

Directional, Shuttle Cartridges

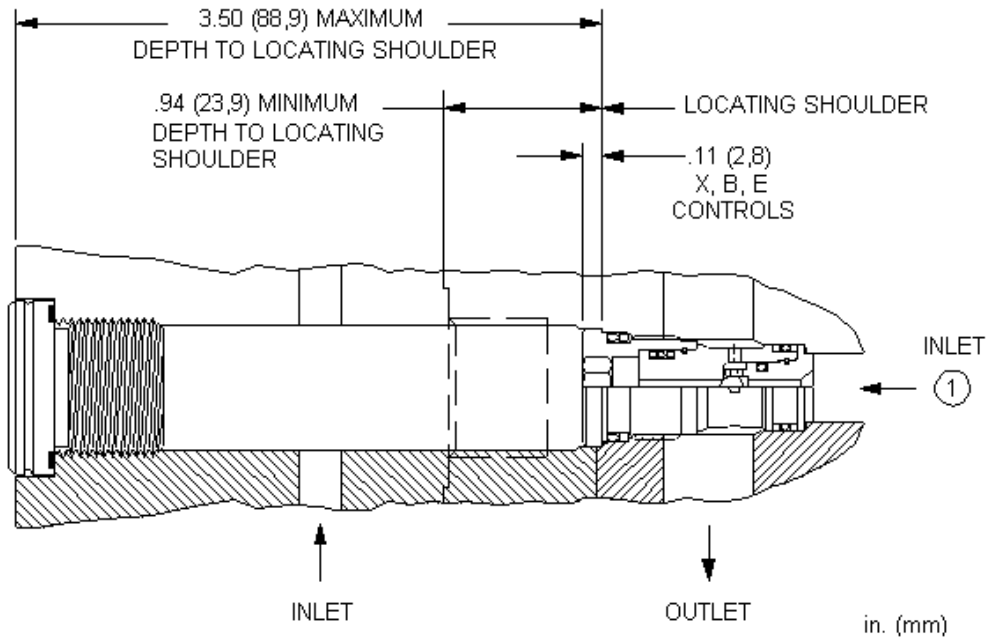
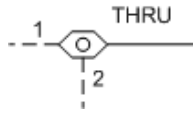
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CSAN	Insert style, single ball shuttle valve with signal at port 21
CSZN	Insert style, single ball shuttle valve with signal at port 22
CSAA	Single ball shuttle valve with signal external3
CSAW	Single ball shuttle valve with signal external4
CSAC	Single ball shuttle valve with signal at port 25
CSAD	Single ball shuttle valve with signal at port 26
CSAY	Single ball shuttle valve with signal at port 27
CSAZ	Single ball shuttle valve with signal at port 28
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CDAC	Back-to-back check/shuttle valve with signal at port 210
CDAD	Back-to-back check/shuttle valve with signal at port 211
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CSAX	Single ball shuttle valve with signal at port 313
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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 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) 6-Port 6-Port	T-18A T-18AU T-19A T-19AU T-24A T-24AU T-34A T-54AD T-54A T-64A



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

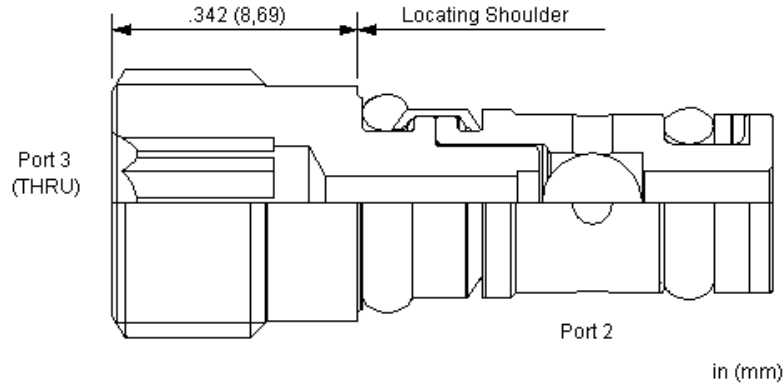
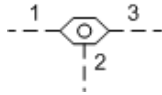
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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	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

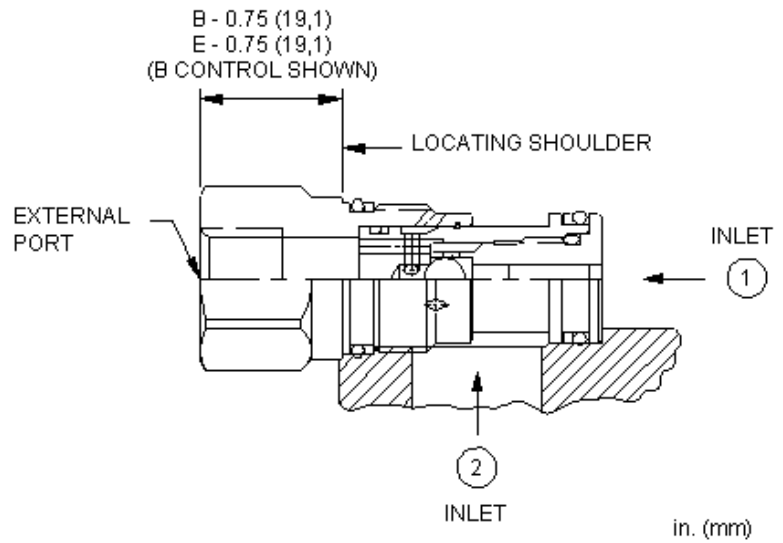
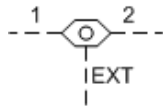
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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	



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

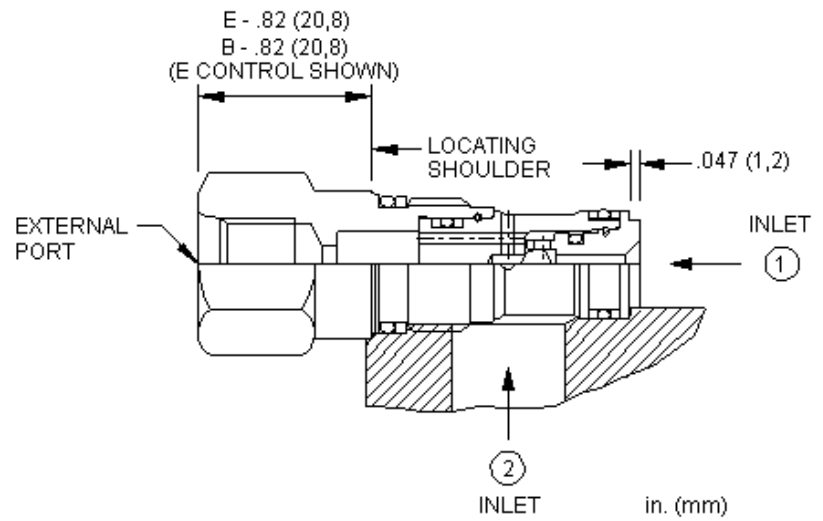
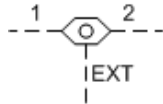
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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

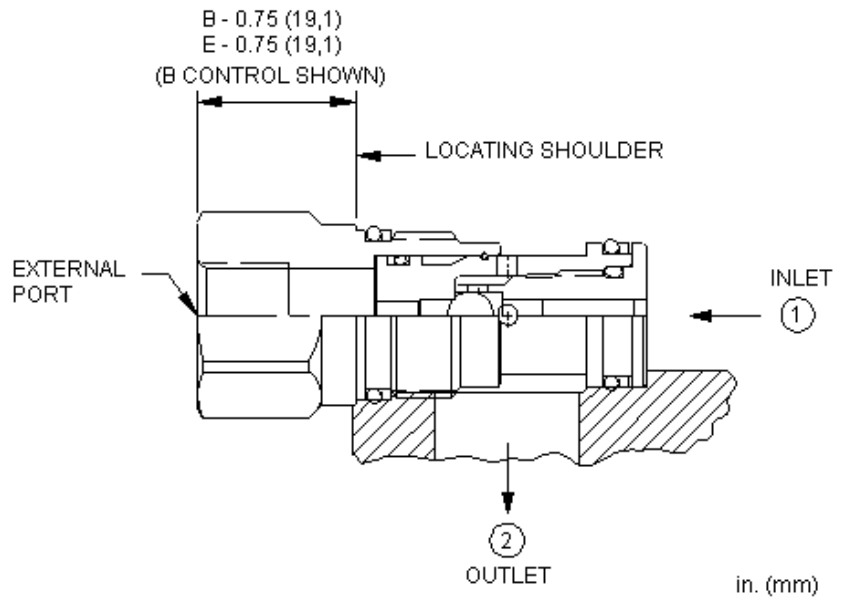
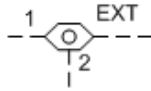
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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 E External 4-SAE Port	X -	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. It features an external load port located in the hex-end of the cartridge and the signal is sensed at port 2.

TECHNICAL DATA

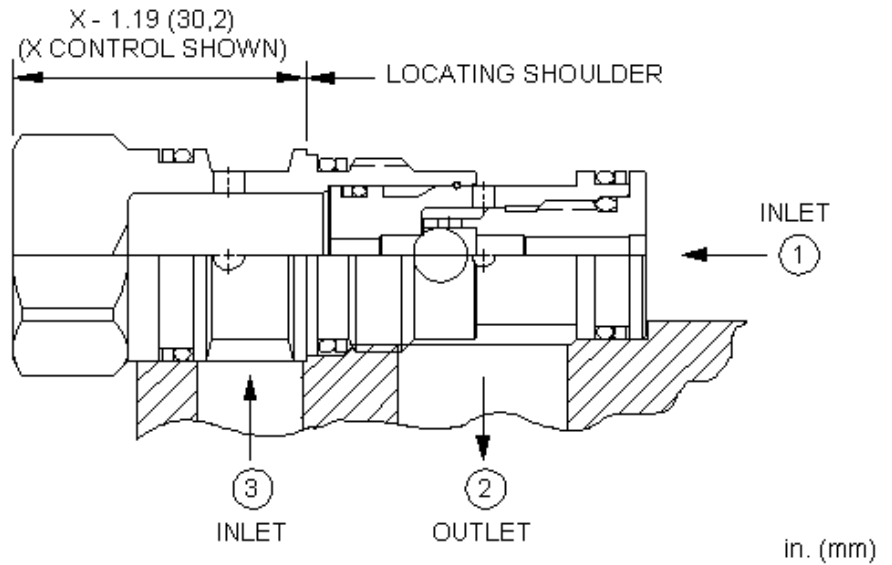
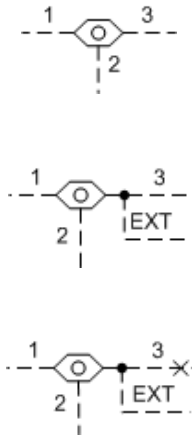
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 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		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.

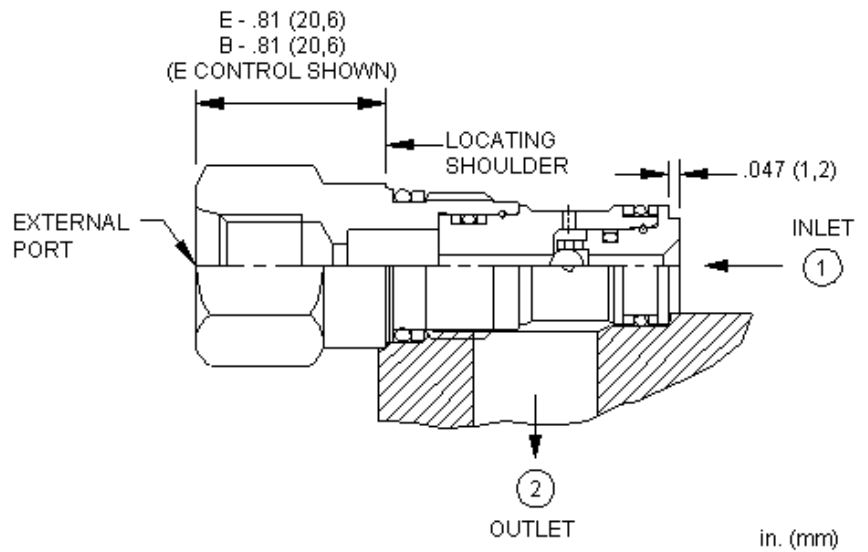
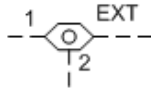
TECHNICAL DATA

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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

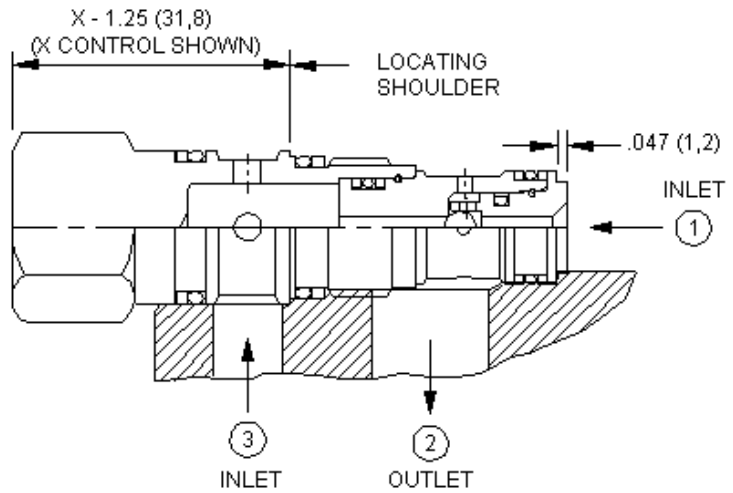
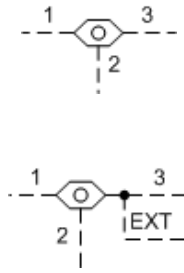
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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) MATERIAL/COATING
B External 1/4 BSPP Port E External 4-SAE Port	X -	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



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

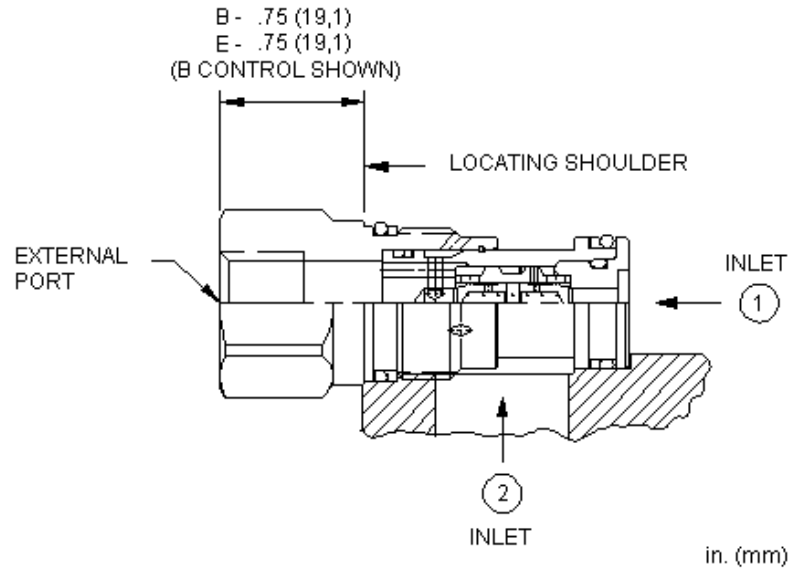
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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

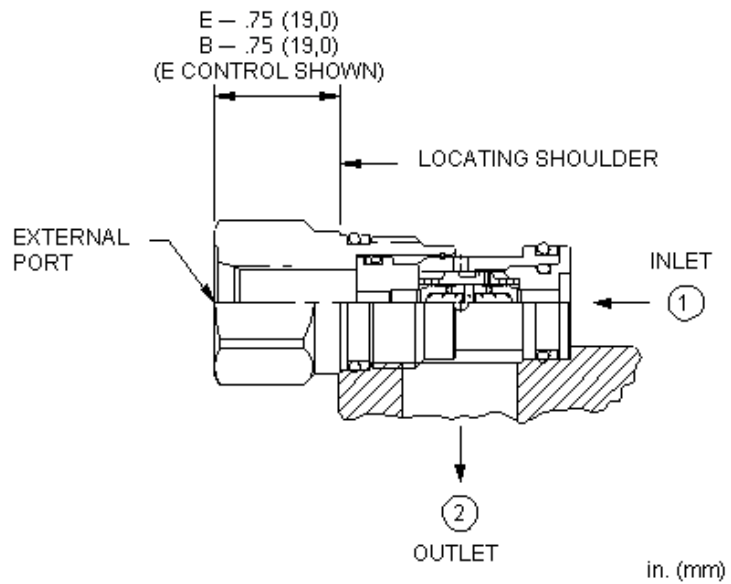
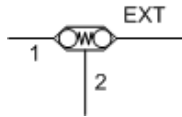
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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

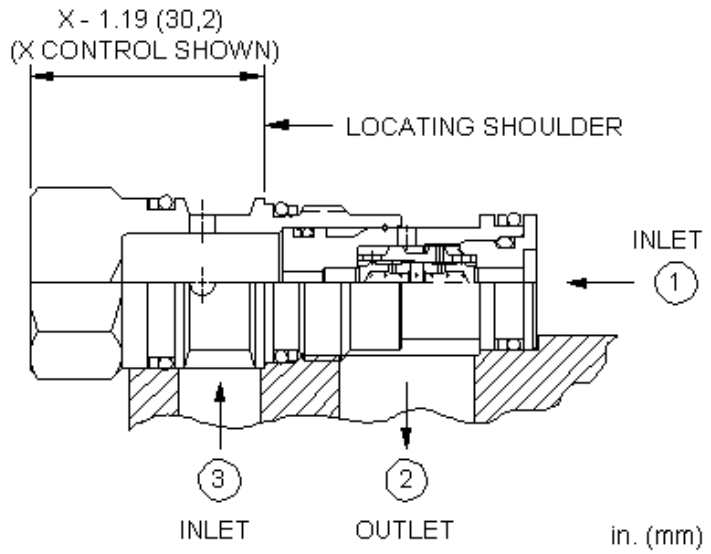
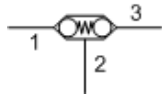
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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

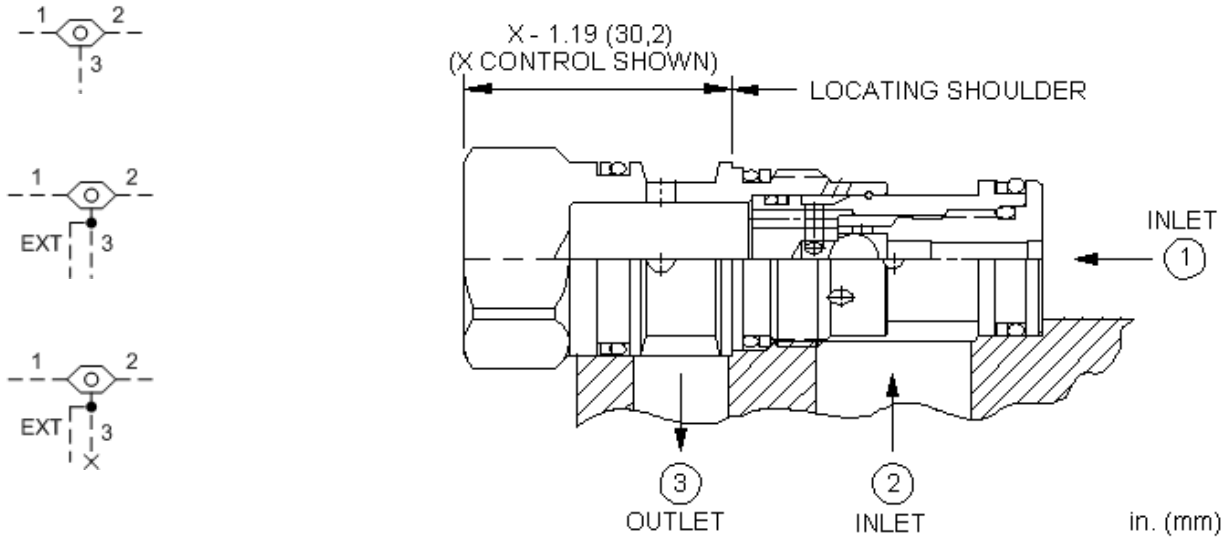
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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

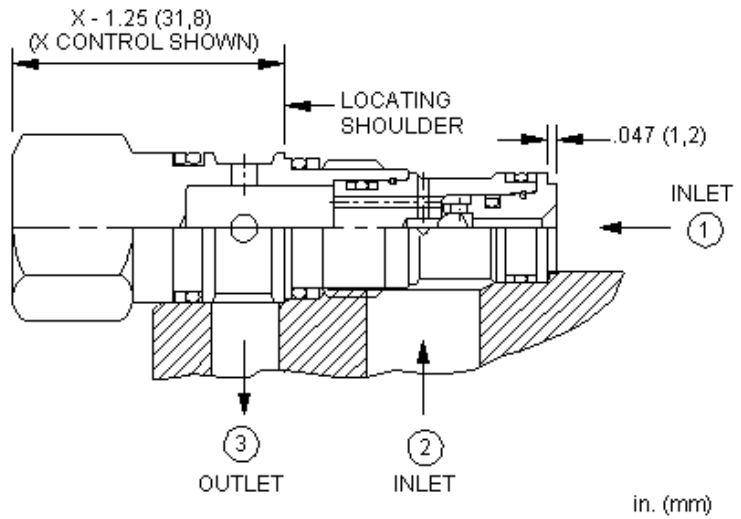
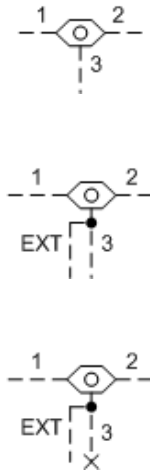
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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

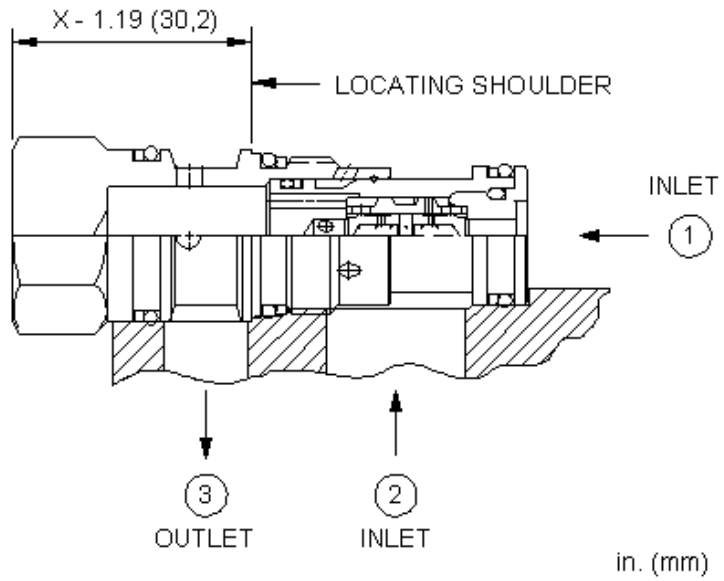
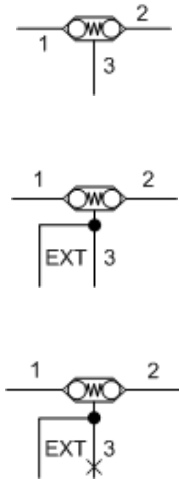
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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

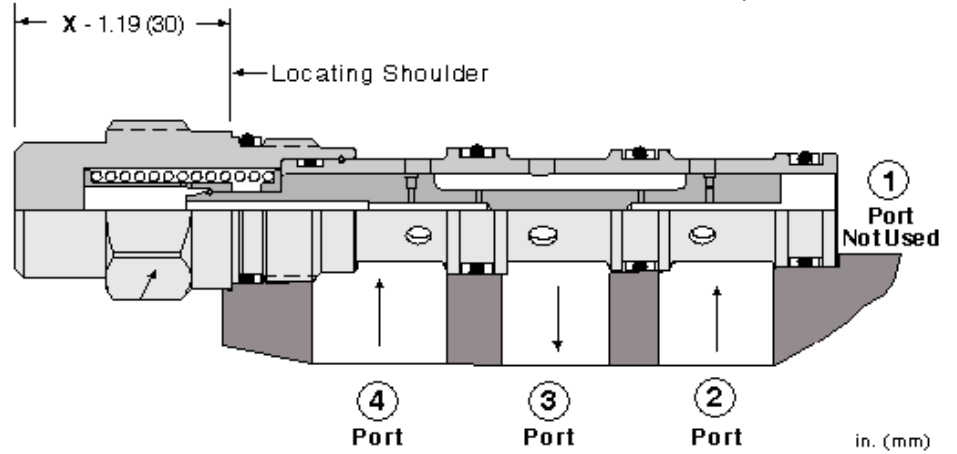
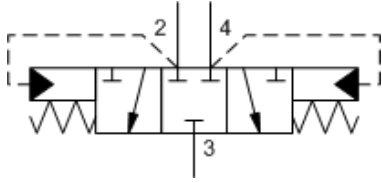
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
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	B 15 psi (1 bar)	N Buna-N	Standard Material/Coating
A Auxiliary External -4 SAE Port		V Viton	/AP Stainless Steel, Passivated
B Auxiliary External 1/4 BSPP Port			/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

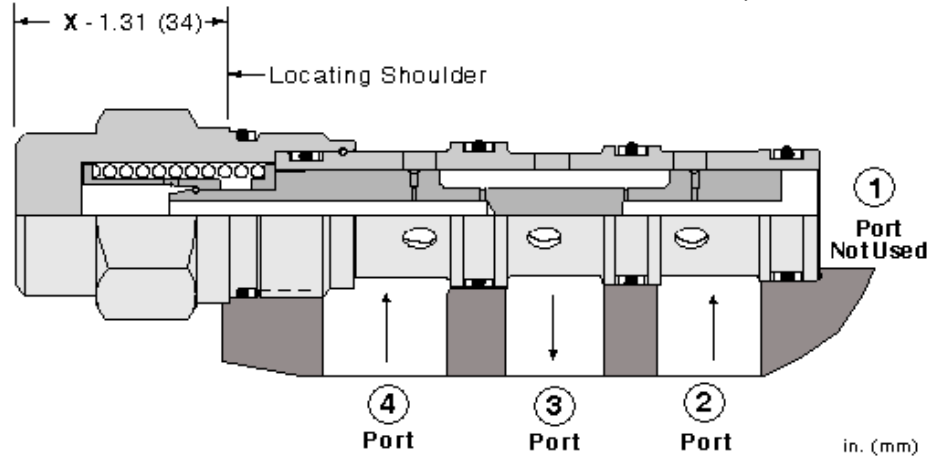
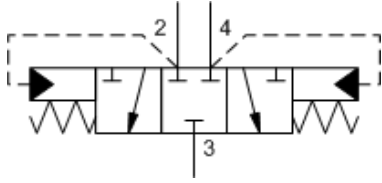
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

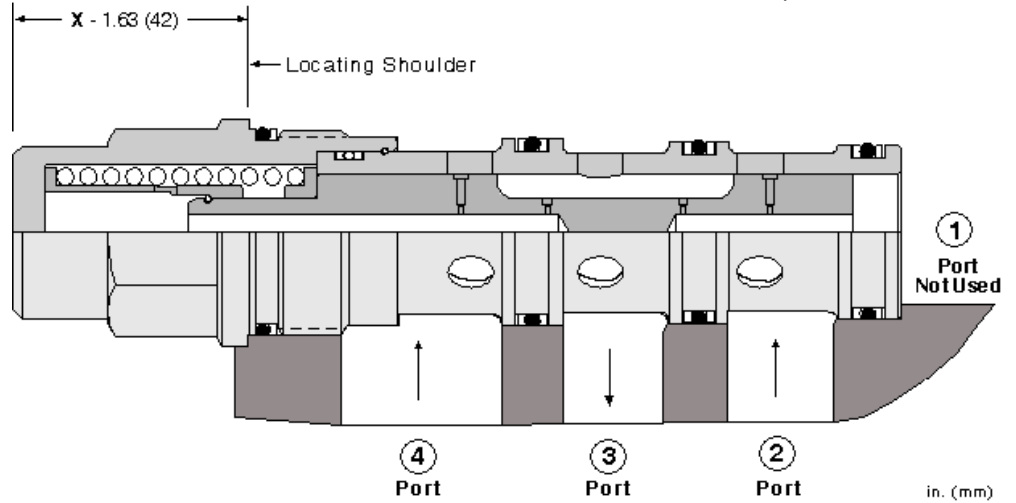
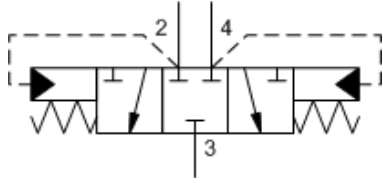
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

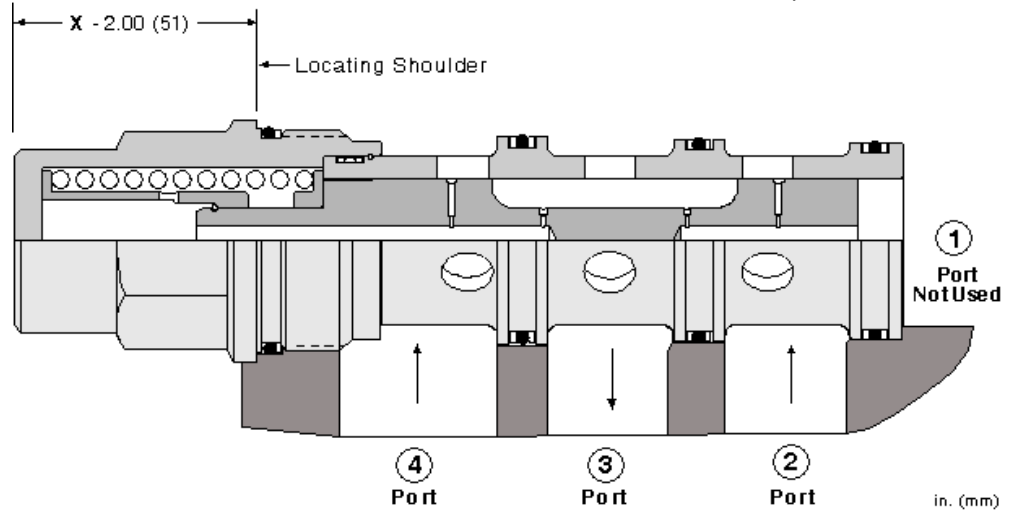
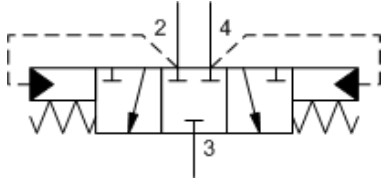
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

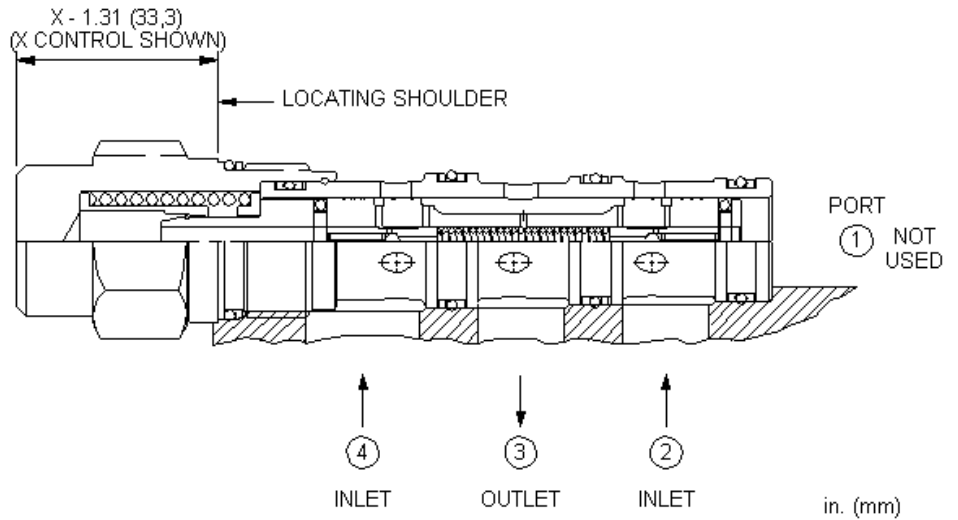
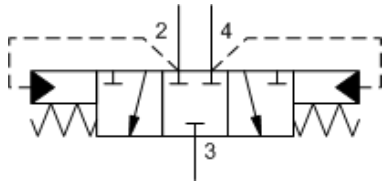
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

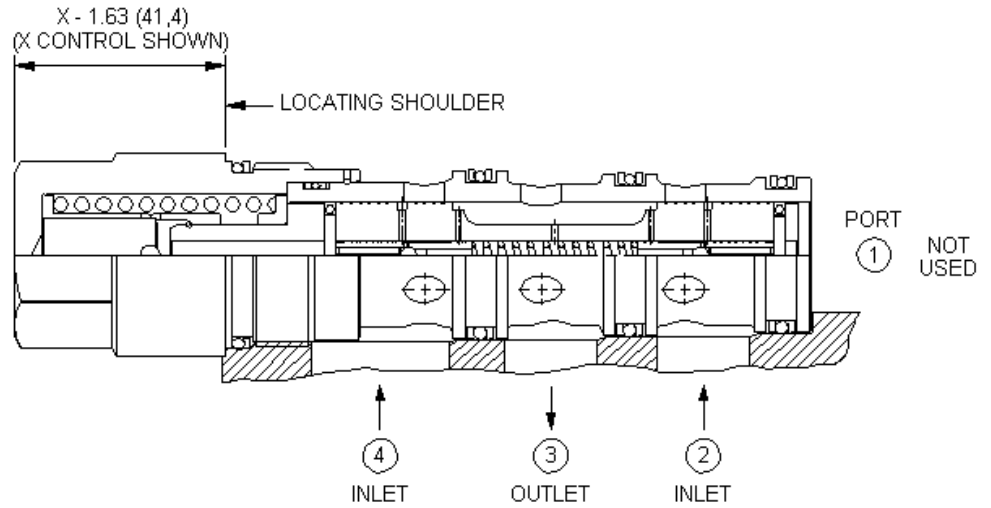
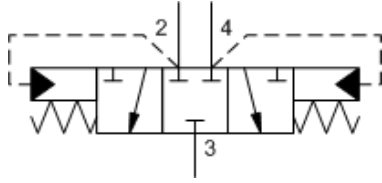
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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 /AP 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

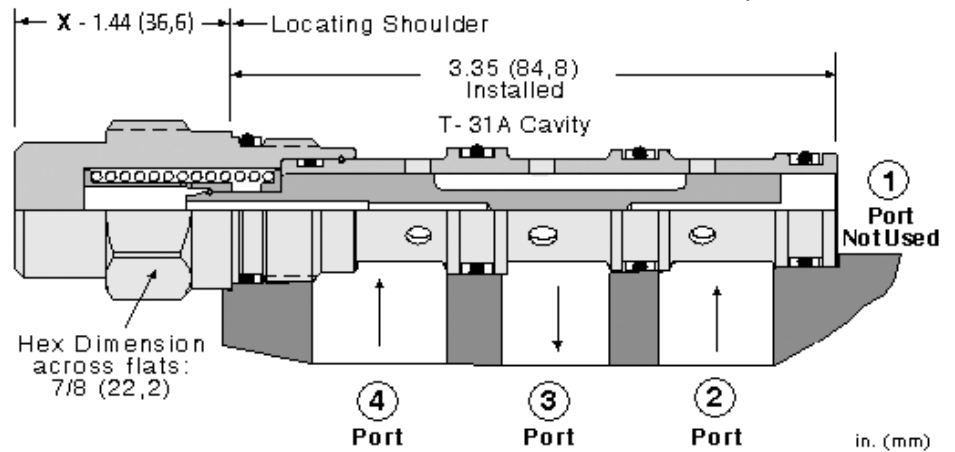
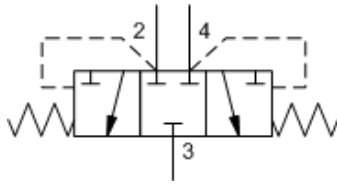
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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).

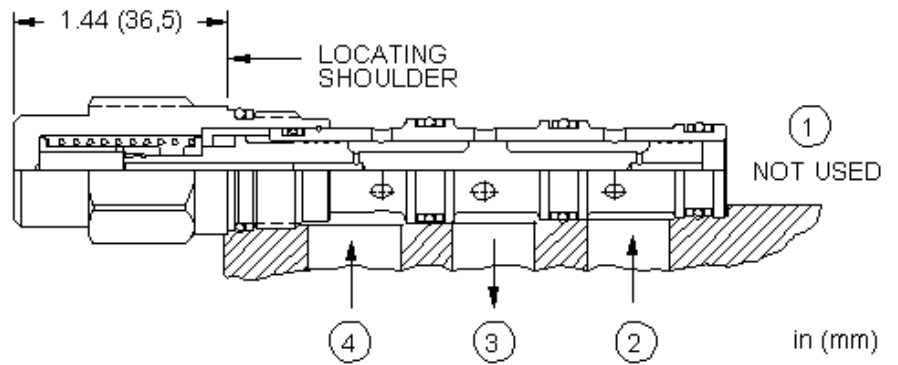
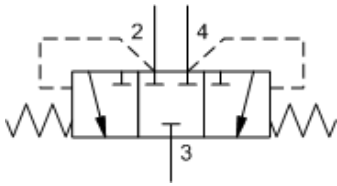
TECHNICAL DATA

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

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) MATERIAL/COATING
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	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



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

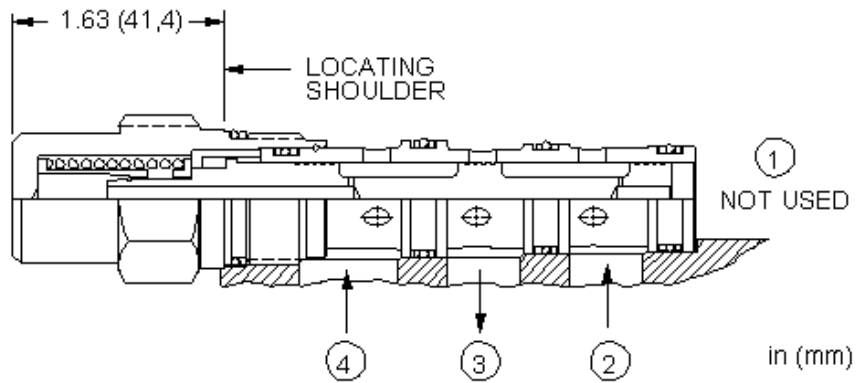
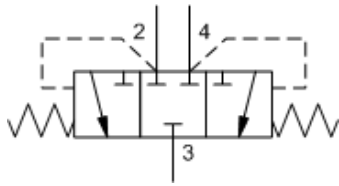
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

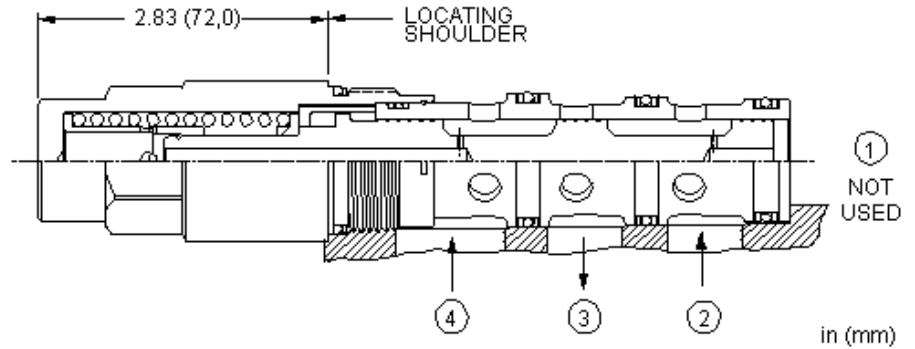
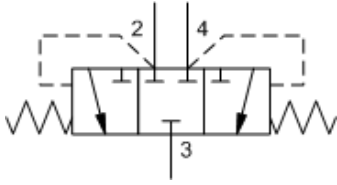
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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) 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).

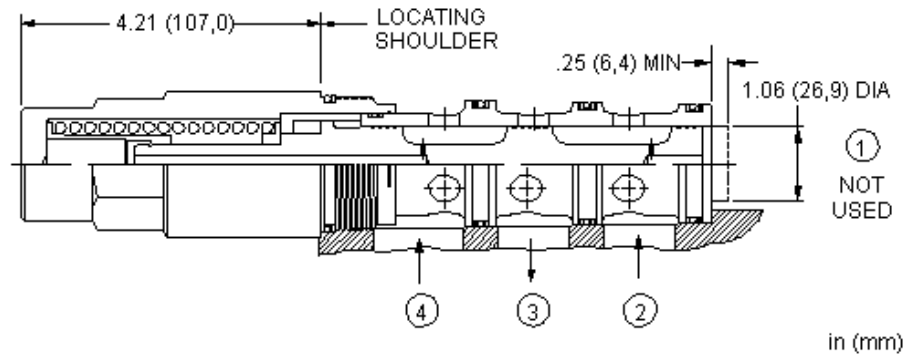
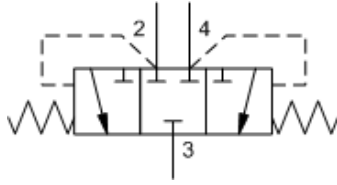
TECHNICAL DATA

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

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)		



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

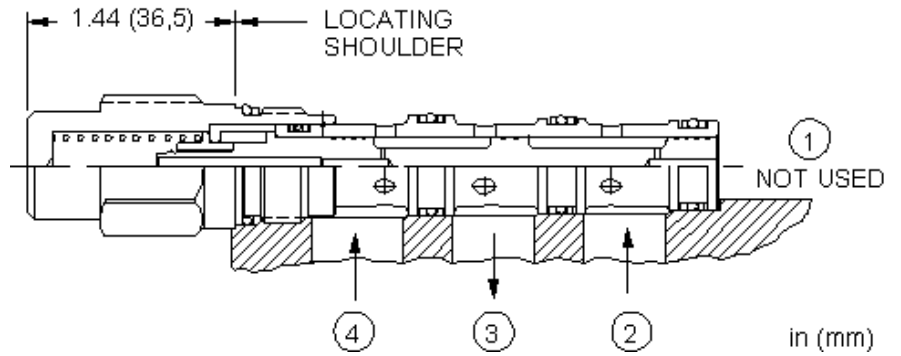
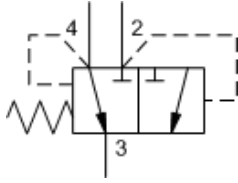
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min. @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)		N Buna-N	
		C 30 psi (2 bar)		V Viton	
		E 75 psi (5 bar)			
		F 100 psi (7 bar)			



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

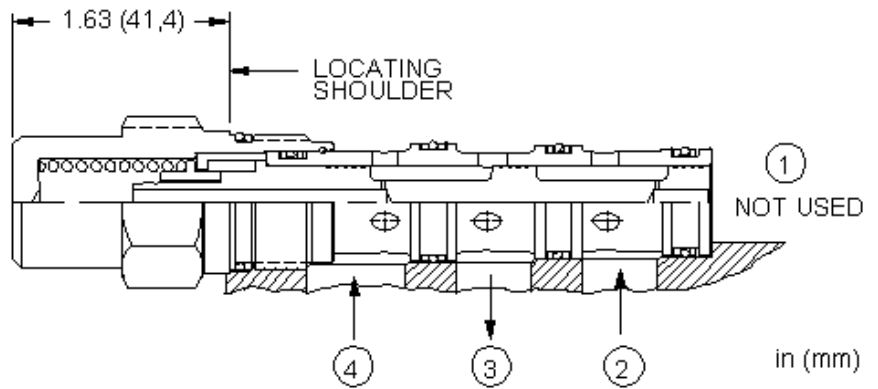
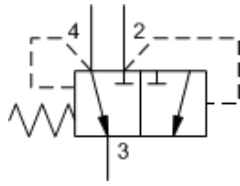
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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 /LH Mild Steel, Zinc-Nickel



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

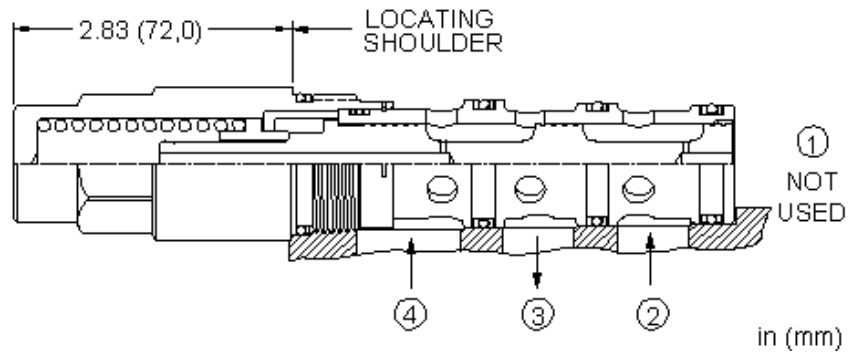
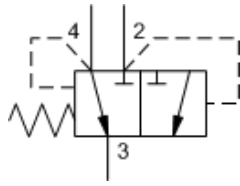
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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 IAP 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

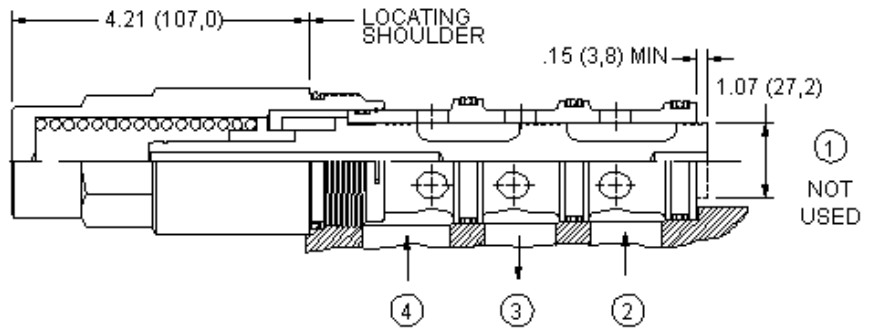
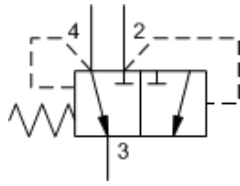
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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) MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar) C 30 psi (2 bar)	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



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

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

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	

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