DC

Directional Control Valves





Directional Control Valves Application Notes

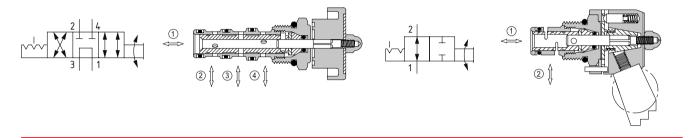


Basic Operation: Directional Control Valves

Directional Control Valves are manually actuated or hydraulically pilot operated, spool type valves. They are available as 2-way, 3-way or 4-way valves with various port configurations. Hydraulically pilot operated valves are generally 2-position, while the manually actuated valves can be 2 or 3-position. Manually operated valves can be rotary or linear with or without detent. They can be used to open or close flow lines, meter flow, or divert flow to various parts of a circuit.

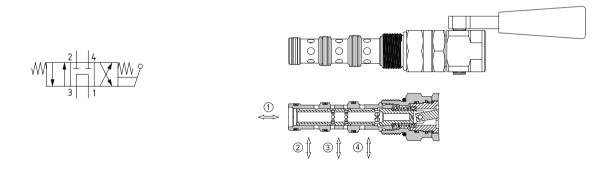
Manual Rotary Valves

Manual rotary valves are available as 2, 3, or 4-way spools, 2 or 3-positions, with or without detent. The adjustment can be a hand knob or a lever, ideal for panel mounted applications where manual control or intervention is necessary.



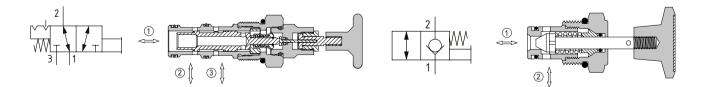
Manual Lever Valves

Manual lever valves are 3-position, 4-way lever operated direct acting spool type directional valves. The lever can be positioned to suit in the manifold offering great flexibility in design. Inlet port is through port 3, ports 2 and 4 are the work ports, and port 1 the tank port.



Manual Push or Pull Valves

Manual push and pull type valves are 2, 3 or 4-way, 2 position directional valves with a spool or poppet design. They are operated by pulling or pushing the spool from one position to another. Depending on the model, they will feature either spring return or position detent to lock the position in place. The poppet valves are ideal for emergency lowering while the spool designs act as diverter valves.

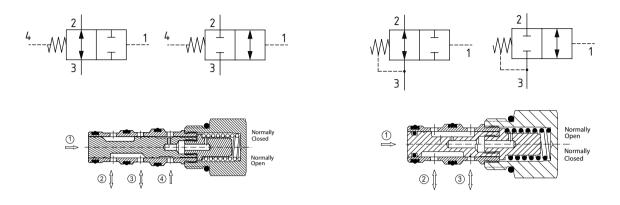


Directional Control Valves Application Notes



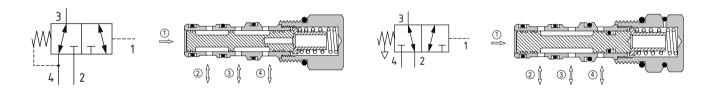
Hydraulically Pilot Operated 2-way, 2-Position Valves

Hydraulically pilot operated, 2-way, 2-position valves are normally open or closed spool type valves. They available with an internal or an external spring chamber drain, while some models have an atmospheric vent. Flow can pass in either direction provided the pilot pressure is higher than the vent pressure.



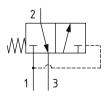
Hydraulically Pilot Operated 3-way, 2 Position Valves

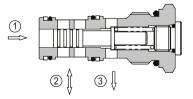
Hydraulically pilot operated 3-way, 2 position pilot operated spool type valves are available with internal or external spring chamber drain, while some models have an atmospheric vent. These valves can be used in a normally open, normally closed or as a diverter from one outlet port to the other. External or atmospheric drains allow for flow to pass in either direction through the spool without affecting the pilot switching pressure. Some of these valves can be used as compensators in conjunction with an adjustable orifice or as load sensing priority valves.



Brake Release Hydraulically Pilot Operated Spool Valves

These hydraulically pilot operated spool type valves are designed to allow spring applied brakes to disengage, even when there is a residual pressure in the brake line. The pilot pressure is taken from the inlet port 1, opening port 1 to the outlet brake line in port 2. When the pressure applied to the brake falls below the setting of the valve, it opens the brake line port 2 to tank port 3, allowing the brake to engage.





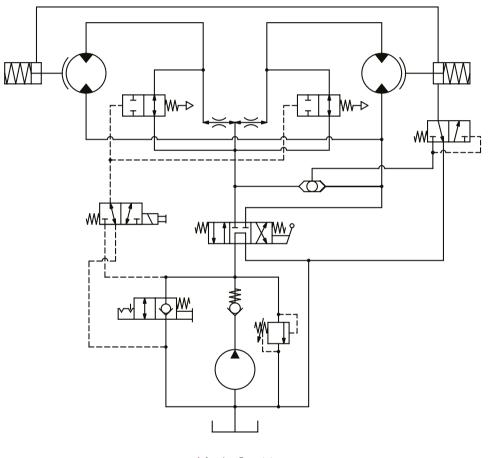
Directional Control Valves Application Notes



Application Notes

- Manual and hydraulically pilot operated directional valves have a multitude of applications. If questions arise, please contact your technical representative.
- Internally and externally vented valves are preferred over atmospheric vents because of the potential for external leakage as seals wear. Issues can
 arise quickly if the oil cleanliness is not within recommended specifications.

Typical Applications



▲ Open Loop Transmission





Manual Rotary Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MRV2-10	SDC10-2	Manual Rotary Restrictor Valve, 2-Way, Spool Type	57 l/min [15 US gpm]	210 bar [3000 psi]	12
	MRV2-16	SDC16-2	Manual Rotary Restrictor Valve, 2-Way, Spool Type	170 l/min [45 US gpm]	210 bar [3000 psi]	13
Manual Rotary Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MRV3-10	SDC10-3	Manual Rotary Valve, 3-Way, Spool Type	23 l/min [6 US gpm]	210 bar [3000 psi]	14
2	MRV13-10	SDC10-3	Manual Rotary Valve, 3-Way, Spool Type	23 l/min [6 US gpm]	350 bar [5000 psi]	15
	MRV13-12	C-12-3	Manual Rotary Valve, 3-Way, Spool Type	45 l/min [12 US gpm]	350 bar [5000 psi]	16
, i C	MRV3-16	SDC16-3	Manual Rotary Valve, 3-Way, Spool Type	65 l/min [17 US gpm]	210 bar [3000 psi]	17
	MRV13-16	SDC16-3	Manual Rotary Valve, 3-Way, Spool Type	65 l/min [17 US gpm]	350 bar [5000 psi]	18
Manual Rotary Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MRV4-10	SDC10-4	Manual Rotary Valve, 4-Way, Spool Type	11 l/min [3 US gpm]	210 bar [3000 psi]	19
2 4	MRV14-10	SDC10-4	Manual Rotary Valve, 4-Way, Spool Type	11 l/min [3 US gpm]	350 bar [5000 psi]	20
	MRV14-12	C-12-4	Manual Rotary Valve, 4-Way, Spool Type	23 l/min [6 US gpm]	350 bar [5000 psi]	21
, i c	MRV4-16	SDC16-4	Manual Rotary Valve, 4-Way, Spool Type	45 l/min [12 US gpm]	210 bar [3000 psi]	22
	MRV14-16	SDC16-4	Manual Rotary Valve, 4-Way, Spool Type	45 l/min [12 US gpm]	350 bar [5000 psi]	23
Manual Rotary Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MRV5-10	SDC10-4	Manual Rotary Valve, 4-Way, Spool Type	11 l/min [3 US gpm]	210 bar [3000 psi]	24
	MRV15-10	SDC10-4	Manual Rotary Valve, 4-Way, Spool Type	11 l/min [3 US gpm]	350 bar [5000 psi]	25
	MRV15-12	C-12-4	Manual Rotary Valve, 4-Way, Spool Type	23 l/min [6 US gpm]	350 bar [5000 psi]	26
	MRV15-16	SDC16-4	Manual Rotary Valve, 4-Way, Spool Type	45 l/min [12 US gpm]	350 bar [5000 psi]	27





Manual Rotary Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MRV6-10	SDC10-4	Manual Rotary Valve, 4-Way, Spool Type	11 l/min [3 US gpm]	210 bar [3000 psi]	28
	MRV6-16	SDC16-4	Manual Rotary Valve, 4-Way, Spool Type	45 l/min [12 US gpm]	210 bar [3000 psi]	29
Manual Rotary Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MRV7-10	SDC10-4	Manual Rotary Valve, 4-Way, Spool Type	11 l/min [3 US gpm]	210 bar [3000 psi]	30

Manual Lever Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MLV9-12-A	C-12-4	Manual Lever Valve, 4-Way, Spool Type	60 l/min [16 US gpm]	210 bar [3000 psi]	31

Manual Lever Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MLV9-12-B	C-12-4	Manual Lever Valve, 4-Way, Spool Type	60 l/min [16 US gpm]	210 bar [3000 psi]	32

Manual Lever Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MLV9-12-E	C-12-4	Manual Lever Valve, 4-Way, Spool Type	60 l/min [16 US gpm]	210 bar [3000 psi]	33
Manual Lever Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MLV9-12-F	C-12-4	Manual Lever Valve, 4-Way, Spool Type	60 l/min [16 US gpm]	210 bar [3000 psi]	34



Manual Pull Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MPV1-10	SDC10-2	Manual Pull Valve, 2-Way, Normally Closed, Poppet Type	45 l/min [12 US gpm]	210 bar [3000 psi]	35

Manual Pull Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MPV3-10	SDC10-2	Manual Pull Valve with Detent, 2-Way, Normally Closed, Poppet Type	45 l/min [12 US gpm]	210 bar [3000 psi]	36

Manual Push Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	3CP2	SDC08-2	Manual Push Valve, 2-Way, Normally Closed, Poppet Type with Check	15 l/min [4 US gpm]	210 bar [3000 psi]	37

Manual Push Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	CE 06	NCS06/2	Manual Push Valve, 2-Way, Normally Closed, Poppet Type, Double Blocking	19 l/min [5 US gpm]	315 bar [4600 psi]	38

Manual Push Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MSV11-10	SDC10-3	Manual Push Valve with Detent, 3-Way, Spool Type	23 l/min [6 US gpm]	350 bar [5000 psi]	39
	MSV1-12	C-12-3	Manual Push Valve with Detent, 3-Way, Spool Type	40 l/min [11 US gpm]	210 bar [3000 psi]	40
Manual Push Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
2						

	MSV2-12	C-12-3	Manual Push Valve with Detent, 3-Way, Spool Type	38 l/min [10 US gpm]	210 bar [3000 psi]	41
Manual Push Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MSV3-12	C-12-4	Manual Push Valve with Detent, 4-Way, Spool Type	53 l/min [14 US gpm]	210 bar [3000 psi]	42

*Flow ratings are for reference only. Refer to individual product page for performance information.





Manual Push Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
$\begin{array}{c c} 2 & 4 \\ \hline \\ W & 1 \\ 3 & 1 \end{array}$	MSV4-12	C-12-4	Manual Push Valve with Detent, 3-Way, Spool Type	53 l/min [14 US gpm]	210 bar [3000 psi]	43

Manual Push Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MSV5-12	C-12-3	Manual Push Valve with Detent, 4-Way, Spool Type	42 l/min [11 US gpm]	210 bar [3000 psi]	44

Manual Push Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MSV6-12	C-12-4	Manual Push Valve with Detent, 4-Way, Spool Type	53 l/min [14 US gpm]	210 bar [3000 psi]	45

Manual Push Valve	Model No.	Cavity	Description	Flow*	Pressure	Page
	MSV17-10	SDC10-4	Manual Push Valve with Detent, 4-Way, Spool Type	19 l/min [5 US gpm]	350 bar [5000 psi]	46
	MSV7-12	C-12-4	Manual Push Valve with Detent, 4-Way, Spool Type	45 l/min [12 US gpm]	210 bar [3000 psi]	47

Нус	draulically Piloted Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	2 \downarrow	CP710-1	SDC 10-3	Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	40 l/min [11 US gpm]	210 bar [3000 psi]	48

Hydraulically Piloted Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
2	PTS17-10	SDC10-3	Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	30 l/min [8 US gpm]	350 bar [5000 psi]	49
$\begin{array}{c c} VVV & \bullet & \top \\ \hline & 3 \\ \hline & 3 \\ \end{array}$	PTS17-12	C-12-3	Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	114 l/min [30 US gpm]	350 bar [5000 psi]	50

*Flow ratings are for reference only. Refer to individual product page for performance information.

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Hydraulically Piloted Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
2 1 2 1 2 3 2 4 3 3	СР710-3	SDC10-3	Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, Internal Drain	40 l/min [11 US gpm]	210 bar [3000 psi]	51

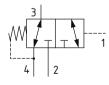
Hydraulically Piloted Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
4	CP710-8	SDC10-4	Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, External Drain	40 l/min [11 US gpm]	210 bar [3000 psi]	52
	CP712-8	SDC16-4	Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, External Drain	130 l/min [34 US gpm]	210 bar [3000 psi]	53
4	CP712-11	SDC16-4	Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, External Drain	130 l/min [34 US gpm]	450 bar [6500 psi]	54

Hydraulically Piloted Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
$4 + W = \frac{2}{3}$ $4 + W = \frac{2}{3}$ $4 + W = \frac{2}{3}$	CP712-7	SDC16-4	Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, External Drain, Proportional Flow Control	220 l/min [58 US gpm]	210 bar [3000 psi]	55

Hydraulically Piloted Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	PTS1-10	SDC10-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	30 l/min [8 US gpm]	210 bar [3000 psi]	56
	PTS11-10	SDC10-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	30 l/min [8 US gpm]	350 bar [5000 psi]	57
3 W 1 4	PTS11-12	C-12-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	76 l/min [20 US gpm]	350 bar [5000 psi]	58
$\begin{array}{c c} V V \downarrow _ & \downarrow \not \downarrow _ \\ \hline & 4 \end{matrix} = 2 $ 1	PTS1-16	SDC16-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	132 l/min [35 US gpm]	210 bar [3000 psi]	59
	PTS11-16	SDC16-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	132 l/min [35 US gpm]	350 bar [5000 psi]	60
	PTS1-20	SDC20-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	265 l/min [70 US gpm]	210 bar [3000 psi]	61



Hydraulically Piloted Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	PTS12-10	SDC10-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	30 l/min [8 US gpm]	350 bar [5000 psi]	62
3	PTS12-12	C-12-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	114 l/min [30 US gpm]	350 bar [5000 psi]	63
	PTS2-16	SDC16-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	132 l/min [35 US gpm]	210 bar [3000 psi]	64
4 2	PTS12-16	SDC16-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	132 l/min [35 US gpm]	350 bar [5000 psi]	65
	PTS2-20	SDC20-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	265 l/min [70 US gpm]	210 bar [3000 psi]	66
Hydraulically Piloted Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	PTS14-12	C-12-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	114 l/min [30 US gpm]	350 bar [5000 psi]	67
3 W	PTS14-16	SDC16-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	132 l/min [35 US gpm]	350 bar [5000 psi]	68
\downarrow	PTS5-16	SDC16-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	132 l/min [35 US gpm]	210 bar [3000 psi]	69
	PTS15-16	SDC16-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent	132 l/min [35 US gpm]	350 bar [5000 psi]	70
Hydraulically Piloted Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	PTS3-10	SDC10-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	30 l/min [8 US gpm]	210 bar [3000 psi]	71
	PTS13-10	SDC10-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	30 l/min [8 US gpm]	350 bar [5000 psi]	72



PTS13-12	C-12-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	114 l/min [30 US gpm]	350 bar [5000 psi]	73
PTS3-16	SDC16-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	132 l/min [35 US gpm]	210 bar [3000 psi]	74
PTS6-16	SDC16-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	132 l/min [35 US gpm]	210 bar [3000 psi]	75
PTS13-16	SDC16-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	132 l/min [35 US gpm]	350 bar [5000 psi]	76
CP722-11	SDC16-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	125 l/min [33 US gpm]	450 bar [6500 psi]	77
PTS3-20	SDC20-4	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain	265 l/min [70 US gpm]	210 bar [3000 psi]	78



Hydraulically Piloted Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	PTS9-8	C-8-55	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, External Drain	19 l/min [5 US gpm]	280 bar [4000 psi]	79
$\frac{3}{5}$	PTS9-10	SDC10-5	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, External Drain	38 l/min [10 US gpm]	280 bar [4000 psi]	80
	PTS9-12	C-12-5S	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, External Drain	76 l/min [20 US gpm]	280 bar [4000 psi]	81
	PTS9-16	C-16-5S	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, External Drain	151 l/min [40 US gpm]	280 bar [4000 psi]	82
	PTS9-20	C-20-5S	Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, External Drain	230 l/min [60 US gpm]	280 bar [4000 psi]	83
Hydraulically Piloted Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
$2 \qquad 4 \qquad 5 \qquad 3 \qquad 1 \qquad 5 \qquad 5$	DV15-P5-24-FD	NCS12/5	Directional Control Valve, 4-Way, Spool Type, Hydraulic Pilot Internal Drain	70 l/min [18 US gpm]	230 bar [3300 psi]	84
Brake Release Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	1SB10	A893	Brake Sequence Directional Valve, 3-Way, Spool Type, Internal Pilot, Internal Drain	10 l/min [2.6 US gpm]	350 bar [5000 psi]	85
Brake Release Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	1SB304	A5302	Brake Sequence Directional Valve, 3-Way, Spool Type, Internal Pilot, External Drain	30 l/min [8 US gpm]	350 bar [5000 psi]	86

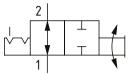
Directional Control Valves MRV2-10

Manual Rotary Restrictor Valve, 2-Way, Spool Type 210 bar [3000 psi] • 57 l/min [15 US gpm]

DESCRIPTION AND OPERATION

This is a 2-way, spool type, manually operated semi-rotary restrictor valve. By rotating the manual actuator, a variable orifice is opened or closed linearly between ports 2 and 1. When used in conjunction with a compensator, the valve will increase the flow in proportion to the movement of the manual actuator.

SCHEMATIC



PERFORMANCE DATA

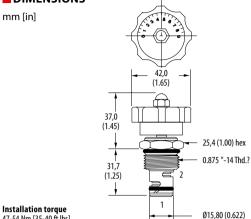
Rated pressure

Rated flow

Leakage

Weight

Cavity



PERFORMANCE CURVES

47-54 Nm [35-40 ft lbs]

210 bar [3000 psi]

0.79 kg [1.74 lbs]

SDC10-2

57 l/min [15 US gpm]

164 ml/min [10 in³/min] @ 210 bar [3000 psi]

Flow @ 5.5 bar [80 psi] Pressure Drop Flow-I/min [21.8 cSt oil @49C] 10 20 30 40 50 60 9 A 6 8 7 6 Knob lever position 5 4 3 2 1 0 0 2 8 10 12 14 4 6

A-05 • B-10 • C-15

MODEL CODE

		Flow Range	2		
		Code	l/min [l	[US gpm]	
Seal Option		05	0-19	[0-5]	
Code Seal Kit		10	0-38	[0-10]	
Omit-Buna-N 565803		15	0-57	[0-15]	
V-Viton 566086					
	Housin	g			
Actuator Option	Code	Ports	Aluminum Standard d		Aluminum Heavy duty
O-Cartridge only (no actuator) B - Ball (friction lock)	0	No Housing			
E - Ball (10 position detent) D -Lever (10 position detent)	3B	3/8″ BSP	02-175462		
L -Lever (friction lock)	6T	#6 SAE	566151		
K -Knob (non-locking) Standard duty housings only	2G	1/4″ BSP			876702
standard daty nodsnigs only	3G	3/8″ BSP			876703
	6H	#6 SAE			876700
	8H	#8 SAE			876701

DIMENSIONS



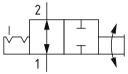
Directional Control Valves MRV2-16

Manual Rotary Restrictor Valve, 2-Way, Spool Type

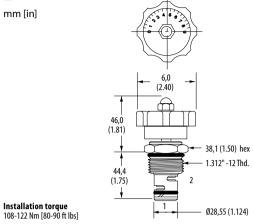
210 bar [3000 psi] • 170 l/min [45 US gpm]

DESCRIPTION AND OPERATION

This is a 2-way, spool type, manually operated semi-rotary restrictor valve. By rotating the manual actuator, a variable orifice is opened or closed linearly between ports 2 and 1. When used in conjunction with a compensator, the valve will increase the flow in proportion to the movement of the manual actuator.



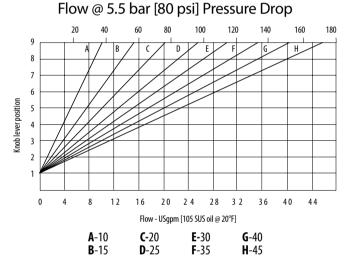
DIMENSIONS



PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	170 l/min [45 US gpm]
Leakage	82 ml/min [5 in ³ /min] @ 210 bar [3000 psi]
Weight	0.79 kg [1.74 lb]
Cavity	SDC16-2



Sear Op	tion							
Code	Seal	Kit						
Omit-Buna-N 565810 Actuator Option								
V -Viton	8896	D -Lever (L -Lever (K -Knob (i	ge only (no actuator) 10 position detent)* riction lock)* non-locking) I duty housings only					
Housing	J				Flow Range			
Code	Ports	Aluminum Standard duty	Aluminum Heavy duty		Code	l/min	US gpm	
0	No Housing				10	0-38	[0-10]	
					15	0-57	[0-15]	
6B	3/4″ BSP	02-175463			20	0-76	[0-20]	
	#12 SAE	566149			25	0-95	[0-25]	
12 T			876716		30	0-114	[0-30]	
	1/2″ BSP							
4G	1/2" BSP 3/4" BSP		876718		35	0-132	[0-35]	
4G 6G			876718 876717		35 40	0-132 0-150	[0-35]	



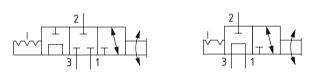
Directional Control Valves MRV3-10

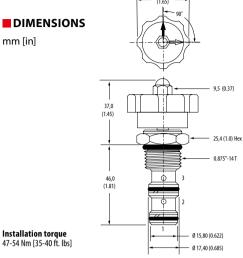
Manual Rotary Valve, 3-Way, Spool Type 210 bar [3000 psi] • 23 l/min [6 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. By rotating the manual actuator, the flow path will change from port 1 connected to port 3 (port 2 blocked) to port 1 connected to port 2 (port 3 blocked). Using the manual actuator and detent, the crossover condition can be used to create a third position with all ports blocked. This valve can be used as a diverter or as a dump valve.

SCHEMATIC

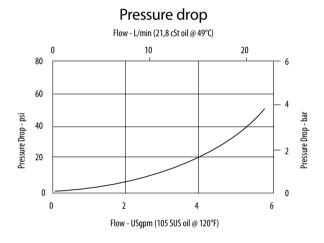




PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	23 l/min [6 US gpm]
Weight	0.22 kg [0.4 lb]
Cavity	SDC10-3

PERFORMANCE CURVES



Seal Option							
Code	Seal Kit						
Omit-Buna-N	565804						
V-Viton	889599						
Actuator Option			Но	using			
O -Cartridge only (n D-Lever (3-position D2-Lever (2-positio	detent)		 6	de Ports	Aluminum Standard duty	Aluminum Heavy duty	Steel
E-Ball (3-position d	etent)		0	No Housing			
E2-Ball (2-position K-Knob (2-position			3B	3/8″ BSP	02-173358		
	,,		6T	#6 SAE	566162		02-1751
			8T	#8 SAE			02-1751
Hansing Material			2G	1/4″ BSP		876705	02-1751
Housing Material Omit-No housing			3G	3/8″ BSP		876714	02-1751
A-Aluminum			6H	#6 SAE		876704	
S-Steel			88	#8 SAE		876711	



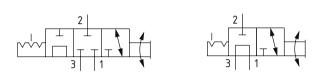
Directional Control Valves MRV13-10

Manual Rotary Valve, 3-Way, Spool Type 350 bar [5000 psi] • 23 l/min [6 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. By rotating the manual actuator, the flow path will change from port 1 connected to port 3 (port 2 blocked) to port 1 connected to port 2 (port 3 blocked). Using the manual actuator and detent, the crossover condition can be used to create a third position with all ports blocked. This valve can be used as a diverter or as a dump valve.

SCHEMATIC





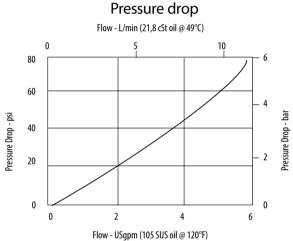
PERFORMANCE CURVES

mm [in]

DIMENSIONS 41.3 (1.63) 9,5 (0.37) Hex 51.3 (2.02) 25.4 (1.0) Hex 7/8 - 14 UNF - 2A Thd. 46,0 (1,81) Installation torque 15.78-15.82 (0.621-0.623) A-47-54 Nm [35-40 ft. lbs] S-68-75 Nm [50-55 ft. lbs] 17.38-17.42 (0.684-0.686)

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	23 l/min [6 US gpm]
Leakage	250 ml/min [15 in ³ /min] @ 350 bar [5000 psi]
Weight	0.22 kg [0.4 lb]
Cavity	SDC10-3



Seal Option							
Code Seal	lit						
Omit-Buna-N 56580	4						
V -Viton 88959	9						
			Hous	ing			
Actuator Option O-Catridge only (no actua D-Lever (3-position deter	tor)		Code	Ports	Aluminum Standard duty	Aluminum Heavy duty	Steel
D2-Lever (2-position dete	nt)		0	No Housing			
E-Ball (3-position detent E2-Ball (2-position deten	t)		3B	3/8″ BSP	02-173358		
K-Knob (2 position, no de	tent)		6T	#6 SAE	566162		02-1751
			8T	#8 SAE			02-1751
Housing Material			2G	1/4″ BSP		876705	02-1751
Omit -No housing A -Aluminum			3G	3/8″ BSP		876714	02-1751
S -Steel			6H	#6 SAE		876704	
			8H	#8 SAE		876711	



Directional Control Valves MRV13-12

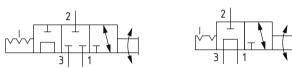
Manual Rotary Valve, 3-Way, Spool Type 350 bar [5000 psi] • 45 l/min [12 US gpm]

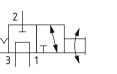
DESCRIPTION AND OPERATION

This is a 3-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. By rotating the manual actuator, the flow path will change from port 1 connected to port 3 (port 2 blocked) to port 1 connected to port 2 (port 3 blocked). Using the manual actuator and detent, the crossover condition can be used to create a third position with all ports blocked. This valve can be used as a diverter or as a dump valve.

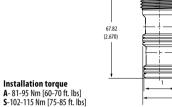
SCHEMATIC

PERFORMANCE DATA





C-12-3



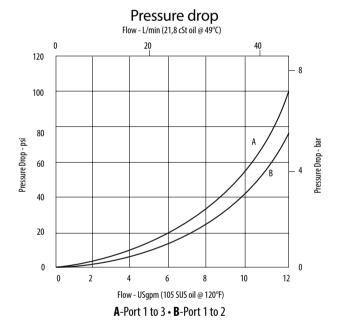
37,0 (1.45)

PERFORMANCE CURVES

DIMENSIONS

mm [in]





22.15 - 22.19

(0 872 - 0 874)

23.73 - 23.77 (0.934 - 0.936)

Seal Option	Seal Kit	Housing	
Omit-Buna-N V-Viton	02-180095 02-165887		luminum Steel eavy duty
V-VILOII	02-103067	0 No housing	
Actuator Optio	n	4G 1/2" BSP 02	2-161817 02-169815
O-Cartridge only D-Lever (3-posit		6G 3/4" BSP 02	2-161816 02-169814
D2-Lever (2-positi		10H #10 SAE 02	2-160642
E-Ball (3-position E2-Ball (2-position		12H #12 SAE 02	2-160646
K-Knob (2 positio		10T #10 SAE	02-161070
		12T #12 SAE	02-169816
Housing Mater	ial	* Aluminum bodies are to be used	d for pressures less than 210 bar



Directional Control Valves MRV3-16

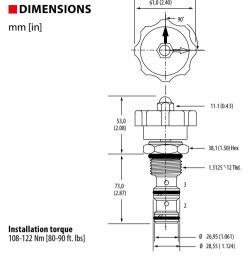
Manual Rotary Valve, 3-Way, Spool Type 210 bar [3000 psi] • 65 l/min [17 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. By rotating the manual actuator, the flow path will change from port 1 connected to port 3 (port 2 blocked) to port 1 connected to port 2 (port 3 blocked). Using the manual actuator and detent, the crossover condition can be used to create a third position with all ports blocked. This valve can be used as a diverter or as a dump valve.

SCHEMATIC



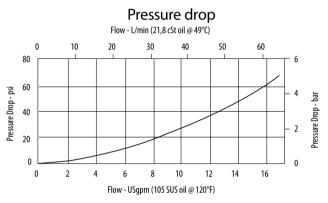


61.0 (2.40)

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	65 l/min [17 US gpm]
Weight	0.53 kg [1.16 lb]
Cavity	SDC16-3

PERFORMANCE CURVES



Seal Option					
Code Seal Kit					
Omit -Buna-N 889632					
V -Viton 889636					
Actuator Option	Но	ısing			
O -Cartridge only (no actuator) D-Lever (3-position detent) D2-Lever (2-position detent)	Coo	le Ports	Aluminum Standard duty	Aluminum Heavy duty	Steel
K -Knob (2 position, no detent)	0	No Housing			
	6B	3/4″ BSP	02-175465		
	101	SAE10		876721	
	121	SAE12		876723	
Housing Material	46	1/2″ BSP		876720	02-175131
Omit-No housing A-Aluminum	6G	3/4″ BSP		876722	02-175132
S-Steel	101	#10 SAE			02-175129
	121	#12 SAE	566152		02-175130
		uminum bodies Iditional housin	are to be used for pre	ssures less tha	an 210 bar [3

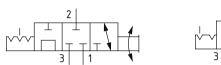
Directional Control Valves MRV13-16

Manual Rotary Valve, 3-Way, Spool Type 350 bar [5000 psi] • 65 l/min [17 US gpm]

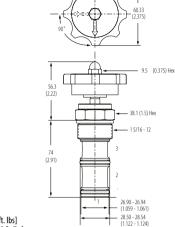
DESCRIPTION AND OPERATION

This is a 3-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. By rotating the manual actuator, the flow path will change from port 1 connected to port 3 (port 2 blocked) to port 1 connected to port 2 (port 3 blocked). Using the manual actuator and detent, the crossover condition can be used to create a third position with all ports blocked. This valve can be used as a diverter or as a dump valve.

SCHEMATIC







Installation torque A-108-122 Nm [80-90 ft. lbs] S-136-149 Nm [100-110 ft. lbs]

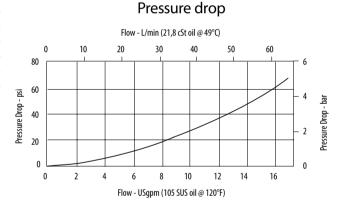
DIMENSIONS

mm [in]

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	65 l/min [17 US gpm]
Leakage	250 ml/min [15 in ³ /min] @ 350 bar [5000 psi]
Weight	0.53 kg [1.16 lb]
Cavity	SDC16-3

PERFORMANCE CURVES



Seal Option				Housir	ıg			
Code	Seal Kit			Code	Ports	Aluminum	Steel	
Omit-Buna-N	889632					Heavy duty		
V -Viton	889636			0	No Housing]		
				10H	#10 SAE	876721		
Actuator Optio				12H	#12 SAE	876723		
O-Cartridge only D-Lever (3-posit				4G	1/2″ BSP	876720	02-175131	
D2-Lever (2-pos	tion detent)			6G	3/4″ BSP	876722	02-175132	
K -Knob (2-positi	on, no detent)			10T	#10 SAE		02-175129	
				12T	#12 SAE		02-175130	
Housing Mater	ial			* Alumi	inum bodies ar	e to be used for pre	ssures less than 210	0 bar [30
Omit-No housin	a				ional housings			







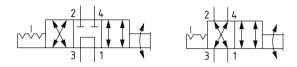
Directional Control Valves MRV4-10

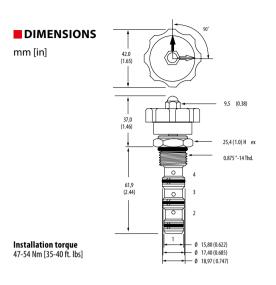
Manual Rotary Valve, 4-Way, Spool Type 210 bar [3000 psi] • 11 l/min [3 US qpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. In the center position, port 1 is connected to port 3 and ports 2 and 4 are blocked. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

SCHEMATIC



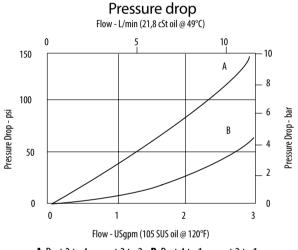


Danfoss

PERFORMANCE CURVES



Rated pressure	210 bar [3000 psi]
Rated flow	11 l/min [3 US gpm]
Weight	0.17 kg [0.38 lb]
Cavity	SDC10-4



A-Port 3 to 4 or port 3 to 2 • B-Port 4 to 1 or port 2 to 1

Seal Option						
Code Seal Kit						
Omit -Buna-N 565805						
V -Viton 889600		Hous	ing			
		Code	Ports	Aluminum Standard duty	Aluminum Heavy duty	Steel
Actuator Option		0	No housin	Ig		
O -Cartridge only (no actuator) D -Lever (3-position detent)		3B	3/8″ BSP	02-179705		
D2-Lever (2-position detent)		6T	#6 SAE	02-168235		02-1751
E-Ball (3-position detent) E2-Ball (2-position detent)		8T	#8 SAE			02-1751
K -Knob (2-position, no detent)		2G	1/4″ BSP		02-185804	02-1751
		3G	3/8″ BSP		02-185805	02-1751
Housing Material		6H	#6 SAE		02-185802	
Omit-No housing		8H	#8 SAE		02-185803	



350 bar [5000 psi]

0.17 kg [0.38 lb]

SDC10-4

11 l/min [3 US gpm]

300 ml/min [18 in³/min] @ 350 bar [5000 psi]

Directional Control Valves MRV14-10

Manual Rotary Valve, 4-Way, Spool Type **350 bar [5000 psi] • 11 l/min [3 US qpm]**

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. In the center position, port 1 is connected to port 3 and ports 2 and 4 are blocked. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

SCHEMATIC

PERFORMANCE DATA

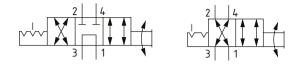
Rated pressure

Rated flow

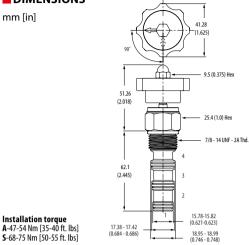
Leakage

Weight

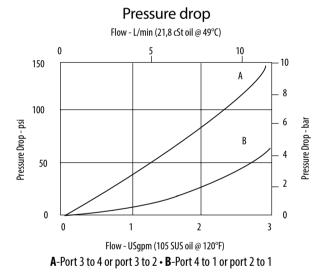
Cavity







PERFORMANCE CURVES



Seal Option		Housing			
Code Omit-Buna-N	Seal Kit 565805	Code Port	ts Aluminum Standard duty	Aluminum Heavy duty	Steel
V-Viton	889600	0 No h	iousing		
		3B 3/8″	BSP 02-179705		
Actuator Optio	n	6T #6 S	AE 02-168235		02-17513
0-Cartridge only		8T #8 S	AE		02-17513
D-Lever (3-posit D2-Lever (2-pos	ition detent)	2G 1/4″	BSP	02-185804	02-1751
E-Ball (3-position E2-Ball (2-position		3G 3/8″	BSP	02-185805	02-1751
K-Knob (2-posit		6H #6 S.	AE	02-185802	
		8H #8 S.	AE	02-185803	
Housing Mater	rial	* Aluminum	bodies are to be used for p	pressures less that	n 210 bar [30





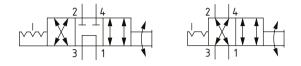
Directional Control Valves MRV14-12

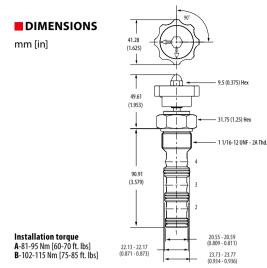
Manual Rotary Valve, 4-Way, Spool Type 350 bar [5000 psi] • 23 l/min [6 US qpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. In the center position, port 1 is connected to port 3 and ports 2 and 4 are blocked. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

SCHEMATIC

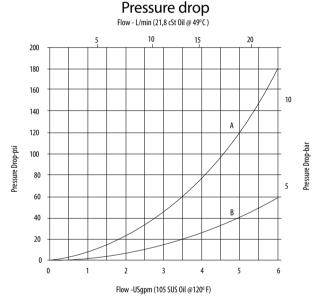




PERFORMANCE CURVES



Rated pressure	350 bar [5000 psi]
Rated flow	23 l/min [6 US gpm]
Leakage	300 ml/min [18 in ³ /min] @ 350 bar [5000 psi]
Weight	0.45 kg [0.99 lb]
Cavity	C-12-4



A-Port 3 to 4 or port 3 to 2 • **B**-Port 4 to 1 or port 2 to 1

Seal Option		Housing	
Code	Seal Kit	Code Ports Alum	
Omit -Buna-N	02-160979	Heav	y duty
V -Viton	02-160980	0 No housing	
		4G 1/2" BSP 59864	31-001
Actuator Optio		6G 3/4″ BSP 59864	32-001 5991073-001
0 -Cartridge only D -Lever (3-posit		8H #8 SAE 59864	33-001
D2-Lever (2-pos	ition detent)	10H #10 SAE 59864	5991074-001
E-Ball (3-positio E2-Ball (2-positi	ion detent)	12H #12 SAE 59864	36-001 5991075-001
K -Knob (2-positi Housing Mater		* Aluminum bodies are to be used * Additional housings available	for pressures less than 210 bar



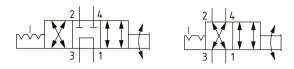
Directional Control Valves MRV4-16

Manual Rotary Valve, 4-Way, Spool Type 210 bar [3000 psi] • 45 l/min [12 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. In the center position, port 1 is connected to port 3 and ports 2 and 4 are blocked. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

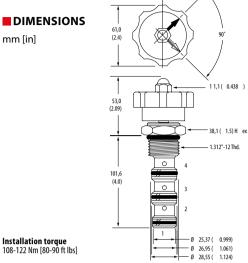
SCHEMATIC





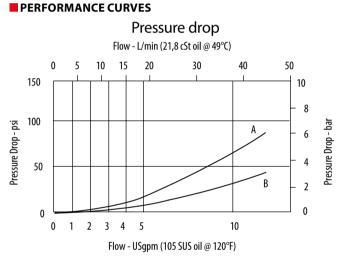


Index



PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	45 l/min [12 US gpm]
Weight	0.65 kg [1.43 lb]
Cavity	SDC16-4



A-Port 3 to 4 or port 3 to 2 • B-Port 3 to 1 or port 2 to 1

Seal Option	Housing	
CodeSeal KitOmit-Buna-N889634	Code Ports Aluminun Standard	
V -Viton 889638	0 No housing	
	10T #10 SAE	02-17514
	12T #12 SAE 566411	02-17514
Actuator Option	6B 3/4″ BSP 02-175468	
O-Cartridge only (no actuator) D-Lever (3-position detent)	10H #10 SAE	876729
D2-Lever (2-position detent)	12H #12 SAE	876731
K-Knob (2-position, no detent)	4G 1/2″ BSP	876728 02-17514
	6G 3/4″ BSP	876730 02-17514
Housing Material	* Aluminum bodies are to be used	or pressures less than 210 bar [3000
Omit-No housing A-Aluminum S-Steel	* Additional housings available	





300 ml/min [18 in³/min] @ 350 bar [5000 psi]

0.65 kg [1.43 lb]

Index

Directional Control Valves MRV14-16

Manual Rotary Valve, 4-Way, Spool Type

350 bar [5000 psi] • 45 l/min [12 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. In the center position, port 1 is connected to port 3 and ports 2 and 4 are blocked. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

SCHEMATIC

PERFORMANCE DATA

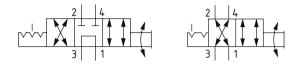
Rated pressure

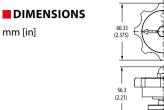
Rated flow

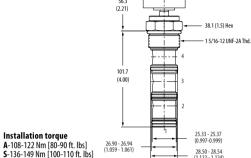
Leakage

Weight

Cavity



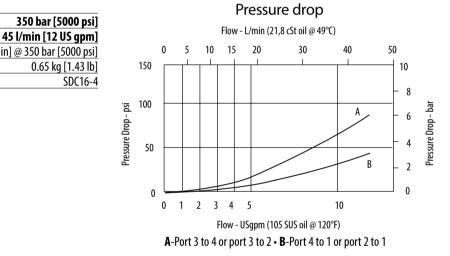




9.5 (0.375) Hex

28.50 - 28.54 (1.122 - 1.124)

PERFORMANCE CURVES



Seal Option		Housir	ıg			
Code Omit-Buna-N	Seal Kit 889634	Code	Ports	Aluminum Standard duty	Aluminum Heavy duty	Steel
V-Viton	889638	0	No housing			
• • • • •		10T	#10 SAE	,		02-1751
Actuator Option	1	12T	#12 SAE	566411		02-1751
0-Cartridge only		6B	3/4″ BSP	02-175468		
D -Lever (3-position detent) D2 -Lever (2-position detent)		10H	#10 SAE		876729	
K-Knob (2-positio		12H	#12 SAE		876731	
		4G	1/2″ BSP		876728	02-1751
		6G	3/4″ BSP		876730	02-1751
Housing Materi Omit-No housing A-Aluminum S-Steel			inum bodies a ional housings	e to be used for press available	sures less than 2'	10 bar [300



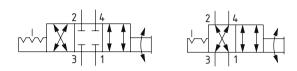
Directional Control Valves MRV5-10

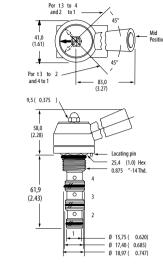
Manual Rotary Valve, 4-Way, Spool Type 210 bar [3000 psi] • 11 l/min [3 US qpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. In the center position all ports are blocked. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

SCHEMATIC





PERFORMANCE CURVES

Installation torque

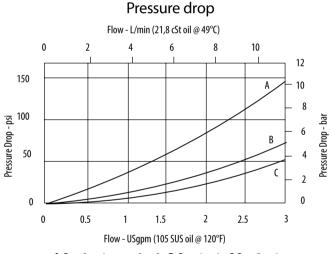
47-54 Nm [35-40 ft lbs]

DIMENSIONS

mm [in]

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	11 l/min [3 US gpm]
Weight	0.27 kg [0.59 lb]
Cavity	SDC10-4



A-Port 3 to 4 or port 3 to 2 • B-Port 4 to 1 • C-Port 2 to 1

Seal Kit Code Ports Aluminum Aluminum St
Code Ports company data St
a-N 889625 Code Ports Standard duty Heavy duty
566080 O No housing
3B 3/8" BSP 02-179705
Option 6T #6 SAE 02-168235 02
e only (no actuator) BT #8 SAE 02
-position detent) 2-position detent 2-position detent 2-position detent
osition detent) 3G 3/8″ BSP 02-185805 02
position detent) 6H #6 SAE 02-185802
8H #8 SAE 02-185803
2c 1/4 DF 02-103004 osition detent) 3G 3/8" BSP 02-185805 objection detent) 6H #6 SAE 02-185802





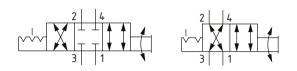
Directional Control Valves MRV15-10

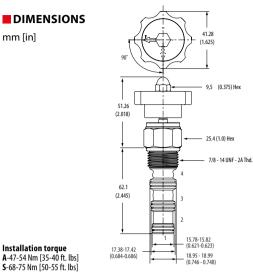
Manual Rotary Valve, 4-Way, Spool Type 350 bar [5000 psi] • 11 l/min [3 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 or 3 position manually operated semirotary directional control valve. In the center position all ports are blocked. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

SCHEMATIC



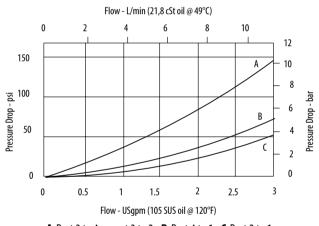


PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	11 l/min [3 US gpm]
Leakage	300 ml/min [18 in ³ /min] @ 350 bar [5000 psi]
Weight	0.27 kg [0.59 lb]
Cavity	SDC10-4

Pressure drop



A-Port 3 to 4 or port 3 to 2 • **B**-Port 4 to 1 • **C**-Port 2 to 1

MODEL CODE

Seal Option				Hous	ing			
Code	Seal Kit			Codo	Ports	Aluminum	Aluminum	Steel
Omit-Buna-N	565805			Code	Ports	Standard duty	Heavy duty	Steel
V -Viton	889600			0	No housin	g		
Actuator Optio				3B	3/8″ BSP	02-179705		
O-Cartridge only (no actuator) D-Lever (3-position detent) D2-Lever (2-position detent) E-Ball (2-position detent) E2-Ball (2-position detent) K-Knob (2-position, no detent)				6T	#6 SAE	02-168235		02-17513
				8T	#8 SAE			02-17513
			2G	1/4″ BSP		02-185804	02-17513	
				3G	3/8″ BSP		02-185805	02-17514
K -Knob (2-positi	on, no detent)			6H	#6 SAE		02-185802	
				8H	#8 SAE		02-185803	
Housing Mater	ial			* Alun	ninum bodie«	are to be used for p	ressures less thar	n 210 bar [30

Installation torque A-47-54 Nm [35-40 ft. lbs] S-68-75 Nm [50-55 ft. lbs]

mm [in]



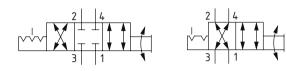
Directional Control Valves MRV15-12

Manual Rotary Valve, 4-Way, Spool Type **350 bar [5000 psi] • 23 l/min [6 US qpm]**

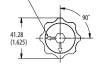
DESCRIPTION AND OPERATION

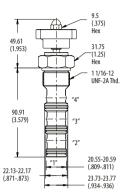
This is a 4-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. In the center position all ports are blocked. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

SCHEMATIC









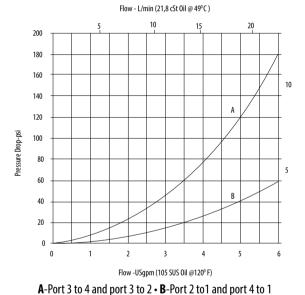
PERFORMANCE CURVES

Installation torque **A**-81-95 Nm [60-70 ft. lbs] **S**-102-115 Nm [75-85 ft. lbs]

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	23 l/min [6 US gpm]
Leakage	300 ml/min [18 in ³ /min] @ 350 bar [5000 psi]
Weight	0.45 kg [0.99 lb]
Cavity	C-12-4





Seal Option		Housing	
Code	Seal Kit		
Omit -Buna-N	02-160979		minum Steel avy Duty
V -Viton	02-160980	0 No housing	
Actuator Optio	n	4G 1/2″ BSP 598	6431-001
0 -Cartridge only		6G 3/4" BSP 598	6432-001 5991073-001
D-Lever (3-posit B-Ball (3-positio		8H #8 SAE 598	6433-001
D2-Lever (2-posi	tion detent)	10H #10 SAE 598	5991074-001 5991074-001
E2 -Ball (2-positi K -Knob (2-positi		12H #12 SAE 598	6436-001 5991075-001
	,,	* Aluminum bodies are to be	used for pressures less than 210 bar
Housing Mater	ial	* Additional housings availab	ole



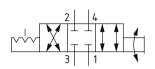


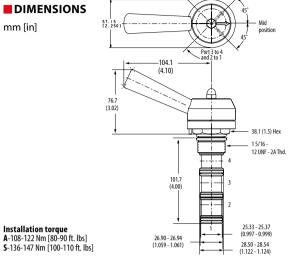
Directional Control Valves MRV15-16

Manual Rotary Valve, 4-Way, Spool Type **350 bar [5000 psi] • 45 l/min [12 US gpm]**

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 or 3 position manually operated semi-rotary directional control valve. In the center position all ports are blocked. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.





Port 3 to 2 and 4 to 1

PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	45 l/min [12 US gpm]
Leakage	300 ml/min [18 in ³ /min] @ 350 bar [5000 psi]
Weight	0.65 kg [1.43 lb]
Cavity	SDC16-4

Flow - L/min (21,8 cSt oil @ 49°C) 0 10 20 30 40 150 10 8 100 Pressure Drop - psi Pressure Drop - bar 6 A Δ 50 2 В 0 0 0 2.5 5 7.5 10 12 Flow - USgpm (105 SUS oil @ 120°F)

Pressure drop

A-Port 3 to 4 and port 3 to 2 • **B**-Port 2 to 1 and port 4 to 1

MODEL CODE

Seal Option			Housir	Ig			
Code Se	al Kit				Aluminum	Aluminum	
Omit-Buna-N 88	9634		Code	Ports	Standard duty	Heavy duty	Steel
V-Viton 88	9638		0	No housing			
			10T	#10 SAE			02-17
Actuator Option			12T	#12 SAE	566411		02-17
· · · · ·	ctuator)	 	6B	3/4″ BSP	02-175468		
	D-Cartridge only (no actuator) D-Lever (3-position detent)		10H	#10 SAE		876729	
			12H	#12 SAE		876731	
			4G	1/2″ BSP		876728	02-17
Housing Material			6G	3/4″ BSP		876730	02-17
Omit-No housing			* Alumi	num bodies are	to be used for pressur	es less than 210 b	ar [3000
A -Aluminum S -Steel			* Addit	ional housings a	vailable		

Danfoss

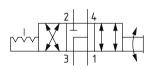
Directional Control Valves MRV6-10

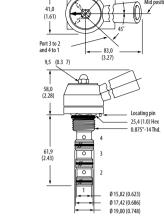
Manual Rotary Valve, 4-Way, Spool Type 210 bar [3000 psi] • 11 l/min [3 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 3 position manually operated semi-rotary directional control valve. In the center position, ports 1, 3 and 4 are connected to each other and port 2 is blocked. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

SCHEMATIC





Port 3 to 4 and 2 to 1

Installation torque 47-54 Nm [35-40 ft lbs]

DIMENSIONS

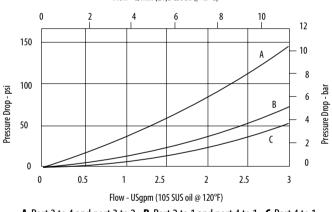
mm [in]

PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	11 l/min [3 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.27 kg [0.59 lb]
Cavity	SDC10-4

Pressure drop Flow - L/min (21,8 cSt oil @ 49°C)



A-Port 3 to 4 and port 3 to 2 • B-Port 2 to 1 and port 4 to 1 • C-Port 4 to 1

Seal Option	Housing	
Code Seal Kit	Code Ports Aluminum Alumin	
Omit-Buna-N 889625	Coue Points Standard duty Heavy of	uty steel
V -Viton 566080	0 No housing	
	3B 3/8″ BSP 02-179705	
Actuator Option	6T #6 SAE 02-168235	02-17513
O-Cartridge only (no actuator)	8T #8 SAE	02-17513
D-Lever (3-position detent) E-Ball (3-position detent)	2G 1/4" BSP 02-1858	04 02-17513
	3G 3/8″ BSP 02-1858	05 02-17514
	6H #6 SAE 02-1858	02
	8H #8 SAE 02-1858	03
Housing Material	* Aluminum bodies are to be used for pressures le	s than 210 bar [30
Omit-No housing A-Aluminum S-Steel	* Additional housings available	



Directional Control Valves MRV6-16

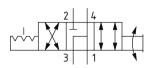
Manual Rotary Valve, 4-Way, Spool Type

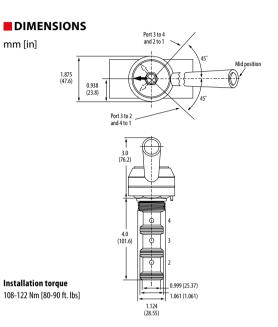
210 bar [3000 psi] • 45 l/min [12 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 3 position manually operated semi-rotary directional control valve.

In the center position, ports 1, 3 and 4 are connected to each other and port 2 is blocked. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.



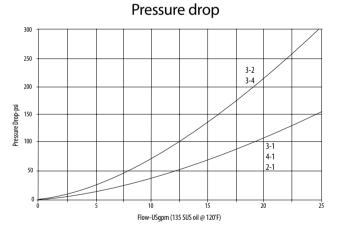


Danfoss

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	45 l/min [12 US gpm]
Weight	0.27 kg [0.59 lb]
Cavity	SDC16-4

PERFORMANCE CURVES



		Housing	
Seal Option	Seal Kit		ıminum avy duty Steel
Omit-Buna-N	889625	0 No housing	
V -Viton	566080	10T #10 SAE	02-17514
		12T #12 SAE 566411	02-17514
Actuator Option	1	6B 3/4″ BSP 02-175468	
O-Cartridge only D-Lever (3-positi		10H #10 SAE 870	5729
D-Level (D-positi	on detent)	12H #12 SAE 870	5731
		4G 1/2" BSP 870	5728 02-17514
		6G 3/4″ BSP 870	6730 02-17514

Directional Control Valves MRV7-10

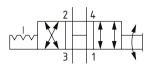
Danfoss

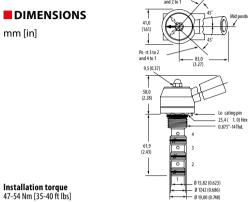
Manual Rotary Valve, 4-Way, Spool Type 210 bar [3000 psi] • 11 l/min [3 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 3 position manually operated semi-rotary directional control valve. In the center position, all ports are connected. By rotating the manual actuator, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

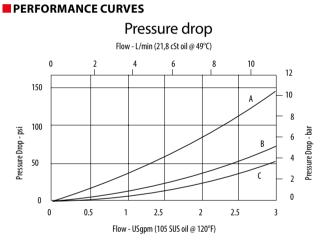
SCHEMATIC





PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	11 l/min [3 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.27 kg [0.59 lb]
Cavity	SDC10-4



A-Port 3 to 4 or port 3 to 2 • B-Port 4 to 1 • C-Port 2 to 1

Seal Option			
Code	Seal Kit		
Omit-Buna-N	889625	Housing	
V -Viton	566080		inum Aluminum Stee dard duty Heavy duty
Actuator Option	1	0 No housing	
0-Cartridge only		3B 3/8″ BSP 02-17	9705
D-Lever (3-position detent)		6T #6 SAE 02-16	8235 02-1
	Ball (3-position detent)	8T #8 SAE	02-1
		2G 1/4″ BSP	02-185804 02-1
		3G 3/8″ BSP	02-185805 02-1
Housing Mater		6H #6 SAE	02-185802
Dmit-No housing A-Aluminum		8H #8 SAE	02-185803

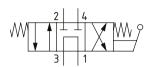
Directional Control Valves MLV9-12-A

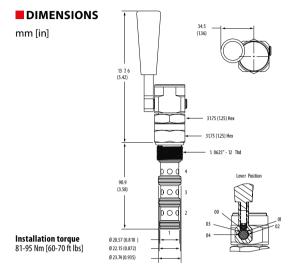
Manual Lever Valve, 4-Way, Spool Type 210 bar [3000 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 3 position lever operated directional control valve. In the center position, port 1 is open to port 3 and ports 2 and 4 are blocked. By moving the lever, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

SCHEMATIC



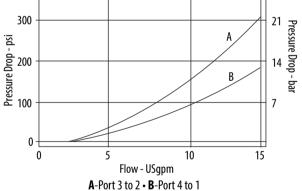


PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	60 l/min [16 US gpm]
Leakage	246 ml/min [15 in ³ /min] @ 210 bar [3000 psi]
Weight	0.57 kg [1.25 lb]
Cavity	C-12-4

Pressure drop Flow - L/min 19 38 400

PERFORMANCE CURVES



MODEL CODE

Seal Option					Lever pos 00-90°	tion	
Code Omit-Buna-N V-Viton	Seal Kit 9900171-000 9900172-000]	Housi	01-45° 02-0° 03-135° 04-180°		
Detent Option				Code	Ports	Aluminum	
0-Spring return				0	No housing		_
D-Detent, sprin	g centered			4G	1/2″ BSP	5986431-001	
Actuator Opti	on			6G	3/4″ BSP	5986432-001	
L-Lever				8H	#8 SAE	5986433-001	_
Housing Mate	rial			10T	#10 SAE	6030517-001	
Omit-No housi	na			12H	#12 SAE	5986436-001	—

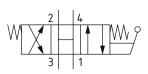


Directional Control Valves MLV9-12-B

Manual Lever Valve, 4-Way, Spool Type 210 bar [3000 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 3 position lever operated directional control valve. In the center position, all ports are connected. By moving the lever, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.



PERFORMANCE DATA

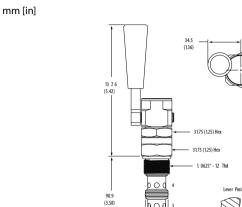
Rated pressure

Rated flow

Leakage

Weight

Cavity



Installation torque 81-95 Nm [60-70 ft lbs]

210 bar [3000 psi]

0.57 kg [1.25 lb]

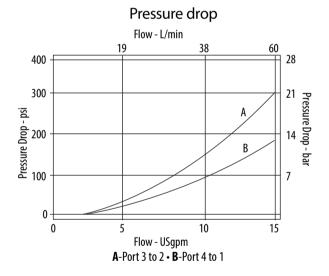
C-12-4

60 l/min [16 US gpm]

246 ml/min [15 in³/min] @ 210 bar [3000 psi]

PERFORMANCE CURVES

Ø 20.57 (0.810) Ø 22.15 (0.872) Ø 23.74 (0.935)



MODEL CODE

				Lever posi	tion
Seal Option				00-90°	
Code Seal	t			01 -45° 02 -0°	
Omit-Buna-N 99001	1-000			03-135°	
V -Viton 99001	2-000		Housin	04 -180° 1g	
Detent Option			Code	Ports	Aluminum
O-Spring return			0	No housing	
D-Detent, spring center	1		4G	1/2″ BSP	5986431-001
Actuator Option			6G	3/4″ BSP	5986432-001
L-Lever			8H	#8 SAE	5986433-001
Housing Material			10T	#10 SAE	6030517-001
Omit-No housing A-Aluminum			12H	#12 SAE	5986436-001





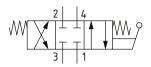
DIMENSIONS

Directional Control Valves MLV9-12-E

Manual Lever Valve, 4-Way, Spool Type 210 bar [3000 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 3 position lever operated directional control valve. In the center position, all ports are blocked. By moving the lever, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.



PERFORMANCE DATA

Rated pressure

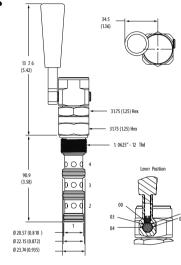
Rated flow

Leakage Weight

Cavity

DIMENSIONS

mm [in]



Installation torque 81-95 Nm [60-70 ft lbs]

PERFORMANCE CURVES

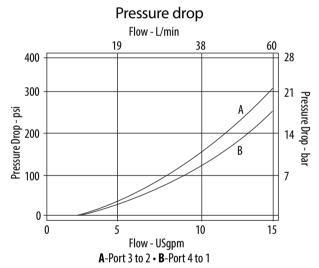
210 bar [3000 psi]

0.57 kg [1.25 lb]

C-12-4

60 l/min [16 US gpm]

246 cm³/min [15 in³/min] @ 210 bar [3000psi]



Seal Option						Lever po 00-90° 01-45°	sition	
Code	Seal Kit		_			02 -0°		
Omit-Buna-N	9900171-000					03- 135° 04 -180°		
V -Viton	9900172-000				Housir	ıg		
Detent Optior					Code	Ports	Aluminum	
0-Spring return	1				0	No housing		
D-Detent, sprin	ig centered				4G	1/2″ BSP	5986431-001	
Actuator Opti	on				6G	3/4″ BSP	5986432-001	
L-Lever					8H	#8 SAE	5986433-001	
Housing Mate	rial				10T	#10 SAE	6030517-001	
Omit-No hous					12H	#12 SAE	5986436-001	

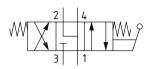


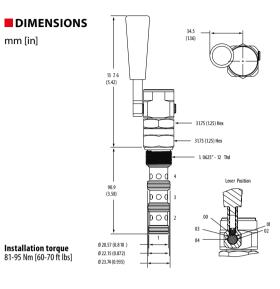
Directional Control Valves MLV9-12-F

Manual Lever Valve, 4-Way, Spool Type 210 bar [3000 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 3 position lever operated directional control valve. In the center position, ports 1, 2 and 4 are connected to each other, while port 3 is blocked. By moving the lever, the flow path will change from ports 3-2 and 1-4 to ports 3-4 and 1-2.

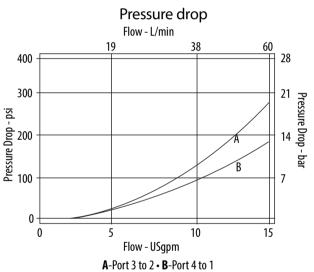




PERFORMANCE CURVES



Rated pressure	210 bar [3000 psi]
Rated flow	60 l/min [16 US gpm]
Leakage	246 ml/min [15 in ³ /min] @ 210 bar [3000 psi]
Weight	0.57 kg [1.25 lb]
Cavity	C-12-4



					Lever posi	tion	
Seal Option					00 -90° 01 -45°		
Code	Seal Kit				01-45 02-0°		
Omit-Buna-N	9900171-000				03-135°		
V -Viton	9900172-000			Housir	04 -180° 1g		
Detent Option	I			Code	Ports	Aluminum	
O-Spring return D-Detent, sprin				0	No housing		
Actuator Opti	-			4G	1/2″ BSP	5986431-001	
L-Lever	011		 	6G	3/4″ BSP	5986432-001	
				8H	#8 SAE	5986433-001	
Housing Mate				10T	#10 SAE	6030517-001	
Omit-No hous	ing			12H	#12 SAE	5986436-001	



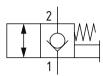
Directional Control Valves MPV1-10

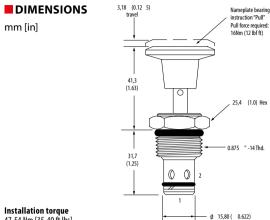
Manual Pull Valve, 2-Way, Normally Closed, Poppet Type 210 bar [3000 psi] • 45 l/min [12 US gpm]

DESCRIPTION AND OPERATION

This is a 2-way, normally closed, poppet type, pull to open directional control valve. In the normal position, flow is blocked from 2 to 1, while free reverse flow takes place from port 1 to 2 after overcoming the spring bias. When the knob is manually pulled upward, port 1 is connected to port 2 allowing free flow in both directions. This valve is ideal for emergency lowering applications.

SCHEMATIC





PERFORMANCE CURVES

Pressure drop Flow - L/min (21,8 cSt oil @ 49°C) 0 10 40 20 30 50 5 70 60 4 50 3 Pressure Drop - bar 40 30 2 20 1 10 0 0 0 5 10 Flow - USgpm (105 SUS oil @ 120°F)

MODEL CODE

Seal Option						
Code	Seal Kit					
Omit-Buna-N	565803					
V -Viton	566086					
Actuator Option	1	 	Housin	ıg		
T -Stem only K -Knob			Code	Ports	Aluminum Standard duty	Aluminum Heavy duty
			0	No housing		
			3B	3/8″ BSP	02-175462	
			6T	#6 SAE	566151	
			2G	1/4″ BSP		876702
			3G	3/8″ BSP		876703
			6H	#6 SAE		876700
			8H	#8 SAE		876701
			× 41		e used for pressures less th	210



PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	45 l/min [12 US gpm]
Leakage	5 drops/min @ 210 bar [3000 psi]
Crack pressure	16 bar [230 psi]
Weight	0.11 kg [0.24 lb]
Cavity	SDC10-2

Directional Control Valves MPV3-10

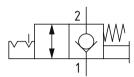
Manual Pull Valve with Detent, 2-Way, Normally Closed, Poppet Type

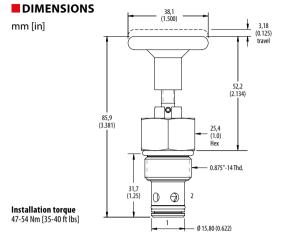
210 bar [3000 psi] • 45 l/min [12 US gpm]

DESCRIPTION AND OPERATION

This is a 2-way, normally closed, poppet type, pull to open directional control valve with a detent. In the normal position, flow is blocked from 2 to 1, while free reverse flow takes place from port 1 to 2 after overcoming the spring bias. When the knob is manually pulled upward, port 1 is connected to port 2 allowing free flow in both directions. The valve can be held open by twisting the knob to engage the detent. This is ideal for emergency lowering applications.

SCHEMATIC



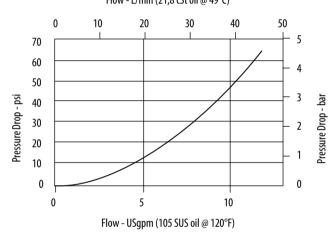


PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	45 l/min [12 US gpm]
Leakage	5 drops/min.@ 210 bar [3000 psi]
Crack pressure	16 bar [230 psi]
Weight	0.11 kg [0.24 lb]
Cavity	SDC10-2

Pressure drop Flow - L/min (21,8 cSt oil @ 49°C)



Seal Option						
Code	Seal Kit					
Omit-Buna-N	565803					
V -Viton	566086					
			Housii	ng		
Actuator Option T-Stem only			Code	Ports	Aluminum Standard duty	Aluminum Heavy duty
K -Knob			0	No housing		
			3B	3/8″ BSP	02-175462	
			6T	#6 SAE	566151	
			2G	1/4″ BSP		876702
			3G	3/8″ BSP		876703
			6H	#6 SAE		876700



Directional Control Valves 3CP2

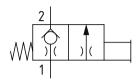
Manual Push Valve, 2-Way, Normally Closed, Poppet Type with Check

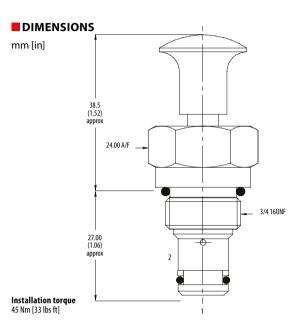
210 bar [3000 psi] • 15 l/min [4 US gpm]

DESCRIPTION AND OPERATION

This is a 2-way, normally closed, restricted, poppet type, push to open directional control valve. In the normal position, flow is blocked from 1 to 2. When the knob is manually pushed downward, port 1 is connected to port 2 through a pre-determined orifice. This valve is ideal for emergency lowering applications. It is not recommended to flow from port 2 to port 1. If this is needed, please consult the factory.

SCHEMATIC



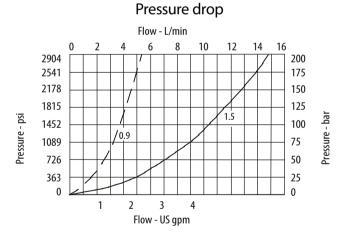


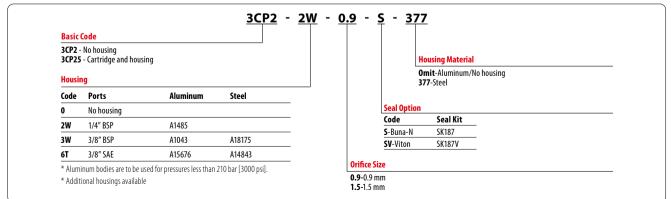
Danfoss

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	15 l/min [4 US gpm]
Leakage	5 drops/min nominal
Weight	0.5 kg [0.11 lb]
Cavity	SDC08-2

PERFORMANCE CURVES





Directional Control Valves CE 06



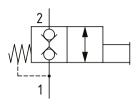
Manual Push Valve, 2-Way, Normally Closed, Poppet Type, Double Blocking

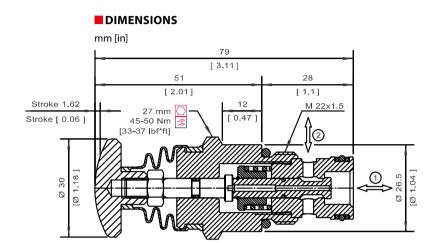
315 bar [4500 psi] • 19 l/min [5 US gpm]

DESCRIPTION AND OPERATION

This is a 2-way, poppet type, 2 position push to open bi-directional control valve. In the normal position, flow is blocked in both directions. Pushing down on the hand knob will open the valve and allow flow from port 1 to 2 and from 2 to 1. Pressure in port 1 will increase the force required to open or keep open the valve. For lowering applications where one port goes to tank, it is preferred that port 2 is connected to the actuator and port 1 to tank.

SCHEMATIC



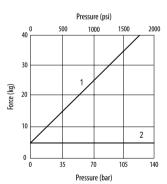


PERFORMANCE DATA

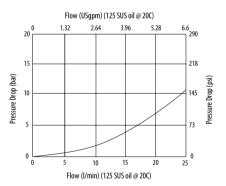
Rated pressure	315 bar [4600 psi]
Rated flow @ 7 bar [100 psi]	19 l/min [5 US gpm]
Weight	0.20 kg [0.44 lb]
Cavity	NCS06/2

PERFORMANCE CURVES





Pressure drop



			CE06	5 - <u>00</u> -	V	
Housin	a					
Code	Ports & Material	Housing Model Code				
00	No housing				Seal Option	
DG3/8	AL, 3/8″ BSP	NCS06/2-DG-3/8			Code	Seal Kit
DG1/2	AL, 1/2" BSP	NCS06/2-DG-1/2			Omit-Buna-N	230000060
DCCC	AL, #6 SAE	NCS06/2-DG-6S			V -Viton	230000380
DG6S		NCS06/2-DG-8S				

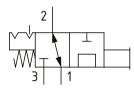
Directional Control Valves MSV11-10

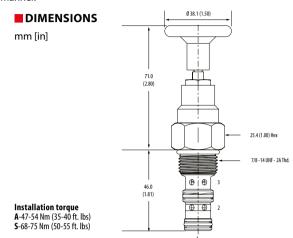
Manual Push Valve with Detent, 3-Way, Spool Type

350 bar [5000 psi] • 23 l/min [6 US gpm]

DESCRIPTION AND OPERATION

This valve is a normally open, restricted, pilot to close poppet valve. In the normal position, flow can pass from port 1 to 2 or port 2 to 1. When pressure is applied to port 3 the valve will close, preventing oil from passing from port 1 to 2. Pressure in port 2 will open the valve, allowing flow to pass from port 2 to 1. The ideal application for this valve is as an accumulator discharge valve. When the power is removed and the pilot pressure reduces to zero, the accumulator pressure can be discharged through this valve in a controlled manner.

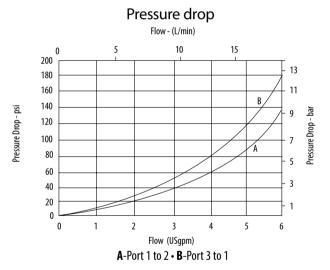




PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	23 l/min [6 US gpm]
Leakage	350 ml/min [21.5 in ³ /min] @ 210 bar [3000 psi]
Weight	0.25 kg [0.55 lb]
Cavity	SDC10-3

PERFORMANCE CURVES



Seal Option	Housing	
Code Seal Kit	Code Ports Alu	uminum Steel
Omit -Buna-N 889624	0 No housing	
V -Viton 889628	2G 1/4" BSP 876	6705 02-175127
	3G 3/8″ BSP 876	6714 02-175128
Actuator Option	6H #6 SAE 876	6704
L-Push and Twist, with detent E-Push/Pull, with detent	8H #8 SAE 876	6711
N -No detent, momentary actuation	6T #6 SAE	02-175124
	8T #8 SAE	02-175125
Housing Material	* Aluminum bodies are to be u * Additional housings availabl	used for pressures less than 210 bar [300 le



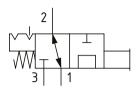
Directional Control Valves MSV1-12

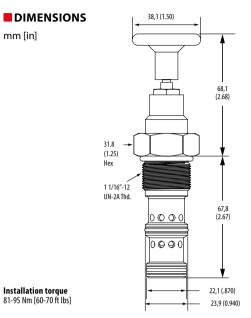
Manual Push Valve with Detent, 3-Way, Spool Type

210 bar [3000 psi] • 40 l/min [11 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, 2 position, push to open directional control valve with a push and twist detent. In the normal position, port 1 is connected to port 2 and port 3 is blocked. When the knob is manually pushed downward, port 2 is blocked and port 1 is connected to port 3. It can be held in this position by twisting the knob to engage the detent. This valve can be used to prevent flow to part of a system until manual intervention takes place.

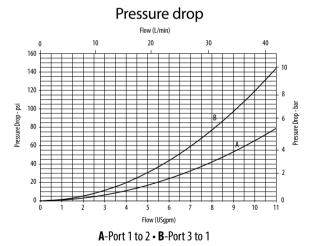




PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	40 l/min [11 US gpm]
Leakage	350 ml/min [21.5 in ³ /min] @ 210 bar [3000 psi]
Weight	0.29 kg [0.66 lb]
Cavity	C-12-3

PERFORMANCE CURVES



		I	lousin	ig		
Seal Option			ode	Ports	Aluminum	
Code Seal Kit)	No housing		
Omit-Buna-N 9900171-000			G	3/4″ BSP	02-161816	
V -Viton 9900172-000		-	-			
		1	2H	#12 SAE	02-160646	
		•	Alumi	num bodies are	to be used for pressures less than 210 b	ar [3000 ps
Actuator Option		*	Additi	onal housings	available	
Actuator Option L-Push and Twist, with detent		Housing Ma		j.		



Quick Reference

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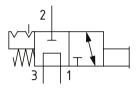
Directional Control Valves MSV2-12

Manual Push Valve with Detent, 3-Way, Spool Type

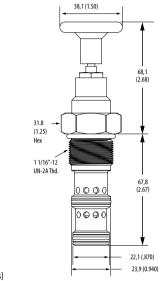
210 bar [3000 psi] • 38 l/min [10 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, 2 position, push to open directional control valve with a push and twist detent. In the normal position, port 3 is connected to port 1 and port 2 is blocked. When the knob is manually pushed downward, port 3 is blocked and port 1 is connected to port 2. It can be held in this position by twisting the knob to engage the detent. This valve can be used to prevent flow to part of a system until manual intervention takes place.



DIMENSIONS

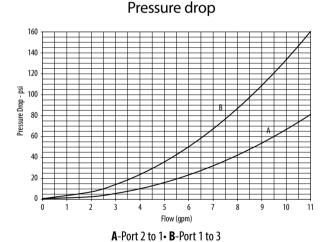


Installation torque 81-95 Nm [60-70 ft lbs]

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	38 l/min [10 US gpm]
Leakage	350 ml/min [21.5 in ³ /min] @ 210 bar [3000 psi]
Weight	0.29 kg [0.66 lb]
Cavity	C-12-3

PERFORMANCE CURVES



Seal Option			Housir	ıg		
Code Seal Kit			Code	Ports	Aluminum	
Omit-Buna-N 9900171-000			0	No housing		
V-Viton 9900172-000			4G	1/2" BSP	02–161817	
Actuator Option			6G	3/4″ BSP	02-161816	
L-Push and Twist, with detent			10H	#10 SAE	02–160642	
E-Push/Pull, with detent N-No detent, momentary actuation			12H	#12 SAE	02-160646	
Housing Material			* Alumi	inum bodies are	to be used for pressures le	ss than 210 bar [300



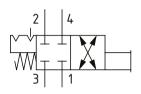
Directional Control Valves MSV3-12

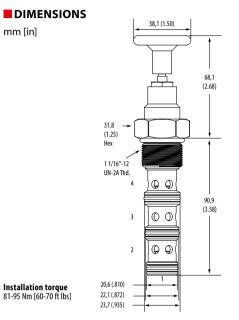
Manual Push Valve with Detent, 4-Way, Spool Type

210 bar [3000 psi] • 53 l/min [14 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 position, push to open directional control valve with a push and twist detent. In the normal position all ports are blocked. When the knob is manually pushed downward, port 1 is connected to port 2 and port 3 is connected to port 4. It can be held in this position by twisting the knob to engage the detent. This valve can be used to isolate an actuator until manual intervention takes place.





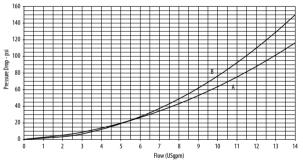
PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	53 l/min [14 US gpm]
Leakage	350 ml/min [21.5 in ³ /min] @ 210 bar [3000 psi]
Weight	0.32 kg [0.72 lb]
Cavity	C-12-4

PERFORMANCE CURVES

Pressure drop

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A-Port 3 to 4 • **B**-Port 2 to 1

Seal Option O No housing Gode Seal Kit 6G 3/4" BSP 5986432-001 Omit-Buna-N 02-160979 12H #12 SAE 5986436-001 V-Viton 02-160980 * Aluminum bodies are to be used for pressures less than 210 bar [30			Housi	ng	
Seal Option 6G 3/4" BSP 5986432-001 Code Seal Kit 10T #10 SAE 6030517-001 Omit-Buna-N 02-160979 22-160980 * Aluminum bodies are to be used for pressures less than 210 bar [30 * Additional housings available * Additional housings available * Additional housings available			Code	Ports	Aluminum
Seal Option IOT #10 SAE 6030517-001 Code Seal Kit 12H #12 SAE 5986436-001 Omit-Buna-N 02-160979 * Aluminum bodies are to be used for pressures less than 210 bar [30 V-Viton 02-160980 * Additional housings available			0	No housing	
Code Seal Kit Omit-Buna-N 02-160979 V-Viton 02-160980			6G	3/4″ BSP	5986432-001
Omit-Buna-N 02-160979 V-Viton 02-160980 * Additional housings available			10T	#10 SAE	6030517-001
V-Viton 02-160980 * Aluminum bodies are to be used for pressures less than 210 bar [30 * Additional housings available * Additional housings available	Code Seal Kit		12H	#12 SAE	5986436-001
V-Viton 02-160980 * Additional housings available	Omit-Buna-N 02-160979		* Alum	inum hodies ar	e to be used for pressures less than 210 bar [300
Actuator Antion Housing Material	V -Viton 02-160980				
Actuator option	Actuator Option	Hous	ing Materia	I	

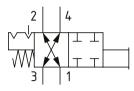
Directional Control Valves MSV4-12

Manual Push Valve with Detent, 4-Way, Spool Type

210 bar [3000 psi] • 53 l/min [14 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 position, push to open directional control valve with a push and twist detent. In the normal position, port 1 is connected to port 2 and port 3 is connected to port 4. When the knob is manually pushed downward, all ports are blocked. It can be held in this position by twisting the knob to engage the detent. This valve can be used to isolate an actuator when manual intervention takes place.



DIMENSIONS mm [in]

Installation torque 81-95 Nm [60-70 ft lbs]

210 bar [3000 psi]

0.32 kg [0.71 lb]

C-12-4

53 l/min [14 US gpm]

350 ml/min [21.5 in³/min] @ 210 bar [3000 psi]

PERFORMANCE DATA

Rated pressure

Rated flow

Leakage

Weight

Cavity

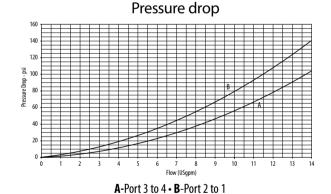
PERFORMANCE CURVES

20,6 (.810)

22,1 (.872)

23,7 (.935)

2



68,1 (2.68)

90,9 (3.58)

		Hou	sing		
		Code	Ports	Aluminum	
		0	No housi	ıg	
		6G	3/4″ BSP	5986432-001	
Seal Option		10T	#10 SAE	6030517-001	
Code Seal Kit		12H	#12 SAE	5986436-001	
Omit-Buna-N 02-160979		* Alu	minum bodies	are to be used for pressu	res less than 210 bar [3000 p
V-Viton 02-160980		* Ad	litional housing	gs available	
Actuator Option		Housing Mater	ial		
L-Push and Twist, with detent	,	Omit - No housi A - Aluminum	ng		



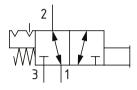
Directional Control Valves MSV5-12

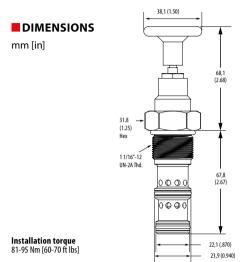
Manual Push Valve with Detent, 3-Way, Spool Type

210 bar [3000 psi] • 42 l/min [11 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, 2 position, push to open directional control valve with a push and twist detent. In the normal position, port 1 is connected to port 2 and port 3 is blocked. When the knob is manually pushed downward, port 1 is blocked and port 2 is connected to port 3. It can be held in this position by twisting the knob to engage the detent. This valve can be used to prevent flow to part of a system until manual intervention takes place.

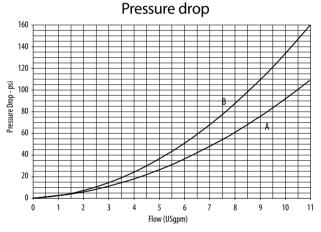




PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	42 l/min [11 US gpm]
Leakage	350 ml/min [21.5 in ³ /min] @ 210 bar [3000 psi]
Weight	0.29 kg [0.66 lb]
Cavity	C-12-3

PERFORMANCE CURVES



A-Port 2 to 1 • **B**-Port 3 to 2

MODEL CODE

BC332375730110en-000202

Seal Option				Housi	na		
Code	Seal Kit			Code	Ports	Aluminum	
Omit-Buna-N	9900171-000			0	No housing		-
V -Viton	9900172-000			6G	3/4″ BSP	02-161816	_
				12H	#12 SAE	02-160646	-
					inum bodies ar ional housings		ures less than 210 bar [3000
Actuator Opti	on		Hou	sing Materia	I		
L-Push and Twi E-Push/Pull, wi				t - No housing Iuminum			

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Directional Control Valves MSV6-12

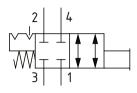
Manual Push Valve with Detent, 4-Way, Spool Type

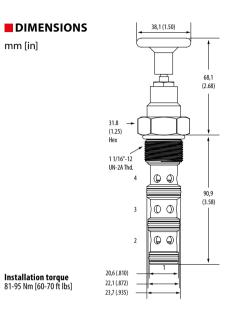
210 bar [3000 psi] • 53 l/min [14 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 position, push to open directional control valve with a push and twist detent. In the normal position, all ports are blocked. When the knob is manually pushed downward, port 1 is connected to port 4 and port 3 is connected to port 2. It can be held in this position by twisting the knob to engage the detent. This valve can be used to isolate an actuator until manual intervention takes place.

SCHEMATIC





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PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	53 l/min [14 US gpm]
Leakage	350 ml/min [21.5 in ³ /min] @ 210 bar [3000 psi]
Weight	0.32 kg [0.71 lb]
Cavity	C-12-4

PERFORMANCE CURVES

MODEL CODE

A-Port 4 to 1• **B**-Port 3 to 2

		Housi	ng		
		Code	Ports	Aluminum	
		0	No housing		
		6G	3/4″ BSP	5986432-001	
Seal Option		10T	#10 SAE	6030517-001	
Code Seal Kit		12H	#12 SAE	5986436-001	
Omit-Buna-N 02-160979		* Alun	ninum bodies ar	e to be used for pressures less than 21	10 bar [3000
V -Viton 02-160980		* Addi	tional housings	available	
Actuator Option		Housing Materia	1		
L-Push and Twist, with detent E-Push/Pull, with detent N-No detent, momentary actuation		Omit - No housing A - Aluminum]		

BC332375730110en-000202

Directional Control Valves MSV17-10

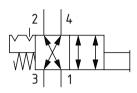
Manual Push Valve with Detent, 4-Way, Spool Type

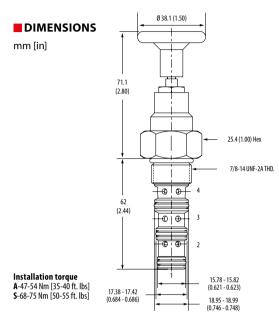
350 bar [5000 psi] • 19 l/min [5 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 position, push to open directional control valve with a push and twist detent. In the normal position port 1 is connected to port 2 and port 3 is connected to port 4. When the knob is manually pushed downward, port 1 is connected to port 4 and port 3 is connected to port 2. It can be held in this position by twisting the knob to engage the detent. The valve can be used to reverse an actuator until manual intervention takes place.

SCHEMATIC

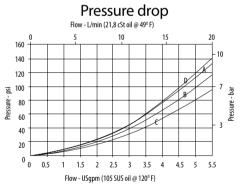




PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	19 l/min [5 US gpm]
Leakage	350 ml/min [21.5 in ³ /min] @ 210 bar [3000 psi]
Weight	0.28 kg [0.61 lb]
Cavity	SDC10-4

PERFORMANCE CURVES



A-Port 3 to 2 (actuated) • B-Port 3 to 4 C-Port 2 to 1 • D-Port 4 to 1 (actuated)

Housing							
Code	Ports	Aluminum	Steel				
0	No housing						
2G	1/4″ BSPP	02-185804	02-175139				
3G	3/8″ BSPP	02-185805	02-175140				
6H	#6 SAE	02-185802					
8H	#8 SAE	02-185803					
6T	#6 SAE		02-175137				
8T	#8 SAE		02-175138				

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi]. * Additional housings available

MODEL CODE

Code	Seal Kit		
Omit-Buna-N	889625		
V -Viton	566080		
Actuator Optio L-Push and Twist E-Push/Pull, with	, with detent n detent	 	
N-No detent, mo	mentary actuation ial		
Omit - No housi	ng		
A - Aluminum			

MSV17 - 10 - <u>V</u> - <u>L</u> - <u>A</u>



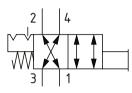
Directional Control Valves MSV7-12

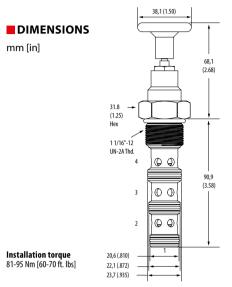
Manual Push Valve with Detent, 4-Way, Spool Type

210 bar [3000 psi] • 45 l/min [12 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, 2 position, push to open directional control valve with a push and twist detent. In the normal position port 1 is connected to port 2 and port 3 is connected to port 4. When the knob is manually pushed downward, port 1 is connected to port 4 and port 3 is connected to port 2. It can be held in this position by twisting the knob to engage the detent. The valve can be used to reverse an actuator until manual intervention takes place.

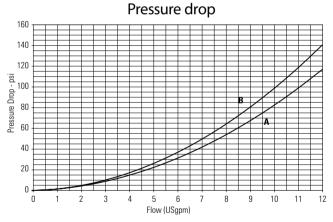




PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	45 l/min [12 US gpm]
Leakage	350 ml/min [21.5 in ³ /min] @ 210 bar [3000 psi]
Weight	0.32 kg [0.71 lb]
Cavity	C-12-4

PERFORMANCE CURVES



A - Port 4 to 1, Port 3 to 2 • **B** - Port 2 to 1, Port 3 to 4

MSV7 - 12 - V -Α _ 6G Seal Option Code Seal Kit Omit-Buna-N 02-160979 02-160980 V-Viton Housing Ports Aluminum Code **Actuator option** 0 No housing L-Push and Twist, with detent E-Push/Pull, with detent 6G 3/4″ BSP 5986432-001 N-No detent, momentary actuation 10T #10 SAE 6030517-001 12H #12 SAE 5986436-001 **Housing Material** * Aluminum bodies are to be used for pressures less than 210 bar [3000 psi]. Omit - No housing * Additional housings available A - Aluminum

BC332375730110en-000202



Directional Control Valves CP710-1

Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

210 bar [3000 psi] • 40 l/min [11 US gpm]

DESCRIPTION AND OPERATION

This is a 2-way, spool type, hydraulically piloted directional control valve with an atmospheric vent. It is available in normally open or normally closed configurations between ports 2 and 3, which shift when the pilot pressure at port 1 overcomes the opposing spring. Due to the atmospheric vent, the pilot pressure required to shift the valve is independent of the pressure in the line between port 2 and port 3.

210 bar [3000 psi]

0.13 kg [0.29 lb]

SDC10-3

40 l/min [11 US gpm]

SCHEMATIC

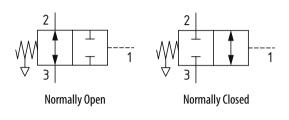
PERFORMANCE DATA

Rated flow @ 7 bar [100 psi]

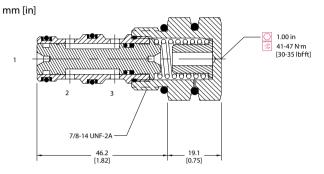
Rated pressure

Weight

Cavity

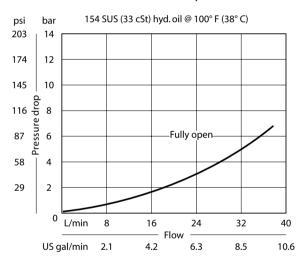


DIMENSIONS



PERFORMANCE CURVES

Pressure drop



Seal O	ption				Spool Sea	al Option
Code	Seal kit					top of spool
B -Buna	a-N 120009				S2-Seal at	top and bottom of spool
V-Vitor	n 120010			Shift Pres	sure	
				Code	Bar	[Psi]
Housir	ıg			050	3.5	[50]
Code	Ports & Material	Housing Model Code		080	5.5	[80]
0	No Housing		•	150	10.3	[150]
SE3B	AL, 3/8 BSP	SDC10-3-SE-3B				
SE4B	AL, 1/2 BSP	SDC10-3-SE-4B				
6S	AL, #6 SAE	CP10-3-6S		Spool Configuration		
85	AL, #8 SAE	CP10-3-85		O-Normally open C -Normally closed		



Directional Control Valves PTS17-10

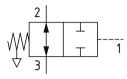
Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

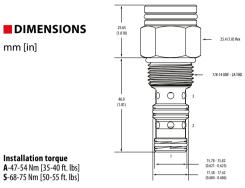
350 bar [5000 psi] • 30 l/min [8 US gpm]

DESCRIPTION AND OPERATION

This is a 2-way, hydraulically piloted valve with an atmospheric vent. It is normally open between ports 2 and 3 that shift to the closed position when the pilot pressure at port 1 overcomes the opposing spring. Due to the atmospheric vent, the pilot pressure required to shift the valve is independent of the pressure in the line between port 2 and port 3.

SCHEMATIC





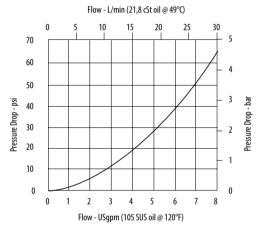
PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	30 l/min [8 US gpm]
Leakage	210 ml/min [13 in ³ /min] @ 350 bar [5000 psi]
Weight	0.10 kg [0.23 lbs]
Cavity	SDC10-3

Pressure drop

Danfoss



Seal Option				Shift Pre	ssure		
Code	Seal kit	J		Code	Bar Psi		
B -Buna-N	889624			40	2.75 [40]		
V -Viton	889628			80	5.5 [80]	_	
				160	11 [160]	_	
Housing Mate	rial		Hou	sing			
Omit-No hous A-Aluminum S-Steel	ing		Cod	e Port size	Aluminium Standard duty	Aluminium Heavy duty	
3-51661			0	No Housing			
			3B	3/8″ BSP	02-173358		
			6T	#6 SAE	566162		02-175124
			81	#8 SAE			02-175125
			2G	1/4″ BSP		876705	02-175127
			3G	3/8″ BSP		876714	02-175128
			6H	#6 SAE		876704	
			8H	#8 SAE		876711	



Directional Control Valves PTS17-12

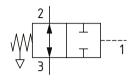
Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

350 bar [5000 psi] • 114 l/min [30 US gpm]

DESCRIPTION AND OPERATION

This is a 2-way, hydraulically piloted valve with an atmospheric vent. It is normally open between ports 2 and 3 that shift to the closed position when the pilot pressure at port 1 overcomes the opposing spring. Due to the atmospheric vent, the pilot pressure required to shift the valve is independent of the pressure in the line between port 2 and port 3.

SCHEMATIC

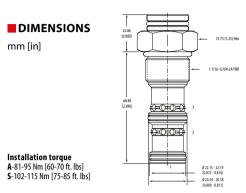


PERFORMANCE DATA

Rated flow

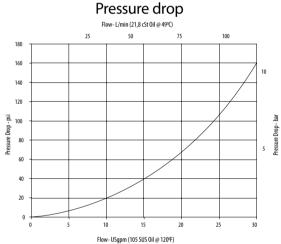
Leakage Weight

Cavity



PERFORMANCE CURVES

350 bar [5000 psi] **Rated pressure** 114 l/min [30 US gpm] 180 210 ml/min [13 in³/min] @ 350 bar [5000 psi] 0.25 kg [0.55 lbs] 160 C-12-3 140 120 S 100



Danfoss

Seal Option		Shift Pressu	re	
Code Seal kit		Code	Bar Psi	
B -Buna-N 9900171		80	5.5 [80]	
V-Viton 9900172		120	8.3 [120]	
		160	11.0 [160]	
Housing Material	Housin	9		
Omit-No housing A-Aluminum	Code	Port size	Aluminium	Steel
S-Steel	0	No Housing		
	4G	1/2″ BSP	02-161817	02-169815
	6G	3/4″ BSP	02-161816	02-169814
	10H	#10 SAE	02-160642	
	12H	#12 SAE	02-160646	
	10T	#10 SAE		02-161070
	12T	#12 SAE		02-169816

Directional Control Valves CP710-3

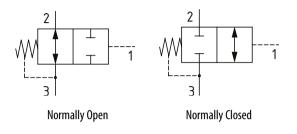
Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, Internal Drain

210 bar [3000 psi] • 40 l/min [11 US gpm]

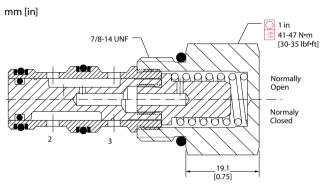
DESCRIPTION AND OPERATION

This is a 2-way, spool type, hydraulically piloted directional control valve with internal drain. It is available in normally open or normally closed configurations between ports 2 and 3 that shift when pilot pressure is applied to port 1. Due to the internal drain, the pilot pressure required to shift the valve is dependent on the pressure in the line between port 2 and port 3.

SCHEMATIC



DIMENSIONS



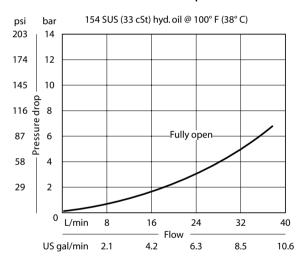
Danfoss

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow @ 7 bar [100 psi]	40 l/min [11 US gpm]
Weight	0.13 kg [0.29 lb]
Cavity	SDC10-3

PERFORMANCE CURVES

Pressure drop



Seal O	ption				Spool Seal Option
Code	Seal kit				S3-No Seal
B -Bun	a-N 120009				S4-Seal included
V-Vito	n 120010				
Housir	Ig			Shift P	ressure
Housir Code	g Ports & Material	Housing Model Code		Shift P Code	
	-	Housing Model Code			
	Ports & Material	Housing Model Code		Code 150	Bar [Psi]
Code 0	Ports & Material No Housing			Code 150 Note: S	Bar [Psi] 10.3 [150] hift pressure assumes no spool seal
Code O SE3B	Ports & Material No Housing AL, 3/8 BSP	SDC10-3-SE-3B		Code 150	Bar [Psi] 10.3 [150] hift pressure assumes no spool seal

Directional Control Valves CP710-8

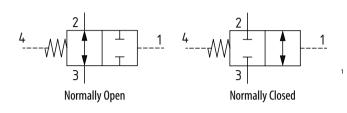
Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, External Drain

210 bar [3000 psi] • 40 l/min [11 US gpm]

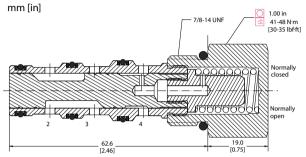
DESCRIPTION AND OPERATION

This is a 2-way, spool type, hydraulically piloted directional control valve with external drain. It is available in normally open or normally closed configurations between ports 2 and 3 that shift when pilot pressure is applied to port 1. Due to the external drain, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

SCHEMATIC



DIMENSIONS



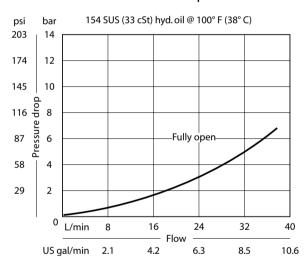
Danfoss

PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow @ 7 bar [100 psi]	40 l/min [11 US gpm]
Weight	0.15 kg [0.33 lb]
Cavity	SDC10-4

Pressure drop



Seal O	ption				Shift Press	ure		
Code	Seal kit				Code	Bar	[Psi]	
B -Bun	a-N 120009				040	2.8	[40]	
V-Vito	n 120010				080	5.5	[80]	
Housi	ng				150	10.3	[150]	
Code	Ports & Material	Housing Model Code						
0	No Housing							
L3B	AL, 3/8 BSP	SDC10-4-L-3B		Speed	Configuration			
L4B	AL, 1/2 BSP	SDC10-4-L-4B			nally Open			
6S	AL, #6 SAE	CP10-4-6S			nally Closed			
85	AL, #8 SAE	CP10-4-85						

Directional Control Valves CP712-8

Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, External Drain

210 bar [3000 psi] • 130 l/min [34 US gpm]

DESCRIPTION AND OPERATION

This is a 2-way, spool type, hydraulically piloted directional control valve with external drain. It is available in normally open or normally closed configurations between ports 2 and 3 that shift when pilot pressure is applied to port 1. Due to the external drain, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

210 bar [3000 psi]

0.61 kg [1.34 lb]

SDC16-4

130 l/min [34 US gpm]

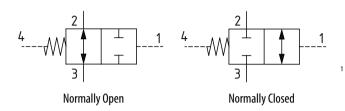
PERFORMANCE DATA

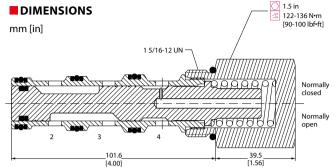
Rated flow @ 7 bar [100 psi]

Rated pressure

Weight

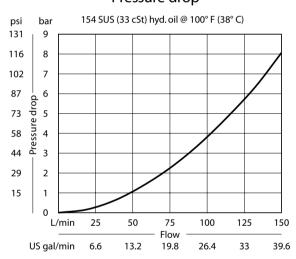
Cavity





PERFORMANCE CURVES

Pressure drop



Seal O									al Option	
Code	Seal kit							S3-No sei S4-Seal i		
B -Buna	a-N 120025								liciuueu	
V -Viton 120026						l	Shift Pre			
							Code	Bar	[Psi]	
							040	2.8	[40]	
Housir	Ig						080	5.5	[80]	
Code	Ports & Material	Housing Model Code			_		150	10.3	[150]	
0	No Housing		-				Note: Shif	ft pressure as	sumes no sp	ool seal
6B	AL, 3/4 BSP	CP16-4-6B	-			Spool Conf	Sourction			
8B	AL, 1 BSP	CP16-4-8B	-			0-Normally	-			
12S	AL, #12 SAE	CP16-4-12S	-			C-Normally				
165	AL, #16 SAE	CP16-4-16S	-							



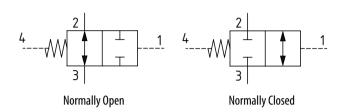
Directional Control Valves CP712-11

Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, External Drain 450 bar [6500 psi] • 130 l/min [34 US gpm]

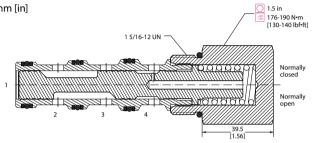
DESCRIPTION AND OPERATION

This is a 2-way, spool type, hydraulically piloted directional control valve with external drain. It is available in normally open or normally closed configurations between ports 2 and 3 that shift when pilot pressure is applied to port 1. Due to the external drain, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank. Due to the high pressure rating, this valve is ideal for use in transmission circuits to by-pass flow dividers.

SCHEMATIC



DIMENSIONS mm [in]

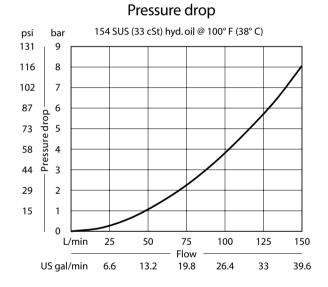


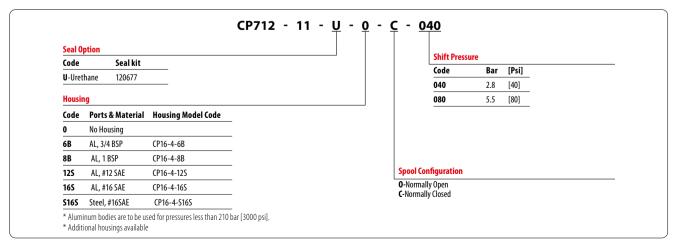
Dantoss

PERFORMANCE DATA

Rated pressure	450 bar [6500 psi]
Rated flow @ 7 bar [100 psi]	130 l/min [34 US gpm]
Leakage	328 ml/min [20 in ³ /min] @ 210 bar [3000 psi]
Weight	0.61 kg [1.34 lb]
Cavity	SDC16-4

PERFORMANCE CURVES





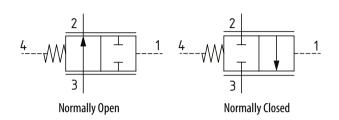
Directional Control Valves CP712-7

Directional Control Valve, 2-Way, Spool Type, Hydraulic Pilot, External Drain, Proportional Flow Control 210 bar [3000 psi] • 220 l/min [58 US gpm]

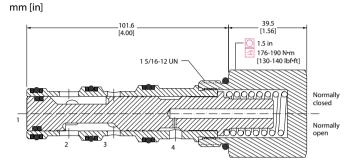
DESCRIPTION AND OPERATION

This is a 2-way, spool type, hydraulically piloted directional control valve with internal hydraulic vent. It is available in normally open or normally closed configurations between ports 2 and 3 that shift when pilot pressure is applied to port 1. Due to the external drain, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank. This valve is ideal to use as a proportional flow control when combined with a proportional pressure reducing valve.

PERFORMANCE DATA



DIMENSIONS



PERFORMANCE CURVES

gpm

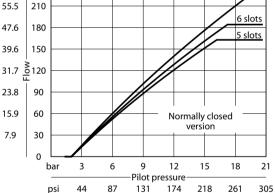
63.4

240

Rated pressure	210 bar [3000 psi]
Rated flow @ 10 bar [150 psi]	220 l/min [58 US gpm]
Weight	0.61 kg [1.34 lb]
Cavity	SDC16-4

154 SUS (33 cSt) hyd. oil @ 100° F (38° C) L/min at 10.3 bar [150 psi] pressure drop 8 slots

Flow vs. Pressure drop



Seal 0	ption		Spool Seal Option
Code	Seal kit		S3-No Seal
B -Bun	a-N 120025		S4-Seal included
V -Vito	n 120026		Sleeve Option
Housi	ng		5-5 slots 6-6 slots 8-8 slots
Code	Ports & Material	Housing Model Code	Spool Configuration
0	No Housing		O-Normally Open C-Normally Closed
6B	AL, 3/4 BSP	CP16-4-6B	Cholmany closed
8B	AL, 1 BSP	CP16-4-8B	
	AL, #12 SAE	CP16-4-12S	
125	112/ 112 5/12		



Directional Control Valves PTS1-10

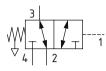
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

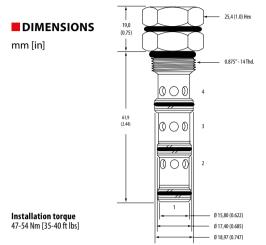
210 bar [3000 psi] • 30 l/min [8 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an atmospheric vent. In the normal condition, port 2 is connected to port 3 and port 4 is blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 4 with port 2 blocked. During the cross-over transition, all ports are blocked. This valve can be used as a selector valve when combined with a pilot solenoid valve.

SCHEMATIC

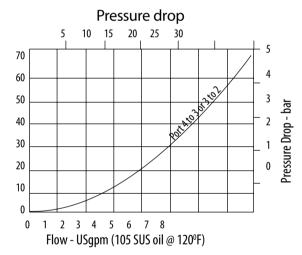




PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	30 l/min [8 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.14 kg [0.32 lb]
Cavity	SDC10-4

PERFORMANCE CURVES



Danfoss

Seal O	ption					
Code	Seal	Kit				
0mit-	Buna-N 8896	25				
V-Vito	n 5660	180				
Housir	ng					
Code	Ports	Aluminum Standard duty	Aluminum Heavy duty	Shift Pressure		
0	No housing			Code	Bar [Psi]	_
3B	3/8″ BSP	02-179705		40	2.75 [40]	_
6T	#6 SAE	02-168235		80	5.5 [80]	_
2G	1/4" BSP	02 100235	876709	160	11.0 [160]	_
3G	3/8″ BSP		876715			
6H	#6 SAE		876708			
8H	#8 SAE		876713			



Directional Control Valves PTS11-10

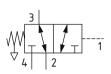
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

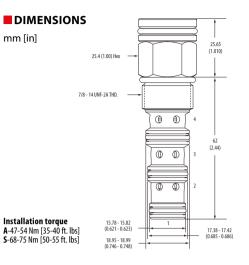
350 bar [5000 psi] • 30 l/min [8 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an atmospheric vent. In the normal condition, port 2 is connected to port 3 and port 4 is blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 4 with port 2 blocked. During the cross-over transition, all ports are blocked. This valve can be used as a selector valve when combined with a pilot solenoid valve.

SCHEMATIC





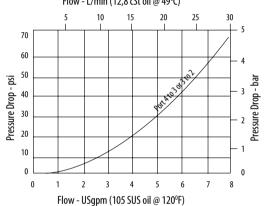
PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	30 l/min [8 US gpm]
Leakage	210 ml/min [13 in ³ /min] @ 210 bar [3000 psi]
Weight	0.14 kg [0.32 lb]
Cavity	SDC10-4



Pressure drop



Seal Option			Shift Pre			
Code Seal Kit			Code	Bar	[Psi]	
Omit-Buna-N 889625			40	2.75	[40]	-
V -Viton 566080			80	5.5	[80]	-
			160	11.0	[160]	_
Housing Material		Housin	g			
Omit-No housing A-Aluminum		Code	Ports	Aluminum Heavy dut		Steel
S-Steel		0	No housing			
		2G	1/4″ BSP	02-185804		02-175139
		3G	3/8″ BSP	02-185805		02-175140
		6H	#6 SAE	02-185802		
		8H	#8 SAE	02-185803		
		6T	#6 SAE			02-175137
		8T	#8 SAE			02-175138



Directional Control Valves PTS11-12

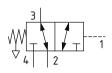
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

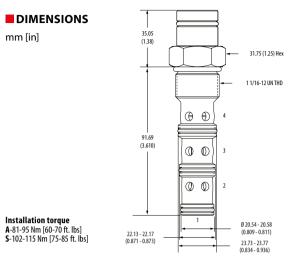
350 bar [5000 psi] • 76 l/min [20 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an atmospheric vent. In the normal condition, port 2 is connected to port 3 and port 4 is blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 4 with port 2 blocked. During the cross-over transition, all ports are blocked. This valve can be used as a selector valve when combined with a pilot solenoid valve.

SCHEMATIC

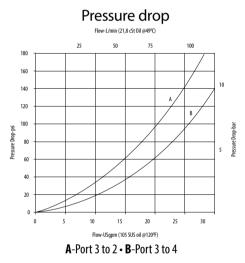




PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	76 l/min [20 US gpm]
Leakage	250 ml/min [15 in ³ /min] @ 350 bar [5000 psi]
Weight	0.32 kg [0.70 lb]
Cavity	C-12-4

PERFORMANCE CURVES



Seal Option								
Code	Seal Kit	/			Shift Press	ire Bar	[Psi]	
Omit-Buna-N	02-160979				80	5.5	[80]	
V -Viton	02-160980				80 120	8.3		
					120	0.3	[120]	
Housing Materia								
Omit-No housing]		Н	ousing	J			
A -Aluminum S -Steel			G	ode	Ports		Aluminum Heavy Duty	Steel
			0		No housing			
			4	G	1/2″ BSP		5986431-001	
			6	G	3/4″ BSP		5986432-001	5991073-001
			8	H	#8 SAE		5986433-001	
			10	OH	#10 SAE		5986434-001	5991074-001
			12	2H	#12 SAE		5986436-001	5991075-001
			*	Alumatio		a used for p		210 bar [3000 psi].



Directional Control Valves PTS1-16

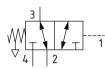
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

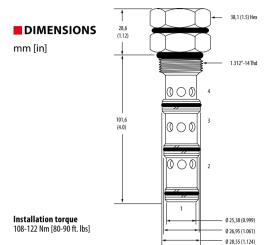
210 bar [3000 psi] • 132 l/min [35 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an atmospheric vent.

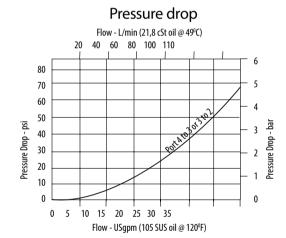
In the normal condition, port 2 is connected to port 3 and port 4 is blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 4 with port 2 blocked. During the cross-over transition, all ports are blocked. This valve can be used as a selector valve when combined with a pilot solenoid valve.





Danfoss

PERFORMANCE CURVES



PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.5 kg [1.12 lb]
Cavity	SDC16-4

Seal O	ption									
Code		Seal Kit								
Omit-l	Buna-N	889634	_							
V -Vitor	ı	889638								
Housir	g									
Code	Ports		Aluminum Standard duty	Aluminum Heavy duty			Shift Pressure			
0	No housing	g			-		Code	Bar	[Psi]	
12T	#12 SAE		566411		-		40	2.75	[40]	
6B	3/4″ BSP		02-175468		-		80	5.5	[80]	
10H	#10 SAE			876729	-		160	11.0	[160]	
12H	#12 SAE			876731	-					
4G	1/2″ BSP			876728	-					
6G	3/4″ BSP			876730	-					

Directional Control Valves PTS11-16

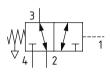
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

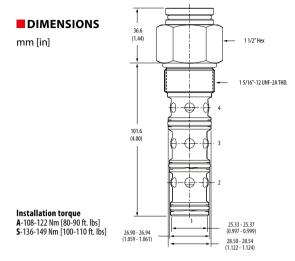
350 bar [5000 psi] • 132 l/min [35 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an atmospheric vent. In the normal condition, port 2 is connected to port 3 and port 4 is blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 4 with port 2 blocked. During the cross-over transition, all ports are blocked. This valve can be used as a selector valve when combined with a pilot solenoid valve.

SCHEMATIC

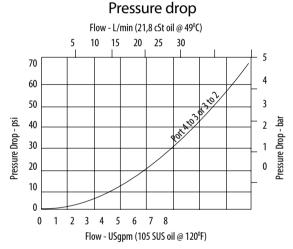




PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	250 ml/min [15 in ³ /min] @ 350 bar [5000 psi]
Weight	0.5 kg [1.12 lb]
Cavity	SDC16-4



Seal Option		Shift Pressure	
Code	Seal Kit	Code Bar [Psi]	
Omit-Buna-N	889634	80 5.5 [80]	
V -Viton	889638	160 11.0 [160]	
		Housing	
		Code Ports Aluminum Alu Standard duty Hea	minum vy duty Steel
Housing Materi	al	0 No housing	
Omit-No housing	g	10T #10 SAE	02-175141
A -Aluminum S -Steel		12T #12 SAE 566411	02-175142
3 -Steel		6B 3/4" BSP 02-175468	
		10H #10 SAE 8765	729
		12H #12 SAE 8765	/31
		4G 1/2" BSP 8765	728 02-175143
		6G 3/4" BSP 8767	730 02-175144
		* Aluminum bodies are to be used for pressures les * Additional housings available	s than 210 bar [3000 psi].



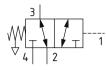
Directional Control Valves PTS1-20

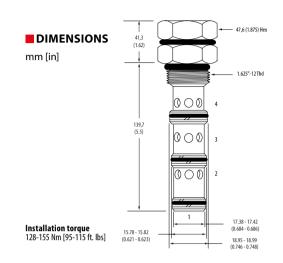
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

210 bar [3000 psi] • 265 l/min [70 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an atmospheric vent. In the normal condition, port 2 is connected to port 3 and port 4 is blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 4 with port 2 blocked. During the cross-over transition, all ports are blocked. This valve can be used as a selector valve when combined with a pilot solenoid valve.



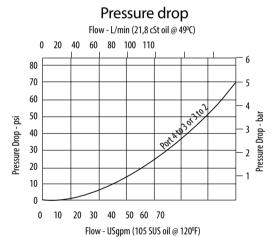


Danfoss

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	265 l/min [70 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	1.1 kg [2.40 lb]
Cavity	SDC20-4

PERFORMANCE CURVES



Seal O	ntion								
Code	Seal Kit								
0mit-l	Buna-N 565916								
V-Vitor	n 889646								
Housir	ıg								
Code	Ports	Aluminum Standard duty	Aluminum Heavy duty			Shift Pressu			
0	No housing			_		Code	Bar	[Psi]	
16T	#16 SAE	566412		_		40	2.75	[40]	
8B	1″ BSP	02-175469		-		80	5.5	[80]	
12H	#12 SAE		876745	-					
16H	#16 SAE		876747	_					
6G	3/4″ BSP		876744	-					
8G	1″ BSP		876746	-					



Quick Reference

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Directional Control Valves PTS12-10

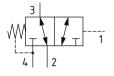
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

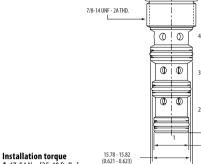
350 bar [5000 psi] • 30 l/min [8 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 2 is connected to port 3 with port 4 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 4 with port 2 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

SCHEMATIC





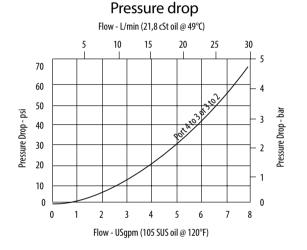
25.4 (1.0) Hex

A-47-54 Nm [35-40 ft. lbs] **S**-68-75 Nm [50-55 ft. lbs]

PERFORMANCE CURVES



Rated pressure	350 bar [5000 psi]
Rated flow	30 l/min [8 US gpm]
Leakage	250 ml/min [15 in ³ /min] @ 350 bar [5000 psi]
Weight	0.14 kg [0.32 lb]
Cavity	SDC10-4



MODEL CODE

BC332375730110en-000202

Seal Option				Shift Pro			
	eal Kit			Code		[Psi]	
	89625			40	2.75	[40]	
V-Viton 56	56080			80	5.5	[80]	
				120	8.3	[120]	
Housing Material Omit-No housing			Housin Code	g Ports	Aluminum h	eavy duty	Steel
A-Aluminum			0	No housing		,,	
				5			02-175139
S -Steel			2G	1/4″ BSP	02-185804		02 175157
			2G 3G	1/4" BSP 3/8" BSP	02-185804 02-185805		02-175140
			3G	3/8″ BSP	02-185805		
			3G 6H	3/8″ BSP #6 SAE	02-185805 02-185802		



mm [in]



25.65 (1.010)

62 (2,44)

17.38 - 17.42 (0.684 - 0.686)

18.95 - 18.99 (0.746 - 0.748)

Directional Control Valves PTS12-12

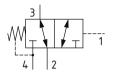
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

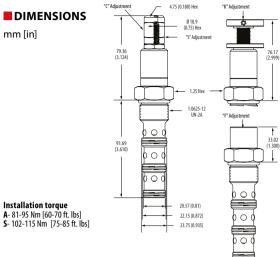
350 bar [5000 psi] • 114 l/min [30 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 2 is connected to port 3 with port 4 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 4 with port 2 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

SCHEMATIC

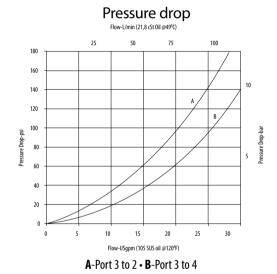




PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	114 l/min [30 US gpm]
Leakage	250 ml/min [15 in ³ /min] @ 350 bar [5000 psi]
Weight	0.32 kg [0.70 lb]
Cavity	C-12-4



Seal O	otion				Adjustman	t Ontion
Code	Seal Kit				Adjustmen	per resistant)
Omit-E	Buna-N 02-160979	_			03- C (Talli 04-"F" (Fixe	
V -Vitor	02-160980	_			05-"K" (Kno 06-"S" (Exte	b)
Housin	g Material			Shift Pr		
Omit-N A-Alum	lo housing			Code	Bar	[Psi]
A-Alum S-Steel				80	5.5	[80]
Housin				120	8.3	[120]
nousii	g			160*	8.3	[160]
Code	Ports	Aluminum Heavy duty	Steel	*Only for	r adjustable type	S
0	No housing					
4G	1/2″ BSP	5986431-001				
6G	3/4″ BSP	5986432-001	5991073-001			
8H	#8 SAE	5986433-001				
10H	#10 SAE	5986434-001	5991074-001			
12H	#12 SAE	5986436-001	5991075-001			



Quick Reference

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Directional Control Valves PTS2-16

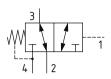
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

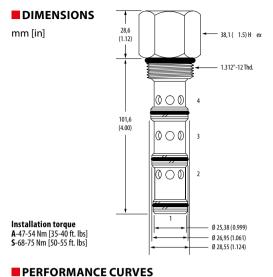
210 bar [3000 psi] • 132 l/min [35 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 2 is connected to port 3 with port 4 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 4 with port 2 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

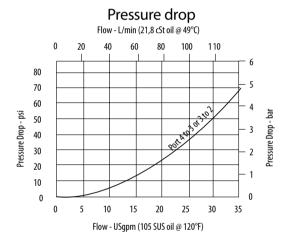
SCHEMATIC





PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.5 kg [1.12 lb]
Cavity	SDC16-4



Seal Option				Shift Pre				
Code	Seal Kit			Code	Bar	[Psi]	_	
Omit -Buna-N	889634			40	2.75	[40]	_	
V -Viton	889638			80	5.5	[80]	_	
				160	11.0	[160]		
Housing Material			Housin	g				
Omit-No housing A-Aluminum			Code	Ports	Aluminum Standard (Aluminum Heavy duty	Steel
S -Steel			0	No housing				
			10T	#10 SAE				02-175141
			12T	#12 SAE	566411			02-175142
			6B	3/4″ BSP	02-175468			
			10H	#10 SAE			876729	
			12H	#12 SAE			876731	
			4G	1/2″ BSP			876728	02-175143
			6G	3/4″ BSP			876730	02-175144



Directional Control Valves PTS12-16

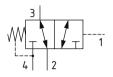
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

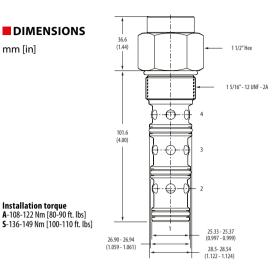
350 bar [5000 psi] • 132 l/min [35 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 2 is connected to port 3 with port 4 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 4 with port 2 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

SCHEMATIC

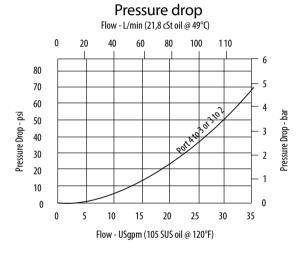




PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	550 ml/min [34 in ³ /min] @ 350 bar [5000 psi]
Weight	0.5 kg [1.12 lb]
Cavity	SDC16-4



Seal Option								
Code	Seal Kit				Shift P	ressure		
Omit-Buna-N	889634				Code	Bar	[Psi]	
V -Viton	889638				160	11.0	[160]	
Housing Material				Housin	g			
Omit-No housing A-Aluminum				Code	Ports	Aluminum Standard duty	Aluminum Heavy duty	Steel
S -Steel				0	No housing			
				10T	#10 SAE			02-175141
				12T	#12 SAE	566411		02-175142
				6B	3/4″ BSP	02-175468		
				10H	#10 SAE		876729	
				12H	#12 SAE		876731	
				4G	1/2″ BSP		876728	02-175143
				6 G	3/4″ BSP		876730	02-175144
					num bodies ar onal housings	e to be used for pre	ssures less than 210) bar [3000 psi].



Directional Control Valves PTS2-20

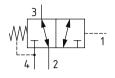
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

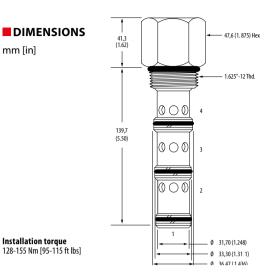
210 bar [3000 psi] • 265 l/min [70 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 2 is connected to port 3 with port 4 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 4 with port 2 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

SCHEMATIC

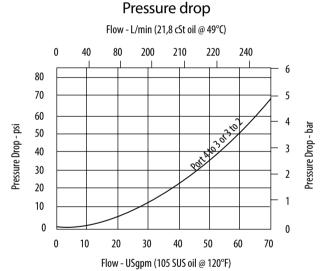




PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	265 l/min [70 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.5 kg [1.12 lb]
Cavity	SDC20-4



Seal O	ption								
Code	Seal K	it							
Omit-	3una-N 565916	i i							
V-Vitor	n 88964	6							
Housir	Ig				L	Shift Pressur			
Code	Ports	Aluminum	Aluminum			Code	Bar	[Psi]	
		Standard duty	Heavy duty			40	2.75	[40]	
0	No housing					80	5.5	[80]	
16T	#16 SAE	566412							
8B	1" BSP	02-175469							
12H	#12 SAE		876745						
16H	#16 SAE		876747						
6G	3/4" BSP		876744						
8G	1" BSP		876746						



Directional Control Valves PTS14-12

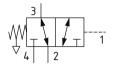
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

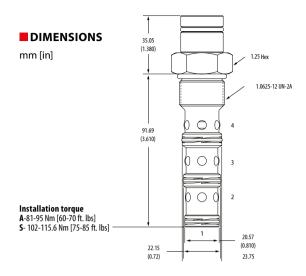
350 bar [5000 psi] • 114 l/min [30 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an atmospheric vent. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. During the cross-over transition all ports are blocked. Due to the atmospheric vent, the pilot pressure required to keep the valve switched is independent of the pressure at the work ports.

SCHEMATIC

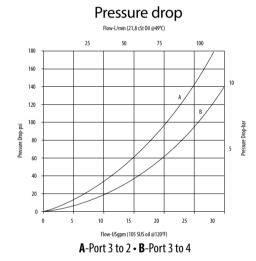




PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	114 l/min [30 US gpm]
Leakage	210 ml/min [13in ³ /min] @ 350 bar [5000 psi]
Weight	0.32 kg [0.70 lb]
Cavity	C-12-4



MODEL CODE

Seal Option				Shift Pressu	re	
Code	Seal Kit			Code	Bar [Psi]	
Omit-Buna-N	02-160979			80	5.5 [80]	
V -Viton	02-160980			120	8.3 [120]	
			Housir	ng		
			Code	Ports	Aluminum Heavy duty	Steel
			0	No housing		
Housing Materia			4G	1/2″ BSP	5986431-001	
Omit-No housing A-Aluminum			6G	3/4″ BSP	5986432-001	5991073-001
S -Steel			8H	#8 SAE	5986433-001	
			10H	#10 SAE	5986434-001	5991074-001
			12H	#12 SAE	5986436-001	5991075-001

BC332375730110en-000202



Directional Control Valves PTS14-16

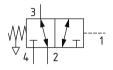
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

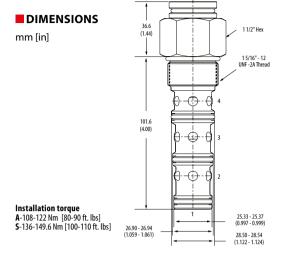
350 bar [5000 psi] • 132 l/min [35 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an atmospheric vent. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. During the cross-over transition all ports are blocked. Due to the atmospheric vent, the pilot pressure required to keep the valve switched is independent of the pressure at the work ports.

SCHEMATIC

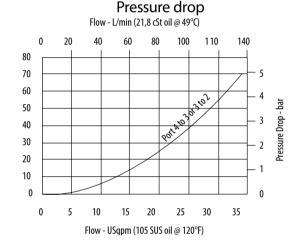




PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	210 ml/min [13in ³ /min] @ 350 bar [5000 psi]
Weight	0.5 kg [1.12 lb]
Cavity	SDC16-4



MODEL CODE

Seal Option		Shift Pressure	
Code	Seal Kit	Code Bar [P	si]
Omit-Buna-N	889634	80 5.5 [8	0]
V -Viton	889638	160 11.0 [1	60]
		Housing	
Housing Materi Omit-No housin		Code Ports Aluminum Standard duty	Aluminum Steel Heavy duty
A -Aluminum S -Steel		O No housing	
		10T #10 SAE	02-17514
		12T #12 SAE 566411	02-17514
		6B 3/4" BSP 02-175468	
		10H #10 SAE	876729
		12H #12 SAE	876731
		4G 1/2" BSP	876728 02-17514
		6G 3/4″ BSP	876730 02-17514
		* Aluminum bodies are to be used for press	sures less than 210 bar [3000 psi].
		* Additional housings available	

BC332375730110en-000202



210 bar [3000 psi]

0.5 kg [1.12 lb]

SDC16-4

132 l/min [35 US gpm]

164 ml/min [10 in³/min] @ 210 bar [3000 psi]

Directional Control Valves PTS5-16

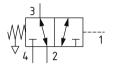
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

210 bar [3000 psi] • 132 l/min [35 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an atmospheric vent. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. During the cross-over transition all ports are open. Due to the atmospheric vent, the pilot pressure required to keep the valve switched is independent of the pressure at the work ports.

SCHEMATIC



PERFORMANCE DATA

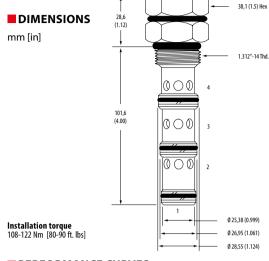
Rated pressure

Rated flow

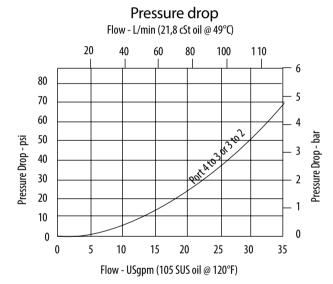
Leakage

Weight

Cavity



PERFORMANCE CURVES



Seal Option				Chiff	Pressu			
Code Seal K	t							
Omit-Buna-N 889634					Bar		_	
V-Viton 88963				40	2.75	[40]	_	
V-VII011 005050				80	5.5	[80]	_	
				160	11.0	[160]	_	
Housing Material			Housin	g				
Omit-No housing A-Aluminum			Code	Ports			luminum tandard duty	Aluminum Heavy duty
S -Steel			0	No hous	sing			
			12T	#12 SA		5	66411	
			6B	3/4" BS	þ	0	2-175468	
			10H	#10 SA				876729
			12H	#12 SA				876731
			4G	1/2" BS	Р			876728
			6G	3/4" BS	, ,			876730



Directional Control Valves PTS15-16

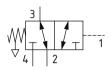
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Atmospheric Vent

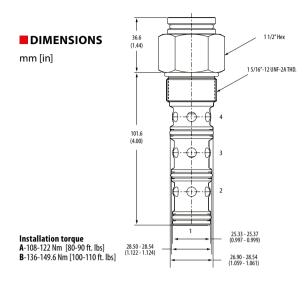
350 bar [5000 psi] • 132 l/min [35 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an atmospheric vent. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. During the cross-over transition all ports are open. Due to the atmospheric vent, the pilot pressure required to keep the valve switched is independent of the pressure at the work ports.

SCHEMATIC

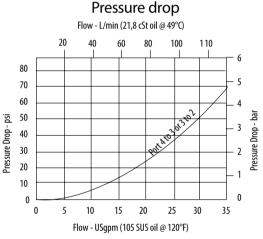




PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	210 ml/min [13in ³ /min] @ 350 bar [5000 psi]
Weight	0.5 kg [1.12 lb]
Cavity	SDC16-4

PERFORMANCE CURVES



					Shift Pr	essure		
Seal Option			Code	Bar [Psi]				
Code	Seal Kit				40	2.75 [40]		
Omit-Buna-N	889634				80	5.5 [80]		
V -Viton	889638				160	11.0 [160]		
Housing Mater	ial			Housin	ng			
Omit-No housin A-Aluminum	ng			Code	Ports	Aluminum Standard duty	Aluminum Heavy duty	Steel
S -Steel				0	No Housing	1		
				10T	#10 SAE			02-175141
				12T	#12 SAE	566411		02-175142
				6B	3/4″ BSP	02-175468		
				10H	#10 SAE		876729	
				12H	#12 SAE		876731	
				4G	1/2″ BSP		876728	02-175143
				6G	3/4″ BSP		876730	02-175144
					inum bodies ar ional housings	e to be used for press	ures less than 210) bar [3000 psi].



Directional Control Valves PTS3-10

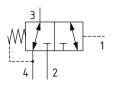
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

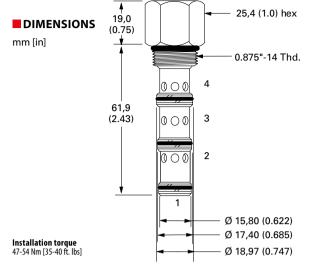
210 bar [3000 psi] • 30 l/min [8 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

SCHEMATIC



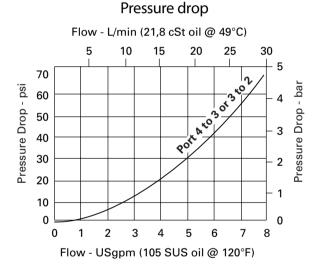


Danfoss

PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	30 l/min [8 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.5 kg [1.12 lb]
Cavity	SDC10-4



Seal O	ption								
Code	Seal Kit								
Omit-	Buna-N 889625								
V-Vitor	n 566080								
Housir	ıg								
Code	Ports	Aluminum	Aluminum			Shift Pressure		D .1	
		Standard duty	Heavy duty			Code		Psi	
0	No housing					40	2.75	[40]	
3B	3/8″ BSP	02-179705				80	5.5	[80]	
6T	#6 SAE	02-168235				160	11.0	[160]	
2G	1/4″ BSP		876709						
3G	3/8″ BSP		876715						
6H	#6 SAE		876708						
8H	#8 SAE		876713						





Quick Reference

Index

Directional Control Valves PTS13-10

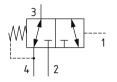
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

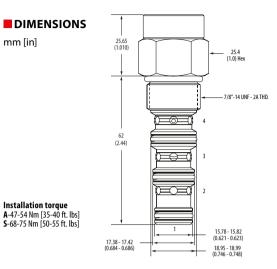
350 bar [5000 psi] • 30 l/min [8 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

SCHEMATIC



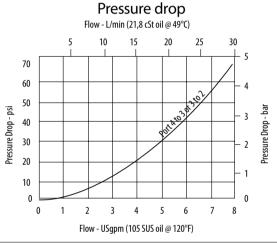


Danfoss

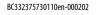
PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	30 l/min [8 US gpm]
Leakage	210 ml/min [13 in ³ /min] @ 350 bar [5000 psi]
Weight	0.14 kg [0.32 lb]
Cavity	SDC10-4

PERFORMANCE CURVES



Seal Option						Shift P	Pressure		
Code	Seal Kit					Code			
Dmit -Buna-N	889625					40	2.75 [40]		
V-Viton	566080					80	5.5 [80]		
						160	11.0 [160]		
					Housin	g			
Housing Materi					Code	Ports	Aluminum Standard duty	Aluminum Heavy duty	Steel
Omit -No housing A -Aluminum	9				0	No housin	g		
S -Steel					3B	3/8″ BSP	02-179705		
					6T	#6 SAE	02-168235		02-175137
					8T	#8 SAE			02-175138
					2G	1/4″ BSP		02-185804	02-175139
					3G	3/8″ BSP		02-185805	02-175140
					6H	#6 SAE		02-185802	
					8H	#8 SAE		02-185803	
						num bodies a onal housing	are to be used for pressi is available	ures less than 21	0 bar [3000 psi]



Directional Control Valves PTS13-12

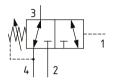
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

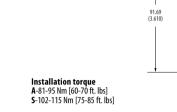
350 bar [5000 psi] • 114 l/min [30 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank. It is available with a fixed or adjustable spring setting.

SCHEMATIC





DIMENSIONS

mm [in]

"C" Adjustment

79.36 (3.124) 4.75 (0.180) Hex

Ø 18.9 (0.75) Hex

"S" Adjustm

1.25 Hex

1.0625-12 UN-2A

20.57 (0.81)

23.75 (0.935)

0

0

"K" Adjustment

"F" Adjustment

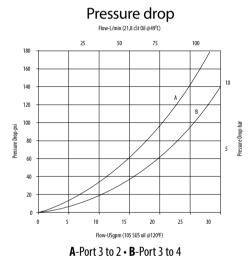
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PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	114 l/min [30 US gpm]
Leakage	210 ml/min [13in ³ /min] @ 350 bar [5000 psi]
Weight	0.32 kg [0.70 lb]
Cavity	C-12-4





MODEL CODE

Seal O	ption								
Code	Sea	l Kit					Adjustme	nt/Transition Optio	n
0mit-l	Buna-N 02-1	60979	Housing Mate	rial			Code	Adjustment	Transition
V -Vitor	n 02-1	60980	Omit-No hous	ing			03	C (Tamper resistant)	Closed
			A -Aluminum S -Steel				04	F (Fixed)	Closed
Housir	Iq						05	K (Knob)	Closed
Code	Ports		Aluminum	Steel			06	S (External)	Closed
0	No housing						09	F (Fixed)	Open
4G	1/2″ BSP		5986431-001			Shift Pre	ssure		
6G	3/4″ BSP		5986432-001	5991073-001	l	Code	Bar	[Psi]	
8H	#8 SAE		5986433-001			80	5.5	[80]	
10H	#10 SAE		5986434-001	5991074-001		120	8.3	[120]	
12H	#12 SAE		5986436-001	5991075-001		160	11.0	[160]	



76.17 (2.999)

33.02

Directional Control Valves PTS3-16

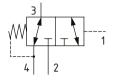
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

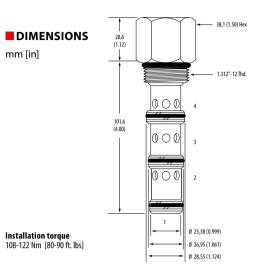
210 bar [3000 psi] • 132 l/min [35 US gpm]

DESCRIPTION AND OPERATION

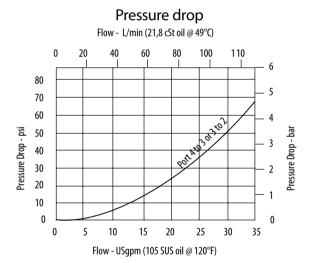
This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

SCHEMATIC





PERFORMANCE CURVES



PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.5 kg [1.12 lb]
Cavity	SDC16-4

MODEL CODE

Seal O	ntion							
Code	Seal Kit							
0mit-	Buna-N 889634							
V-Vito	n 889638							
Harret								
Housir	ıg							
Code	Ports	Aluminum Standard duty	Aluminum Heavy duty		Shift Pressu			
		Standard duty	incury uncy		Code	Bar	[Psi]	
0	No housing				40	2.75	[40]	
12T	#12 SAE	566411			80	5.5	[80]	
6B	3/4" BSP	02-175468			160	11.0	[160]	
10H	#10 SAE		876729			11.0	[100]	
12H	#12 SAE		876731					
4G	1/2" BSP		876728					
6G	3/4" BSP		876730					

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Directional Control Valves PTS6-16

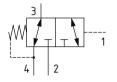
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

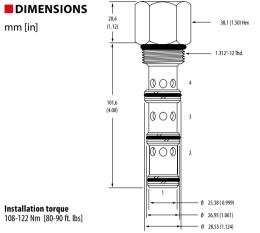
210 bar [3000 psi] • 132 l/min [35 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 open. During the cross-over transition all ports are open. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

SCHEMATIC

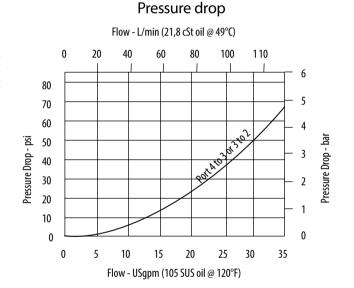




PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	210 bar [3000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.5 kg [1.12 lb]
Cavity	SDC16-4



Seal O	ption								
Code	Seal K	it							
0mit-l	3una-N 889634	4							
V-Vitor	1 889638	1							
Housir	Ig								
Code	Ports	Aluminum Chan double dute	Aluminum			Shift Pressu	re		
		Standard duty	Heavy duty			Code	Bar	[Psi]	
0	No housing					40	2.75	[40]	
12T	#12 SAE	566411				80	5.5	[80]	
6B	3/4" BSP	02-175468				160	11.0		
10H	#10 SAE		876729						
12H	#12 SAE		876731						
4G	1/2" BSP		876728						
6G	3/4" BSP		876730						



Directional Control Valves PTS13-16

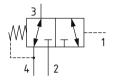
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

350 bar [5000 psi] • 132 l/min [35 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

SCHEMATIC



PERFORMANCE DATA

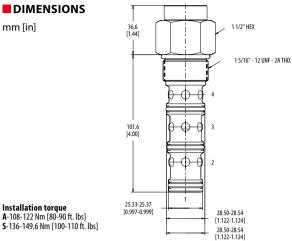
Rated pressure

Rated flow

Leakage

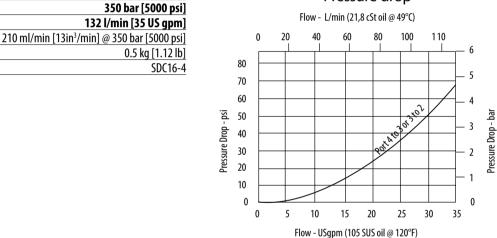
Weight

Cavity



PERFORMANCE CURVES

Pressure drop



Seal Option				Shift Pre	ssure		
Code	Seal Kit			Code	Bar [Ps	i]	
Omit-Buna-N	889634			80	5.5 [80]	
V -Viton	889638			160	11.0 [16	0]	
Housing Mat	erial	н	ousing]			
Omit-No hous A-Aluminum S-Steel	sing	(ode	Ports	Aluminum Standard duty	Aluminum Heavy duty	Steel
3-51661		0		No housing			
		10	DT	#10 SAE			02-175141
		12	2T	#12 SAE	566411		02-175142
		6	B	3/4″ BSP		02-175468	
		10	ЭН	#10 SAE		876729	
		12	2H	#12 SAE		876731	
		4	G	1/2″ BSP		876728	02-175143
		6	G	3/4″ BSP		876730	02-175144
				um bodies are Mal housings a	to be used for pressu vailable	res less than 210 l	bar [3000 psi].

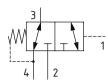
Directional Control Valves CP722-11

Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

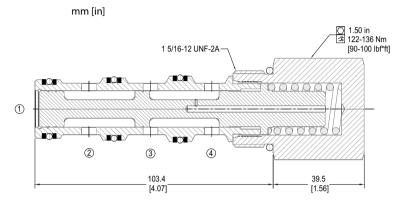
450 bar [6500 psi] • 125 l/min [33 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.



DIMENSIONS

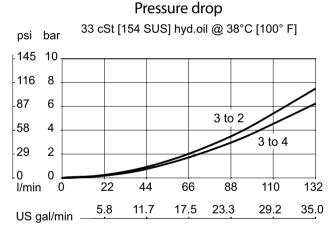


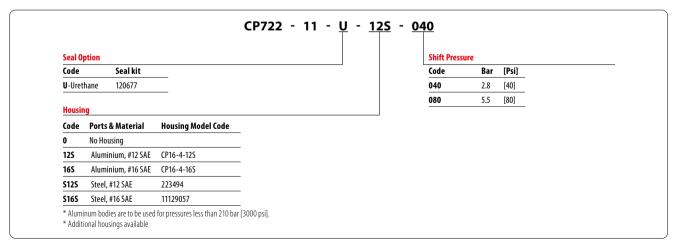
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PERFORMANCE DATA

Rated pressure	450 bar [6500 psi]
Rated flow @ 7 bar [100 psi]	125 l/min [33 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.61 kg [1.34 lb]
Cavity	SDC16-4

PERFORMANCE CURVES





210 bar [3000 psi]

0.5 kg [1.12 lb]

SDC20-4

265 l/min [70 US gpm]

164 ml/min [10 in³/min] @ 210 bar [3000 psi]

Directional Control Valves PTS3-20

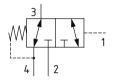
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, Internal Drain

210 bar [3000 psi] • 265 l/min [70 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. During the cross-over transition all ports are blocked. Due to the internal hydraulic vent, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank.

SCHEMATIC



PERFORMANCE DATA

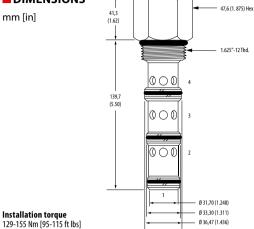
Rated pressure

Rated flow

Leakage

Weight

Cavity



Danfoss

PERFORMANCE CURVES

Pressure drop Flow - L/min (21,8 cSt oil @ 49°C) 40 200 210 220 240 80 6 80 70 5 60 1. Jor 10 Δ 50 Pressure Drop - bar Pressure Drop - psi 3 40 odⁱ 30 2 20 10 0 0 10 0 20 30 40 50 60 70 Flow - USgpm (105 SUS oil @ 120°F)

MODEL CODE

Seal O	ption								
Code	Seal I	lit							
0mit-	Buna-N 56591	6							
V -Vito	n 88964	6							
Housir	ng					Shift Pressure			
Code	Ports	Aluminum	Aluminum			Code	Bar	[Psi]	
		Standard duty	Heavy duty			40	2.75	[40]	
0	No housing					80	5.5	[80]	
16T	#16 SAE	566412							
8B	1" BSP	02-175469							
12H	#12 SAE		876745						
16H	#16 SAE		876747						
6G	3/4" BSP		876744						
8G	1" BSP		876746						

DIMENSIONS

Quick Reference

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Directional Control Valves PTS9-8

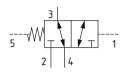
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, External Drain

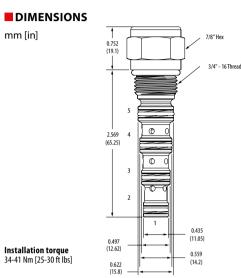
280 bar [4000 psi] • 19 l/min [5 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an external drain at port 5. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. In the crossover transition all ports are open. Due to the external drain, the pilot pressure required shift the valve is dependent on the pressure in port 5, which would normally be connected to tank.

SCHEMATIC



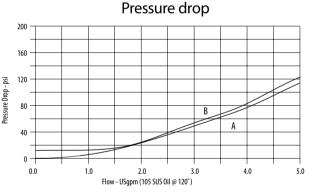


Danfoss

PERFORMANCE DATA

Rated pressure	280 bar [4000 psi]
Rated flow	19 l/min [5 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.10 kg [0.23 lbs]
Cavity	C-8-5S

PERFORMANCE CURVES



A-Port 3 to 4 • **B**-Port 3 to 2

				Shift P	ressure		
Seal Option				Code	Bar	[Psi]	
Code	Seal kit			080	5.5	[80]	
Omit-Buna-N	9900310-001			160	11.0	[160]	
V -Viton	9900310-002		Housin	ig			
Housing Mate	rial		Code	Ports 2,3,4	Ports 1,5	Aluminum	Steel
O-No housing			000	No housing			
A -Aluminum S -Steel			04T	#4 SAE	#4 SAE	4999357-001	4999358-001
J Steel			06T	#6 SAE	#6 SAE	4999357-002	4999358-002
			02G	1/4" BSP	1/4" BSP	4999357-003	4999358-003
			03G	3/8" BSP	1/4" BSP	4999357-004	4999358-004

Directional Control Valves PTS9-10

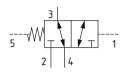
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, External Drain

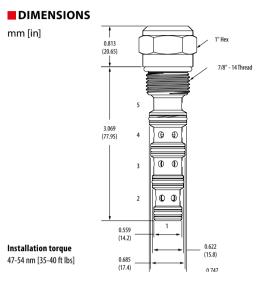
280 bar [4000 psi] • 38 l/min [10 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an external drain at port 5. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. In the crossover transition all ports are open. Due to the external drain, the pilot pressure required shift the valve is dependent on the pressure in port 5, which would normally be connected to tank.

SCHEMATIC



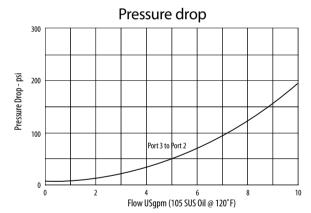


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PERFORMANCE DATA

Rated pressure	280 bar [4000 psi]
Rated flow	38 l/min [10 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.10 kg [0.23 lbs]
Cavity	SDC10-5

PERFORMANCE CURVES



Seal Option				Shift P	ressure		
Code	Seal kit			Code	Bar	[Psi]	
Omit-Buna-N	9901261-000			080	5.5	[80]	
V -Viton	9901262-000			100	6.9	[100]	
Housing Materia				160	11.0	[160]	
A-Aluminum							
S -Steel			Housin	9 Port 1, 2 & 4	Port 1 & 5	Aluminum	Steel
					Port 1 & 5	Aluminum	Steel
			Code	Port 1, 2 & 4	Port 1 & 5 #4 SAE	Aluminum 5994133-001	Steel 5994134-001
			Code 000	Port 1, 2 & 4 No housing			

Directional Control Valves PTS9-12

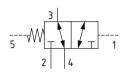
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, External Drain

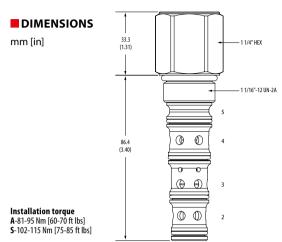
280 bar [4000 psi] • 76 l/min [20 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an external drain at port 5. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. In the crossover transition all ports are open. Due to the external drain, the pilot pressure required shift the valve is dependent on the pressure in port 5, which would normally be connected to tank.

SCHEMATIC



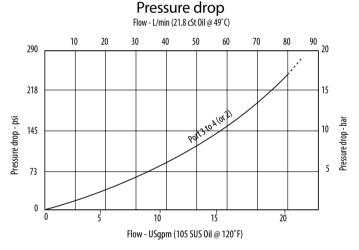


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PERFORMANCE CURVES



Rated pressure	280 bar [4000 psi]
Rated flow	76 l/min [20 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.36 kg [0.79 lb]
Cavity	C-12-5S



1

Seal 0	ption									
Code		Seal Kit								
U -Uret	hane	202914-921								
Housi	ng Material									
A-Alur S-Stee	I						Shift Pres	sure Bar	[Psi]	
Code	Port 2, 3 & 4	Port 1 & 5	Aluminum	Steel			075	5.2	[75]	
000	No Housing				_		110	7.6	[110]	
12T	#12 SAE	#4 SAE	4998820-002	4998821-002	_					
	3/4" BSP	1/4" BSP	4998820-004	4998821-004	_					

Directional Control Valves PTS9-16

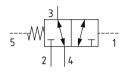
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, External Drain

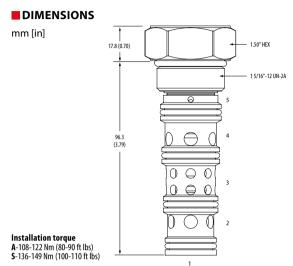
280 bar [4000 psi] • 150 l/min [40 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an external drain at port 5. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. In the crossover transition all ports are open. Due to the external drain, the pilot pressure required shift the valve is dependent on the pressure in port 5, which would normally be connected to tank.

SCHEMATIC



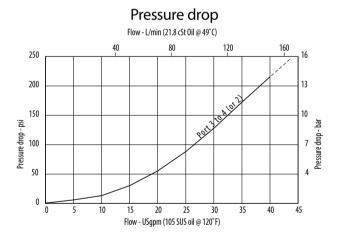


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PERFORMANCE DATA

Rated pressure	280 bar [4000 psi]
Rated flow	150 l/min [40 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.47 kg [1.05 lb]
Cavity	C-16-5S

PERFORMANCE CURVES



Seal O	ption								
Code	-	Seal Kit							
U -Ure	thane	202915-922							
Housi	ng Material								
	iousing ninum I					Shift Pres	sure		
Housi	ng					Code	Bar	[Psi]	
Code	Port 2, 3 & 4	Port 1 & 5	Aluminum	Steel		030	2	[30]	
000	No Housing				_	050	3.5	[50]	
16T	#16 SAE	#4 SAE	4994880-002	4994881-002	-	070	4.8	[70]	
	1" BSP	1/4" BSP	4994880-004	4994881-004	_				

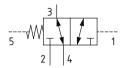
Directional Control Valves PTS9-20

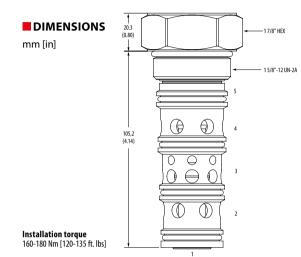
Directional Control Valve, 3-Way, Spool Type, Hydraulic Pilot, External Drain

280 bar [4000 psi] • 230 l/min [60 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, hydraulically piloted directional control valve with an external drain at port 5. In the normal condition, port 3 is connected to port 4 with port 2 blocked. Pilot pressure at port 1 will cause the valve to shift, connecting port 3 to port 2 with port 4 blocked. In the crossover transition all ports are open. Due to the external drain, the pilot pressure required shift the valve is dependent on the pressure in port 5, which would normally be connected to tank.

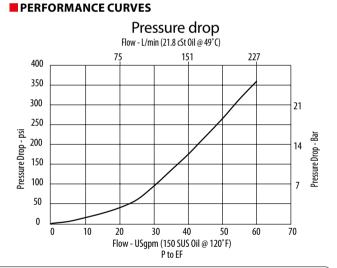




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PERFORMANCE DATA

Rated pressure	280 bar [4000 psi]
Rated flow	230 l/min [60 US gpm]
Leakage	164 ml/min [10 in ³ /min] @ 210 bar [3000 psi]
Weight	0.86 kg [1.9 lb]
Cavity	C-20-5S



Seal 0	ption								
Code	Seal I	Kit							
U -Uret	hane 02-18	7543							
-	ng Material								
A-Alun									
S-Stee						Shift Pres	sure		
Housi	ng					Code	Bar	[Psi]	
Code	Port 2, 3 & 4	Port 1 & 5	Aluminum	Steel		 040	2.75	[40]	
000	No Housing					080	5.5	[80]	
16T	#16 SAE	#4 SAE	4998822-002	4998823-002	_				
	1" BSP	1/4" BSP	4998822-004	4998823-004	_				

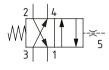
Directional Control Valves DV15-P5-24-FD

Directional Control Valve, 4-Way, Spool Type, Hydraulic Pilot, Internal Drain

230 bar [3300 psi] • 70 l/min [18 US gpm]

DESCRIPTION AND OPERATION

This is a 4-way, spool type, hydraulically piloted directional control valve with an internal drain. In the normal position, ports 3-2 and 1-4 are connected. In the crossover transition all ports are open. When shifted by pilot pressure at port 5, ports 3-4 and 1-2 are connected. This valve is primarily used for reversing fan drive circuits where the open-transition design is important for smooth shifting and minimal pressure spikes during reversing.

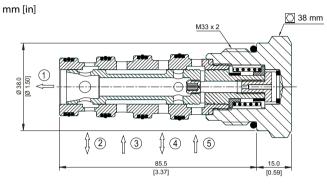




No spool orifice

0.5 mm spool orifice



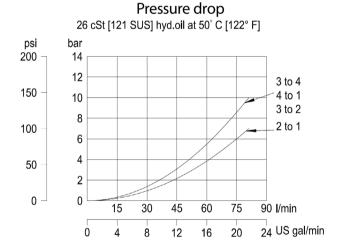


Installation torque 68-75 Nm [50-55 ft. lbs]

PERFORMANCE CURVES

PERFORMANCE DATA

Rated pressure	230 bar [3300 psi]
Rated flow at 7 bar [100 psi]	70 l/min [18 US gpm]
Maximum Flow	80 l/min [21 US gpm]
Minimum Pilot Pressure	2 bar [29 psi]
Weight	0.44 kg [0.95 lb]
Cavity	NCS12/5



			Hou	sing	
			Code	e Ports & Material	Housing Model Code
Spool Orifice	Option		00	No housing	
Code	Orifice/Plug for Pilot Drain		6B	3/4 BSP, AL [P5-3/8 BSP]	NCS 12/5-6B/3B
00 0.5	Plug 0.5 mm orifice		125	#12 SAE, AL [P5-#6 SAE]	NCS 12/5-12S/6S
			* Alu		be used for pressures less than 2
				ditional housings av	
Seal Option					
Code	Seal kit	ci i i i i i i i i i i i i i i i i i i	hift Pressure		
B -Buna-N	11182670		ode	Bar [Psi]	
V -Viton	11182671		vuc	2 [29]	



Quick Reference

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Directional Control Valves 1SB10

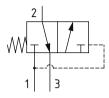
Brake Sequence Directional Valve, 3-Way, Spool Type, Internal Pilot, Internal Drain

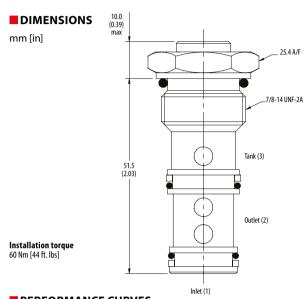
350 bar [5000 psi] • 10 l/min [2.6 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, internally piloted directional control valve. Pressure at port 1 will connect port 1 to port 2 and block port 3. When this pressure falls below the spring setting, the valve connects port 2 to port 3 and blocks port 1. This is ideal for brake circuits and allows the brake to automatically dis-engage when the machine is in operation.

SCHEMATIC



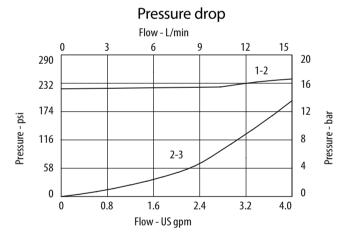


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PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	10 l/min [2.6 US gpm]
Leakage	50 ml/min nominal
Weight	0.12 kg [0.26 lbs]
Cavity	A893

PERFORMANCE CURVES



Basic (ode				He	using Material	
1SB10 1SB15	-Cartridge Only -Cartridge and Hou	ising			Or	iit -No housing/Aluminum 7 -Steel	
Housir					Seal Option		
Code	Ports	Aluminum single	Steel		Code	Seal Kit	
0	No housing				S -Buna-N	SK182	
2W	1/4" BSP		A1882		SV-Viton	SK182V	
3W	3/8″ BSP		A1883				
6T	3/8″ SAE	A10715	A7371				

Quick Reference

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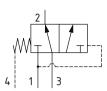
Directional Control Valves 1SB304

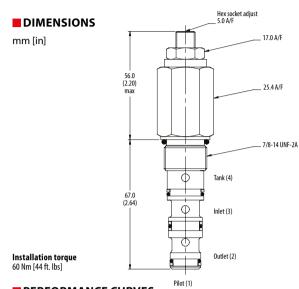
Brake Sequence Directional Valve, 3-Way, Spool Type, Internal Pilot, External Drain

350 bar [5000 psi] • 30 l/min [8 US gpm]

DESCRIPTION AND OPERATION

This is a 3-way, spool type, internally piloted directional control valve with external drain. Pressure at port 1 will connect port 1 to port 2 and block port 3. When this pressure falls below the spring setting, the valve connects port 2 to port 3 and blocks port 1. Due to the external drain, the pilot pressure required shift the valve is dependent on the pressure in port 4, which would normally be connected to tank. This is ideal for brake circuits and allows the brake to automatically dis-engage when the machine is in operation.

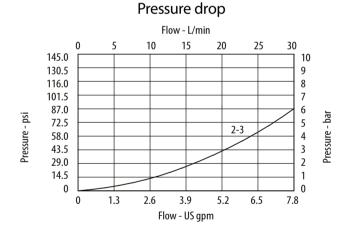




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PERFORMANCE DATA

Rated pressure	350 bar [5000 psi]
Rated flow	30 l/min [8 US gpm]
Max pilot pressure	210 bar [3000 psi]
Leakage	50 ml/min nominal
Weight	0.24 kg [0.53 lb]
Cavity	A5302



Basic Code					Housing Material Omit-No housing/Aluminum			
	4-Cartridge Only				377-Steel			
1SB354-Cartridge and Housing				Pr	Pressure Range			
Adjuct	ment Option				Code	Bar	[Psi]	
P-External Housing					6 Standard Setting	10-60 30	[145-870] [435]	
				_	12	20-100 [290-1450	[290-1450]	
Code	Ports	Aluminum	Steel	_	Standard Setting	60	[870]	
0	No housing			Sta	andard setting made at 1	4 I/min [3.8 l	IS gpm]	
3W	3/8″ BSP	B13602	B13603	Seal Option				
6T	3/8″ SAE	B21661	B21660	Code	Seal Kit			
* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].				S-Buna-N	SK645			
* Additional housings available				SV-Viton	SK645V			

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