

Directional, 4-way Cartridges

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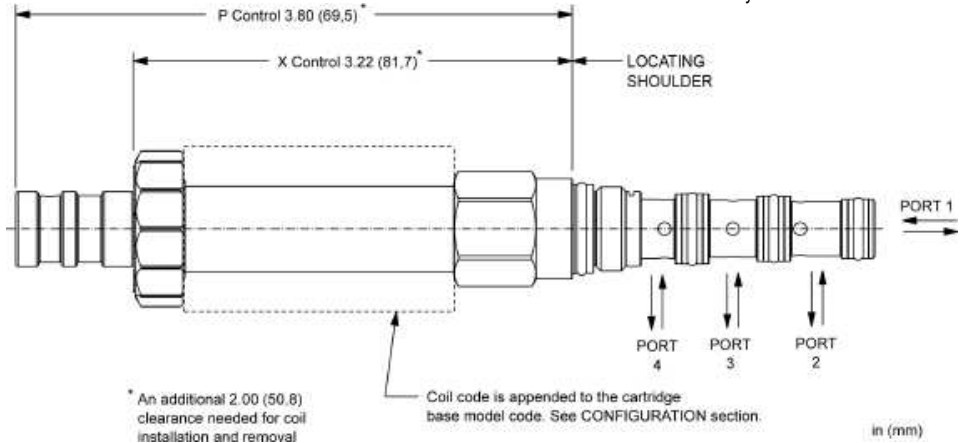
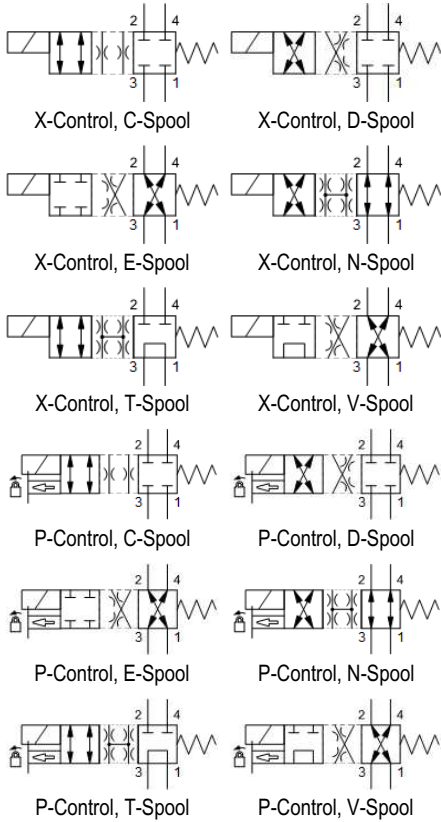
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Series	Ports	Cavities
Series Z Cartridges 3/8-24 UNF Cartridge Thread 5 mm Valve Hex Size 11 - 14 Nm Valve Installation Torque	3-Port	T-382A
Series P Cartridges M16 Cartridge Thread 22,2 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port	T-8A T-8DP T-9A
Series 1C Cartridges 7/8-14 UNF Cartridge Thread 25,4 mm Valve Hex Size 23-26 lbf ft Valve Installation Torque	2-Port (Common) 3-Port (Common) 3-Port (Common) 4-Port (Common)	SC-10-02 SC-10-03 SC-22-03 SC-10-04
Series 0C Cartridges 3/4-16 UNF Cartridge Thread 22,2 mm Valve Hex Size 19-22 lbf ft Valve Installation Torque	2-Port (Common) 3-Port (Common)	SC-08-02 SC-08-03
Series 0 Cartridges M16 Cartridge Thread 19,1 mm Valve Hex Size 25,4 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port 3-Port 4-Port	T-162A T-162DP T-150A T-163A T-30A
Series 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)	T-18A T-18AU T-19A T-19AU T-24A T-24AU T-34A T-54AD

6-Port
6-Port

T-54A
T-64A



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

TECHNICAL DATA

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

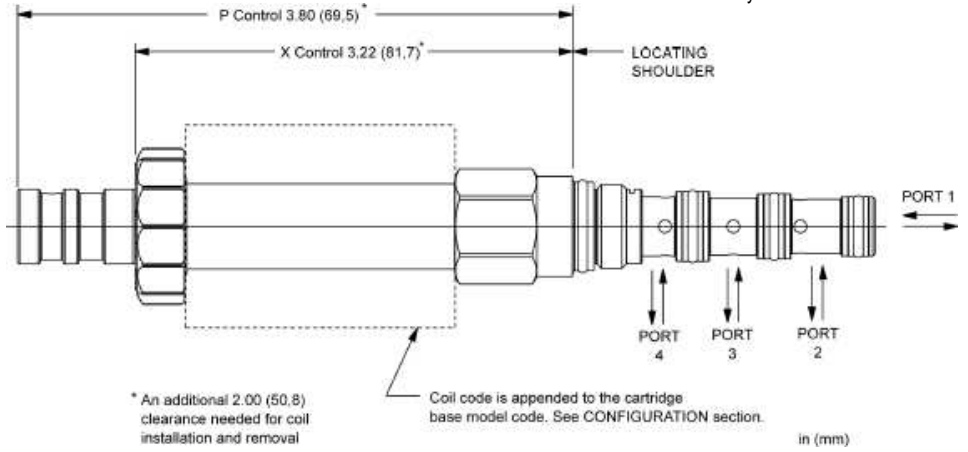
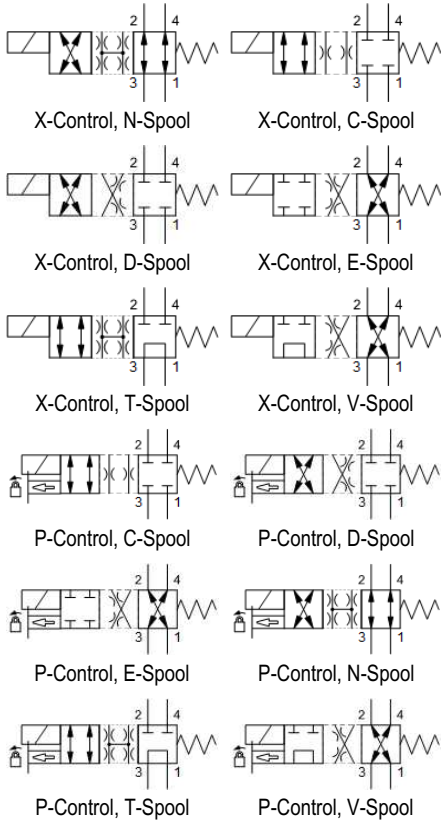
Maximum Operating Pressure	210 bar
Typical Valve Leakage at 110 SUS (24 cSt) - Except N Spool	30 cc/min.@210 bar
Typical Valve Leakage at 110 SUS (24 cSt) - N Spool, Inlet on 3	80 cc/min.@210 bar
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990030007
Seal kit - Cartridge	Viton: 990030006

- 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: DNBDXCN

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



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

TECHNICAL DATA

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

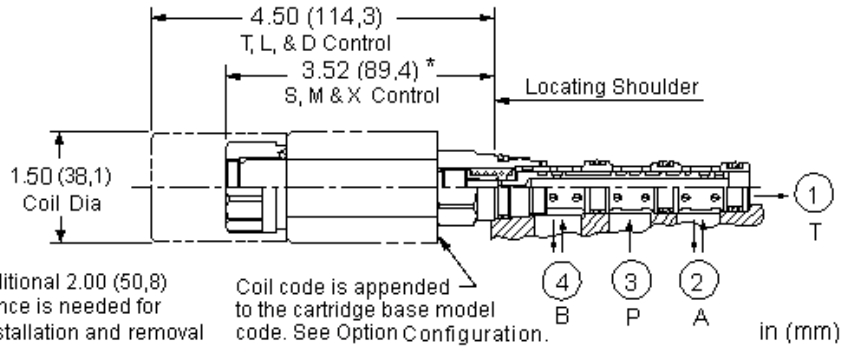
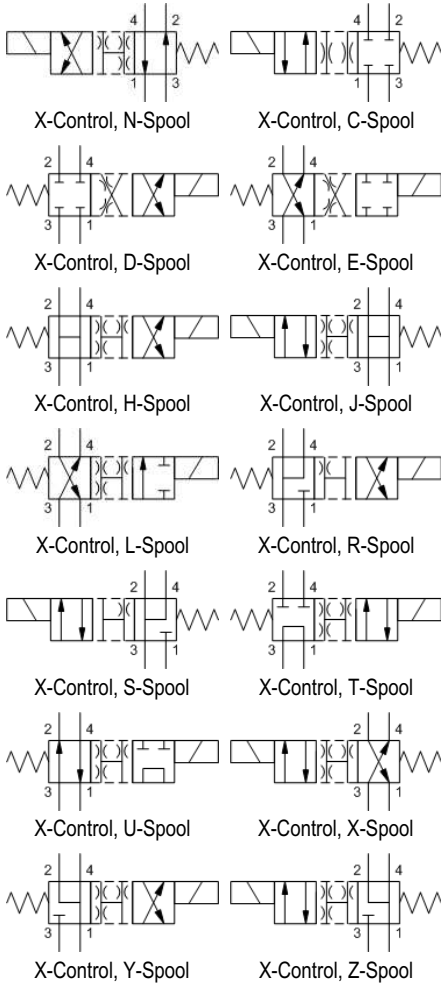
Maximum Operating Pressure	350 bar
Typical Valve Leakage at 110 SUS (24 cSt) - Except N Spool	66 cc/min.@350 bar
Typical Valve Leakage at 110 SUS (24 cSt) - N Spool, Inlet on 3	115 cc/min.@350 bar
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990030007
Seal kit - Cartridge	Viton: 990030006

- 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: DNBFXNN

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



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

TECHNICAL DATA

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

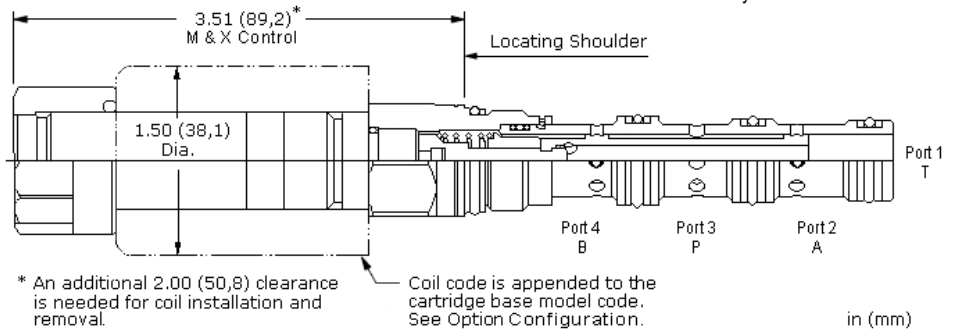
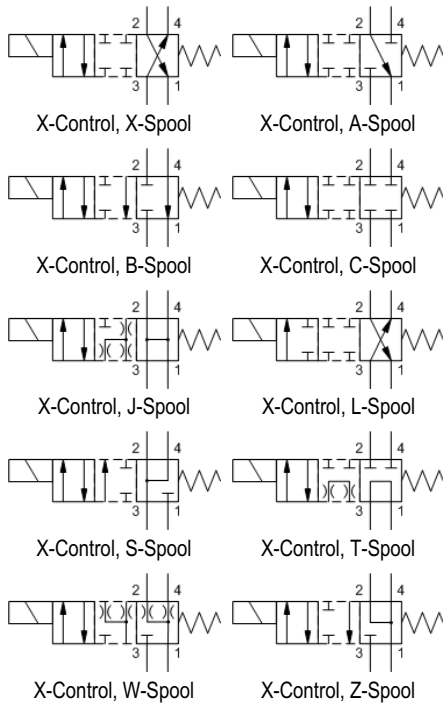
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@210 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990431007
Seal kit - 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		912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override	H Open, Shift to Cross		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		
	R Regen, Shift to Cross		
	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. 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

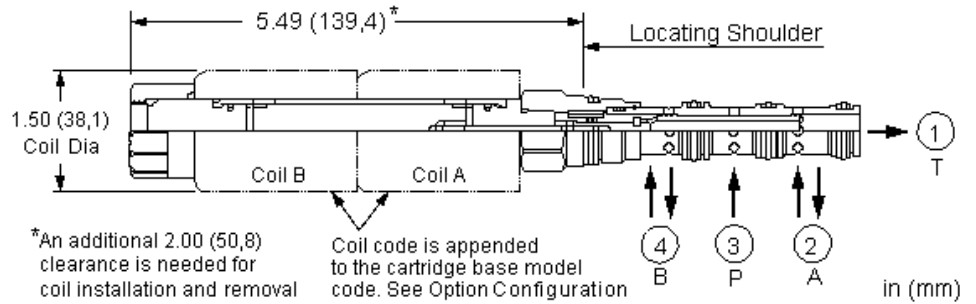
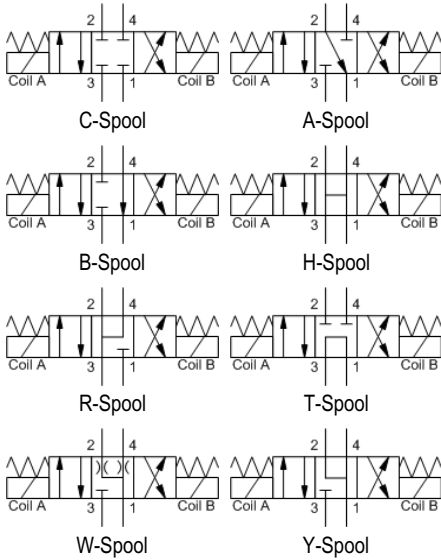
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
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		912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override	J Open, Shift to Through		924 Deutsch DT04-2P, 24 VDC
	L Cross, Shift to P to A, B and T Blocked		* Additional coil options are available
	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 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

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@210 bar
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006

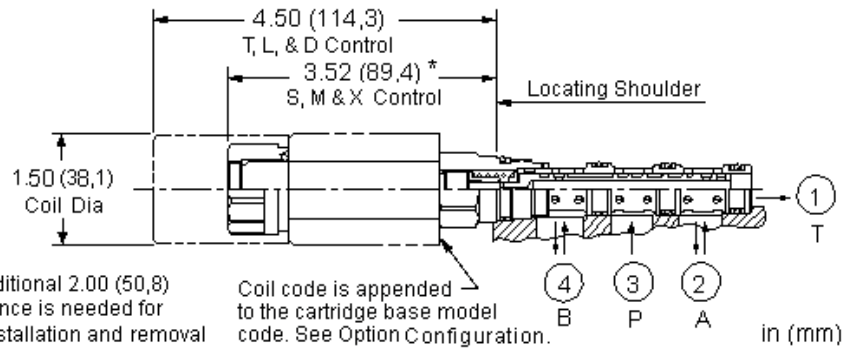
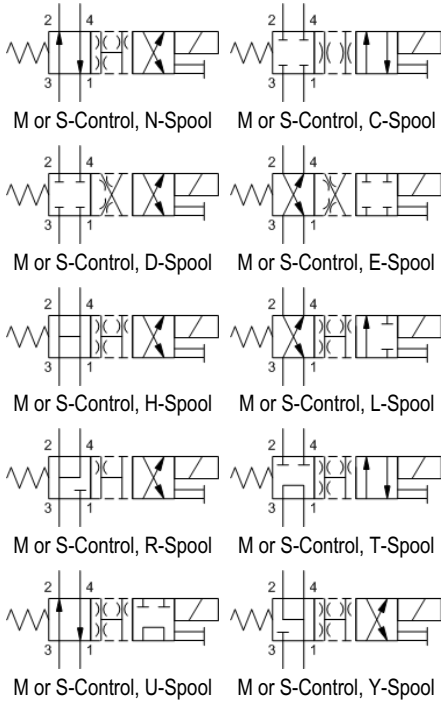
NOTES

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		912 Deutsch DT04-2P, 12 VDC
	R Regen Center		924 Deutsch DT04-2P, 24 VDC
	T Tandem Center		* Additional coil options are available
	W A and B Bleed to T Center		
	Y A and B to T Center		



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

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

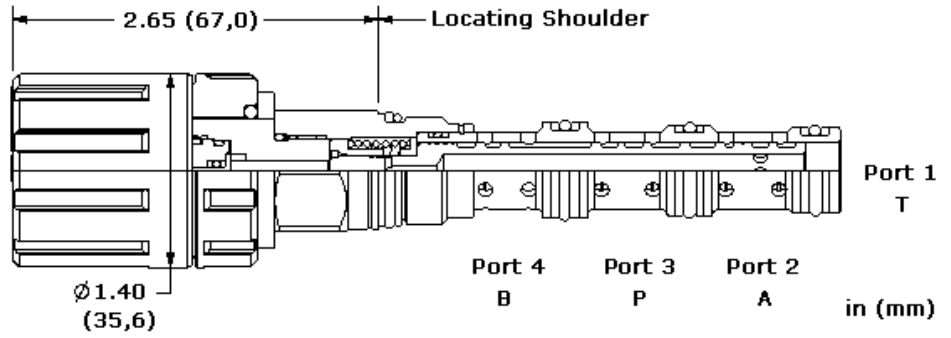
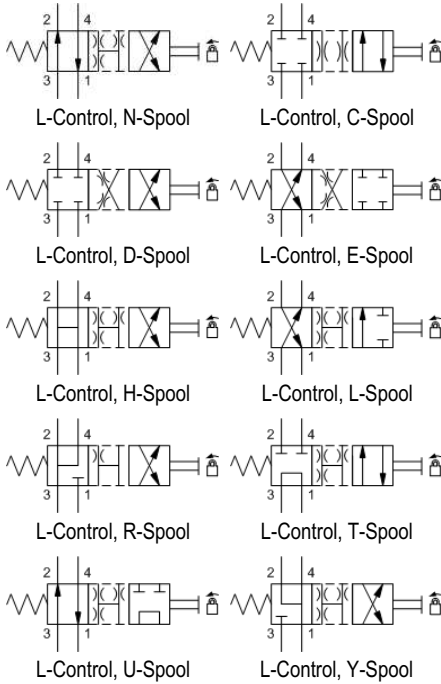
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min. @210 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006

- 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		912 Deutsch DT04-2P, 12 VDC
H Open, Shift to Cross		924 Deutsch DT04-2P, 24 VDC
L Cross, Shift to P to A, B and T Blocked		* Additional coil options are available
R Regen, Shift to Cross		
T Tandem, Shift to Through		
U Through, Shift to Tandem		
Y Motor, Shift to Cross		



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

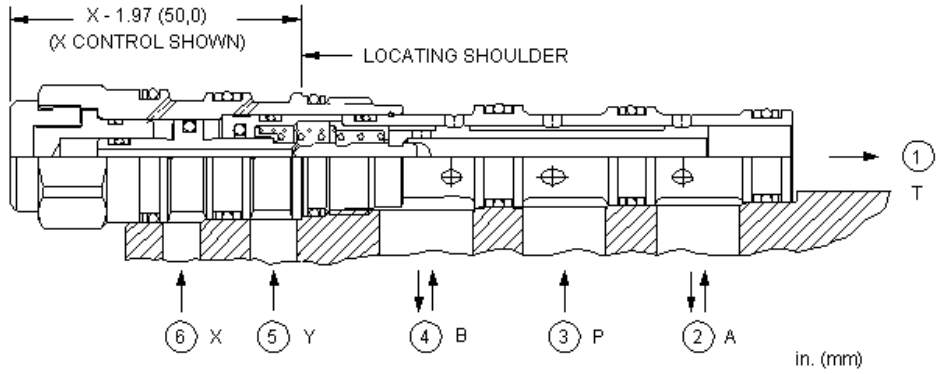
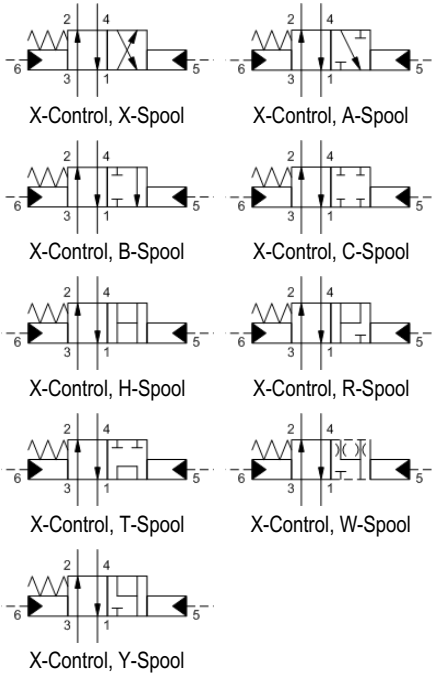
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

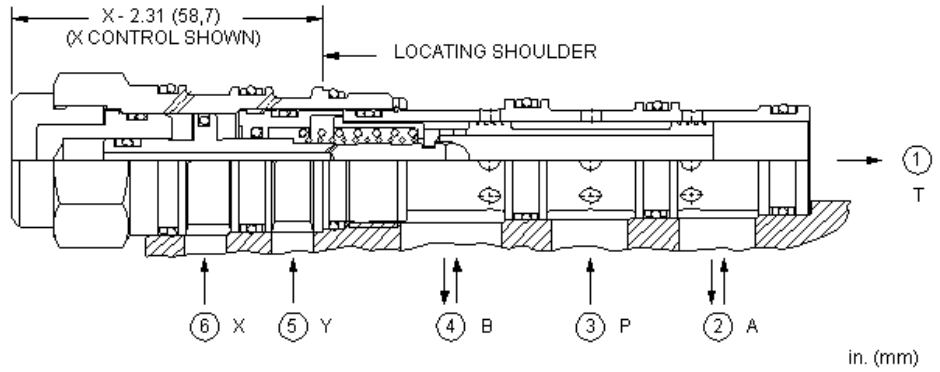
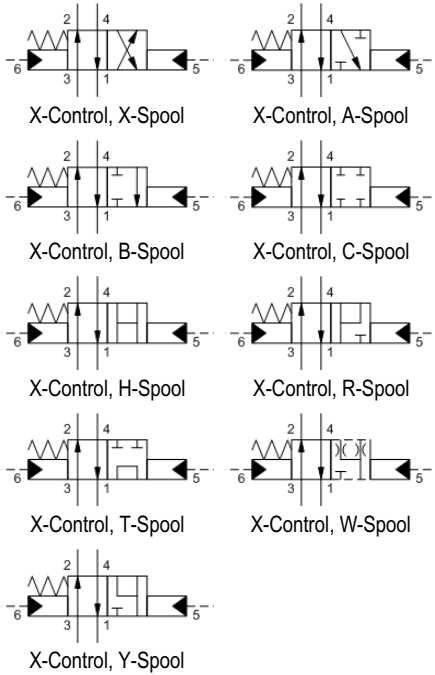
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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 A and B 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

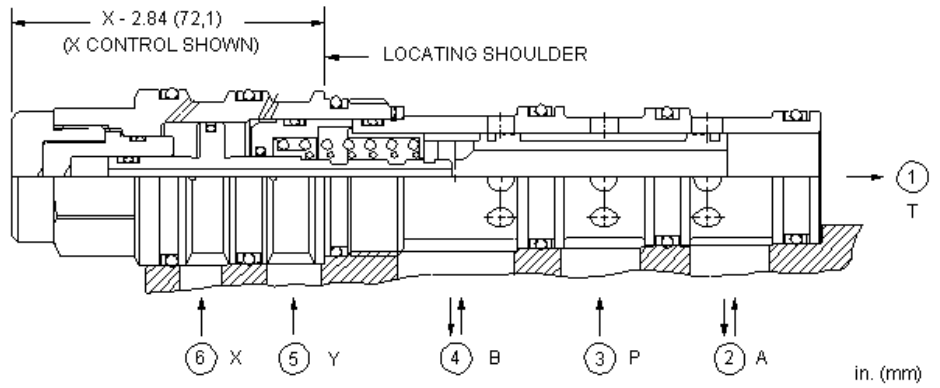
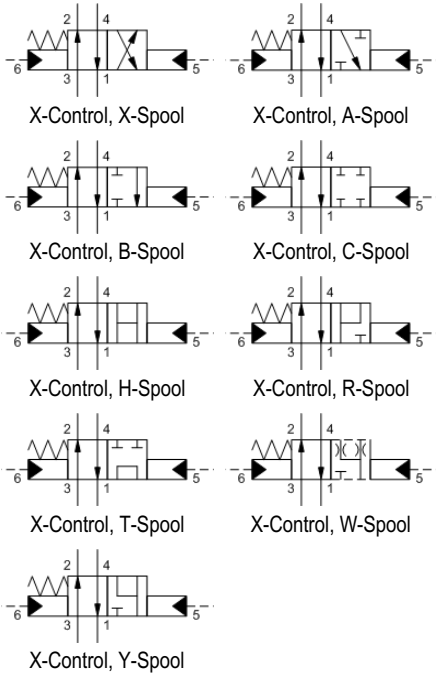
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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) MATERIAL/COATING
X Not Adjustable	X P to A and B to T Center A A to T Center B B to T Center 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	N Buna-N E EPDM 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

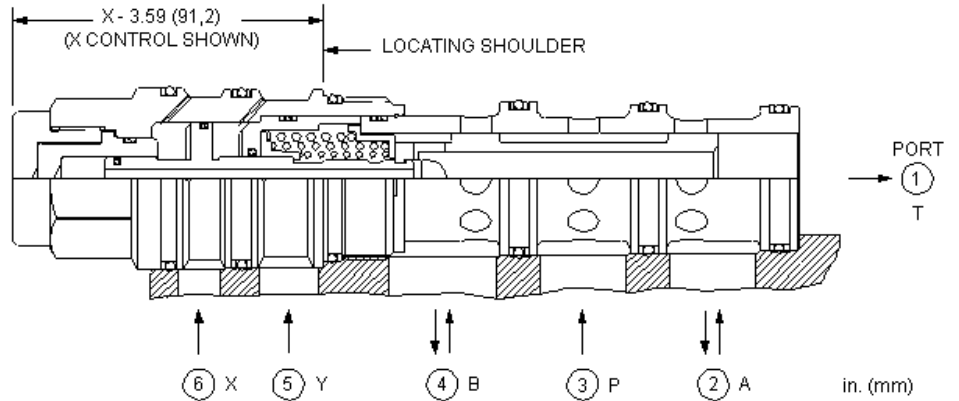
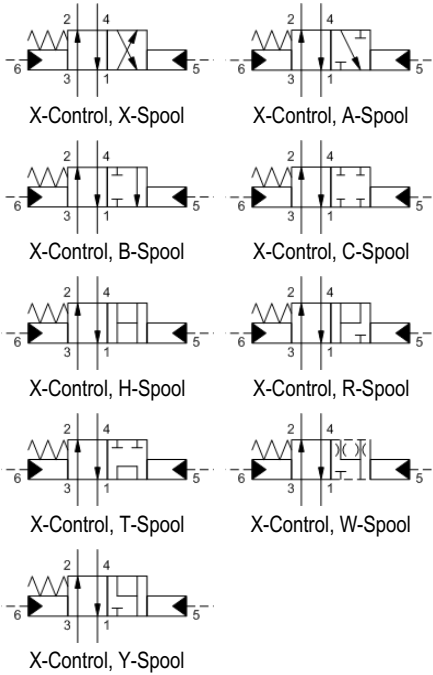
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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	EPDM: 990063014
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 A and B 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 E EPDM 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

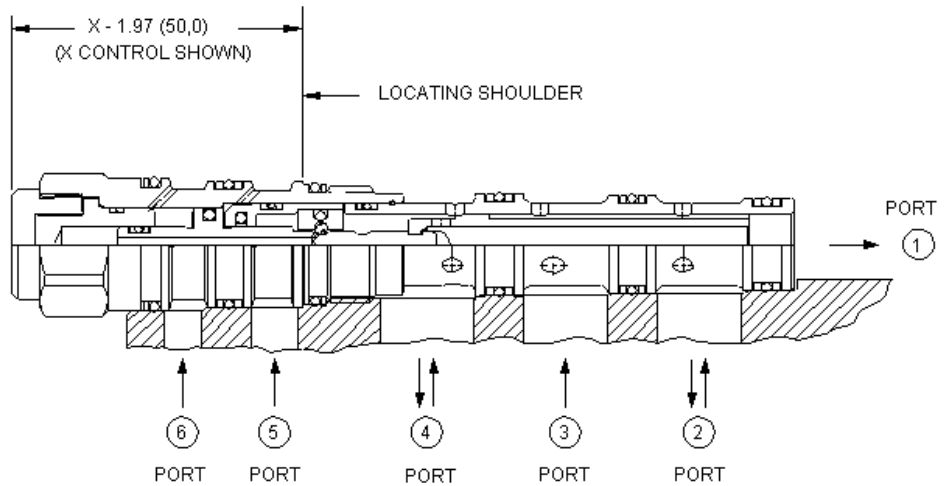
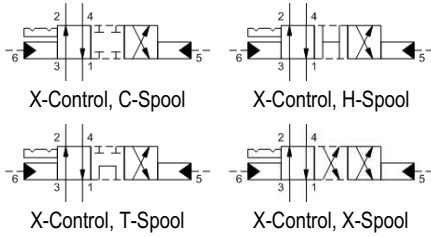
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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 A and B 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

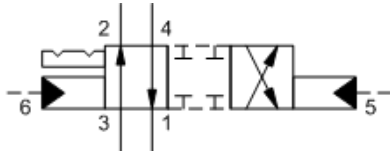
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

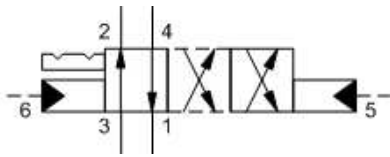
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Crossover H Open Crossover T Tandem Crossover X P to B and A to T Crossover	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



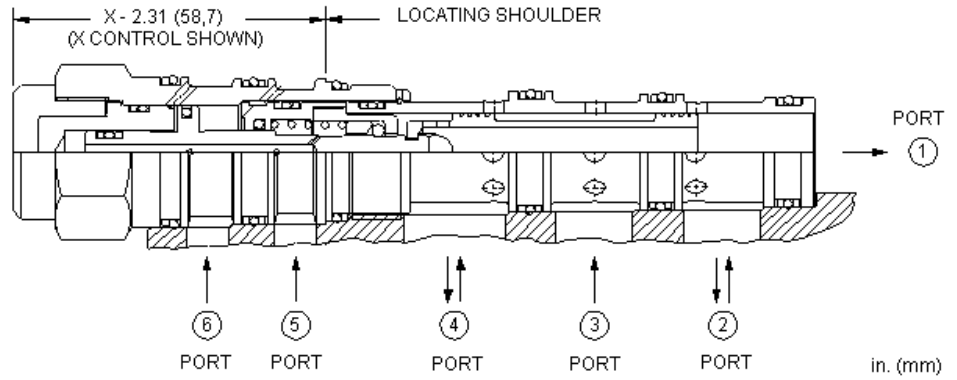
X-Control, C-Spool



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

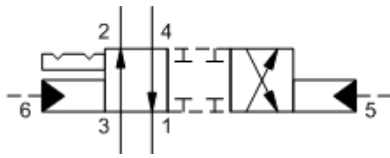
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

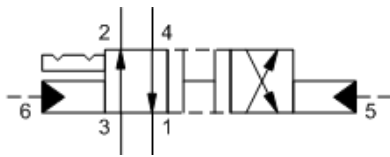
CONFIGURATION OPTIONS

Model Code Example: DCDDXCN

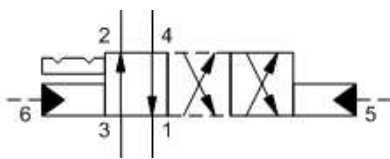
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Crossover H Open Crossover X P to B and A to T Crossover	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



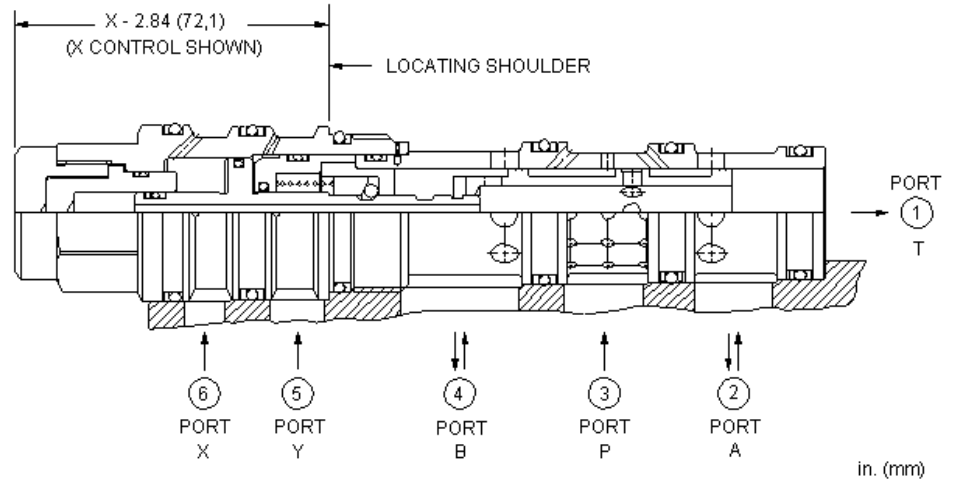
X-Control, C-Spool



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

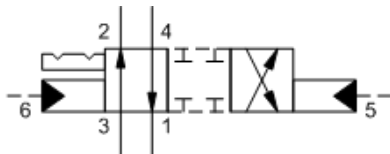
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

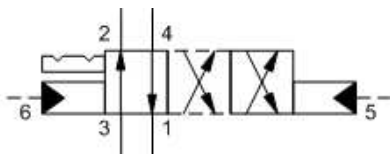
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Crossover H Open Crossover X P to B and A to T Crossover	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



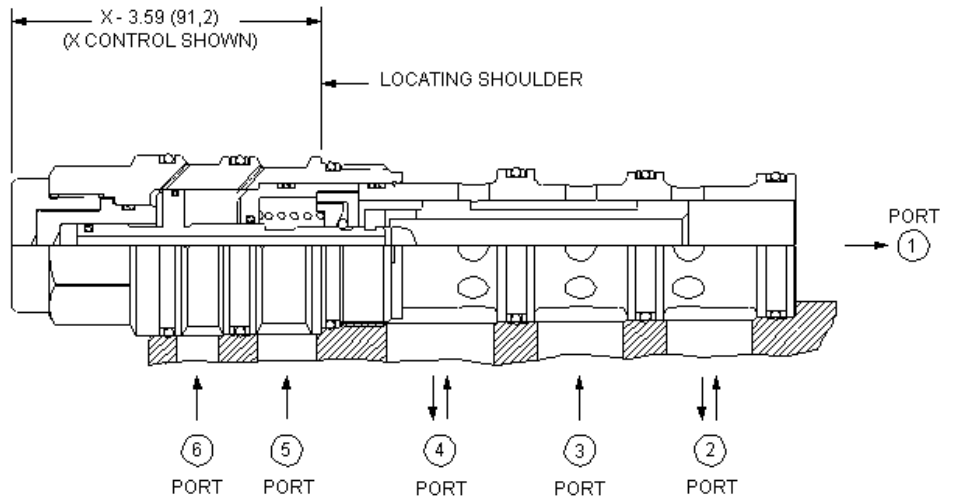
X-Control, C-Spool



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

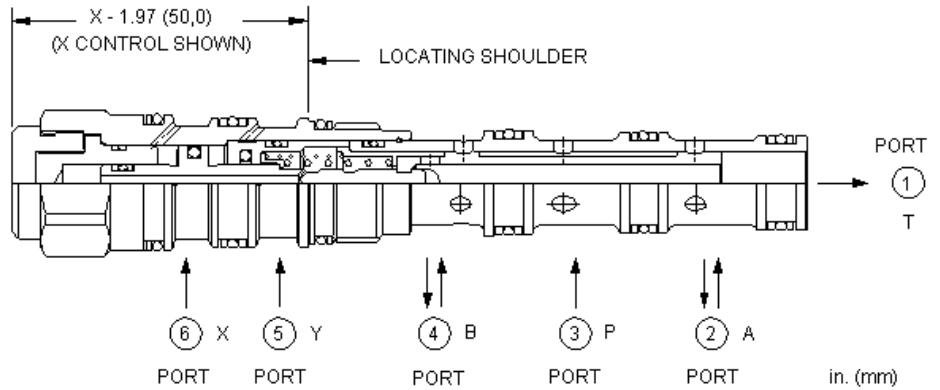
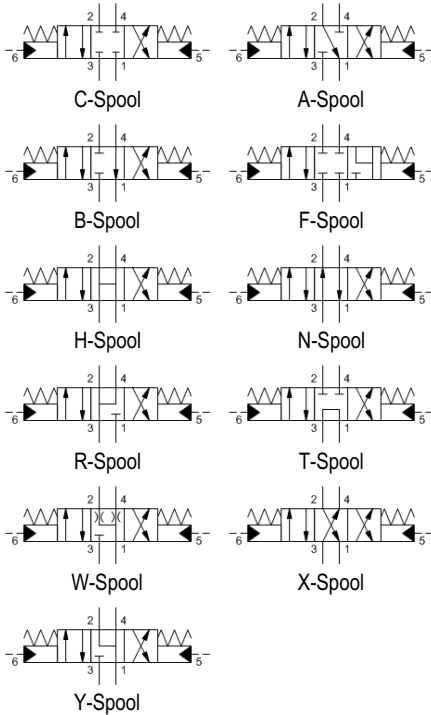
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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	N Buna-N	
	H Open Crossover	V Viton	
	X P to B and A to T Crossover		



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.

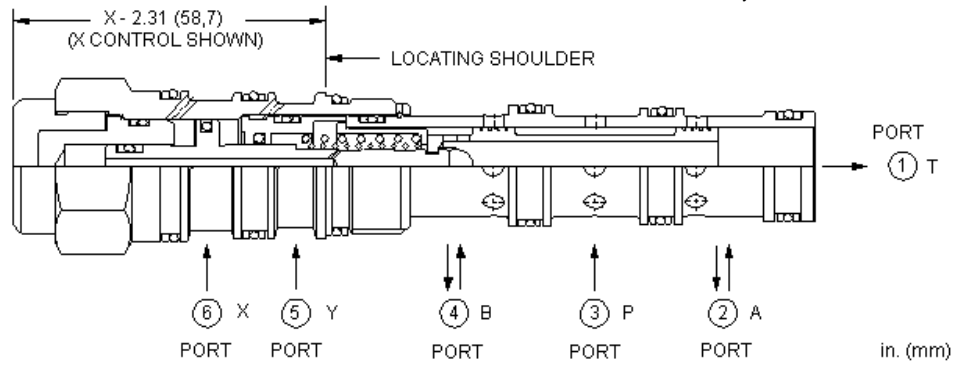
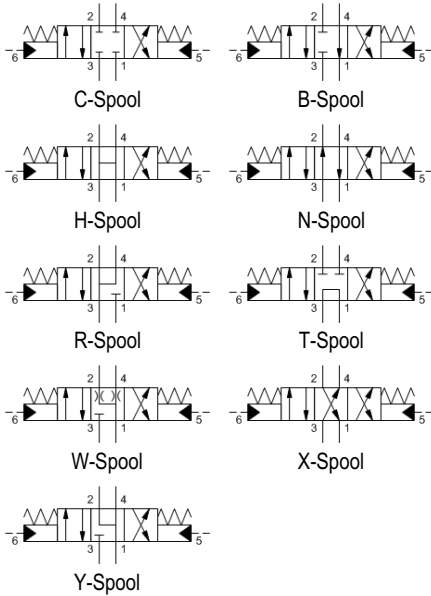
TECHNICAL DATA

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

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.

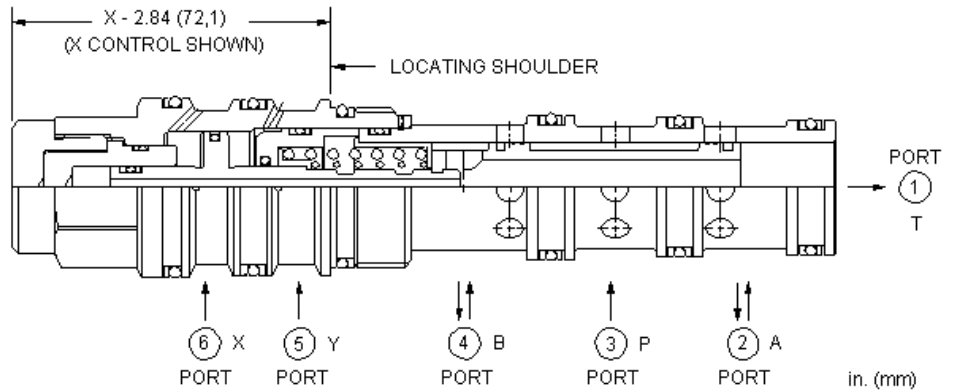
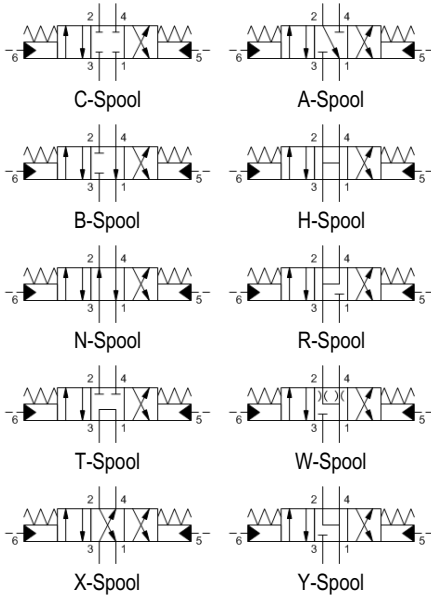
TECHNICAL DATA

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

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 /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.

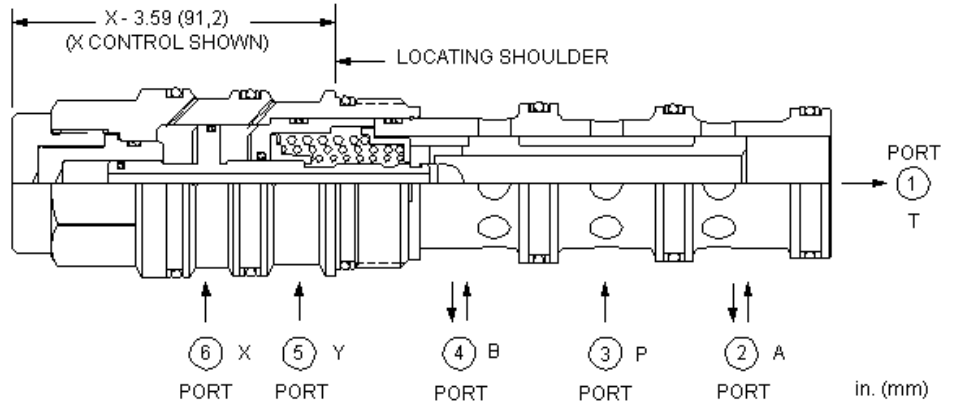
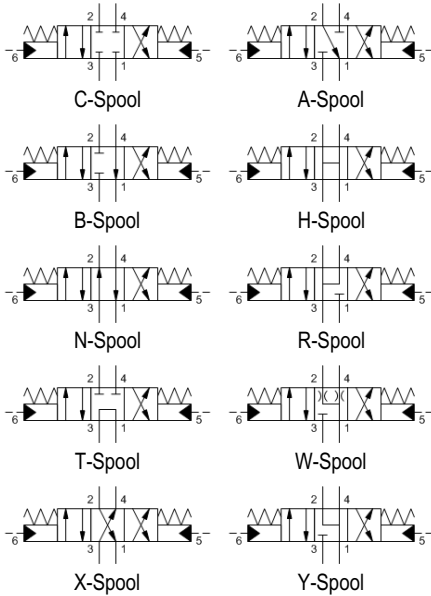
TECHNICAL DATA

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

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

(X) 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.

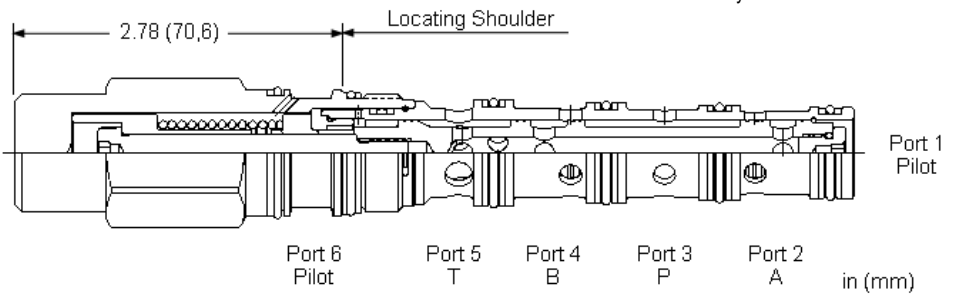
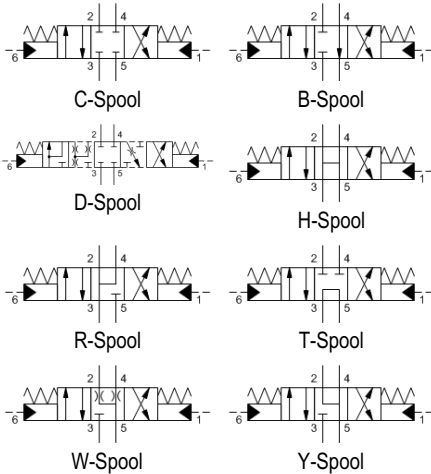
TECHNICAL DATA

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

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.

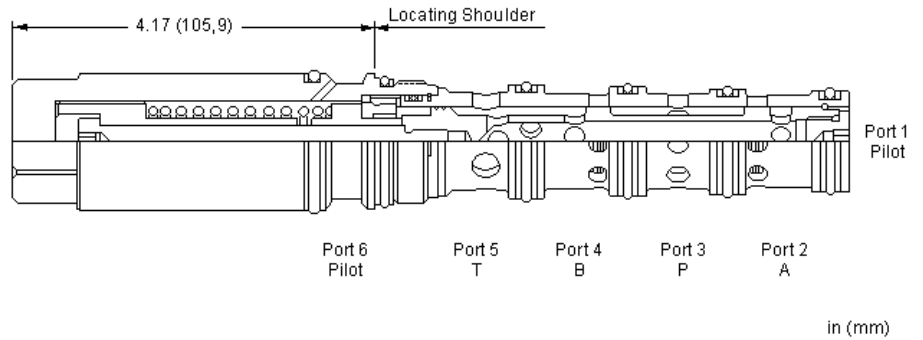
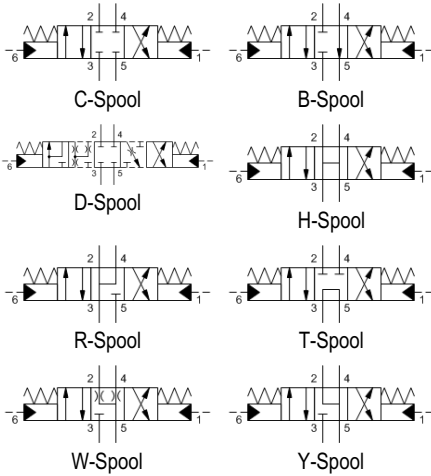
TECHNICAL DATA

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

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.

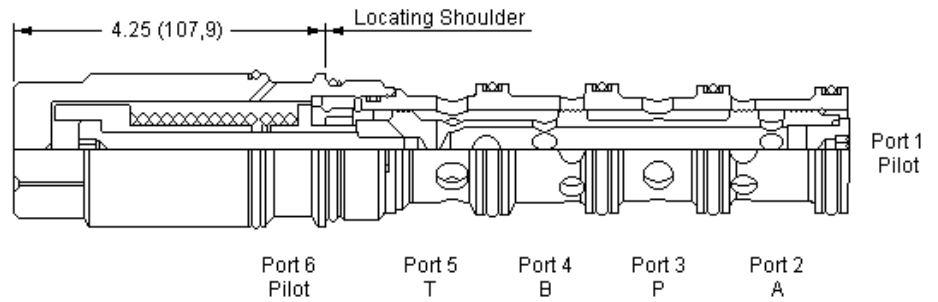
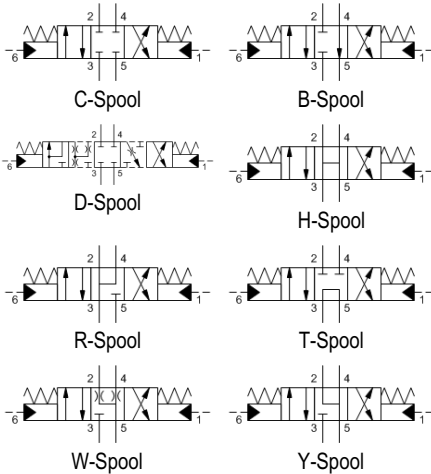
TECHNICAL DATA

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

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) 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 Bleed to T Center	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



in (mm)

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

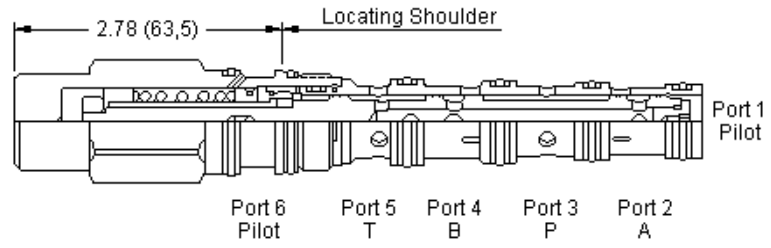
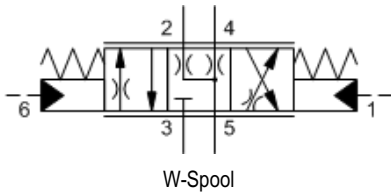
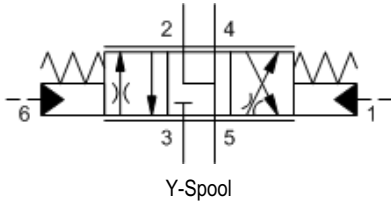
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

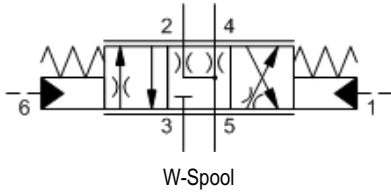
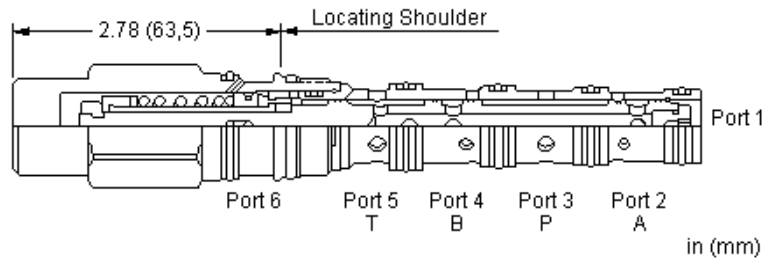
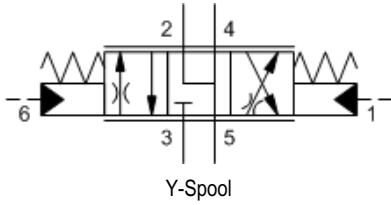
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Pressure Required for Full Shift at Rated Flow	20 - 23 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	90 cc/min.@70 bar
Pilot Volume Displacement	0,66 cc
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

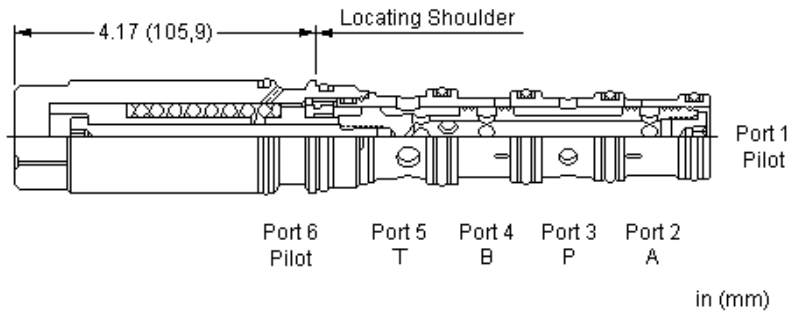
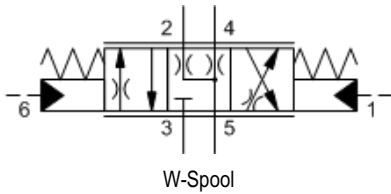
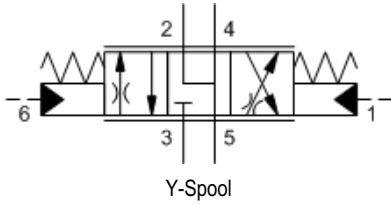
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Pressure Required for Full Shift at Rated Flow	20 - 23 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	44 cc/min.@35 bar
Pilot Volume Displacement	0,66 cc
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

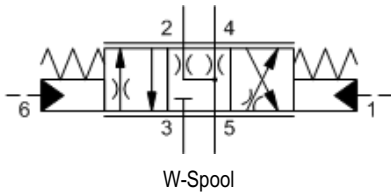
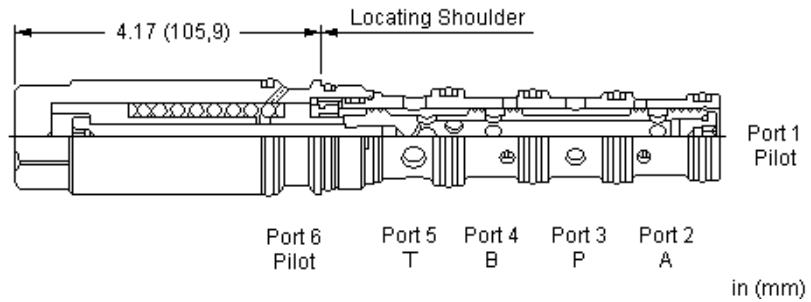
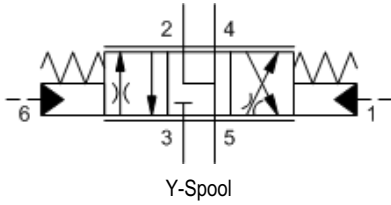
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Pressure Required for Full Shift at Rated Flow	20 - 23 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	131 cc/min.@70 bar
Pilot Volume Displacement	1,8 cc
Hysteresis	35 %
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

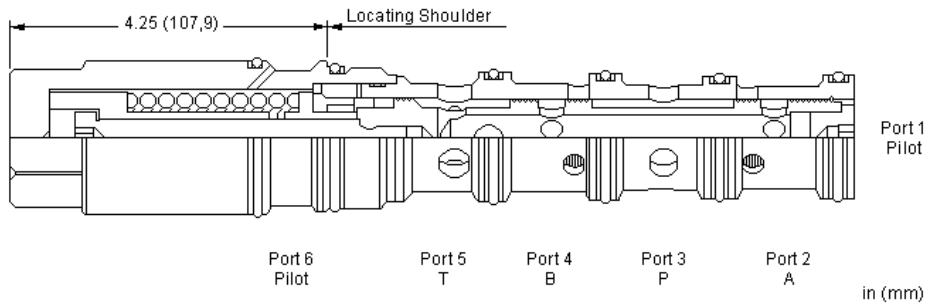
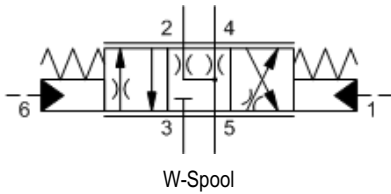
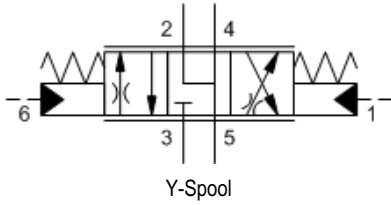
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Pressure Required for Full Shift at Rated Flow	20 - 23 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	131 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: 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	N Standard Material/Coating IAP 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

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	229 cc/min.@70 bar
Pilot Volume Displacement	4,3 cc
Maximum Pilot Pressure	35 bar
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
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