

# Directional, 3-way Cartridges

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DMBD	FLeX Series 3-way, solenoid-operated directional spool valve - 3000 psi (2101 bar)
DMBF	FLeX Series 3-way, solenoid-operated directional spool2 valve
DWBF	FLeX Series 3-way, direct-acting, solenoid-operated directional blocking poppet
DWDF	3-way, direct-acting, solenoid-operated directional poppet valve (7404 Series)
DBAFS	3-way, soft shift, solenoid-operated directional spool valve - pilot capacity (7405 Series)
DWDM	3-way, manually operated, directional poppet
DMDA	3-way, solenoid-operated directional spool
DBAF	3-way solenoid-operated directional spool valve - pilot capacity (740
DMDM	3-way, manually operated, directional spool
DMDAS	3-way, soft shift, solenoid-operated directional spool
DBAH	3-way, hydraulically operated, spool directional valve - pilot11 capacity
DBAP	3-way, air-operated, spool directional valve - pilot
DPBP	3-way, pilot-operated, directional valve with drain to port 4 (1 to 2 open, 3
DPCP	3-way, pilot-operated, directional valve with drain to port 4 (1 to 2 open, 3
DRBP	3-way, direct-acting, directional valve with drain to port 4 (1 to 2 open, 3
DVBP	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A
DVCP	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A
DRBPX	3-way, direct-acting, fixed setting, directional valve with drain to port 4 (1 to 2 open,
DBAM	3-way, manually operated, spool directional valve - pilot
DRBR	3-way, direct-acting, directional valve with drain to port 4 (3 to 4 open, port 220 blocked)
DRBRX	3-way, direct-acting, fixed setting, directional valve with drain to port 4 (3 to 4 open,21 port 2 blocked)
DRCR	3-way, direct-acting, directional valve with drain to port 4 (3 to 4 open, port 222 blocked)
DDDG	3-way, 2-position, pilot-to-shift, directional



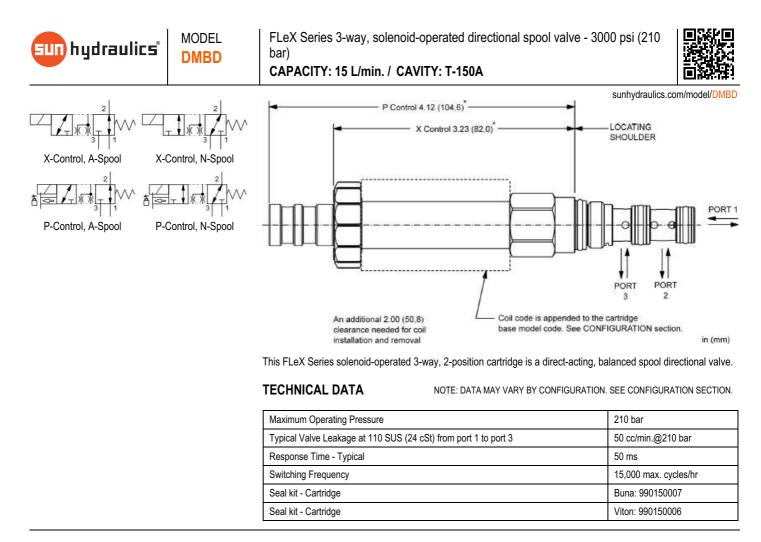
DDFG	3-way, 2-position, pilot-to-shift, directional
DDHG	3-way, 2-position, pilot-to-shift, directional
DRBN	3-way, direct-acting, directional valve with drain to port 4 - normally
DPBC	3-way, pilot-operated, directional valve with internal drain to port 3 (1 blocked, 2 to 327 open)
DPCC	3-way, pilot-operated, directional valve with internal drain to port 3 (1 blocked, 2 to 328 open)
DRBC	3-way, direct-acting, directional valve with internal drain to port 3 (1 blocked, 2 to 329 open)
DRCC	3-way, direct-acting, directional valve with internal drain to port 3 (1 blocked, 2 to 3
DVBC	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T
DVCC	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T
DPBD	3-way, pilot-operated, directional valve with internal drain to port 3 (1 to 2 open, 3
DPCD	3-way, pilot-operated, directional valve with internal drain to port 3 (1 to 2 open, 3
DRBD	3-way, direct-acting, directional valve with internal drain to port 3 (1 to 2 open, 3
DVBD	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T
DVCD	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T
DPBO	3-way, pilot-operated, directional valve with drain to port 4 (1 blocked, 2 to 3
DPCO	3-way, pilot-operated, directional valve with drain to port 4 (1 blocked, 2 to 3
DRBO	3-way, direct-acting, directional valve with drain to port 4 (1 blocked, 2 to 3
DRCO	3-way, direct-acting, directional valve with drain to port 4 (1 blocked, 2 to 3
DVBO	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A
DVCO	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A
DRBOX	3-way, direct-acting, fixed setting, directional valve with drain to port 4 (1 blocked, 2



# Cavity Information

Series	Ports	Cavities
Series Z Cartridges 3/8-24 UNF Cartridge Thread 5 mm Valve Hex Size 11 - 14 Nm Valve Installation Torque	3-Port	T-382A
Series P Cartridges M16 Cartridge Thread 22,2 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port	T-8A T-8DP T-9A
Series 1C Cartridges 7/8-14 UNF Cartridge Thread 25,4 mm Valve Hex Size 23-26 lbf ft Valve Installation Torque	2-Port (Common) 3-Port (Common) 3-Port (Common) 4-Port (Common)	SC-10-02 SC-10-03 SC-22-03 SC-10-04
Series OC Cartridges 3/4-16 UNF Cartridge Thread 22,2 mm Valve Hex Size 19-22 lbf ft Valve Installation Torque	2-Port (Common) 3-Port (Common)	SC-08-02 SC-08-03
Series 0 Cartridges M16 Cartridge Thread 19,1 mm Valve Hex Size 25,4 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port 3-Port 4-Port	T-162A T-162DP T-150A T-163A T-30A
Series 1 Cartridges M20 Cartridge Thread 22,2 mm Valve Hex Size 41 - 47 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 6-Port	T-10A T-13A T-11A T-21A T-31A T-61A
Series 2 Cartridges 1"-14 UNS Cartridge Thread 28,6 mm Valve Hex Size 61 - 68 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 4-Port (Dual path) 6-Port 6-Port	T-3A T-5A T-2A T-22A T-32A T-52AD T-52A T-52A T-62A
Series 3 Cartridges M36 Cartridge Thread 31,8 mm Valve Hex Size 203 - 217 Nm Valve Installation Torque	2-Port 3-Port 4-Port 4-Port 4-Port (Dual path)	T-16A T-17A T-23A T-33A T-53AD
<b>Series 4 Cartridges</b> M48 Cartridge Thread 41,3 mm Valve Hex Size 474 - 508 Nm Valve Installation Torque	6-Port 6-Port 2-Port 2-Port (Undercut) 3-Port 3-Port (Undercut) 4-Port 4-Port (Undercut) 4-Port	T-53A T-63A T-18A T-18AU T-19A T-19AU T-24A T-24AU T-24AU T-34A

6-Port	T-54A
6-Port	T-64A



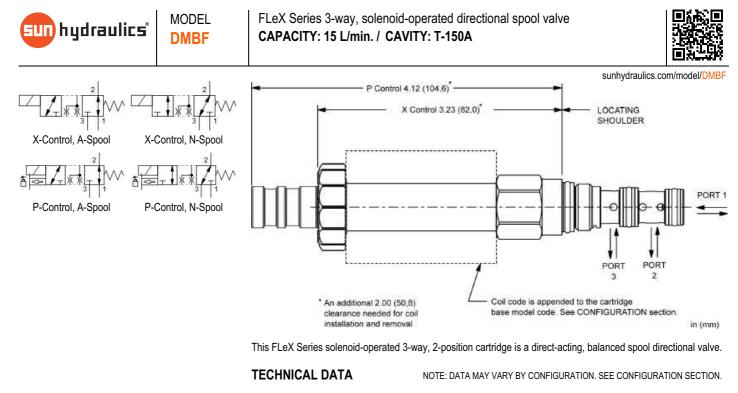
• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

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

# **CONFIGURATION OPTIONS**

# Model Code Example: DMBDXAN

CONTROL	(X) SPOOL CONFIGURATION	(A) SEAL MATERIAL	(N) COIL *	
X No Manual Override	A Normally Open 1 to 2, Closed 2 to 3	Buna-N	No coil	
P Manual Pull Override	N Normally Open 2 to 3, Closed 1 to 2	2 E EPDM	* Additional coil options are available	
		V Viton	·	



Maximum Operating Pressure	350 bar
Typical Valve Leakage at 110 SUS (24 cSt) Inlet on 1	164 cc/min.@350 bar
Typical Valve Leakage at 110 SUS (24 cSt) Inlet on 2 or 3	82 cc/min.@350 bar
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990150007
Seal kit - Cartridge	Viton: 990150006

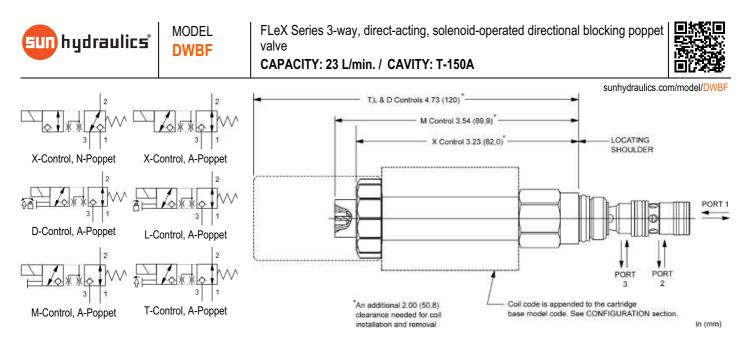
• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

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

# **CONFIGURATION OPTIONS**

# Model Code Example: DMBFXAN

CONTROL	(X) SPOOL CONFIGURATION	(A) SEAL MATERIAL	(N) COIL *	
X No Manual Override	A Normally Open 1 to 2, Closed 1 to 3	B Buna-N	No coil	
P Manual Pull Override	N Normally Open 2 to 3, Closed 1 to 2	E EPDM	* Additional coil options are available	
		V Viton	· · · · · · · · · · · · · · · · · · ·	



This FLeX Series solenoid-operated 3-way, 2-position cartridge is a direct-acting, poppet-style directional valve.

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

#### **TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.@350 bar
Response Time - Typical	50 ms
Switching Frequency	10,000 max. cycles/hr
U.S. Patent #	10,302,201
Seal kit - Cartridge	Buna: 990150007
Seal kit - Cartridge	Viton: 990150006

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

- An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.
- Sun Hydraulics bases solenoid valve performance data on testing at maximum ambient temperature (50° C) and 15% undervoltage at stabilized current (580 mA). This ensures that our data represents valve performance under worst-case conditions.

# **CONFIGURATION OPTIONS**

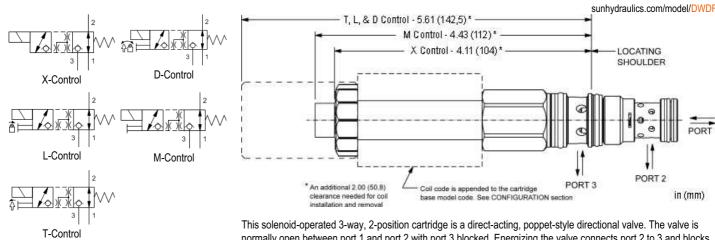
# Model Code Example: DWBFXNN

CONTROL (X	) POPPET CONFIGURATION (N	I) SEAL MATERIAL (N	COIL *
X No Manual Override	N Normally Open 2 to 3, Closed 1 to 2	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	A Normally Open 1 to 2, Closed 2 to 3	E EPDM	* Additional coil options are available
L Twist/Lock (Detent) Manual Override		V Viton	

M Manual Override

T Twist (Momentary) Manual Override





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

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

#### **TECHNICAL DATA**

MODEL

**DWDF** 

sun hydraulics

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

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar	
Manual Override Force Requirement	33 N/100 bar @ Port 1	
Manual Override Stroke	2,5 mm	
Response Time - Typical	50 ms	
Switching Frequency	15,000 max. cycles/hr	
Seal kit - Cartridge	Buna: 990411007	
Seal kit - Cartridge	Viton: 990411006	

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

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

# **CONFIGURATION OPTIONS**

# Model Code Example: DWDFXAN

CONTROL	(X)	POPPET CONFIGURATION (	(A)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		A Normally Open 1 to 2, Closed 2 to 3		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override				E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override	;			V Viton		

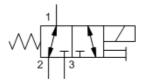
Manual Override

T Twist (Momentary) Manual Override

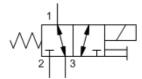
3-way, soft shift, solenoid-operated directional spool valve - pilot capacity (740 Series) SERIES P / CAPACITY: 1 L/min. / CAVITY: T-9A



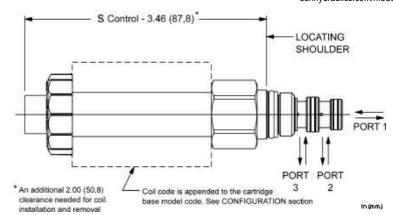
sunhydraulics.com/model/DBAFS



M-Control, H-Spool



M-Control, C-Spool



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

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

#### **TECHNICAL DATA**

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

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

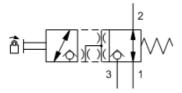
NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

# **CONFIGURATION OPTIONS**

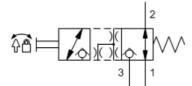
# Model Code Example: DBAFSHN

POPPET CONFIGURATION	(H) SEAL MATERIAL	(N) <u>C</u> OIL *
H Normally Open	N Buna-N	No coil
C Normally Closed	V Viton	* Additional coil options are available

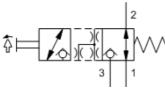




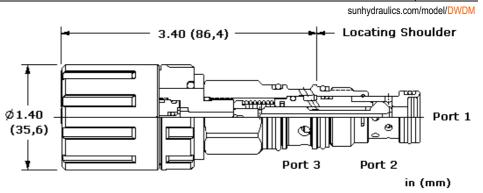
L-Control, A-Poppet



D-Control, A-Poppet



T-Control, A-Poppet



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

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

# **TECHNICAL DATA**

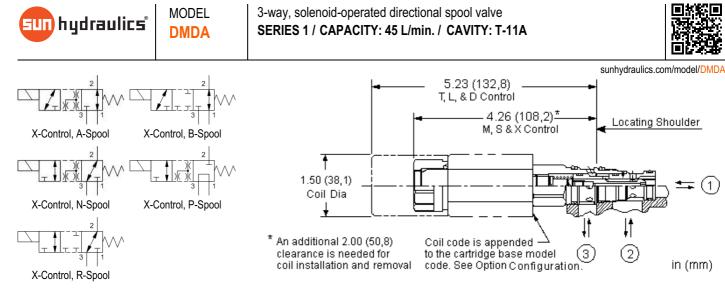
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	Viton: 990411006

# **CONFIGURATION OPTIONS**

# Model Code Example: DWDMLAN

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



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

#### **TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke 2,5 mm	
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	EPDM: 990411014
Seal kit - Cartridge	Viton: 990411006

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

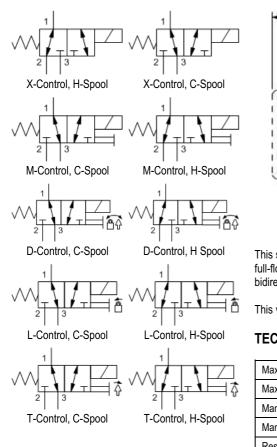
An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

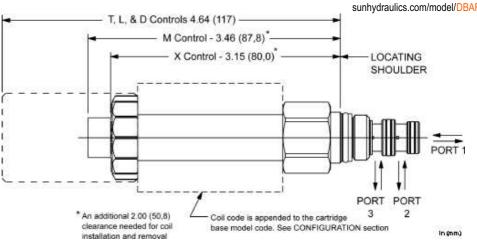
# **CONFIGURATION OPTIONS**

# Model Code Example: DMDAXAN

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







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

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

# **TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990009007
Seal kit - Cartridge	EPDM: 990009014
Seal kit - Cartridge	Polyurethane: 990009002
Seal kit - Cartridge	Viton: 990009006

NOTES

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

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

# **CONFIGURATION OPTIONS**

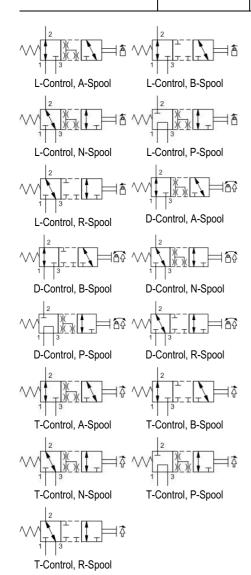
# Model Code Example: DBAFXHN

CONTROL (2	X) SPOOL CONFIGURATION	(H)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	H Normally Open		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	C Normally Closed		E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override			V Viton		·····
Manual Override (Standard)					

T Twist (Momentary) Manual Override







# **CONFIGURATION OPTIONS**

#### CONTROL

- L Twist/Lock (Detent) Manual Override
- D Twist/Lock (Dual) Manual Override
- T Twist (Momentary) Manual Override

#### sunhydraulics.com/model/DMDM 3.40 (86,4) \$\$1.40 \$\$

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

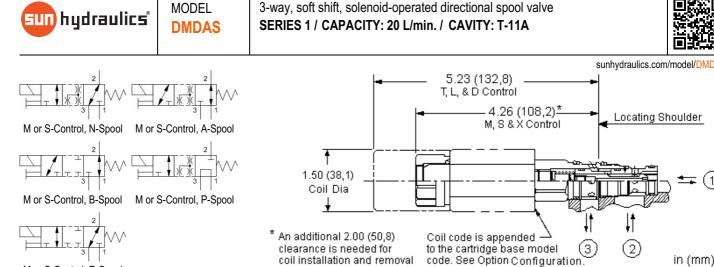
### **TECHNICAL DATA**

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

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	Viton: 990411006

# Model Code Example: DMDMLAN

(L)	SP	OOL CONFIGURATION (A	SE	AL MATERIAL	(	N)
le	А	Normally Open 1 to 2, Closed 2 to 3	Ν	Buna-N		
e	В	Normally Open 1 to 2, Closed 2 to 3, Closed Transition	V	Viton		
	Ν	Normally Open 2 to 3, Closed 1 to 2				
	Ρ	Normally Open 1 to 3, Closed 1 to 2				
	R	Normally Open 2 to 3, Closed 1 to 2, Closed Transition				



M or S-Control, R-Spool

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

# **TECHNICAL DATA**

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

AS

∓ (1)

in (mm)

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

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

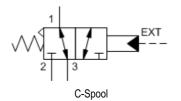
• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

# **CONFIGURATION OPTIONS**

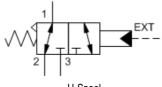
# Model Code Example: DMDASNN

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

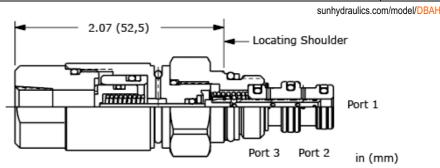




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H-Spool



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

# **TECHNICAL DATA**

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

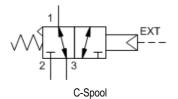
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Minimum Pilot Pressure to Operate	See Technical Features
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990509007
Seal kit - Cartridge	Viton: 990509006

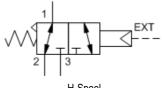
# **CONFIGURATION OPTIONS**

# Model Code Example: DBAHBCN

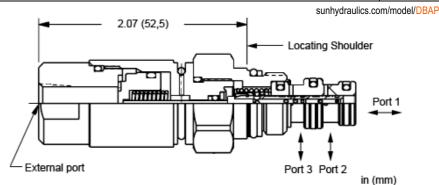
CONTROL	(B) SPOOL CON	FIGURATION	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
B External 4-SAE Port	<b>C</b> Normally	Open 1 to 3, Closed 1 to	2	N Buna-N		Standard Material/Coating
A External 1/8 NPTF Port	H Normally	Open 1 to 2, Closed 1 to	3	V Viton		/AP Stainless Steel, Passivated
D External 1/8 BSPP Port						







H-Spool



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

#### **TECHNICAL DATA**

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

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

# **CONFIGURATION OPTIONS**

#### CONTROL

F External 1/8 NPTF Port

E External 4-SAE Port

P External 1/8 BSPP Port

#### (F) SPOOL CONFIGURATION (C) SEAL MATERIAL

Model Code Example: DBAPFCN

C Normally Open 1 to 3, Closed 1 to 2 H Normally Open 1 to 2, Closed 1 to 3

N Buna-N E EPDM V Viton

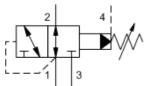
### (N) MATERIAL/COATING

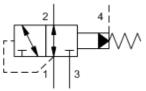
Standard Material/Coating /AP Stainless Steel, Passivated

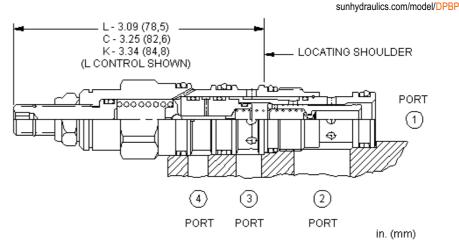
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MODEL **DPBP** 









Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

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

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

# **CONFIGURATION OPTIONS**

L Standard Screw Adjustment

C Tamper Resistant - Factory Set

CONTROL

K Handknob

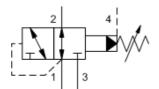
# Model Code Example: DPBPLAN

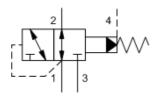
- (L) ADJUSTMENT RANGE (A) SEAL MATERIAL (N) MATERIAL/COATING А 100 - 3000 psi (7 - 210 bar), 1000 psi N Buna-N (70 bar) Standard Setting E EPDM B 50 - 1500 psi (3,5 - 105 bar), 1000 psi V Viton
  - (70 bar) Standard Setting D 25 - 800 psi (1,7 - 55 bar), 400 psi (28
  - bar) Standard Setting E 25 - 400 psi (1,7 - 28 bar), 200 psi (14
  - bar) Standard Setting 25 - 1500 psi (1,7 - 105 bar), 1000 psi J
  - (70 bar) Standard Setting
  - W 150 4500 psi (10,5 315 bar), 1000 psi (70 bar) Standard Setting

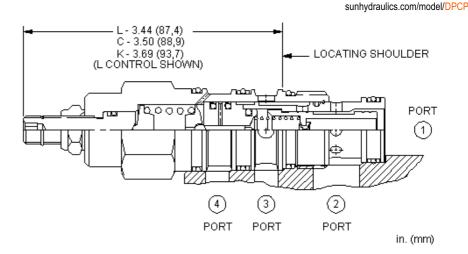
- Standard Material/Coating
  - /LH Mild Steel, Zinc-Nickel

MODEL DPCP









Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

# **TECHNICAL DATA**

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

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

# **CONFIGURATION OPTIONS**

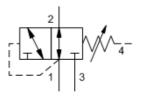
# Model Code Example: DPCPLAN

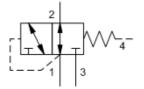
CONTROL	(L) ADJUSTMENT RANGE (A) SEAL MATERI	IAL (N)
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi N Buna-N	
C Tamper Resistant - Factory Set	(70 bar) Standard Setting E EPDM	
K Handknob	B 50 - 1500 psi (3,5 - 105 bar), 1000 psi V Viton (70 bar) Standard Setting	
	D 25 - 800 psi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

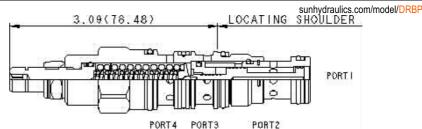
bar) Standard Setting

W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting









Direct-acting, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

# TECHNICAL DATA

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

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

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

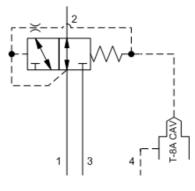
# **CONFIGURATION OPTIONS**

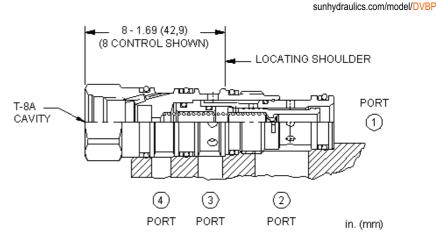
# Model Code Example: DRBPLAN

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

MODEL DVBP







This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

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

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

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

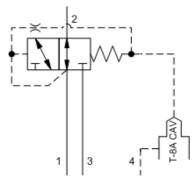
**CONFIGURATION OPTIONS** 

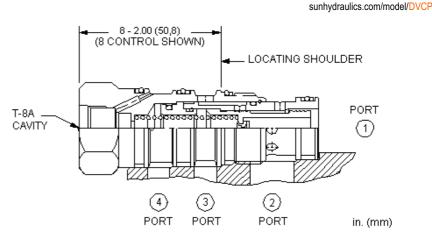
# Model Code Example: DVBP8FN

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

MODEL







This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

# **TECHNICAL DATA**

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

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

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

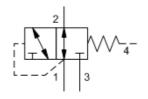
**CONFIGURATION OPTIONS** 

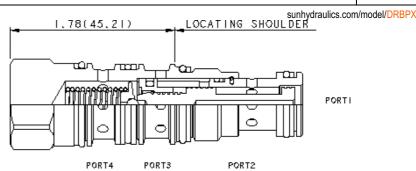
# Model Code Example: DVCP8FN

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

3-way, direct-acting, fixed setting, directional valve with drain to port 4 (1 to 2 open, 3 blocked) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A







Direct-acting, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

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

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

# **CONFIGURATION OPTIONS**

# Model Code Example: DRBPXFN

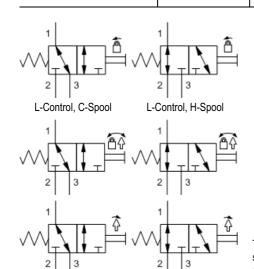
SHIFTING PRESSURE (F)		SEAL MATERIAL	(N)
<b>F</b> 100 psi (7 bar)		N Buna-N	
		V Viton	

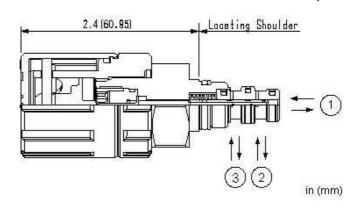
# <mark>sun</mark> hydraulics

MODEL DBAM



sunhydraulics.com/model/DBAM





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

# **TECHNICAL DATA**

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

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

# **CONFIGURATION OPTIONS**

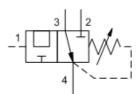
# Model Code Example: DBAMLCN

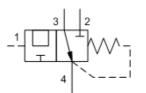
(	CONTROL	(L)	SPOOL CONFIGURATION (	C)	SEAL MATERIAL	(N)
	L Twist/Lock (Detent) Manual Override		C Normally Open 1 to 3, Closed 1 to 2		N Buna-N	
	D Twist/Lock (Dual) Manual Override		H Normally Open 1 to 2, Closed 1 to 3		E EPDM	
	T Twist (Momentary) Manual Override				V Viton	

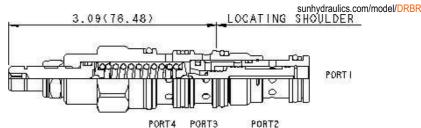
Twist (Momentary) Manual Override

3-way, direct-acting, directional valve with drain to port 4 (3 to 4 open, port 2 blocked) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A









Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

# **TECHNICAL DATA**

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

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

# **CONFIGURATION OPTIONS**

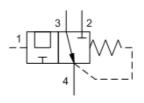
# Model Code Example: DRBRLNN

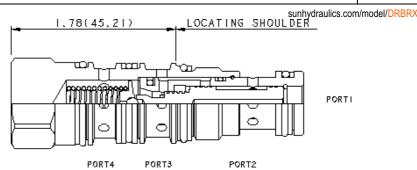
ONTROL	(L) ADJUSTMENT RANGE (N	I) SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>Q Handknob with Panel Mount</li> </ul>	<ul> <li>N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 25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

S 25 - 200 psi (1,7 - 14 bar), 200 psi (14 bar) Standard Setting

3-way, direct-acting, fixed setting, directional valve with drain to port 4 (3 to 4 open, port 2 blocked) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A







Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

### **TECHNICAL DATA**

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

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

# **CONFIGURATION OPTIONS**

# Model Code Example: DRBRXFN

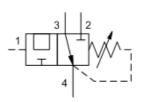
SHIFTING PRESSURE	(F) SEAL MATERIAL	(N)
F 100 psi (7 bar)	N Buna-N	
	V Viton	

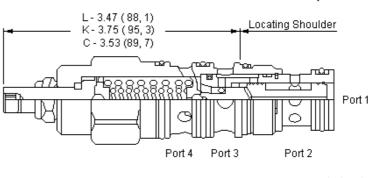


MODEL DRCR 3-way, direct-acting, directional valve with drain to port 4 (3 to 4 open, port 2 blocked) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-22A



sunhydraulics.com/model/DRCR





in (mm)

Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

# **TECHNICAL DATA**

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

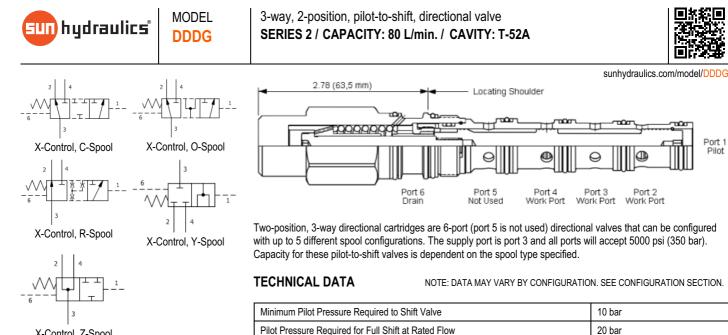
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	50 cc/min.@210 bar
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

# **CONFIGURATION OPTIONS**

# Model Code Example: DRCRLNN

CONTROL	(L) ADJUSTMENT RANGE	(N) SEAL MATERIAL	(N) MATERIAL/COATING
<ul><li>L Standard Screw Adjustment</li><li>C Concealed Manual Override</li><li>K Handknob</li></ul>	<ul> <li>N 60 - 800 psi (4 - 55 bar), 200 ps bar) Standard Setting</li> <li>E 200 - 400 psi (14 - 28 bar), 200 bar) Standard Setting</li> </ul>	V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel

S 25 - 200 psi (1,7 - 14 bar), 200 psi (14 bar) Standard Setting



Maximum Operating Pressure

X-Control, Z-Spool

Maximum Valve Leakage at 110 SUS (24 cSt)

Pilot Volume Displacement Seal kit - Cartridge Seal kit - Cartridge

# **CONFIGURATION OPTIONS**

# Model Code Example: DDDGXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL (N	MATERIAL/COATING
X Not Adjustable		C Closed Crossover		N Buna-N	Standard Material/Coating
		O Open Crossover		V Viton	/AP Stainless Steel, Passivated
		R Restricted Crossover			/LH Mild Steel, Zinc-Nickel
		Y All Ports Blocked			

Z All Ports Open

Port 1 Pilot

350 bar

0,82 cc

30 cc/min.@70 bar

Buna: 990052007

Viton: 990052006



Two-position, 3-way directional cartridges are 6-port (port 5 is not used) directional valves that can be configured with up to 5 different spool configurations. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

# **TECHNICAL DATA**

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

Minimum Pilot Pressure Required to Shift Valve	11 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	2,1 cc
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

# **CONFIGURATION OPTIONS**

<mark>sun</mark> hydraulics"

X-Control, C-Spool

X-Control, R-Spool

X-Control, Z-Spool

# Model Code Example: DDFGXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C Closed Crossover	N Buna-N	Standard Material/Coating
	O Open Crossover	V Viton	/AP Stainless Steel, Passivated
	R Restricted Crossover		/LH Mild Steel, Zinc-Nickel
	Y All Ports Blocked		

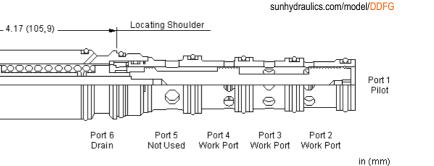
# Z All Ports Open

MODEL

**DDFG** 

4

X-Control, Y-Spool



X-Control, O-Spool 3







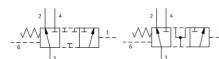


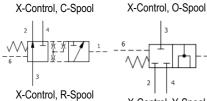
X-Control, Y-Spool

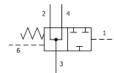
3-way, 2-position, pilot-to-shift, directional valve SERIES 4 / CAPACITY: 320 L/min. / CAVITY: T-54A



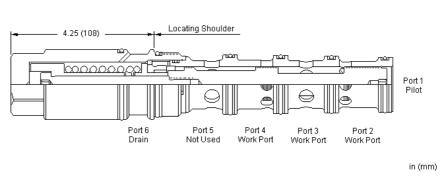
sunhydraulics.com/model/DDHG







X-Control, Z-Spool



Two-position, 3-way directional cartridges are 6-port (port 5 is not used) directional valves that can be configured with up to 5 different spool configurations. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

# **TECHNICAL DATA**

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

Minimum Pilot Pressure Required to Shift Valve	20 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	50 cc/min.@70 bar
Pilot Volume Displacement	4,4 cc
Seal kit - Cartridge	Buna: 990054007
Seal kit - Cartridge	Polyurethane: 990054002
Seal kit - Cartridge	Viton: 990054006

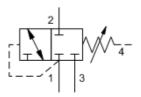
# **CONFIGURATION OPTIONS**

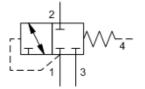
# Model Code Example: DDHGXCN

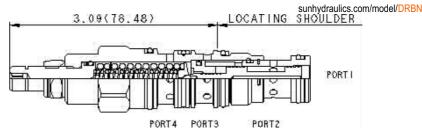
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Closed Crossover	N Buna-N	
	O Open Crossover	V Viton	
	R Restricted Crossover		
	Y All Ports Blocked		

Z All Ports Open









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

# TECHNICAL DATA

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

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

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

# **CONFIGURATION OPTIONS**

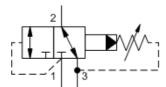
# Model Code Example: DRBNLAN

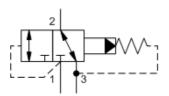
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B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

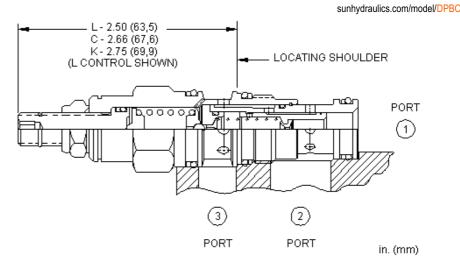
MODEL DPBC

# 3-way, pilot-operated, directional valve with internal drain to port 3 (1 blocked, 2 to 3 open) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A









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

# **TECHNICAL DATA**

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

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

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

# **CONFIGURATION OPTIONS**

# Model Code Example: DPBCLAN

L Standard Screw Adjustment A 100 - 3000 psi (7 - 210 bar), 1000 psi N Buna-N Standard Mate	ING
C       Tamper Resistant - Factory Set       (70 bar) Standard Setting       V       V Viton       /AP Stainless Steet         K       Handknob       B       50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting       //LH Mild Steel, Zin         D       25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting       D       25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting         E       25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting       E       25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting	l, Passivated

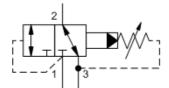
W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting

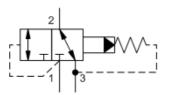
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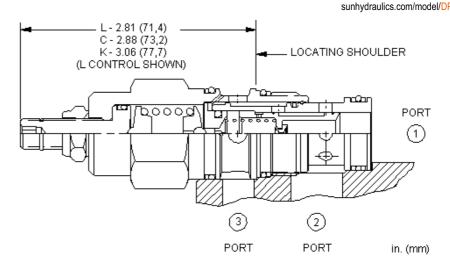
MODEL DPCC

# 3-way, pilot-operated, directional valve with internal drain to port 3 (1 blocked, 2 to 3 open) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A









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

#### **TECHNICAL DATA**

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

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

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

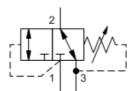
# **CONFIGURATION OPTIONS**

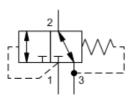
# Model Code Example: DPCCLAN

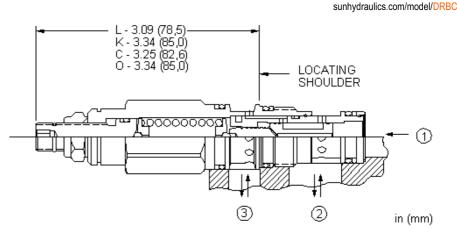
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>H 35 - 3000 psi (2,4 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>W 100 - 4500 psi (7 - 315 bar) 1000 psi</li> </ul>	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

W 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting









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

# **TECHNICAL DATA**

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

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

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

# **CONFIGURATION OPTIONS**

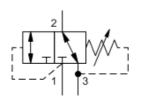
# Model Code Example: DRBCLAN

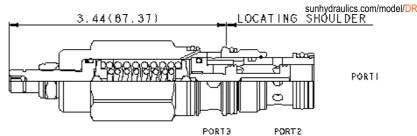
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment		A 500 - 3000 psi (35 - 210 bar), 1000 psi	N Buna-N		Standard Material/Coating
C Tamper Resistant - Factory Set		(70 bar) Standard Setting	V Viton		/AP Stainless Steel, Passivated
K Handknob		B 50 - 1500 psi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

- bar) Standard Setting E 25 - 400 psi (1,7 - 28 bar), 200 psi (14
- bar) Standard Setting S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting
- W 750 4500 psi (50 315 bar), 1000 psi (70 bar) Standard Setting

MODEL DRCC 3-way, direct-acting, directional valve with internal drain to port 3 (1 blocked, 2 to 3 open) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A







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

### **TECHNICAL DATA**

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

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Polyurethane: 990002002

# **CONFIGURATION OPTIONS**

# Model Code Example: DRCCLAN

CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment		A 750 - 3000 psi (50 - 210 bar), 1000 psi	N Buna-N		Standard Material/Coating
		(70 bar) Standard Setting	V Viton		/LH Mild Steel, Zinc-Nickel
		<b>B</b> 300 - 1500 psi (20 - 105 bar), 500 psi			
		(35 bar) Standard Setting			
		<b>D</b> 200 - 800 psi (14 - 55 bar), 400 psi (28			
		bar) Standard Setting			
		E 100 - 400 psi (7 - 28 bar), 200 psi (14			
		bar) Standard Setting			

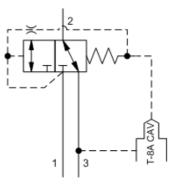
**S** 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting

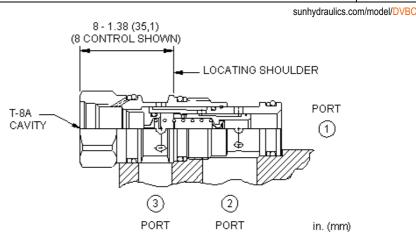
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MODEL DVBC

# 3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 blocked, 2 to 3 open) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A







This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

# **TECHNICAL DATA**

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

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

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

# **CONFIGURATION OPTIONS**

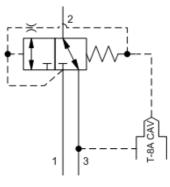
# Model Code Example: DVBC8FN

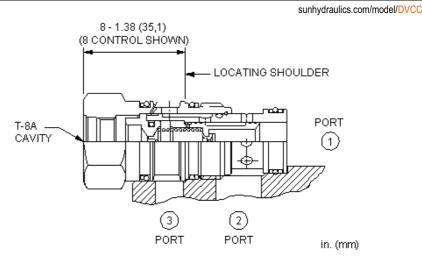
CONTROL	(8) MINIMUM CONTROL PRESSURE (F) SEAL MATER	IAL (N)
8 T-8A Cavity	<b>F</b> 100 psi (7 bar) <b>N</b> Buna-N	
	V Viton	

MODEL DVCC

#### 3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 blocked, 2 to 3 open) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A







This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

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

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

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

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DVCC8FN

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

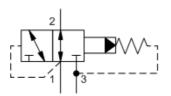
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MODEL **DPBD** 

#### 3-way, pilot-operated, directional valve with internal drain to port 3 (1 to 2 open, 3 blocked) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A



2



L - 2.50 (63,5) C - 2.66 (67,6) K - 2.75 (69,9) (L CONTROL SHOWN) LOCATING SHOULDER PORT 000 (1)ф 3 (2)PORT PORT in. (mm)

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

#### **TECHNICAL DATA**

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

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

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPBDLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set K Handknob		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi bar) Standard Setting</li> <li>K 75 - 1500 psi (5 - 105 bar), 1000 psi (5 - 105 bar), 1000 psi (5 - 4500 psi (10,5 - 315 bar), 100 psi (70 bar) Standard Setting</li> </ul>	psi (28 (14 si (70	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated



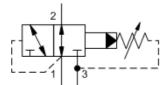
### <mark>sun</mark> hydraulics

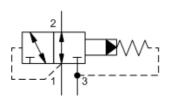
MODEL DPCD

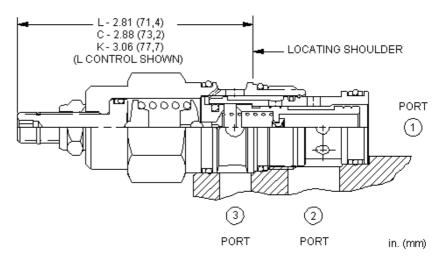
3-way, pilot-operated, directional valve with internal drain to port 3 (1 to 2 open, 3 blocked) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A



sunhydraulics.com/model/DPCD







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

#### **TECHNICAL DATA**

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

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

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPCDLAN

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

- bar) Standard Setting E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting
- W 150 4500 psi (10,5 315 bar), 1000 psi (70 bar) Standard Setting

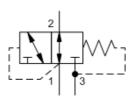
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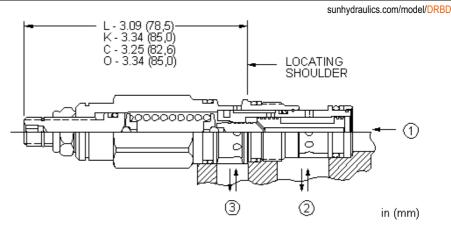
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MODEL DRBD

## 3-way, direct-acting, directional valve with internal drain to port 3 (1 to 2 open, 3 blocked) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A







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

#### **TECHNICAL DATA**

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

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

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

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRBDLAN

(A) SEAL MATERIAL (N) MATERIAL/COATING (L) ADJUSTMENT RANGE CONTROL 500 - 3000 psi (35 - 210 bar), 1000 psi N Buna-N Standard Screw Adjustn A indard Material/Coating C Tamper Resistant - Factory Set (70 bar) Standard Setting V Viton /AP Stainless Steel, Passivated 50 - 1500 psi (3,5 - 105 bar), 200 psi K Handknob В (14 bar) Standard Setting D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting

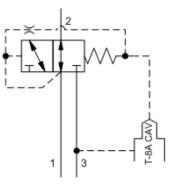
- S 25 200 psi (1,7 14 bar), 100 psi (7 bar) Standard Setting
- W 750 4500 psi (50 315 bar), 1000 psi (70 bar) Standard Setting

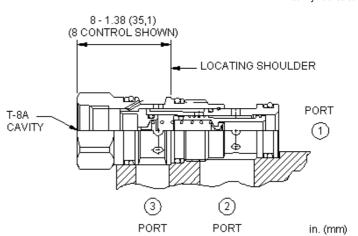
MODEL DVBD

#### 3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 to 2 open, 3 blocked) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A



sunhydraulics.com/model/DVBD





This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

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

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

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

**CONFIGURATION OPTIONS** 

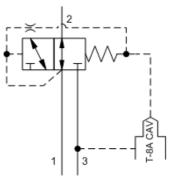
#### Model Code Example: DVBD8FN

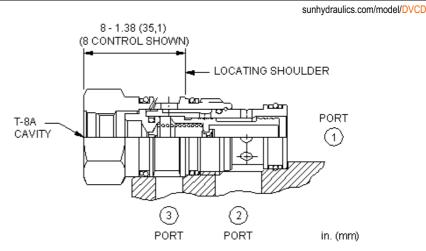
CONTROL	(8)	MINIMUM CONTROL PRESSURE	(F)	SEAL MATERIAL	(N)
8 T-8A Cavity		<b>F</b> 100 psi (7 bar)		N Buna-N	
				V Viton	

MODEL

#### 3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 to 2 open, 3 blocked) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A







This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

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

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

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

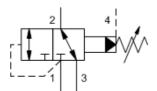
**CONFIGURATION OPTIONS** 

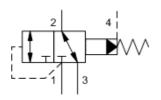
#### Model Code Example: DVCD8FN

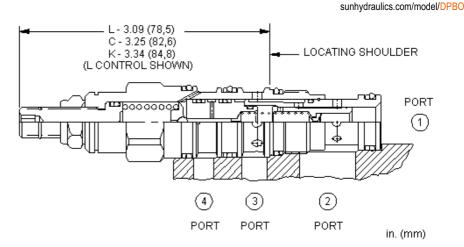
CONTROL	(8) MINIMUM CONTROL PRESSURE	(F) SEAL MATERIAL	(N)
8 T-8A Cavity	<b>F</b> 100 psi (7 bar)	N Buna-N	
		V Viton	

MODEL DPBO









Pilot-operated, 3-way directional cartridges (1 blocked, 2-to-3 open) are switching devices typically used in moderate-flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

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

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

#### **CONFIGURATION OPTIONS**

L Standard Screw AdjustmentC Tamper Resistant - Factory Set

CONTROL

K Handknob

#### Model Code Example: DPBOLAN

(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
t	<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 p (70 bar) Standard Setting</li> </ul>		N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

#### (70 bar) Standard Setting D 25 - 800 psi (1,7 - 55 bar), 400 psi (28

- bar) Standard Setting E 25 - 400 psi (1,7 - 28 bar), 200 psi (14
- bar) Standard Setting J 25 - 1500 psi (1,7 - 105 bar), 1000 psi
- (70 bar) Standard Setting
- W 150 4500 psi (10,5 315 bar), 1000 psi (70 bar) Standard Setting

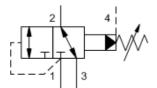
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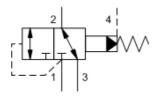
### <mark>sun</mark> hydraulics

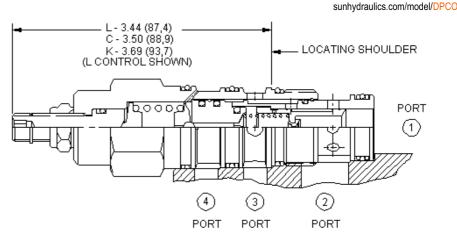
MODEL **DPCO** 

3-way, pilot-operated, directional valve with drain to port 4 (1 blocked, 2 to 3 open) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-22A









in. (mm)

Pilot-operated, 3-way directional cartridges (1 blocked, 2-to-3 open) are switching devices typically used in moderate-flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

bar) Standard Setting

bar) Standard Setting W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting

E 25 - 400 psi (1,7 - 28 bar), 200 psi (14

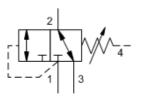
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

#### **CONFIGURATION OPTIONS**

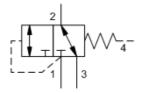
#### Model Code Example: DPCOLAN

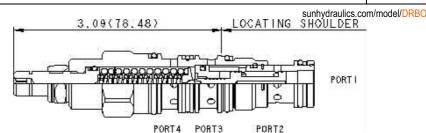
CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/CO	DATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar),	1000 psi N Buna-N	Standard M	Material/Coating
C Tamper Resistant - Factory Set	(70 bar) Standard Setting	V Viton	AP Stainless S	Steel, Passivated
K Handknob	<b>B</b> 50 - 1500 psi (3,5 - 105 bar), (70 bar) Standard Setting	, 1000 psi		
	<b>D</b> 25 - 800 psi (1,7 - 55 bar), 40	00 psi (28		



MODEL

**DRBO** 





Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### TECHNICAL DATA

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

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

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

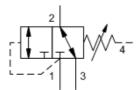
#### **CONFIGURATION OPTIONS**

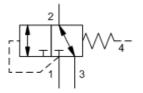
#### Model Code Example: DRBOLAN

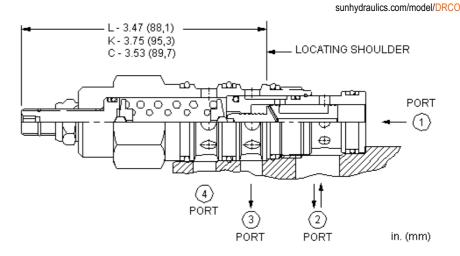
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>		<ul> <li>A 500 - 3000 psi (35 - 210 ba (70 bar) Standard Setting</li> <li>B 50 - 1500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

MODEL DRCO 3-way, direct-acting, directional valve with drain to port 4 (1 blocked, 2 to 3 open) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-22A









Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

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

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRCOLAN

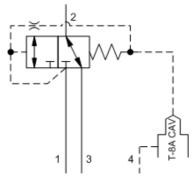
CONTROL	(L)	ADJUSTMENT RANGE (A	SEAL MATERIAL	(N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> </ul>	N Buna-N V Viton	

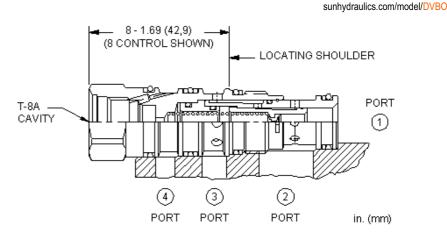
S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting

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MODEL DVBO







This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

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

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

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

**CONFIGURATION OPTIONS** 

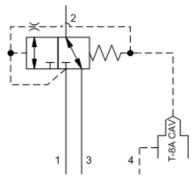
#### Model Code Example: DVBO8FN

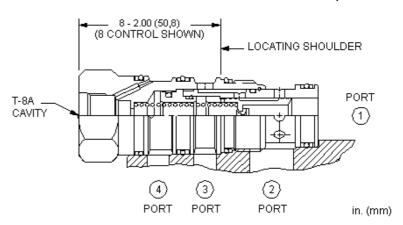
CONTROL	(8) MINIMUM CONTROL PRESSURE (F) SEAL MATE	ERIAL (N)
8 T-8A Cavity	<b>F</b> 100 psi (7 bar) <b>N</b> Buna-N	
	V Viton	

MODEL DVCO









This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

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

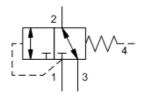
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

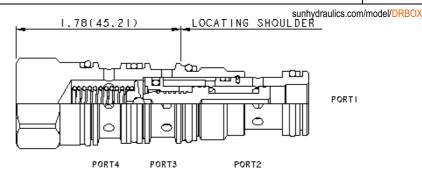
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DVCO8FN

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





Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

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

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

#### **CONFIGURATION OPTIONS**

SHIFTING PRESSURE 100 psi (7 bar)

F

(F) SEAL MATERIAL

Ν Buna-N

V Viton

### (N) MATERIAL/COATING

Model Code Example: DRBOXFN

Stanuaru Materiai/Coating
/AP Stainless Steel, Passivated
/LH Mild Steel, Zinc-Nickel

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