

Directional, 2-way Cartridges

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|-------|--|
| DVBA | 2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T48 8A control cavity - normally open |
| DVCA | 2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T49 8A control cavity - normally open |
| DPBB | 2-way, pilot-operated, directional valve with internal drain to port 3 - normally50 closed |
| DPCB | 2-way, pilot-operated, directional valve with internal drain to port 3 - normally51 closed |
| DRBB | 2-way, direct-acting, directional valve with internal drain to port 3 - normally52 closed |
| DVBB | 2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T53 8A control cavity - normally closed |
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| DPCN | 2-way, pilot-operated, directional valve with drain to port 4 - normally63 closed |
| DVBN | 2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A64 control cavity - normally closed |
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| DRBNX | 2-way, direct-acting, fixed setting, directional valve with drain to port 4 - normally66 closed |
| DRAX | 2-way, pilot-to-shift directional valve with drain to port 4 - normally67 closed |



Cavity Information

| Series | Ports | Cavities |
|--|-----------------------------|-----------------|
| Series Z Cartridges | 3-Port | T-382A |
| 3/8-24 UNF Cartridge Thread | | |
| 5 mm Valve Hex Size | | |
| 1 - 14 Nm Valve Installation Torque | | |
| Series P Cartridges | 2-Port | T-8A |
| M16 Cartridge Thread | 2-Port (Deep) | T-8DP |
| 22.2 mm Valve Hex Size | 3-Port | T-9A |
| 27 - 33 Nm Valve Installation Torque | | |
| Series 0 Cartridges | 2-Port | T-162A |
| | 2-Port (Deep) | T-162DP |
| M16 Cartridge Thread 19,1 mm Valve Hex Size | 3-Port | T-150A |
| 25,4 mm Valve Hex Size | 3-Port | T-163A |
| 27 - 33 Nm Valve Installation Torque | 4-Port | T-30A |
| Series 1 Cartridges | 2-Port | T-10A |
| M20 Cartridge Thread | 2-Port | T-13A |
| vi20 Carmage Thread 22.2 mm Valve Hex Size | 3-Port | T-11A |
| 11 - 47 Nm Valve Installation Torque | 4-Port | T-21A |
| The state installation forque | 4-Port | T-31A |
| | 6-Port | T-61A |
| Series 2 Cartridges | 2-Port | T-3A |
| I"-14 UNS Cartridge Thread | 2-Port | T-5A |
| 28,6 mm Valve Hex Size | 3-Port | T-2A |
| 1 - 68 Nm Valve Installation Torque | 4-Port 4-Port | T-22A |
| | 4-Port (Dual path) | T-32A T-52AD |
| | 6-Port | T-52AD T-52A |
| | 6-Port | T-62A |
| Series 3 Cartridges | 2-Port | T-16A |
| • | 3-Port | T-17A |
| M36 Cartridge Thread 31,8 mm Valve Hex Size | 4-Port | T-23A |
| 203 - 217 Nm Valve Installation Torque | 4-Port | T-33A |
| 2 | 4-Port (Dual path) | T-53AD |
| | 6-Port | T-53A |
| | 6-Port | T-63A |
| Series 4 Cartridges | 2-Port | T-18A |
| M48 Cartridge Thread | 2-Port (Undercut) | T-18AU |
| 11,3 mm Valve Hex Size | 3-Port | T-19A T-19AU |
| 174 - 508 Nm Valve Installation Torque | 3-Port (Undercut) 4-Port | T-19AU T-24A |
| | 4-Port (Undercut) | T-24A T-24AU |
| | 4-Port | T-34A |
| | 4-Port (Dual path) | T-54AD |
| | 6-Port | T-54A |
| | 6-Port | T-64A |

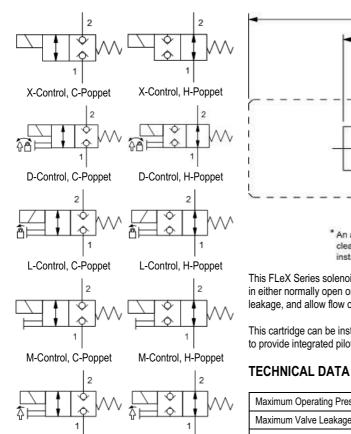




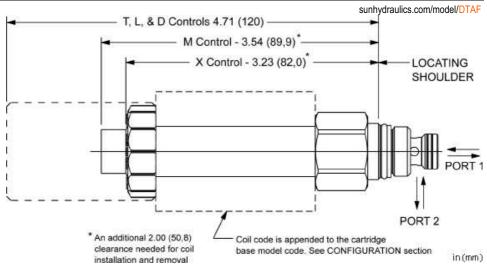
FLeX Series 2-way, direct-acting, solenoid-operated directional blocking poppet

SERIES P / CAPACITY: 28 L/min. / CAVITY: T-8A





T-Control, H-Poppet



This FLeX Series solenoid-operated 2-way, 2-position cartridge is a direct-acting directional poppet valve. Available in either normally open or normally closed configurations, these valves feature a pressure-balanced design, low leakage, and allow flow or blocking in both directions.

This cartridge can be installed directly into a cavity in the end of many of Sun's pilot operated and ventable valves to provide integrated pilot control.

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 | | |
| Viscosity Range | 2,8 - 380 cSt | | |
| Response Time - Typical | 50 ms | | |
| Switching Frequency | 15,000 max. cycles/hr | | |
| U.S. Patent # | 10,302,201 | | |
| Seal kit - Cartridge | Buna: 990608007 | | |
| Seal kit - Cartridge | Viton: 990608006 | | |

NOTES

M Manual Override

T-Control, C-Poppet

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

T Twist (Momentary) Manual Override

Model Code Example: DTAFXCN

| CONTROL | (X) | POPPET CONFIGURATION | (C) | SEAL MATERIAL | (N) | COIL * |
|---------------------------------------|-----|----------------------|-----|----------------|-----|---|
| X No Manual Override | | C Normally Closed | | N Buna-N | | No coil |
| D Twist/Lock (Dual) Manual Override | | H Normally Open | | E EPDM | | * Additional coil options are available |
| L Twist/Lock (Detent) Manual Override | е | | | V Viton | | 4 |

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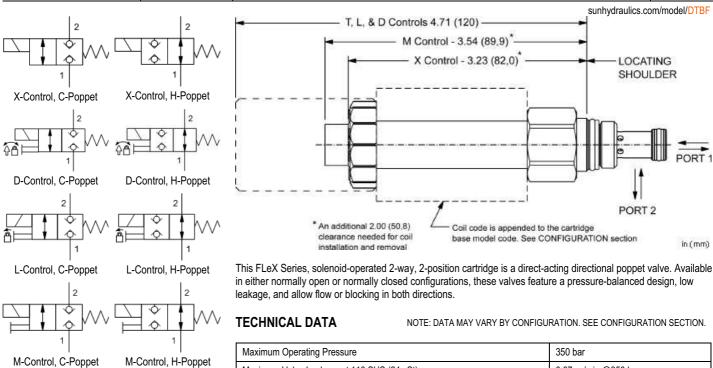
MODEL DTBF

T-Control, H-Poppet

FLeX Series 2-way, direct-acting, solenoid-operated directional blocking poppet valve

CAPACITY: 34 L/min. / CAVITY: T-162A





| Maximum Operating Pressure | 350 bar | | |
|---|-----------------------|--|--|
| Maximum Valve Leakage at 110 SUS (24 cSt) | 0,07 cc/min.@350 bar | | |
| Viscosity Range | 2,8 - 380 cSt | | |
| Response Time - Typical | 50 ms | | |
| Switching Frequency | 15,000 max. cycles/hr | | |
| U.S. Patent # | 10,302,201 | | |
| Seal kit - Cartridge | Buna: 990162007 | | |
| Seal kit - Cartridge | Viton: 990162006 | | |

NOTES

T-Control, C-Poppet

- 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.

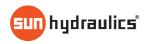
CONFIGURATION OPTIONS

T Twist (Momentary) Manual Override

Model Code Example: DTBFXCN

| CONTROL (X | X) POPPET CONFIGURATION | (C) SEAL MATERIAL | (N) COIL * |
|---------------------------------------|-------------------------|-------------------|---|
| X No Manual Override | C Normally Closed | N Buna-N | No coil |
| D Twist/Lock (Dual) Manual Override | H Normally Open | E EPDM | * Additional coil options are available |
| L Twist/Lock (Detent) Manual Override | | V Viton | 4 |
| M Manual Override | | | |

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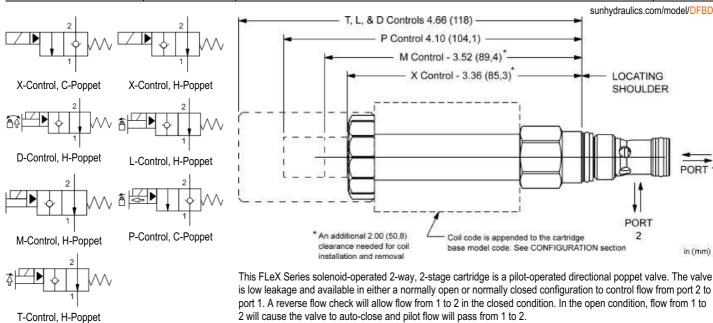


MODEL **DFBD**

FLeX Series 2-way, 2-stage, solenoid-operated directional poppet valve with reverse flow check - flow 2-1, 3000 psi (210 bar)

CAPACITY: 40 L/min. / CAVITY: T-162A





TECHNICAL DATA

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

| Maximum Operating Pressure | 210 bar | | |
|---|-----------------------|--|--|
| Maximum Valve Leakage at 110 SUS (24 cSt) | 0,07 cc/min.@210 bar | | |
| Check Cracking Pressure | 3,5 bar | | |
| Viscosity Range | 2,8 - 380 cSt | | |
| Response Time - Typical | 50 ms | | |
| Switching Frequency | 15,000 max. cycles/hr | | |
| Seal kit - Cartridge | Buna: 990162007 | | |
| Seal kit - Cartridge | Viton: 990162006 | | |

NOTES

M Manual OverrideP Manual Pull Override

- 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

T Twist (Momentary) Manual Override

Model Code Example: DFBDXCN

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

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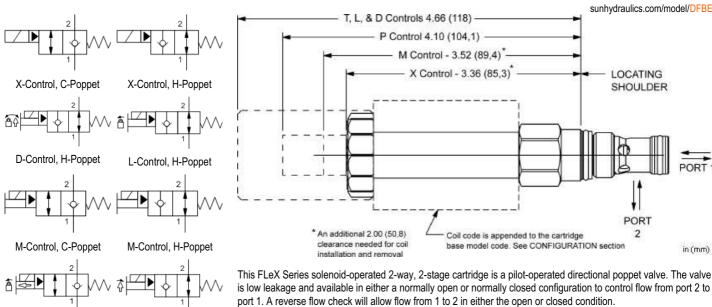
MODEL DFBE

T-Control, H-Poppet

FLeX Series 2-way, 2-stage, solenoid-operated directional poppet valve with reverse flow check - flow 2-1, 3000 psi (210 bar)

CAPACITY: 40 L/min. / CAVITY: T-162A





is low leakage and available in either a normally open or normally closed configuration to control flow from port 2 to

TECHNICAL DATA

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

| Maximum Operating Pressure | 210 bar |
|---|-----------------------|
| Maximum Valve Leakage at 110 SUS (24 cSt) | 0,07 cc/min.@210 bar |
| Check Cracking Pressure | 3,5 bar |
| Viscosity Range | 2,8 - 380 cSt |
| Response Time - Typical | 50 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990162007 |
| Seal kit - Cartridge | Viton: 990162006 |

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: DFBEXCN

(N) COIL * CONTROL (X) POPPET CONFIGURATION (C) SEAL MATERIAL

C Normally Close

H Normally Open

X No Manual Override

P-Control, C-Poppet

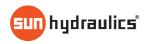
- D Twist/Lock (Dual) Manual Override
- L Twist/Lock (Detent) Manual Override
- M Manual Override
- P Manual Pull Override
- T Twist (Momentary) Manual Override

E EPDM

V Viton

Additional coil options are available

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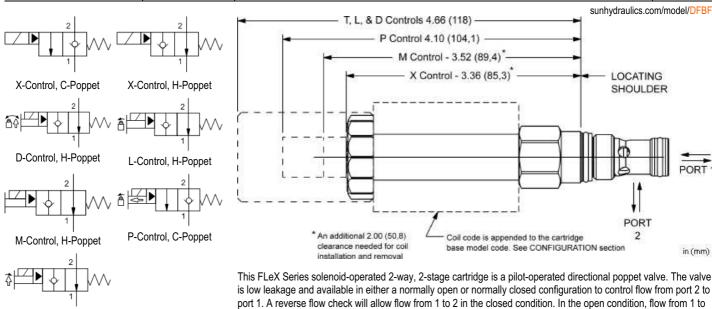




FLeX Series 2-way, 2-stage, solenoid-operated directional poppet valve with reverse flow check - flow 2-1

CAPACITY: 40 L/min. / CAVITY: T-162A





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 |
| Check Cracking Pressure | 3,5 bar |
| Viscosity Range | 2,8 - 380 cSt |
| Response Time - Typical | 50 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990162007 |
| Seal kit - Cartridge | Viton: 990162006 |

NOTES

T-Control, H-Poppet

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

2 will cause the valve to auto-close and pilot flow will pass from 1 to 2.

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

CONFIGURATION OPTIONS

Model Code Example: DFBFXCN

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

P Manual Pull Override

M Manual Override

T Twist (Momentary) Manual Override

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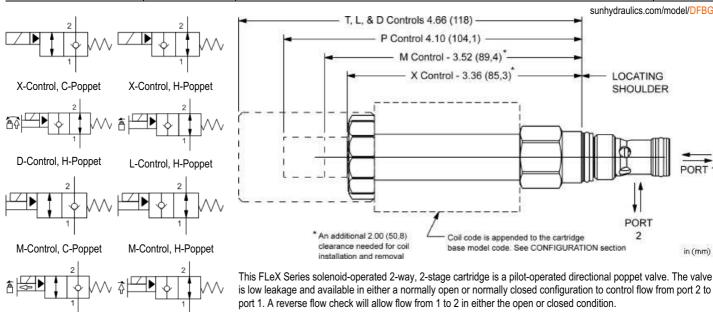
MODEL DFBG

T-Control, H-Poppet

FLeX Series 2-way, 2-stage, solenoid-operated directional poppet valve with reverse flow check - flow 2-1

CAPACITY: 40 L/min. / CAVITY: T-162A





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 |
| Check Cracking Pressure | 3,5 bar |
| Viscosity Range | 2,8 - 380 cSt |
| Response Time - Typical | 50 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990162007 |
| Seal kit - Cartridge | Viton: 990162006 |

NOTES

P-Control, C-Poppet

- 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: DFBGXCN

(N) COIL * CONTROL (X) POPPET CONFIGURATION (C) SEAL MATERIAL X No Manual Override C Normally Close D Twist/Lock (Dual) Manual Override H Normally Open **E** EPDM

- L Twist/Lock (Detent) Manual Override
- M Manual Override
- P Manual Pull Override
- T Twist (Momentary) Manual Override

Additional coil options are available V Viton

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2-way, direct-acting, solenoid-operated directional blocking poppet valve (740 Series)

SERIES 1 / CAPACITY: 40 L/min. / CAVITY: T-13A



2

2,5 mm

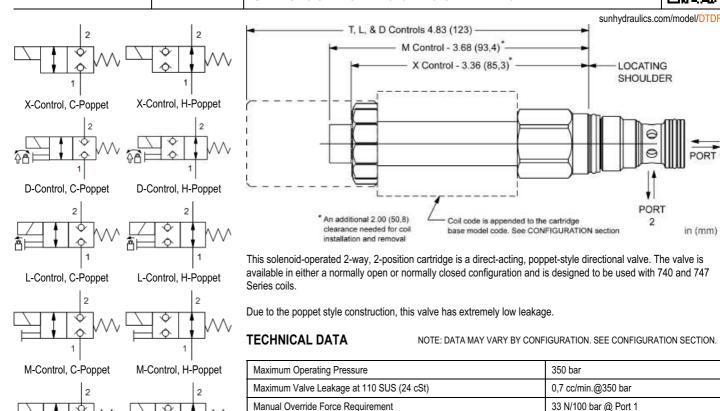
50 ms

15,000 max. cycles/hr

Buna: 990413007 Polyurethane: 990413002

Viton: 990413006

in (mm)



Manual Override Stroke

Response Time - Typical

Switching Frequency

Seal kit - Cartridge

Seal kit - Cartridge

Seal kit - Cartridge

NOTES

M Manual Override

T-Control, C-Poppet

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

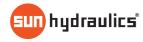
CONFIGURATION OPTIONS

T Twist (Momentary) Manual Override

Model Code Example: DTDFXCN

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

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DLDF

T-Control, H-Spool

2-way, solenoid-operated directional spool valve (740 Series)

SERIES 1 / CAPACITY: 45 L/min. / CAVITY: T-13A



PORT

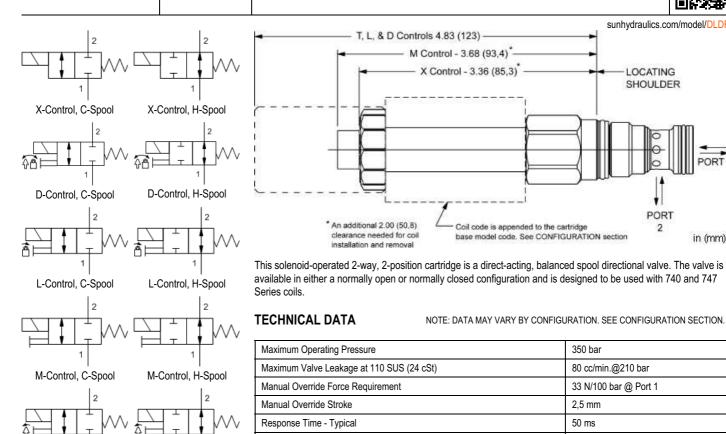
2

15,000 max. cycles/hr

Buna: 990413007

Viton: 990413006

in (mm)



Switching Frequency

Seal kit - Cartridge

Seal kit - Cartridge

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

CONFIGURATION OPTIONS

T-Control, C-Spool

Model Code Example: DLDFXCN

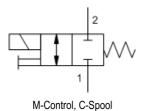
| CONTROL | X) SPOOL CONFIGURATION | (C) SE | AL MATERIAL | (N) | COIL * |
|-------------------------------------|------------------------|--------|-------------|-----|---|
| X No Manual Override | C Normally Closed | N | Buna-N | | No coil |
| D Twist/Lock (Dual) Manual Override | H Normally Open | E | EPDM | | * Additional coil options are available |
| L Manual Override - Adjustable | | V | Viton | | 4 |

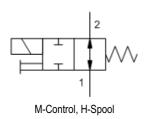
M Manual Override T Twist (Momentary) Manual Override

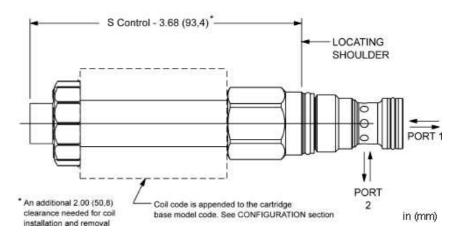
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sunhydraulics.com/model/DLDFS







This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool valve with a soft shift feature. The soft shift feature reduces system shock due to valve actuation. The valve is available in either a normally open or normally closed configuration.

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) | 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: 990413007 |
| Seal kit - Cartridge | Viton: 990413006 |

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DLDFSCN

POPPET CONFIGURATION

(C) SEAL MATERIAL

V Viton

(N) COIL*

C Normally ClosedH Normally Open

N Buna-N

No co

* Additional coil options are available

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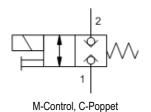


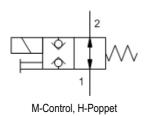


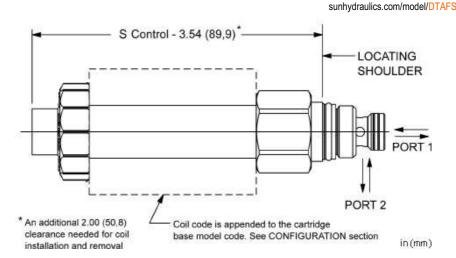
FLeX Series 2-way, soft shift, solenoid-operated directional poppet valve - pilot capacity

SERIES P / CAPACITY: 28 L/min. / CAVITY: T-8A









This FLeX Series, solenoid-operated 2-way, 2-position cartridge is a direct-acting directional poppet valve with a soft shift feature. Available in either normally open or normally closed configurations, these valves feature a pressure-balanced design, low leakage, and allow flow or blocking in both directions.

This cartridge can be installed directly into a cavity in the end of many of Sun's pilot operated and ventable valves to provide integrated pilot control.

TECHNICAL DATA

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 |
| Manual Override Force Requirement | 66 N/100 bar @ Port 1 |
| Viscosity Range | 2,8 - 380 cSt |
| Seal kit - Cartridge | Buna: 990608007 |
| Seal kit - Cartridge | Viton: 990608006 |

CONFIGURATION OPTIONS

Model Code Example: DTAFSCN

POPPET CONFIGURATION

(C) SEAL MATERIAL

(N) COIL *

C Normally Closed

N Buna-N

No co

H Normally Open

V Viton

* Additional coil options are available

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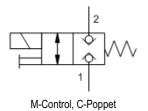


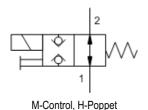


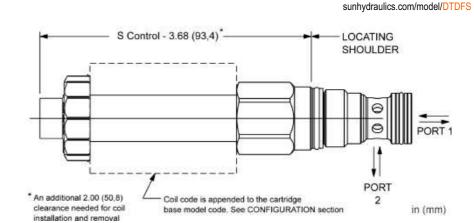
2-way, direct-acting, soft shift, solenoid-operated directional blocking poppet valve (740 Series)

SERIES 1 / CAPACITY: 40 L/min. / CAVITY: T-13A









This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve with a soft shift feature. The soft shift feature reduces system shock due to valve actuation. The valve is available in either a normally open or normally closed configuration.

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 | 33 N/100 bar @ Port 1 |
| Manual Override Stroke | 2,5 mm |
| Seal kit - Cartridge | Buna: 990413007 |
| Seal kit - Cartridge | Polyurethane: 990413002 |
| Seal kit - Cartridge | Viton: 990413006 |

NOTES

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

CONFIGURATION OPTIONS

DODDET CONFICURATION

Model Code Example: DTDFSCN

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

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2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 (740 Series)

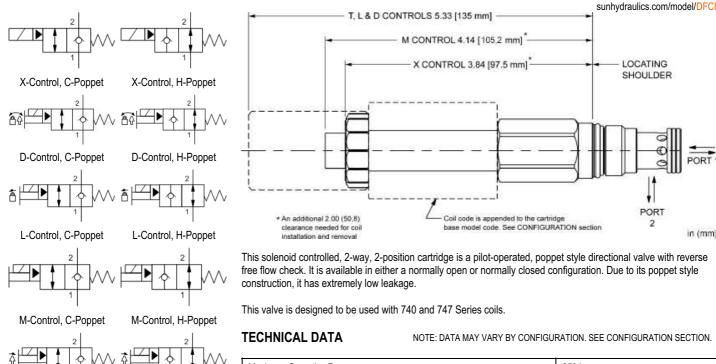
SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-13A



LOCATING SHOULDER

PORT

in (mm)



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 |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990310007 |
| Seal kit - Cartridge | EPDM: 990310014 |
| Seal kit - Cartridge | Viton: 990310006 |

CONFIGURATION OPTIONS

T-Control, C-Poppet

Model Code Example: DFCIXCN

| CONTROL (X) | SPOUL CONFIGURATION | (C) SEAL MAI | RIAL (N | COIL " |
|---------------------------------------|---------------------|---------------|---------|---|
| X No Manual Override | C Normally Closed | N Buna-N | | No coil |
| D Twist/Lock (Dual) Manual Override | H Normally Open | E EPDM | | * Additional coil options are available |
| I Twist/Lock (Detent) Manual Override | | V \/iton | | ' |

M Manual Override T Twist (Momentary) Manual Override

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2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 (740 Series)

SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-5A



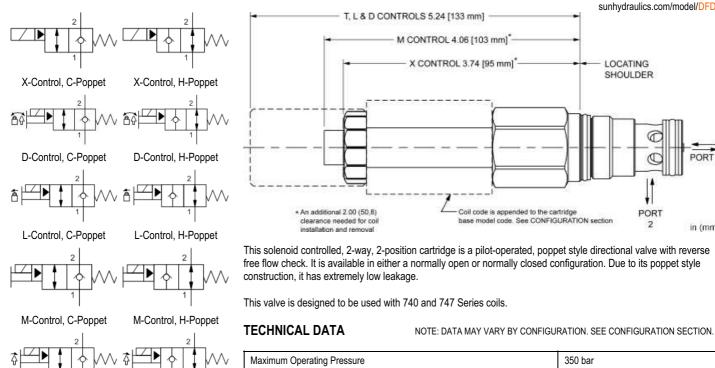
PORT 1

in (mm)

sunhydraulics.com/model/DFDI

PORT 2

LOCATING SHOULDER



| Maximum Operating Pressure | 350 bar |
|---|-----------------------|
| Maximum Valve Leakage at 110 SUS (24 cSt) | 0,7 cc/min.@350 bar |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990203007 |
| Seal kit - Cartridge | EPDM: 990203014 |
| Seal kit - Cartridge | Viton: 990203006 |

NOTES

T-Control, C-Poppet

- 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

T Twist (Momentary) Manual Override

Model Code Example: DFDIXCN

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

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2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 (740 Series)

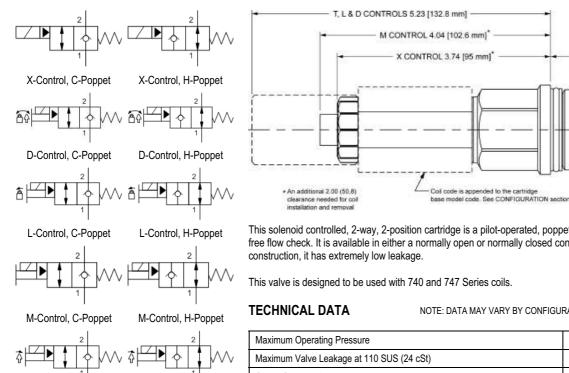
SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-16A



PORT 1

sunhydraulics.com/model/DFEI

PORT



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style

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

LOCATING SHOULDER

| Maximum Operating Pressure | 350 bar |
|---|-----------------------|
| Maximum Valve Leakage at 110 SUS (24 cSt) | 0,7 cc/min.@350 bar |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990016007 |
| Seal kit - Cartridge | EPDM: 990016014 |
| Seal kit - Cartridge | Viton: 990016006 |

NOTES

M Manual Override

T-Control, C-Poppet

- 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

T Twist (Momentary) Manual Override

Model Code Example: DFEIXCN

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

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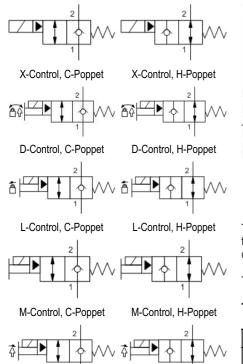




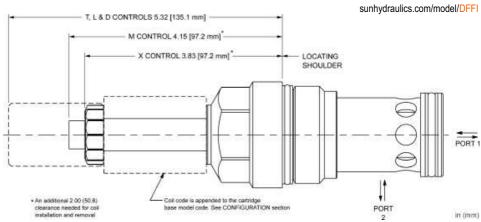
2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 (740 Series)

SERIES 4 / CAPACITY: 480 L/min. / CAVITY: T-18A





T-Control, H-Poppet



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

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 |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990018007 |
| Seal kit - Cartridge | EPDM: 990018014 |
| Seal kit - Cartridge | Viton: 990018006 |

CONFIGURATION OPTIONS

T Twist (Momentary) Manual Override

M Manual Override

T-Control, C-Poppet

Model Code Example: DFFIXCN

| CONTROL | (X) POPPET CONFIGURATION | (C) | SEAL MATERIAL | (N) | COIL * |
|--------------------------------------|--------------------------|----------|----------------|-----|---|
| X No Manual Override | C Normally Closed | | N Buna-N | | No coil |
| D Twist/Lock (Dual) Manual Override | H Normally Open | <u>.</u> | E EPDM | | * Additional coil options are available |
| L Twist/Lock (Detent) Manual Overrid | e | | V Viton | | ' |

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MODEL DFCJ

T-Control, H-Poppet

2-way, 2-stage, solenoid-operated directional poppet valve - flow 2-1 (740 Series)

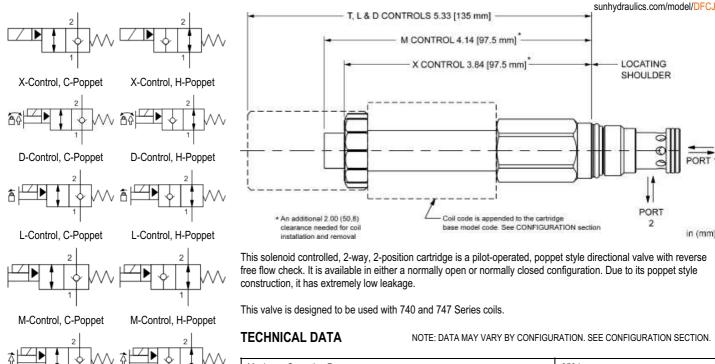
SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-13A



LOCATING SHOULDER

PORT

in (mm)



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 |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990310007 |
| Seal kit - Cartridge | EPDM: 990310014 |
| Seal kit - Cartridge | Viton: 990310006 |

NOTES

T-Control, C-Poppet

- 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

T Twist (Momentary) Manual Override

Model Code Example: DFCJXCN

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

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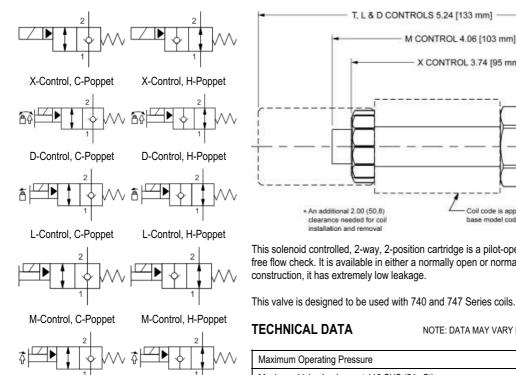
DFDJ

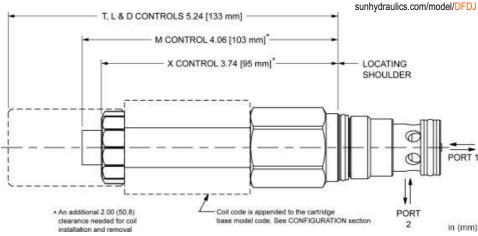
T-Control, H-Poppet

2-way, 2-stage, solenoid-operated directional poppet valve - flow 2-1 (740 Series)

SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-5A







This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style

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 |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990203007 |
| Seal kit - Cartridge | EPDM: 990203014 |
| Seal kit - Cartridge | Viton: 990203006 |

NOTES

T-Control, C-Poppet

- 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: DFDJXCN

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

T Twist (Momentary) Manual Override

M Manual Override

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2-way, 2-stage, solenoid-operated directional poppet valve - flow 2-1 (740 Series)

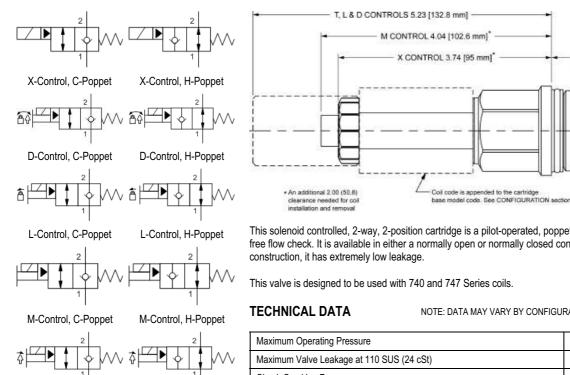
SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-16A



PORT 1

sunhydraulics.com/model/DFEJ

PORT



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style

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

LOCATING SHOULDER

| Maximum Operating Pressure | 350 bar |
|---|-----------------------|
| Maximum Valve Leakage at 110 SUS (24 cSt) | 0,7 cc/min.@350 bar |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990016007 |
| Seal kit - Cartridge | EPDM: 990016014 |
| Seal kit - Cartridge | Viton: 990016006 |

NOTES

T-Control, C-Poppet

- 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: DFEJXCN

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

M Manual Override (Standard)

T Twist (Momentary) Manual Override

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2-way, 2-stage, solenoid-operated directional poppet valve - flow 2-1 (740 Series)

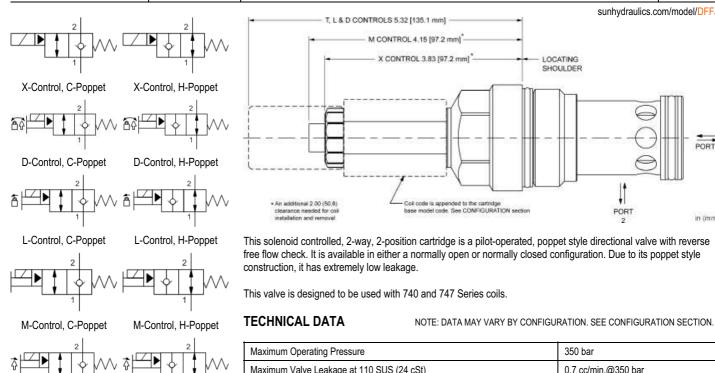
SERIES 4 / CAPACITY: 480 L/min. / CAVITY: T-18A



PORT 1

sunhydraulics.com/model/DFFJ

PORT



| Maximum Operating Pressure | 350 bar |
|---|-----------------------|
| Maximum Valve Leakage at 110 SUS (24 cSt) | 0,7 cc/min.@350 bar |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990018007 |
| Seal kit - Cartridge | EPDM: 990018014 |
| Seal kit - Cartridge | Viton: 990018006 |

NOTES

T-Control, C-Poppet

- 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

T Twist (Momentary) Manual Override

Model Code Example: DFFJXCN

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

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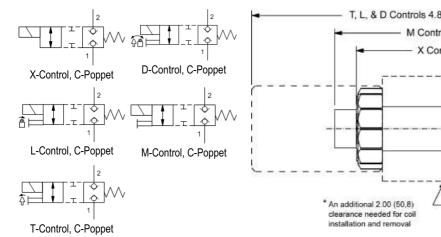


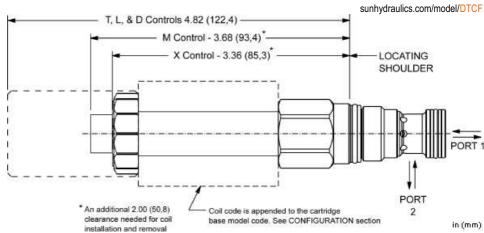
MODEL DTCF

2-way, direct-acting, solenoid-operated directional blocking poppet valve with overlap (740 Series)

SERIES 1 / CAPACITY: 23 L/min. / CAVITY: T-13A







This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is only available in a normally closed configuration. Due to the poppet style construction, this valve has extremely low leakage.

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

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 | 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: 990413007 |
| Seal kit - Cartridge | Polyurethane: 990413002 |
| Seal kit - Cartridge | Viton: 990413006 |

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DTCFXCN

| CONTROL | (X) POPPET CONFIGURATION | (C) SEAL MATERIAL | (N) COIL * | |
|--------------------------------|--------------------------|-------------------|---|--|
| X No Manual Override | C Normally Closed | N Buna-N | No coil | |
| D Twist/Lock (Dual) Manual Ov | verride | E EPDM | * Additional coil options are available | |
| I Twist/Lock (Detent) Manual (| Override | V Viton | · · · · · · · · · · · · · · · · · · · | |

T Twist (Momentary) Manual Override

M Manual Override

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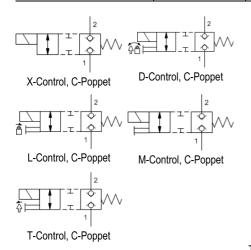
2-way, direct-acting, solenoid-operated directional blocking poppet valve with overlap

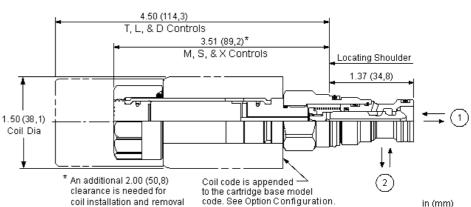
SERIES 1 / CAPACITY: 23 L/min. / CAVITY: T-13A



in (mm)

sunhydraulics.com/model/DT





This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is only available in a normally closed configuration. Due to the poppet style construction, this valve has extremely low leakage.

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

TECHNICAL DATA

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: 990413007 | | | |
| Seal kit - Cartridge | Polyurethane: 990413002 | | | |
| Seal kit - Cartridge | Viton: 990413006 | | | |

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DTCAXCN

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

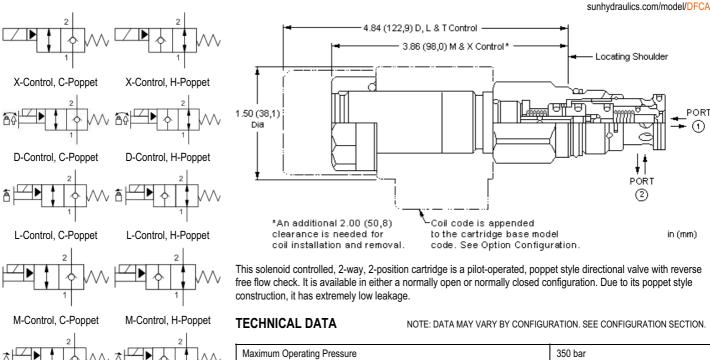
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2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2

SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-13A



in (mm)



| Maximum Operating Pressure | 350 bar | |
|---|-----------------------|--|
| Maximum Valve Leakage at 110 SUS (24 cSt) | 0,7 cc/min.@350 bar | |
| Check Cracking Pressure | 3,5 bar | |
| Response Time - Typical | 30 ms | |
| Switching Frequency | 15,000 max. cycles/hr | |
| Seal kit - Cartridge | Buna: 990310007 | |
| Seal kit - Cartridge | Viton: 990310006 | |

NOTES

T-Control, C-Poppet

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

CONFIGURATION OPTIONS

Model Code Example: DFCAXCN

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

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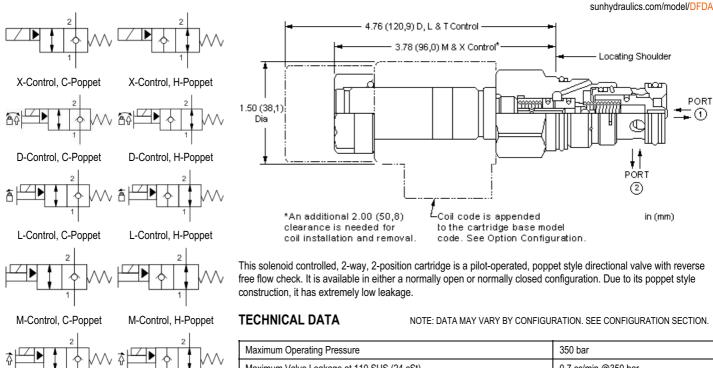


PORT

∓◑

PORT 2

in (mm)



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 | | |
| Check Cracking Pressure | 3,5 bar | | |
| Response Time - Typical | 30 ms | | |
| Switching Frequency | 15,000 max. cycles/hr | | |
| Seal kit - Cartridge | Buna: 990203007 | | |
| Seal kit - Cartridge | EPDM: 990203014 | | |
| Seal kit - Cartridge | Viton: 990203006 | | |

NOTES

T-Control, C-Poppet

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

CONFIGURATION OPTIONS

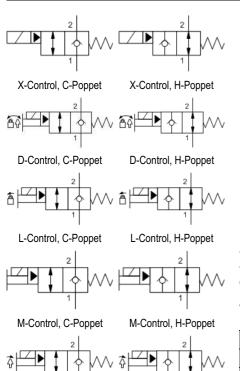
Model Code Example: DFDAXCN

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

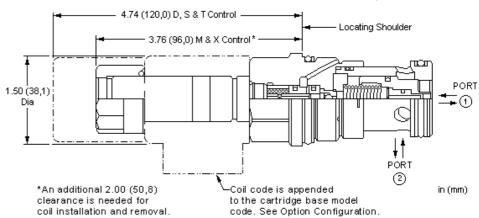
© 2021 Sun Hydraulics 23 of 67 SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-16A



sunhydraulics.com/model/DFEA



T-Control, H-Poppet



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

TECHNICAL DATA

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 | | |
| Check Cracking Pressure | 3,5 bar | | |
| Response Time - Typical | 30 ms | | |
| Switching Frequency | 15,000 max. cycles/hr | | |
| Seal kit - Cartridge | Buna: 990016007 | | |
| Seal kit - Cartridge | EPDM: 990016014 | | |
| Seal kit - Cartridge | Viton: 990016006 | | |

NOTES

T-Control, C-Poppet

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

CONFIGURATION OPTIONS

Model Code Example: DFEAXCN

| CONTROL | (X) | POPPET CONFIGURATION | (C) | SEAL MATERIAL | (N) | COIL * |
|--------------------------------------|-----|----------------------|-----|----------------|-----|---|
| X No Manual Override | | C Normally Closed | | N Buna-N | | No coil |
| D Twist/Lock (Dual) Manual Override | | H Normally Open | | E EPDM | | 212 DIN 43650-Form A, 12 VDC |
| L Twist/Lock (Detent) Manual Overrid | е | | | V Viton | | 224 DIN 43650-Form A, 24 VDC |
| M Manual Override | | | | | | 912 Deutsch DT04-2P, 12 VDC |
| T Twist (Momentary) Manual Override | 9 | | | | | 924 Deutsch DT04-2P, 24 VDC |
| | | | | | | * Additional coil options are available |

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SERIES 4 / CAPACITY: 480 L/min. / CAVITY: T-18A

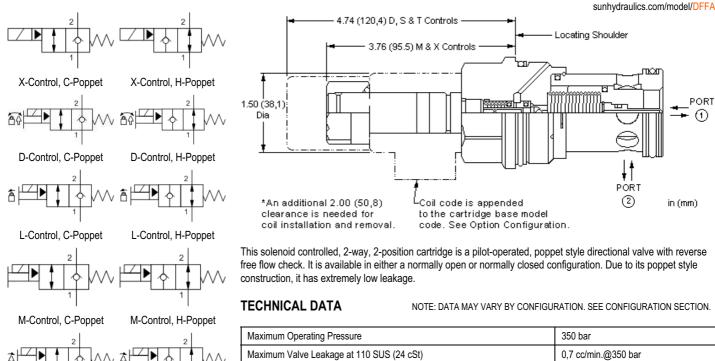


PORT

- ①

in (mm)

PORT 2



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 | | |
| Check Cracking Pressure | 3,5 bar | | |
| Response Time - Typical | 30 ms | | |
| Switching Frequency | 15,000 max. cycles/hr | | |
| Seal kit - Cartridge | Buna: 990018007 | | |
| Seal kit - Cartridge | Viton: 990018006 | | |

NOTES

T-Control, C-Poppet

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

CONFIGURATION OPTIONS

Model Code Example: DFFAXCN

| CONTROL | (X) POPPET CONFIGURATION | (C) | SEAL MATERIAL | (N) | COIL * |
|--------------------------------------|--------------------------|-----|----------------|-----|---|
| X No Manual Override | C Normally Closed | | N Buna-N | | No coil |
| D Twist/Lock (Dual) Manual Override | H Normally Open | | E EPDM | | 212 DIN 43650-Form A, 12 VDC |
| L Twist/Lock (Detent) Manual Overrid | e | | V Viton | | 224 DIN 43650-Form A, 24 VDC |
| M Manual Override | | | | | 912 Deutsch DT04-2P, 12 VDC |
| T Twist (Momentary) Manual Override | 9 | | | | 924 Deutsch DT04-2P, 24 VDC |
| | | | | | * Additional coil options are available |

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SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-13A

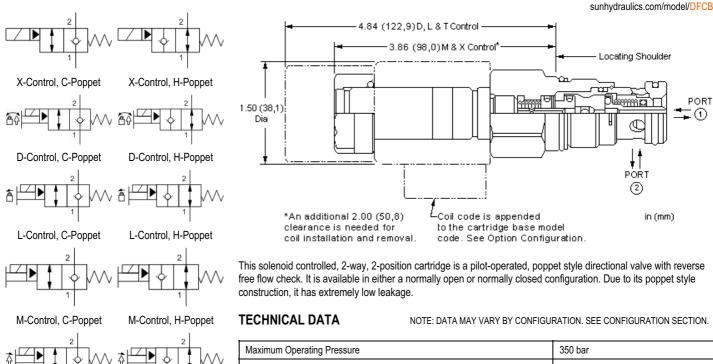


PORT

∓⊙

PORT 2

in (mm)



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 |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990413007 |
| Seal kit - Cartridge | EPDM: 990413014 |
| Seal kit - Cartridge | Viton: 990413006 |

NOTES

T-Control, C-Poppet

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

CONFIGURATION OPTIONS

Model Code Example: DFCBXCN

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

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SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-5A

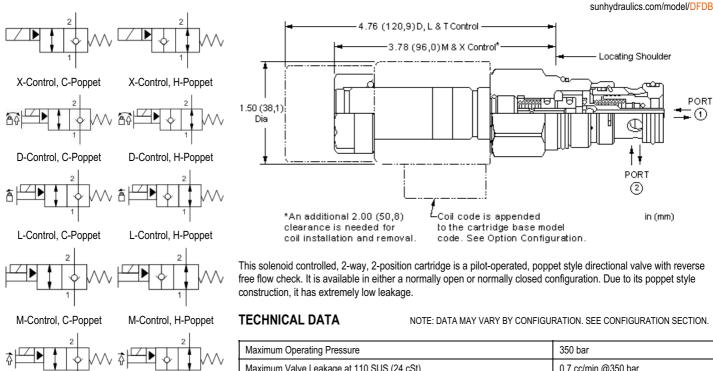


PORT

∓◑

PORT 2

in (mm)



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 |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990203007 |
| Seal kit - Cartridge | EPDM: 990203014 |
| Seal kit - Cartridge | Viton: 990203006 |

NOTES

T-Control, C-Poppet

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

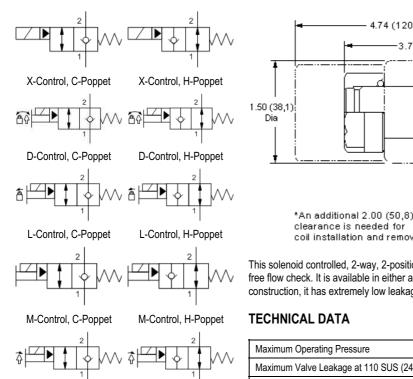
CONFIGURATION OPTIONS

Model Code Example: DFDBXCN

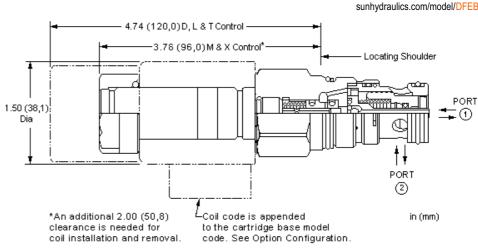
| CONTROL | (X) POPPET CONFIGURATION | (C) | SEAL MATERIAL | (N) | COIL * |
|--------------------------------------|--------------------------|-----|----------------|-----|---|
| X No Manual Override | C Normally Closed | | N Buna-N | | No coil |
| D Twist/Lock (Dual) Manual Override | H Normally Open | | E EPDM | _ | 212 DIN 43650-Form A, 12 VDC |
| L Twist/Lock (Detent) Manual Overrid | e | | V Viton | | 224 DIN 43650-Form A, 24 VDC |
| M Manual Override | | | | | 912 Deutsch DT04-2P, 12 VDC |
| T Twist (Momentary) Manual Override | 9 | | | | 924 Deutsch DT04-2P, 24 VDC |
| | | | | | * Additional coil options are available |

© 2021 Sun Hydraulics 27 of 67 SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-16A





T-Control, H-Poppet



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

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 |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990016007 |
| Seal kit - Cartridge | Viton: 990016006 |

NOTES

T-Control, C-Poppet

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

CONFIGURATION OPTIONS

Model Code Example: DFEBXCN

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

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MODEL

T-Control, H-Poppet

2-way, 2-stage, solenoid-operated directional poppet valve - flow 2-1

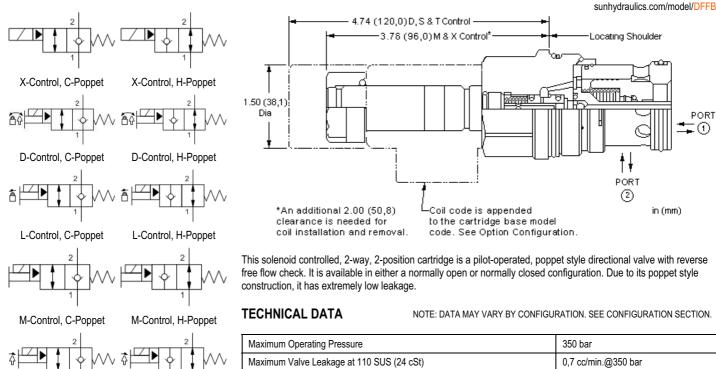
SERIES 4 / CAPACITY: 480 L/min. / CAVITY: T-18A



PORT ∓◑

PORT 2

in (mm)



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 |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990018007 |
| Seal kit - Cartridge | EPDM: 990018014 |
| Seal kit - Cartridge | Viton: 990018006 |

NOTES

T-Control, C-Poppet

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

CONFIGURATION OPTIONS

Model Code Example: DFFBXCN

| CONTROL | (X) POPPET CONFIGURATION | (C) | SEAL MATERIAL | (N) | COIL * |
|---------------------------------------|--------------------------|----------|----------------|-----|---|
| X No Manual Override | C Normally Closed | | N Buna-N | | No coil |
| D Twist/Lock (Dual) Manual Override | H Normally Open | <u>_</u> | E EPDM | | 212 DIN 43650-Form A, 12 VDC |
| L Twist/Lock (Detent) Manual Override | e | | V Viton | | 224 DIN 43650-Form A, 24 VDC |
| M Manual Override | | | | | 912 Deutsch DT04-2P, 12 VDC |
| T Twist (Momentary) Manual Override | | | | | 924 Deutsch DT04-2P, 24 VDC |
| | | | | | * Additional coil options are available |

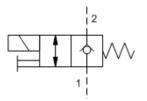
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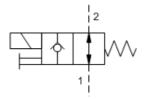


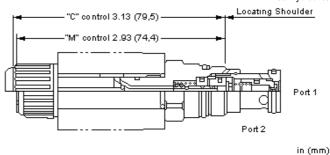
2-way, 2-stage, solenoid-operated directional poppet valve SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-13A



sunhydraulics.com/model/DACC







This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

TECHNICAL DATA

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 |
| Check Cracking Pressure | 3,5 bar |
| Response Time - Typical | 30 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Seal kit - Cartridge | Buna: 990310007 |
| Seal kit - Cartridge | EPDM: 990313014 |
| Seal kit - Cartridge | Viton: 990310006 |

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DACCMCN

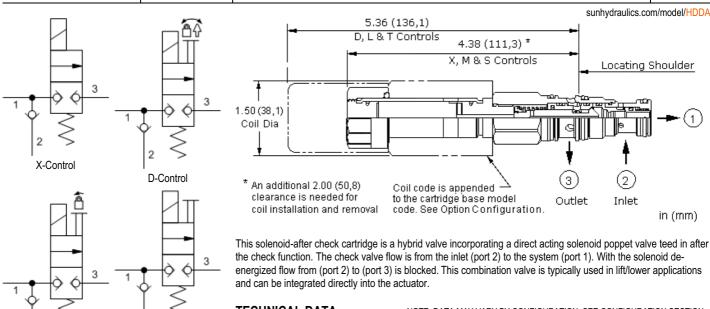
| (M) SPOOL CONFIGURATION | (C) | SEAL MATERIAL (N | i) COIL* | |
|-------------------------|-------------------|-------------------|--|--|
| C Normally Closed | | N Buna-N | No coil | |
| H Normally Open | | E EPDM | 212 DIN 43650-Form A, 12 VDC | |
| | | V Viton | 224 DIN 43650-Form A, 24 VDC | |
| | C Normally Closed | C Normally Closed | C Normally Closed H Normally Open E EPDM | C Normally Closed N Buna-N No coil H Normally Open E EPDM 212 DIN 43650-Form A, 12 VDC |

* Additional coil options are available

© 2021 Sun Hydraulics 30 of 67 M or S-Control

SERIES 1 / CAPACITY: 40 L/min. / CAVITY: T-11A





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 |
| Check Cracking Pressure | 2 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: 990011007 |
| Seal kit - Cartridge | Polyurethane: 990011002 |
| Seal kit - Cartridge | Viton: 990011006 |

NOTES

T-Control

L-Control

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

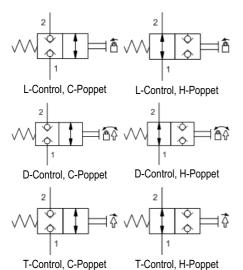
CONFIGURATION OPTIONS

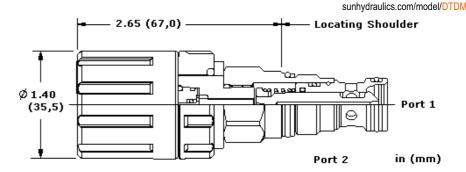
Model Code Example: HDDAXCN

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

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

TECHNICAL DATA

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: 990413007 |
| Seal kit - Cartridge | Polyurethane: 990413002 |
| Seal kit - Cartridge | Viton: 990413006 |

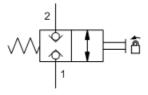
CONFIGURATION OPTIONS

Model Code Example: DTDMLCN

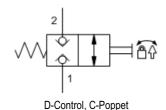
| CONTROL (L) | POPPET CONFIGURATION | (C) SEAL MATERIAL | (N) |
|---------------------------------------|----------------------|-------------------|-----|
| L Twist/Lock (Detent) Manual Override | C Normally Closed | N Buna-N | |
| D Twist/Lock (Dual) Manual Override | H Normally Open | E EPDM | |
|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

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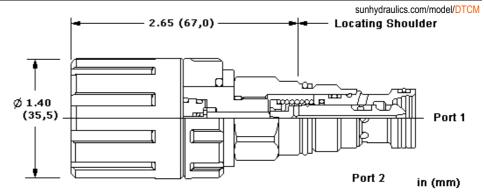




L-Control, C-Poppet



T-Control, C-Poppet



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

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

TECHNICAL DATA

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: 990413007 |
| Seal kit - Cartridge | Polyurethane: 990413002 |
| Seal kit - Cartridge | Viton: 990413006 |

CONFIGURATION OPTIONS

Model Code Example: DTCMLCN

| CONTROL (L) | SPOOL CONFIGURATION | (C) SEAL MATERIAL | (N) |
|---------------------------------------|---------------------|-------------------|-----|
| L Twist/Lock (Detent) Manual Override | C Normally Closed | N Buna-N | |

D Twist/Lock (Dual) Manual Override

T Twist (Momentary) Manual Override

V Viton

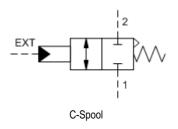
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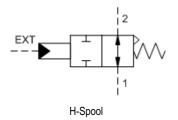


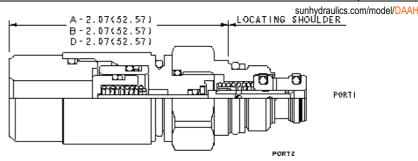
2-way, hydraulically operated, spool directional valve - pilot capacity

SERIES P / CAPACITY: 1 L/min. / CAVITY: T-8A









These pilot-stage, directional, 2-position, 2-way valves are hydraulically operated, spring-return cartridges and are available in either a normally open or normally closed configuration. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves.

TECHNICAL DATA

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

| Maximum Operating Pressure | 350 bar |
|---|------------------------|
| Maximum Valve Leakage at 110 SUS (24 cSt) | 0,3 cc/min. |
| Minimum Pilot Pressure to Operate | See Technical Features |
| Pilot Control Port | See Control Options |
| Seal kit - Cartridge | Buna: 990508007 |
| Seal kit - Cartridge | Viton: 990508006 |

CONFIGURATION OPTIONS

Model Code Example: DAAHBCN

CONTROL (B) SPOOL CONFIGURATION (C) SEAL MATERIAL (N) MATERIAL/COATING B External 4-SAE Port C Normally Closed N Buna-N

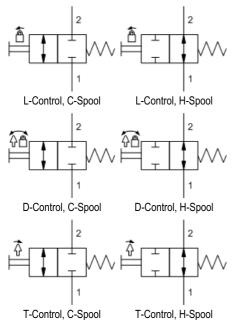
A External 1/8 NPTF Port

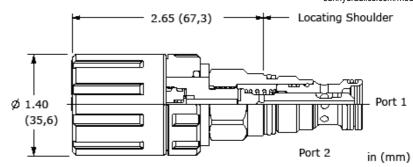
H Normally Open V Viton /AP Stainless Steel, Passivated D External 1/8 BSPP Port

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sunhydraulics.com/model/DLDM





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

TECHNICAL DATA

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: 990413007 |
| Seal kit - Cartridge | Polyurethane: 990413002 |
| Seal kit - Cartridge | Viton: 990413006 |

CONFIGURATION OPTIONS

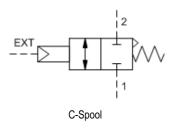
Model Code Example: DLDMLCN

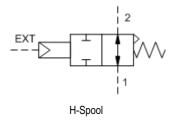
| CONTROL (L) | SPOOL CONFIGURATION | (C) | SEAL MATERIAL | (N) |
|---------------------------------------|---------------------|-----|-----------------|-----|
| L Twist/Lock (Detent) Manual Override | C Normally Closed | | N Buna-N | |
| D Twist/Lock (Dual) Manual Override | H Normally Open | | E EPDM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

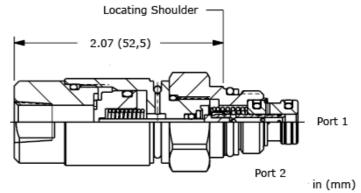
© 2021 Sun Hydraulics 35 of 67



sunhydraulics.com/model/DAAP







These pilot-stage, directional, 2-position, 2-way valves are pneumatically operated, spring-return cartridges and are available in either normally open or normally closed configurations. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves.

TECHNICAL DATA

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: 990508007 |
| Seal kit - Cartridge | Viton: 990508006 |

CONFIGURATION OPTIONS

Model Code Example: DAAPFCN

| CONTROL | (F) | SPOOL CONFIGURATION | (C) | SEAL MATERIAL | (N) | MATERIAL/COATING |
|---------|-----|---------------------|-----|---------------|-----|------------------|
|---------|-----|---------------------|-----|---------------|-----|------------------|

| | () | (-) | (1) |
|--------------------------|-------------------|---------------|-----------------|
| | | | |
| F External 1/8 NPTF Port | C Normally Closed | N Buna-N | Standard I |
| | | | |
| E External 4-SAE Port | H Normally Open | E EPDM | /AP Stainless S |

P External 1/8 BSPP Port

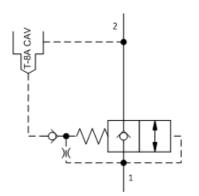
H Normally Open

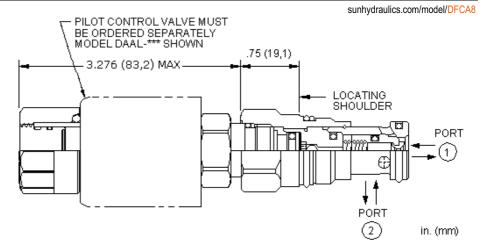
E EPDM **V** Viton

/AP Stainless Steel, Passivated

© 2021 Sun Hydraulics 36 of 67 SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-13A







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

TECHNICAL DATA

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 |
| Pilot Control Cavity | T-8A |
| Pilot Control Valve Installation Torque | 27 - 33 Nm |
| Response Time - Typical | see pilot control ms |
| Seal kit - Cartridge | Buna: 990310007 |
| Seal kit - Cartridge | Viton: 990310006 |

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DFCA8DN

CRACKING PRESSURE (D) SEAL MATERIAL (N) MATERIAL/COATING

D 50 psi (3,5 bar)

N Buna-N

V Viton

Standard Material/Coating
/AP Stainless Steel, Passivated

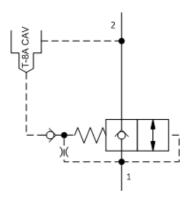
© 2021 Sun Hydraulics 37 of 67

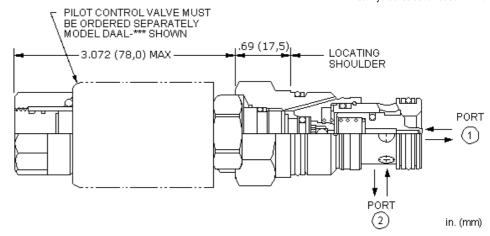
2-way, poppet directional valve with integral T-8A control cavity - control 1-2

SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-5A



sunhydraulics.com/model/DFDA8





This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

TECHNICAL DATA

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 |
| Check Cracking Pressure | 3,5 bar |
| Pilot Control Cavity | T-8A |
| Pilot Control Valve Installation Torque | 27 - 33 Nm |
| Response Time - Typical | see pilot control ms |
| Seal kit - Cartridge | Buna: 990203007 |
| Seal kit - Cartridge | Viton: 990203006 |

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DFDA8DN

CRACKING PRESSURE (D) SEAL MATERIAL (N) MATE

(N) MATERIAL/COATING

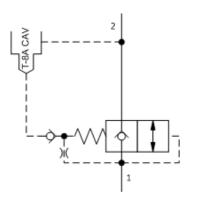
D 50 psi (3,5 bar)

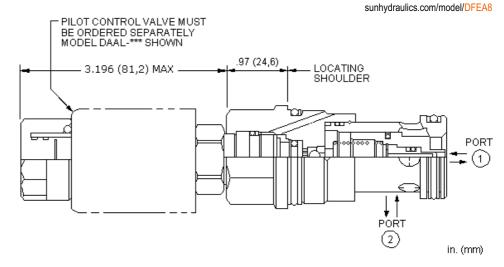
N Buna-N V Viton Standard Material/Coating /AP Stainless Steel, Passivated

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SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-16A







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

TECHNICAL DATA

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 |
| Pilot Control Cavity | T-8A |
| Pilot Control Valve Installation Torque | 27 - 33 Nm |
| Response Time - Typical | see pilot control ms |
| Seal kit - Cartridge | Buna: 990016007 |
| Seal kit - Cartridge | Polyurethane: 990016002 |
| Seal kit - Cartridge | Viton: 990016006 |

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DFEA8DN

CRACKING PRESSURE (

(D) SEAL MATERIAL

(N)

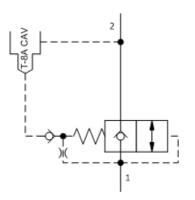
D 50 psi (3,5 bar)

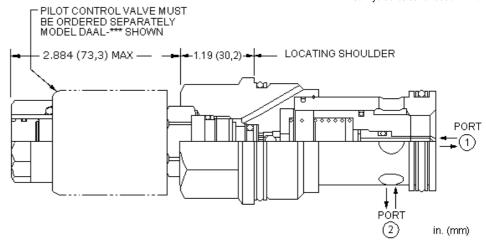
N Buna-N
E EPDM
V Viton

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sunhydraulics.com/model/DFFA8





This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

TECHNICAL DATA

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 |
| Pilot Control Cavity | T-8A |
| Pilot Control Valve Installation Torque | 27 - 33 Nm |
| Seal kit - Cartridge | Buna: 990018007 |
| Seal kit - Cartridge | EPDM: 990018014 |
| Seal kit - Cartridge | Polyurethane: 990018002 |
| Seal kit - Cartridge | Viton: 990018006 |

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DFFA8DN

CRACKING PRESSURE

(D) SEAL MATERIAL

(N) MATERIAL/COATING

D 50 psi (3,5 bar)

N Buna-N

Standard Material/Coating /AP Stainless Steel, Passivated

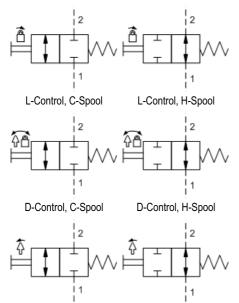
V Viton

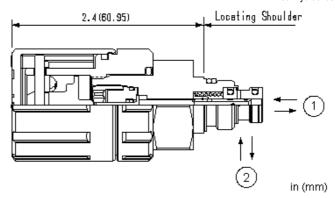
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T-Control, H-Spool



sunhydraulics.com/model/DAAM





These pilot-stage, directional, 2-position, 2-way valves are manually operated cartridges and are available in either a normally open or normally closed configuration. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

TECHNICAL DATA

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: 990108007 |
| Seal kit - Cartridge | Viton: 990108006 |

CONFIGURATION OPTIONS

T-Control, C-Spool

Model Code Example: DAAMLCN

| CONTROL (L) | SPOOL CONFIGURATION | (C) SEAL MATERIAL | (N) |
|---------------------------------------|---------------------|-------------------|-----|
| L Twist/Lock (Detent) Manual Override | C Normally Closed | N Buna-N | |

D Twist/Lock (Dual) Manual Override

T Twist (Momentary) Manual Override

H Normally Open

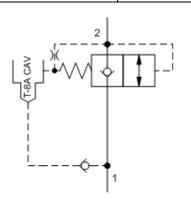
V Viton

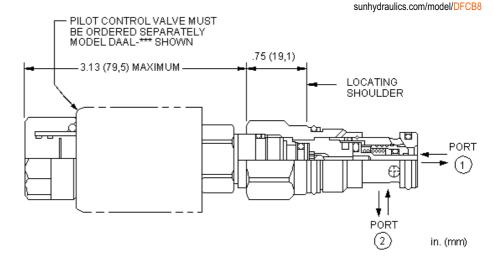
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2-way, poppet directional valve with integral T-8A control cavity - control 2-1

SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-13A







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

TECHNICAL DATA

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 |
| Pilot Control Cavity | T-8A |
| Pilot Control Valve Installation Torque | 27 - 33 Nm |
| Response Time - Typical | see pilot control ms |
| Seal kit - Cartridge | Buna: 990310007 |
| Seal kit - Cartridge | EPDM: 990310014 |
| Seal kit - Cartridge | Viton: 990310006 |

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DFCB8DN

CRACKING PRESSURE

(D) SEAL MATERIAL

(N)

D 50 psi (3,5 bar)

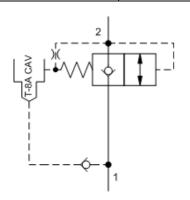
N Buna-N

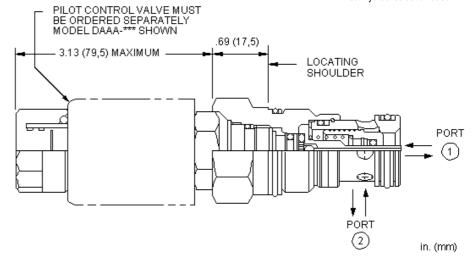
V Viton

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sunhydraulics.com/model/DFDB8





This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

TECHNICAL DATA

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 |
| Pilot Control Cavity | T-8A |
| Pilot Control Valve Installation Torque | 27 - 33 Nm |
| Response Time - Typical | see pilot control ms |
| Seal kit - Cartridge | Buna: 990203007 |
| Seal kit - Cartridge | Viton: 990203006 |

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DFDB8DN

CRACKING PRESSURE

(D) SEAL MATERIAL

(N)

D 50 psi (3,5 bar)

N Buna-N V Viton

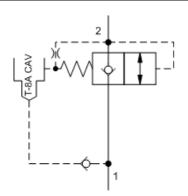
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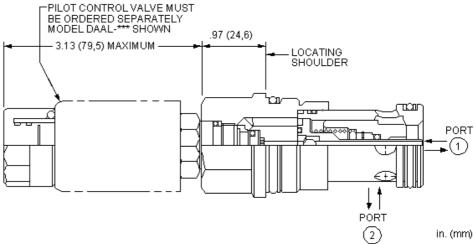
2-way, poppet directional valve with integral T-8A control cavity - control 2-1

SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-16A



sunhydraulics.com/model/DFEB8





This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

TECHNICAL DATA

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 |
| Pilot Control Cavity | T-8A |
| Pilot Control Valve Installation Torque | 27 - 33 Nm |
| Response Time - Typical | see pilot control ms |
| Seal kit - Cartridge | Buna: 990016007 |
| Seal kit - Cartridge | Polyurethane: 990016002 |
| Seal kit - Cartridge | Viton: 990016006 |

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DFEB8DN

CRACKING PRESSURE

(D) SEAL MATERIAL

(N)

D 50 psi (3,5 bar)

N Buna-N

V Viton

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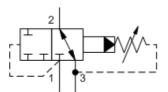


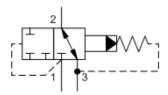


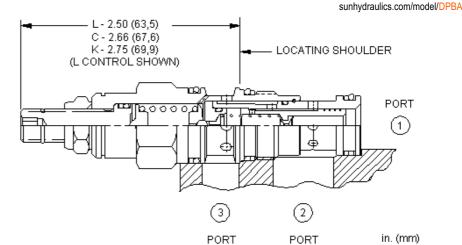
2-way, pilot-operated, directional valve with internal drain to port 3 - normally open

SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A









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

TECHNICAL DATA

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

CONTROL

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

CONFIGURATION OPTIONS

Model Code Example: DPBALAN

L Standard Screw Adjustment

C Tamper Resistant - Factory Set

K Handknob

| Α | 100 - 3000 psi (7 - 210 bar), 1000 psi |
|---|--|
| | (70 har) Standard Setting |

(L) ADJUSTMENT RANGE

- **B** 50 1500 psi (3,5 105 bar), 1000 psi (70 bar) Standard Setting
- **D** 25 800 psi (1,7 55 bar), 400 psi (28 bar) Standard Setting
- E 25 400 psi (1,7 28 bar), 200 psi (14 bar) Standard Setting
- psi (70 bar) Standard Setting

(A) SEAL MATERIAL N Buna-N Viton

(N) MATERIAL/COATING

Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

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

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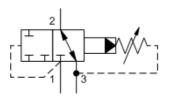


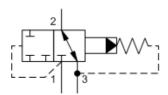
2-way, pilot-operated, directional valve with internal drain to port 3 - normally open

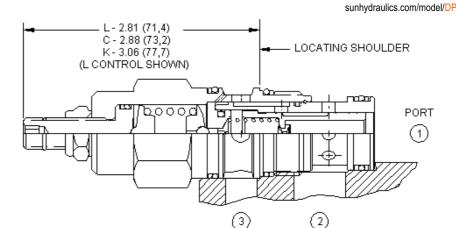
SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A



in. (mm)







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

PORT

TECHNICAL DATA

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

PORT

| 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

CONTROL

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

CONFIGURATION OPTIONS

Model Code Example: DPCALAN

- C Tamper Resistant Factory Set K Handknob
- O Handknob with Panel Mount

100 - 3000 psi (7 - 210 bar), 1000 psi

(L) ADJUSTMENT RANGE

- (70 bar) Standard Setting **B** 50 - 1500 psi (3,5 - 105 bar), 1000 psi
- (70 bar) Standard Setting C 150 - 6000 psi (10,5 - 420 bar), 3000
- psi (210 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** 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting

(A) SEAL MATERIAL N Buna-N V Viton

/AP Stainless Steel, Passivated

(N) MATERIAL/COATING

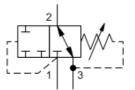
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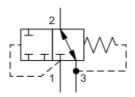




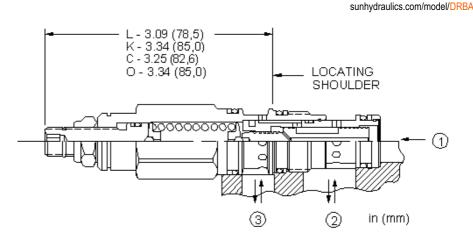
2-way, direct-acting, directional valve with internal drain to port 3 - normally







SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A



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

TECHNICAL DATA

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: DRBALAN

CONTROL

(L) ADJUSTMENT RANGE A 500 - 3000 psi (35 - 210 bar), 1000 psi

(A) SEAL MATERIAL N Buna-N

V Viton

(N) MATERIAL/COATING

C Tamper Resistant - Factory Set

K Handknob

(70 bar) Standard Setting **B** 50 - 1500 psi (3,5 - 105 bar), 200 psi

(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

Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

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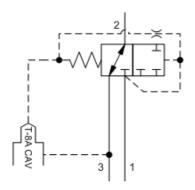
MODEL DVBA

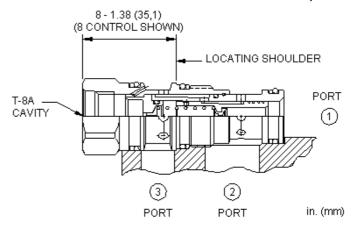
2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally open

SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A



sunhydraulics.com/model/DVBA





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

TECHNICAL DATA

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: DVBA8FN

CONTROL (8) MINIMUM CONTROL PRESSURE (F) SEAL MATERIAL (N)

T-8A Cavity

F 100 psi (7 bar)

N Buna-N V Viton

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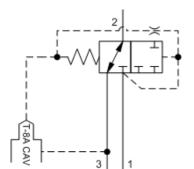


MODEL DVCA

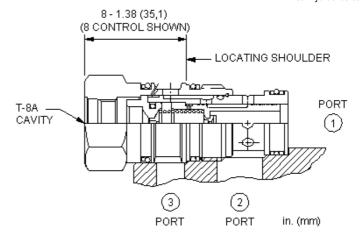
2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally open

SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A





sunhydraulics.com/model/DVCA



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

TECHNICAL DATA

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: DVCA8FN

 CONTROL
 (8)
 MINIMUM CONTROL PRESSURE
 (F)
 SEAL MATERIAL
 (N)

 8
 T-8A Cavity
 F 100 psi (7 bar)
 N Buna-N

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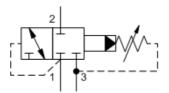


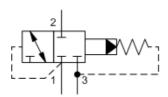
2-way, pilot-operated, directional valve with internal drain to port 3 - normally closed

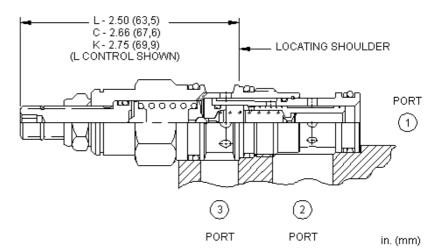
SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A



sunhydraulics.com/model/DPBB







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

TECHNICAL DATA

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: DPBBLAN

| Ctandard | Corour | Adjustment | |
|----------|--------|------------|--|

C Tamper Resistant - Factory Set

K Handknob

CONTROL

A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting

(L) ADJUSTMENT RANGE

- (70 bar) Standard Setting

 B 50 1500 psi (3,5 105 bar), 1000 psi (70 bar) Standard Setting
- **D** 25 800 psi (1,7 55 bar), 400 psi (28 bar) Standard Setting
- **E** 25 400 psi (1,7 28 bar), 200 psi (14 bar) Standard Setting
- **W** 150 4500 psi (10,5 315 bar), 1000 psi (70 bar) Standard Setting

N Buna-N V Viton

(A) SEAL MATERIAL

Standard Material/Coating /AP Stainless Steel, Passivated

(N) MATERIAL/COATING

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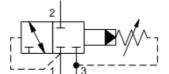


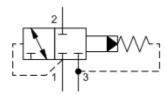
MODEL DPCB

2-way, pilot-operated, directional valve with internal drain to port 3 - normally closed

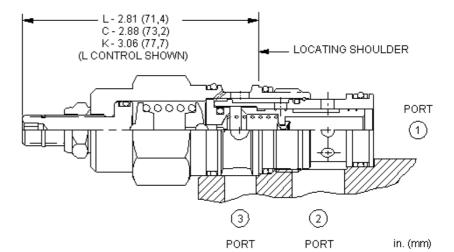


sunhydraulics.com/model/DPCB









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

TECHNICAL DATA

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 |

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: DPCBLAN

CONTROL (L) ADJUSTMENT RANGE (A) SEAL MATERIAL (N) MATERIAL/COATING

L Standard Screw Adjustment

- C Tamper Resistant Factory Set
- K Handknob

- 100 3000 psi (7 210 bar), 1000 psi (70 bar) Standard Setting
- **B** 50 1500 psi (3,5 105 bar), 1000 psi (70 bar) Standard Setting
- **D** 25 800 psi (1,7 55 bar), 400 psi (28 bar) Standard Setting
- E 25 400 psi (1,7 28 bar), 200 psi (14 bar) Standard Setting
- **W** 150 4500 psi (10,5 315 bar), 1000 psi (70 bar) Standard Setting

N Buna-N

Viton

/AP Stainless Steel, Passivated

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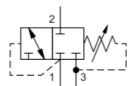


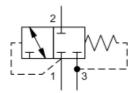
2-way, direct-acting, directional valve with internal drain to port 3 - normally closed

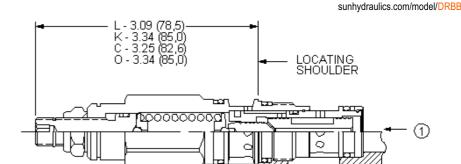
SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A



in (mm)







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

3

TECHNICAL DATA

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

2

| 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: DRBBLAN

CONTROL

500 - 3000 psi (35 - 210 bar), 1000 ps

(L) ADJUSTMENT RANGE

(A) SEAL MATERIAL N Buna-N

Viton

(N) MATERIAL/COATING

L Standard Screw Adjustment

C Tamper Resistant - Factory Set

K Handknob

(70 bar) Standard Setting

B 50 - 1500 psi (3,5 - 105 bar), 200 psi (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

/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

(70 bar) Standard Setting

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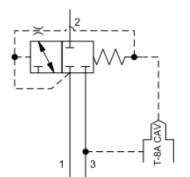


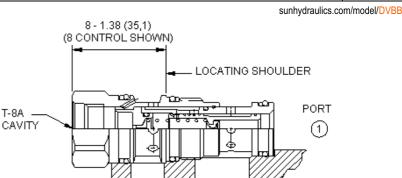
MODEL DVBB

2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally closed

SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A







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

③ PORT

TECHNICAL DATA

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

in. (mm)

2

PORT

| 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.

V Viton

CONFIGURATION OPTIONS

Model Code Example: DVBB8FN

 CONTROL
 (8)
 MINIMUM CONTROL PRESSURE
 (F)
 SEAL MATERIAL
 (N

 8
 T-8A Cavity
 F 100 psi (7 bar)
 N Buna-N

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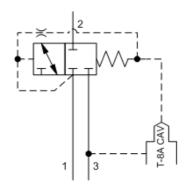
MODEL DVCB

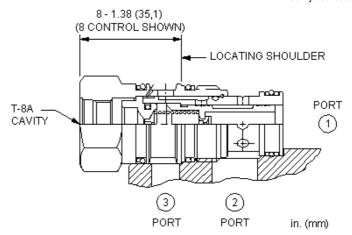
2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally closed

SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A



sunhydraulics.com/model/DVCB





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

TECHNICAL DATA

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: DVCB8FN

 CONTROL
 (8)
 MINIMUM CONTROL PRESSURE
 (F)
 SEAL MATERIAL
 (N)

 8
 T-8A Cavity
 F 100 psi (7 bar)
 N Buna-N
 V Viton

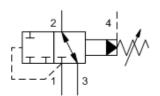
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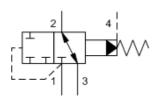
2-way, pilot-operated, directional valve with drain to port 4 - normally open

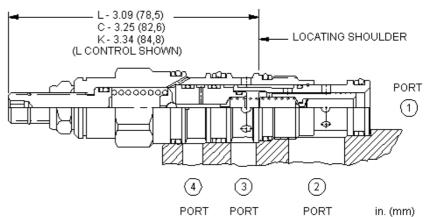
SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A



sunhydraulics.com/model/DPBM







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

TECHNICAL DATA

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

Model Code Example: DPBMLAN

CONTROL (L) ADJUSTMENT RANGE (A) SEAL MATERIAL (N) MATERIAL/COATING

- C Tamper Resistant Factory Set
- K Handknob

- 100 3000 psi (7 210 bar), 1000 psi (70 bar) Standard Setting
- **B** 50 1500 psi (3,5 105 bar), 1000 psi (70 bar) Standard Setting
- **D** 25 800 psi (1,7 55 bar), 400 psi (28 bar) Standard Setting
- E 25 400 psi (1,7 28 bar), 200 psi (14 bar) Standard Setting
- **W** 150 4500 psi (10,5 315 bar), 1000 psi (70 bar) Standard Setting

N Buna-N V Viton

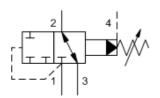
/AP Stainless Steel, Passivated

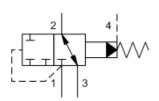
/LH Mild Steel, Zinc-Nickel

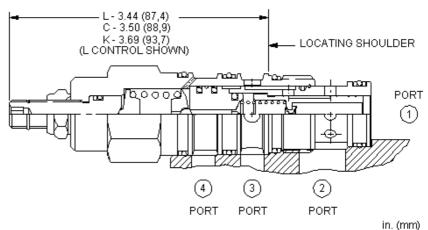
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sunhydraulics.com/model/DPCM







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

TECHNICAL DATA

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: DPCMLAN

CONTROL (L) ADJUSTMENT RANGE

L Standard Screw Adjustment

(A) SEAL MATERIAL

V Viton

(N) MATERIAL/COATING

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C Tamper Resistant - Factory Set

K Handknob

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100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting

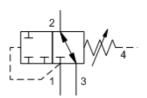
D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting

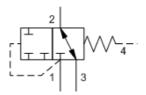
E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting

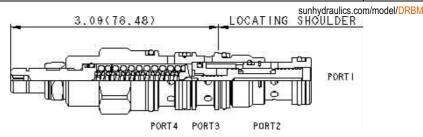
W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting

N Buna-N /LH Mild Steel, Zinc-Nickel









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

TECHNICAL DATA

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 |

(N)

NOTES

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

CONFIGURATION OPTIONS

Model Code Example: DRBMLAN

CONTROL (L) ADJUSTMENT RANGE (A) SEAL MATERIAL N Buna-N

- L Standard Screw Adjustment
- C Tamper Resistant Factory Set
- K Handknob
- O Handknob with Panel Mount
- A 500 3000 psi (35 210 bar), 1000 psi (70 bar) Standard Setting
- **B** 50 1500 psi (3,5 105 bar), 200 psi (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
- \$ 25 200 psi (1,7 14 bar), 100 psi (7 bar) Standard Setting
- W 750 4500 psi (50 315 bar), 1000 psi

V Viton

(70 bar) Standard Setting

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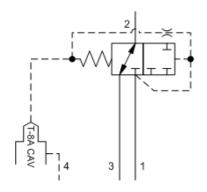
MODEL DVBM

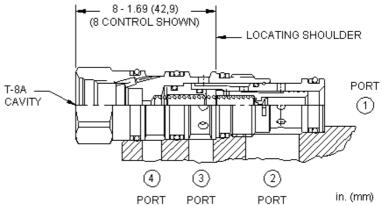
2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control cavity - normally open

SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A









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

TECHNICAL DATA

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: DVBM8FN

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

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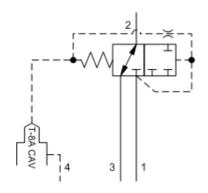
MODEL DVCM

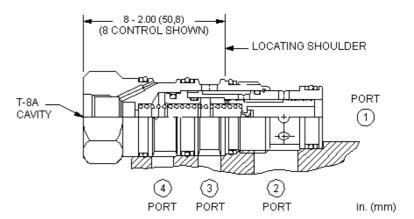
2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control cavity - normally open

SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-22A



sunhydraulics.com/model/DVCM





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

TECHNICAL DATA

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: DVCM8FN

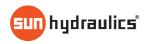
CONTROL (8) MINIMUM CONTROL PRESSURE (F) SEAL MATERIAL (N)

8 T-8A Cavity

F 100 psi (7 bar

N Buna-N V Viton

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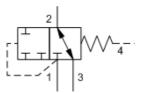


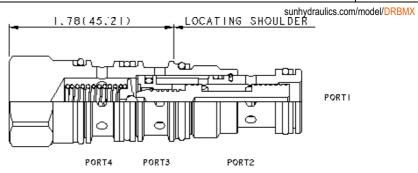


2-way, direct-acting, fixed setting, directional valve with drain to port 4 - normally open

SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A







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

TECHNICAL DATA

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: DRBMXFN

 SHIFTING PRESSURE
 (F)
 SEAL MATERIAL
 (N)

 F 100 psi (7 bar)
 N Buna-N

 V Viton

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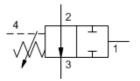


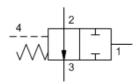
2-way, pilot-to-shift directional valve with drain to port 4 - normally open

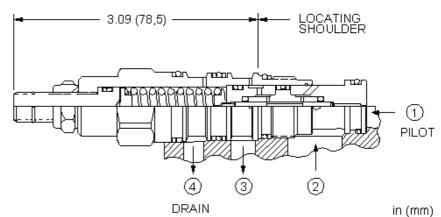
SERIES 1 / CAPACITY: 2 L/min. / CAVITY: T-21A











The normally-open, direct-acting 2-way directional cartridge with external drain is a pilot unloading valve used to sense pressure in one circuit to switch or unload a valve in a different circuit. When pressure at port 1 exceeds the setting of the valve, the spool shifts to block port 2 from port 3.

TECHNICAL DATA

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

| Maximum Operating Pressure | 350 bar |
|---------------------------------|-------------------------|
| Maximum Valve Leakage at Reseat | 20 drops/min. |
| Reseat | >85% of setting |
| Locknut Hex Size | 15 mm |
| Locknut Torque | 9 - 10 Nm |
| Seal kit - Cartridge | Buna: 990021007 |
| Seal kit - Cartridge | Polyurethane: 990021002 |
| Seal kit - Cartridge | Viton: 990021006 |

CONFIGURATION OPTIONS

Model Code Example: DRAYLAN

(L) ADJUSTMENT RANGE (N) MATERIAL/COATING CONTROL (A) SEAL MATERIAL 1000 - 3000 psi (70 - 210 bar), 1000 psi

C Tamper Resistant - Factory Set

C 2000 - 6000 psi (140 - 420 bar), 2000

psi (140 bar) Standard Setting

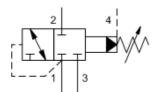
N Buna-N **V** Viton

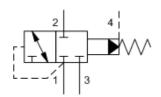
/AP Stainless Steel, Passivated

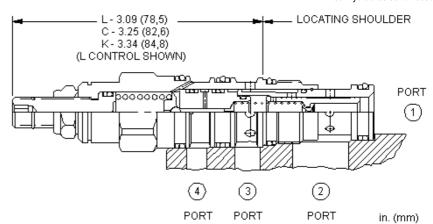
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sunhydraulics.com/model/DPBN







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

TECHNICAL DATA

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

Model Code Example: DPBNLAN

CONTROL (L) ADJUSTMENT RANGE (A) SEAL MATERIAL (

L Standard Screw Adjustment

- C Tamper Resistant Factory Set
- K Handknob

A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting

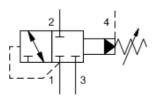
- **B** 50 1500 psi (3,5 105 bar), 1000 psi (70 bar) Standard Setting
- **D** 25 800 psi (1,7 55 bar), 400 psi (28 bar) Standard Setting
- **E** 25 400 psi (1,7 28 bar), 200 psi (14 bar) Standard Setting
- J 25 1500 psi (1,7 105 bar), 1000 psi (70 bar) Standard Setting
- **W** 150 4500 psi (10,5 315 bar), 1000 psi (70 bar) Standard Setting

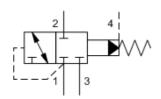
N Buna-N

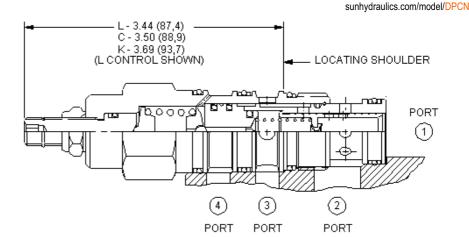
V Viton

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in. (mm)

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

TECHNICAL DATA

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: DPCNLAN

(L) ADJUSTMENT RANGE (A) SEAL MATERIAL CONTROL (N)

L Standard Screw Adjustment

- C Tamper Resistant Factory Set
- K Handknob

- A 100 3000 psi (7 210 bar), 1000 psi (70 bar) Standard Setting
- **B** 50 1500 psi (3,5 105 bar), 1000 psi (70 bar) Standard Setting
- **D** 25 800 psi (1,7 55 bar), 400 psi (28 bar) Standard Setting
- E 25 400 psi (1,7 28 bar), 200 psi (14 bar) Standard Setting
- **W** 150 4500 psi (10,5 315 bar), 1000 psi (70 bar) Standard Setting

N Buna-N **V** Viton

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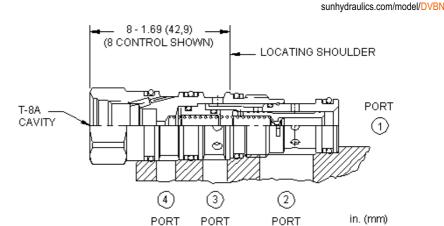


MODEL DVBN

2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control cavity - normally closed

SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A





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

PORT

PORT

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.

V Viton

CONFIGURATION OPTIONS

Model Code Example: DVBN8FN

CONTROL (8) MINIMUM CONTROL PRESSURE (F) SEAL MATERIAL (N) 8 T-8A Cavity N Buna-N

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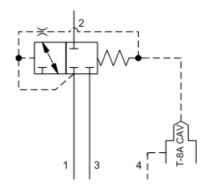
MODEL DVCN

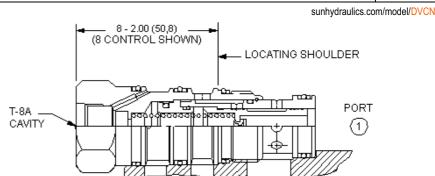
2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control cavity - normally closed

SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-22A



in. (mm)





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

(3)

PORT

(4)

PORT

TECHNICAL DATA

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

(2)

PORT

| 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.

V Viton

CONFIGURATION OPTIONS

Model Code Example: DVCN8FN

 CONTROL
 (8)
 MINIMUM CONTROL PRESSURE
 (F)
 SEAL MATERIAL
 (N)

 8
 T-8A Cavity
 F 100 psi (7 bar)
 N Buna-N

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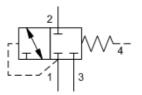


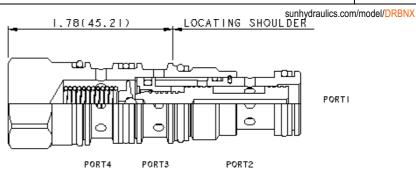


2-way, direct-acting, fixed setting, directional valve with drain to port 4 - normally closed

SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A







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. |
| Seal kit - Cartridge | Buna: 990021007 |
| Seal kit - Cartridge | Polyurethane: 990021002 |
| Seal kit - Cartridge | Viton: 990021006 |

CONFIGURATION OPTIONS

Model Code Example: DRBNXFN

 SHIFTING PRESSURE
 (F)
 SEAL MATERIAL
 (N)

 F 100 psi (7 bar)
 N Buna-N

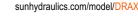
 V Viton

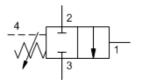
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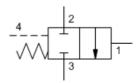


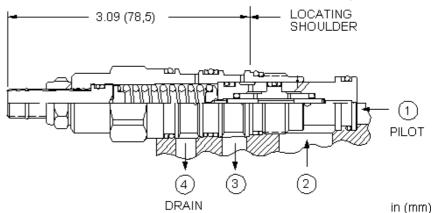
2-way, pilot-to-shift directional valve with drain to port 4 - normally closed SERIES 1 / CAPACITY: 2 L/min. / CAVITY: T-21A











The normally-closed, direct-acting 2-way directional cartridge with external drain is a pilot unloading valve used to sense pressure in one circuit to switch or unload a valve in a different circuit. When pressure at port 1 exceeds the setting of the valve, the spool shifts to connect port 2 to port 3.

TECHNICAL DATA

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

| Maximum Operating Pressure | 350 bar |
|---------------------------------|-------------------------|
| Maximum Valve Leakage at Reseat | 20 drops/min. |
| Reseat | >85% of setting |
| Locknut Hex Size | 15 mm |
| Locknut Torque | 9 - 10 Nm |
| Seal kit - Cartridge | Buna: 990021007 |
| Seal kit - Cartridge | Polyurethane: 990021002 |
| Seal kit - Cartridge | Viton: 990021006 |

CONFIGURATION OPTIONS

Model Code Example: DRAXLAN

CONTROL (L) ADJUSTMENT RANGE (A) SEAL MATERIAL (N) MATERIAL/COATING

L Standard Screw AdjustmentC Tamper Resistant - Factory Set

A 1000 - 3000 psi (70 - 210 bar), 1000 psi (70 bar) Standard Setting

N Buna-N
V Viton

Standard Material/Coating

/AP Stainless Steel, Passivated

C 2000 - 6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting

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