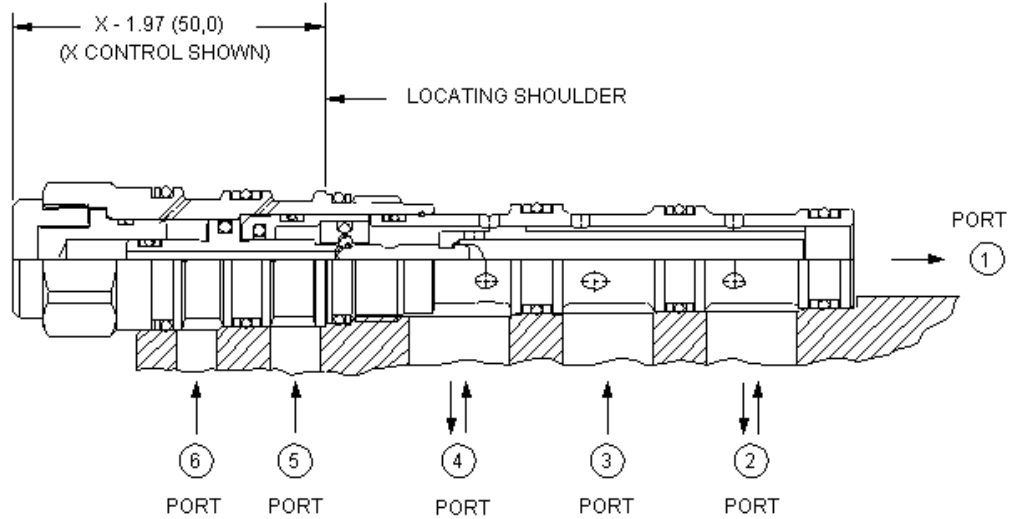
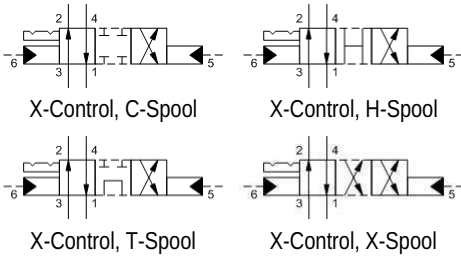
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	9 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min. @70 bar
Pilot Volume Displacement	6,9 cc
Seal kit - Cartridge	Buna: 990064007
Seal kit - Cartridge	Polyurethane: 990064002
Seal kit - Cartridge	Viton: 990064006

CONFIGURATION OPTIONS

Model Code Example: DCFFXXN

CONTROL	(X) SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N)
X Standard Pilot	X P to B and A to T Center A A to T Center B B to T Center C Blocked Center H Open Center R Regen Center T Tandem Center W A and B Bleed to T Center Y A and B to T Center	N Buna-N V Viton	



in. (mm)

Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

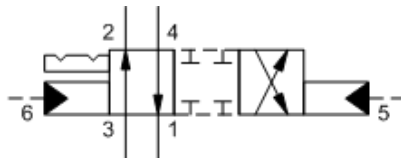
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	12 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990061007
Seal kit - Cartridge	Polyurethane: 990061002
Seal kit - Cartridge	Viton: 990061006

CONFIGURATION OPTIONS

Model Code Example: **DCCDXCN**

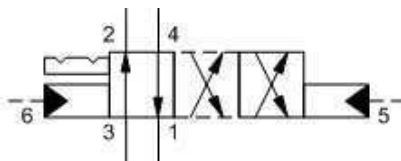
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Crossover H Open Crossover T Tandem Crossover X P to B and A to T Crossover	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



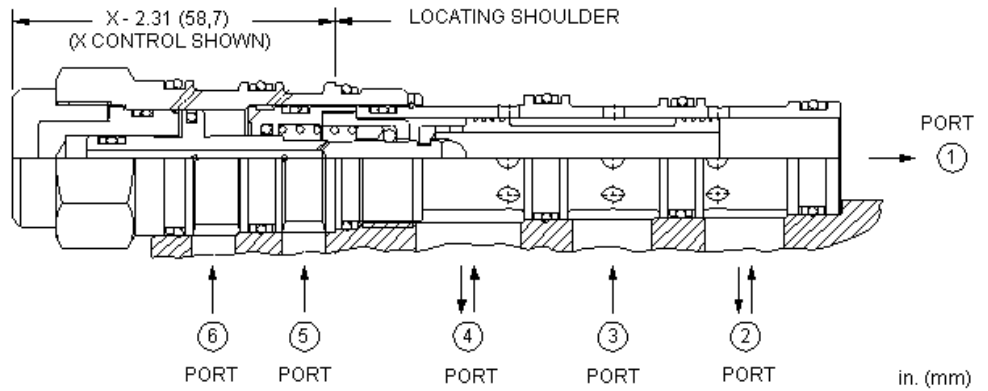
X-Control, C-Spool



X-Control, H-Spool



X-Control, X-Spool



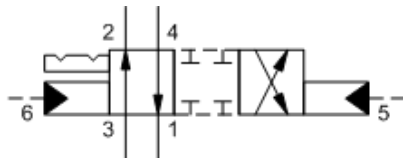
Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	10,5 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	2,0 cc
Seal kit - Cartridge	Buna: 990062007
Seal kit - Cartridge	Polyurethane: 990062002
Seal kit - Cartridge	Viton: 990062006

CONFIGURATION OPTIONS
Model Code Example: DCDDXCN

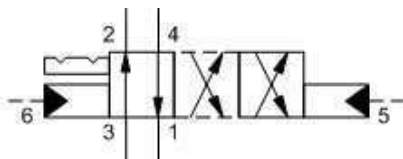
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Crossover H Open Crossover X P to B and A to T Crossover	N Buna-N V Viton	Standard Material/Coating IAP Stainless Steel, Passivated



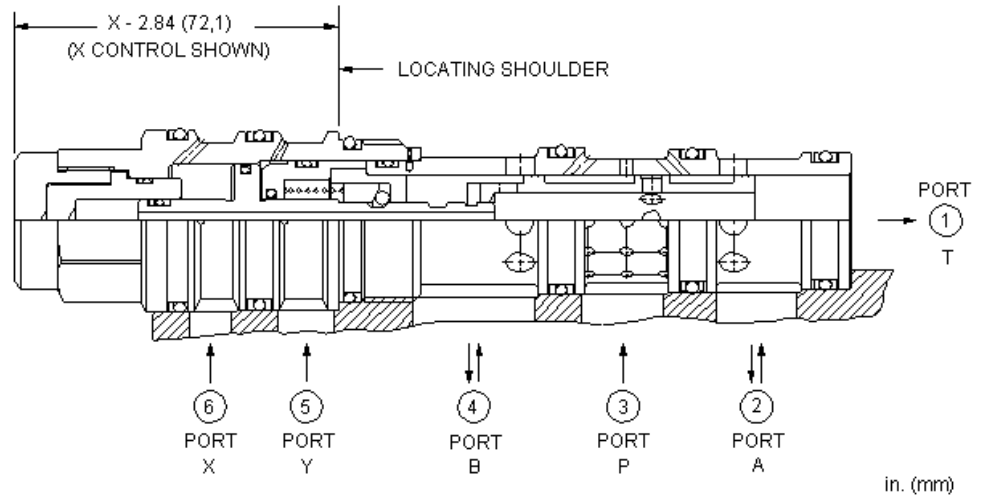
X-Control, C-Spool



X-Control, H-Spool



X-Control, X-Spool



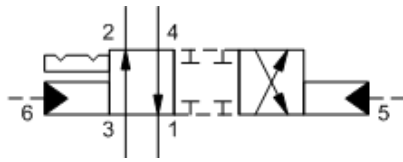
Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	9 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	5,6 cc
Seal kit - Cartridge	Buna: 990063007
Seal kit - Cartridge	Polyurethane: 990063002
Seal kit - Cartridge	Viton: 990063006

CONFIGURATION OPTIONS
Model Code Example: DCEDXCN

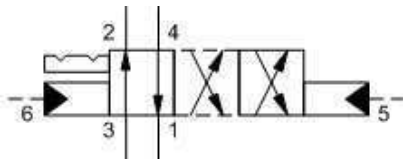
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Crossover H Open Crossover X P to B and A to T Crossover	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



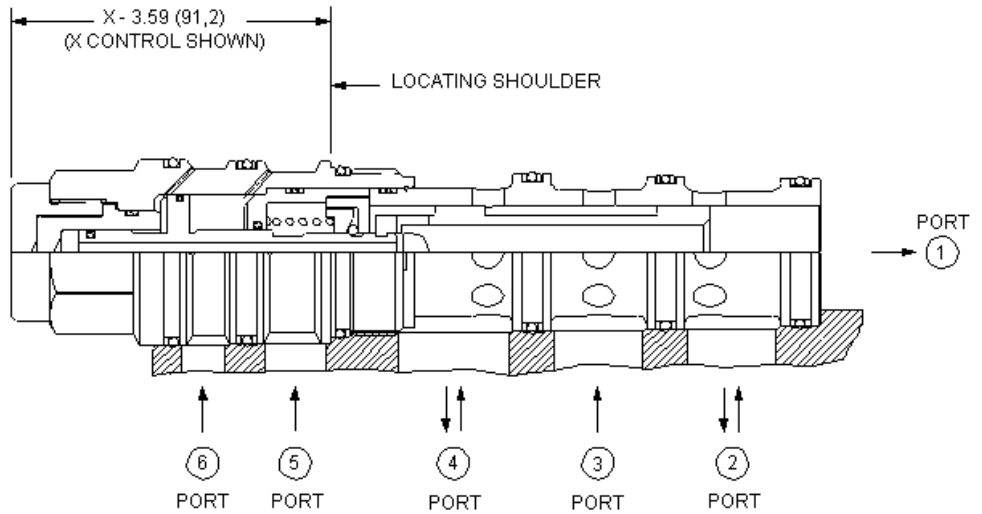
X-Control, C-Spool



X-Control, H-Spool



X-Control, X-Spool



in. (mm)

Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

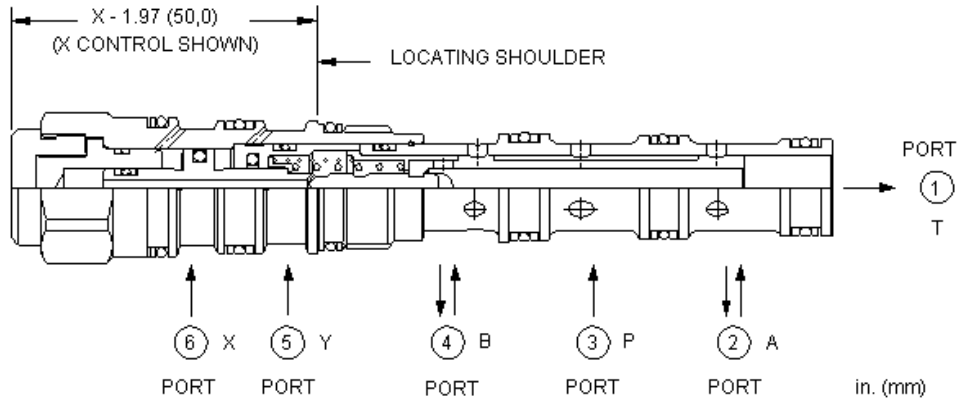
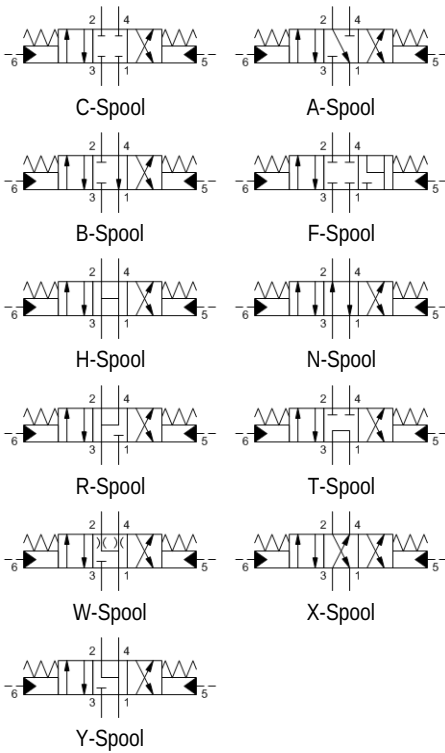
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	9 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	14 cc
Seal kit - Cartridge	Buna: 990064007
Seal kit - Cartridge	Polyurethane: 990064002
Seal kit - Cartridge	Viton: 990064006

CONFIGURATION OPTIONS

Model Code Example: DCFDXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Standard Pilot	C Blocked Crossover H Open Crossover X P to B and A to T Crossover	N Buna-N V Viton	



Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

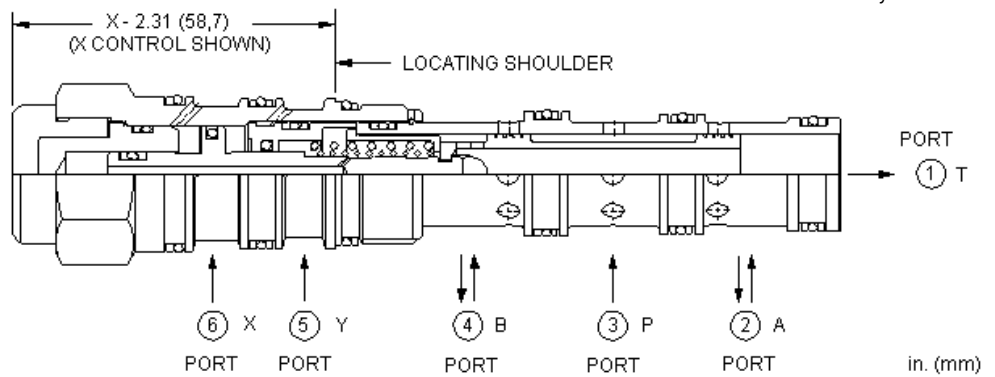
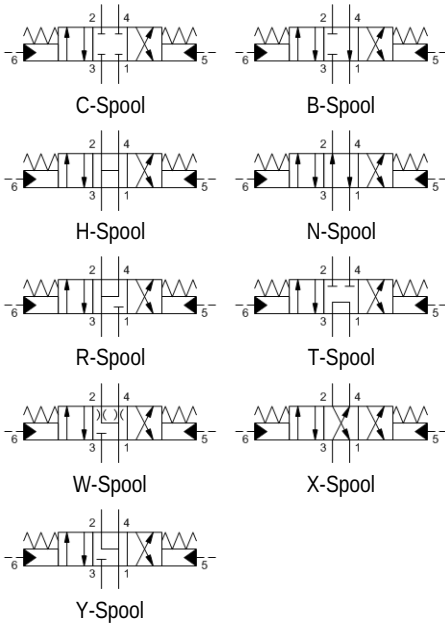
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	12 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990061007
Seal kit - Cartridge	Polyurethane: 990061002
Seal kit - Cartridge	Viton: 990061006

CONFIGURATION OPTIONS

Model Code Example: DCCCXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Center A A to T Center B B to T Center F Closed Center, A and B to T H Open Center N P to A and B to T Center R Regen Center T Tandem Center W A and B Bleed to T Center Y A and B to T Center	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

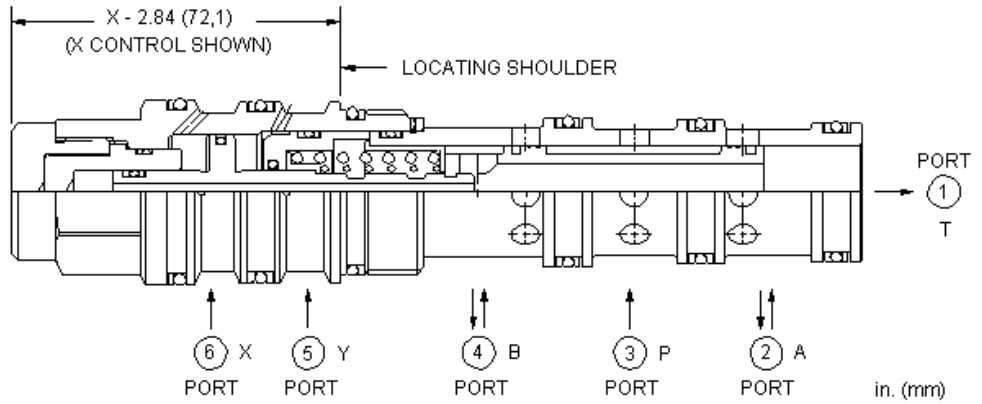
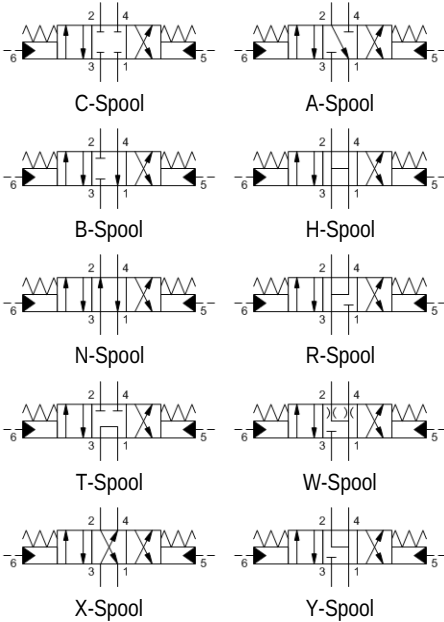
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	10,5 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,98 cc
Seal kit - Cartridge	Buna: 990062007
Seal kit - Cartridge	Polyurethane: 990062002
Seal kit - Cartridge	Viton: 990062006

CONFIGURATION OPTIONS

Model Code Example: DCDCXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Center A A to T Center B B to T Center H Open Center N P to A and B to T Center R Regen Center T Tandem Center W A and B Bleed to T Center Y A and B to T Center	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

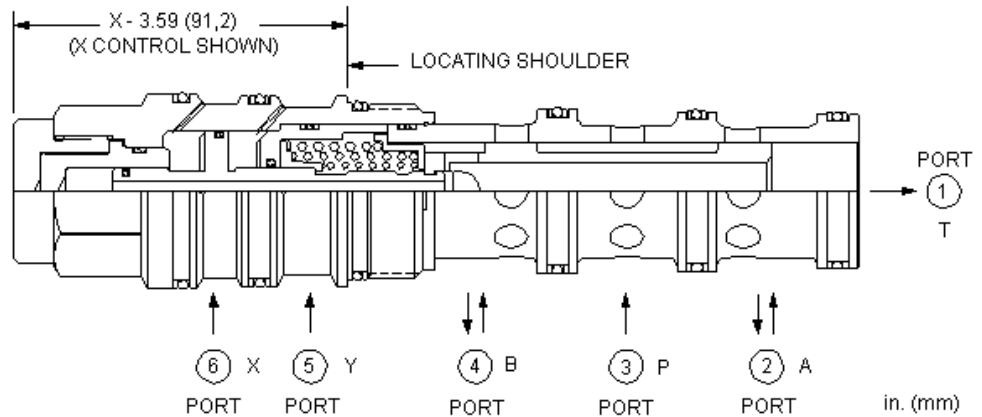
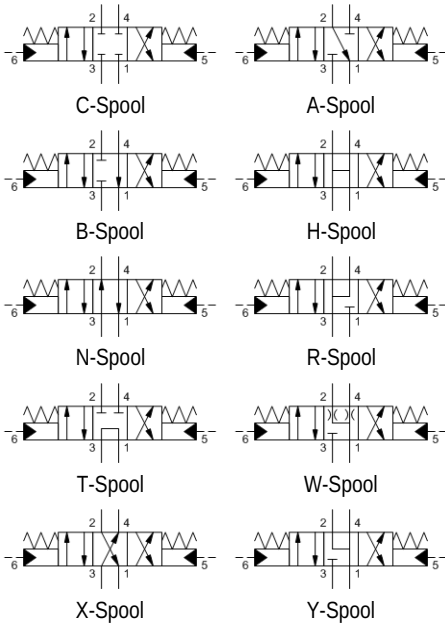
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	9 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min. @70 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990063007
Seal kit - Cartridge	EPDM: 990063014
Seal kit - Cartridge	Polyurethane: 990063002
Seal kit - Cartridge	Viton: 990063006

CONFIGURATION OPTIONS

Model Code Example: DCEXCXN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Center A A to T Center B B to T Center H Open Center N P to A and B to T Center R Regen Center T Tandem Center W A and B Bleed to T Center Y A and B to T Center	N Buna-N E EPDM V Viton	Standard Material/Coating IAP Stainless Steel, Passivated



Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

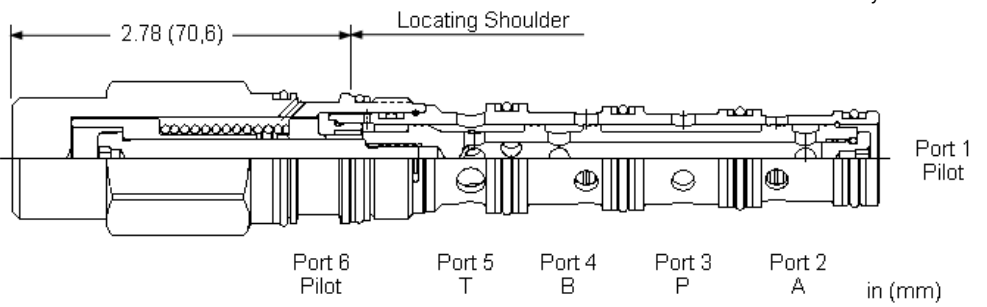
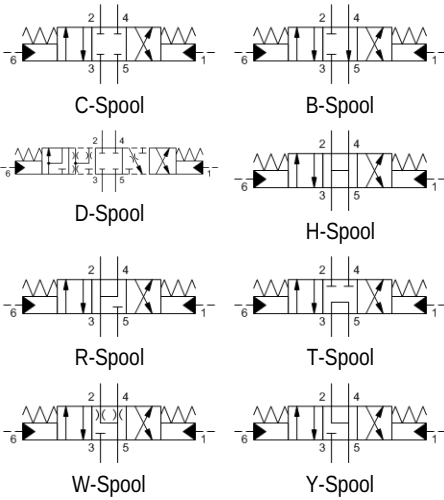
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	9 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	6,9 cc
Seal kit - Cartridge	Buna: 990064007
Seal kit - Cartridge	EPDM: 990064014
Seal kit - Cartridge	Polyurethane: 990064002
Seal kit - Cartridge	Viton: 990064006

CONFIGURATION OPTIONS

Model Code Example: DCFCXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Center A A to T Center B B to T Center H Open Center N P to A and B to T Center R Regen Center T Tandem Center W A and B Bleed to T Center Y A and B to T Center	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

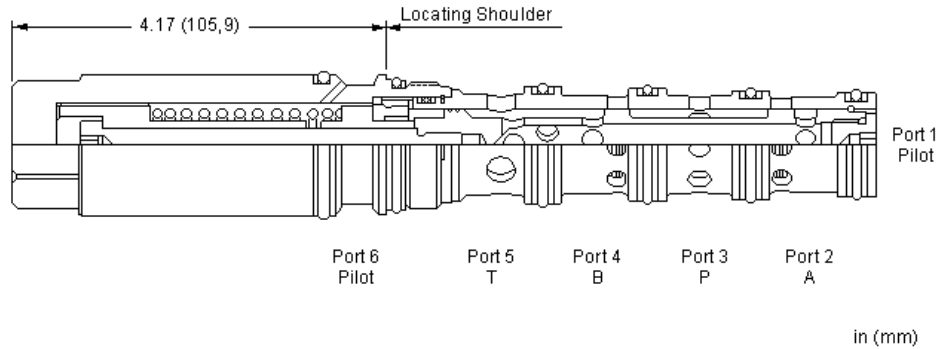
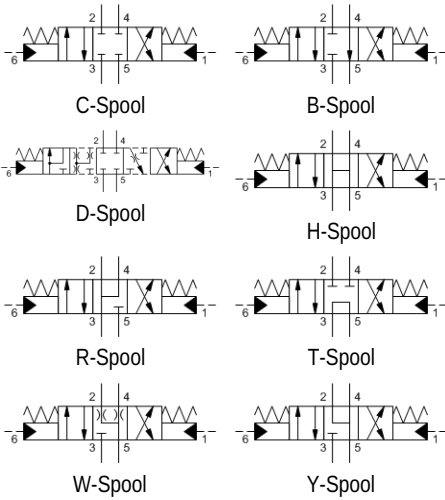
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	10,5 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min. @70 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

CONFIGURATION OPTIONS

Model Code Example: DDDCXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C Blocked Center B B to T Center D Blocked Center, Regen, P to B and A to T H Open Center R Regen Center T Tandem Center W A and B Bleed to T Center, Restrictive Y A and B to T Center	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

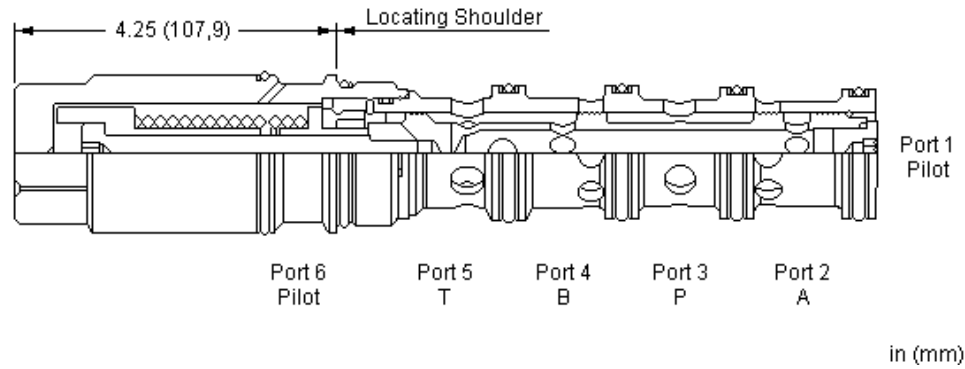
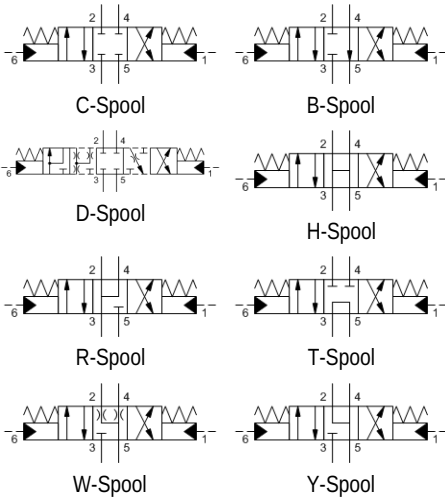
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	14 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@70 bar
Pilot Volume Displacement	1,8 cc
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

CONFIGURATION OPTIONS

Model Code Example: DDFCXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Blocked Center	N Buna-N	
	B B to T Center	V Viton	
	D Blocked Center, Regen, P to B and A to T		
	H Open Center		
	R Regen Center		
	T Tandem Center		
	W A and B Bleed to T Center, Restrictive		
	Y A and B Bleed to T Center		



Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

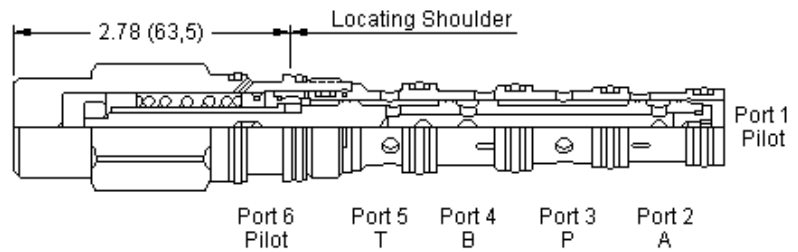
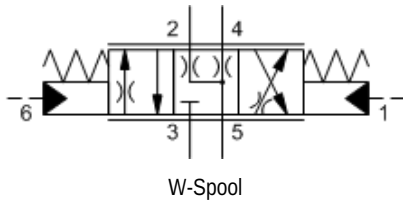
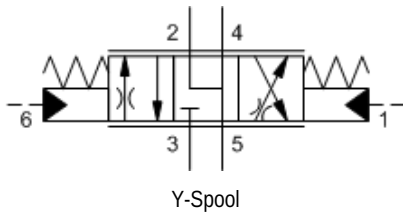
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	14 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@70 bar
Pilot Volume Displacement	4,3 cc
Seal kit - Cartridge	Buna: 990054007
Seal kit - Cartridge	Viton: 990054006

CONFIGURATION OPTIONS

Model Code Example: DDHCXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Blocked Center B B to T Center D Blocked Center, Regen, P to B and A to T H Open Center R Regen Center T Tandem Center W A and B Bleed to T Center, Restrictive Y A and B Bleed to T Center	N Buna-N V Viton	



in (mm)

This valve is a 4-way, 3-position proportional directional valve. Work ports 2 and 4 are drained to 5 in the center position and port 3 is closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at ports 1 and 6 directly oppose each other.

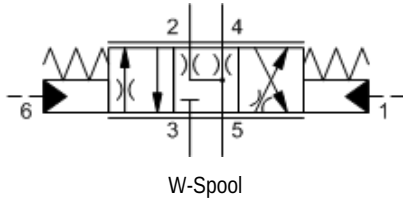
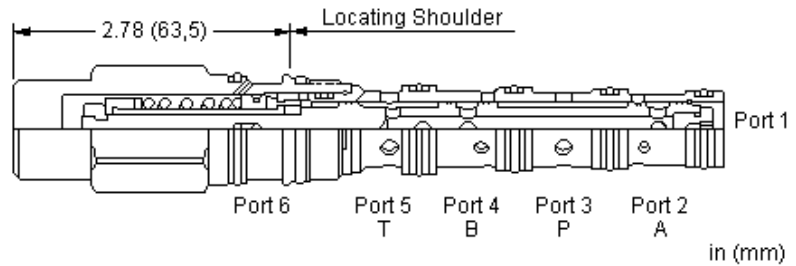
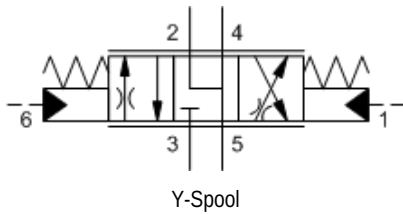
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

CONFIGURATION OPTIONS

Model Code Example: FTCCXYN

CONTROL	(X)	SPOOL CONFIGURATION	(Y)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		Y A and B to T Center W A and B Bleed to T Center		N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated



This valve is a 4-way, 3-position proportional directional valve. Work ports 2 and 4 are drained to 5 in the center position and port 3 is closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at ports 1 and 6 directly oppose each other.

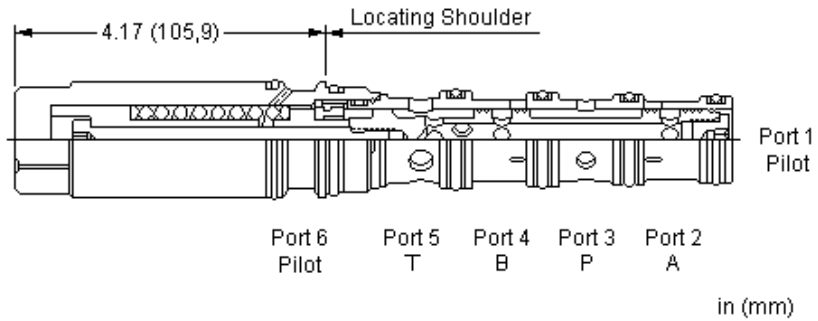
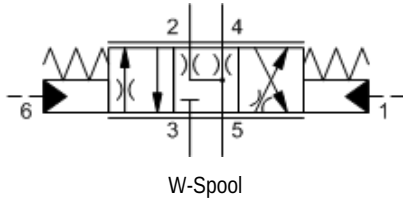
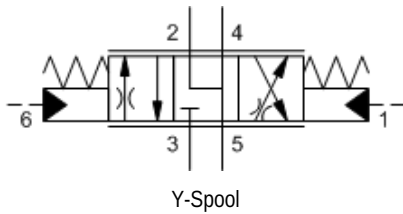
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

CONFIGURATION OPTIONS

Model Code Example: FTDCXYN

CONTROL	(X) SPOOL CONFIGURATION	(Y) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	Y A and B to T Center W A and B Bleed to T Center	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



This valve is a 4-way, 3-position proportional directional valve. Work ports 2 and 4 are drained to 5 in the center position and port 3 is closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at ports 1 and 6 directly oppose each other.

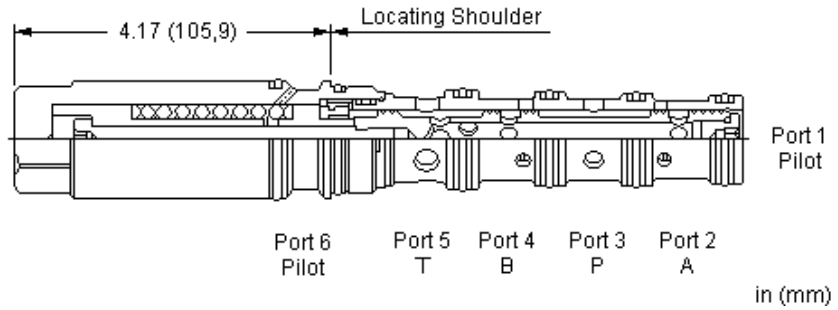
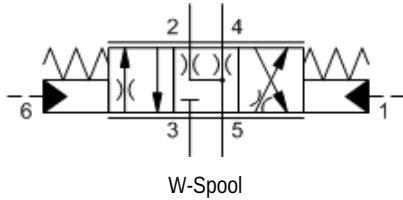
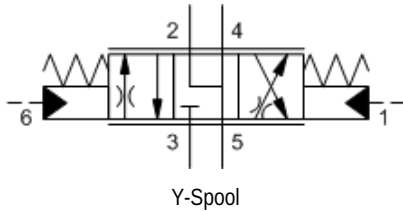
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	41 cc/min.@70 bar
Pilot Volume Displacement	1,8 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

CONFIGURATION OPTIONS

Model Code Example: FTECXYN

CONTROL	(X) SPOOL CONFIGURATION	(Y) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	Y A and B to T Center W A and B Bleed to T Center	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



This valve is a 4-way, 3-position proportional directional valve. Work ports 2 and 4 are drained to 5 in the center position and port 3 is closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at ports 1 and 6 directly oppose each other.

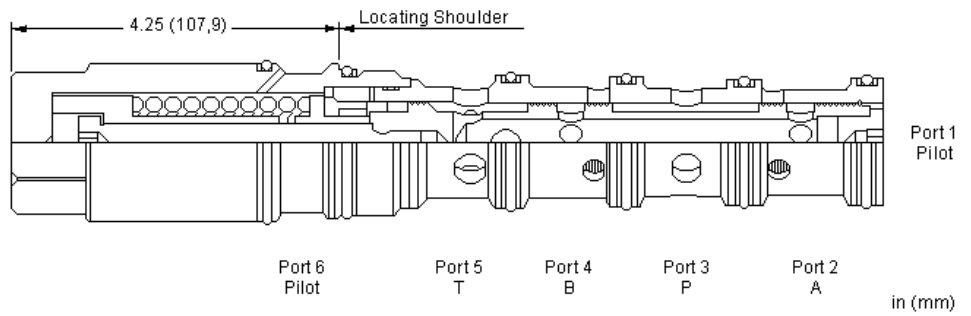
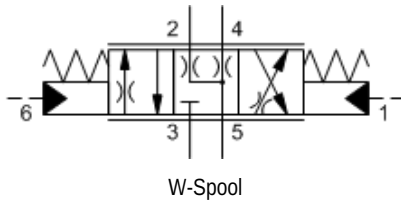
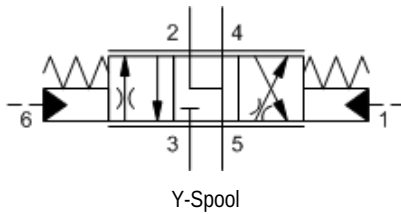
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	41 cc/min.@70 bar
Pilot Volume Displacement	1,8 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

CONFIGURATION OPTIONS

Model Code Example: FTFCXYN

CONTROL	(X) SPOOL CONFIGURATION	(Y) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	Y A and B to T Center W A and B Bleed to T Center	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



This valve is a 4-way, 3-position proportional directional valve. Work ports 2 and 4 are drained to 5 in the center position and port 3 is closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at ports 1 and 6 directly oppose each other.

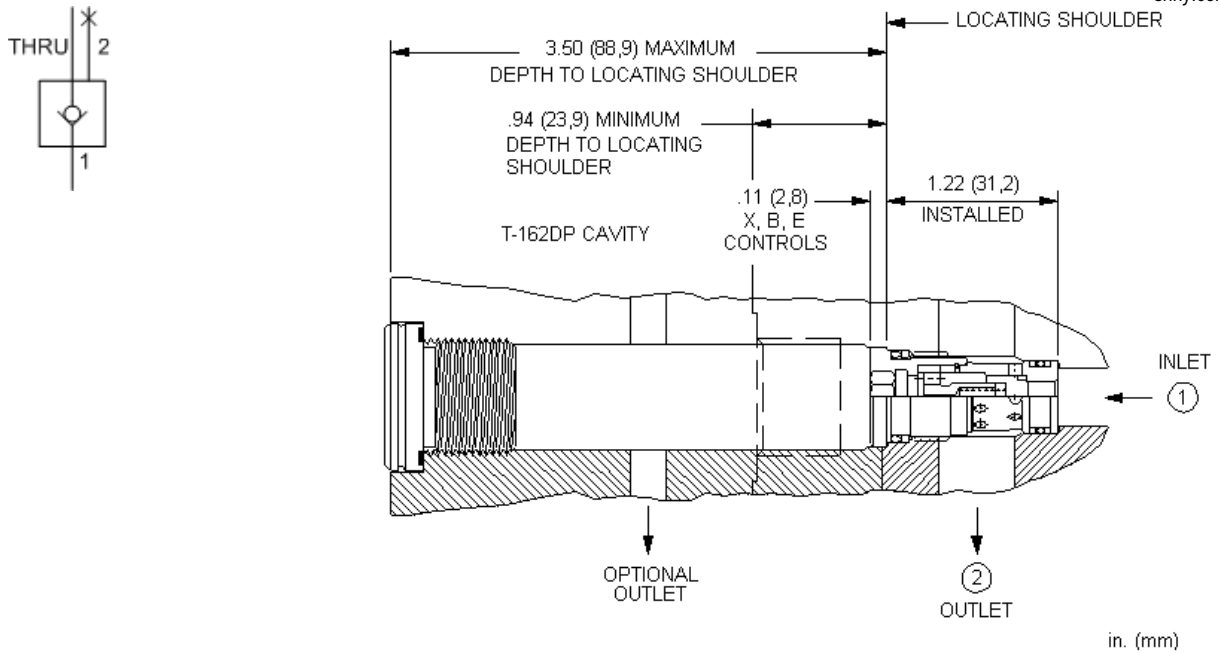
TECHNICAL DATA

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min. @70 bar
Pilot Volume Displacement	4,3 cc
Maximum Pilot Pressure	35 bar
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990054007
Seal kit - Cartridge	Polyurethane: 990054002
Seal kit - Cartridge	Viton: 990054006

CONFIGURATION OPTIONS

Model Code Example: FTHCXYN

CONTROL	(X) SPOOL CONFIGURATION	(Y) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	Y A and B to T Center W A and B Bleed to T Center	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

CONFIGURATION OPTIONS

Model Code Example: CXBMXAN

CONTROL	(X)	CRACKING PRESSURE	(A)	SEAL MATERIAL	(N)
X Not Adjustable		A 4 psi (0,3 bar)		N Buna-N	
		B 15 psi (1 bar)		E EPDM	
		C 30 psi (2 bar)		V Viton	



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