

Zero-Leak Directional Solenoid Valves

Interface Devices' D03 Series valves are cost-effective solutions for reliable actuation of single- or double-acting cylinders. These poppet-style zero-leak 3- and 4-way directional control valves are solenoid actuated and can be used with most hydraulic pumps to maintain pressure while preventing the hydraulic supply from consuming energy or generating heat. Mounts to international standard valve subplate (D03, NG6, ISO 03).

Specifications:

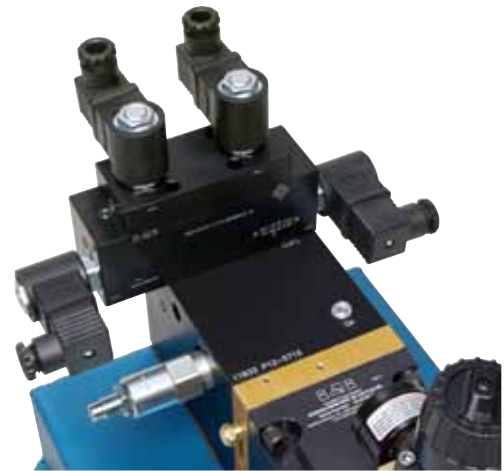
- Manifold mounting with a size 03 interface to ISO 4401-03-02
- 5,000 psi (340 bar) maximum operating pressure
- 3.0 GPM (11.4 lpm) nominal flow
- 1.93-inch (49 mm) width allows for mounting multiple valves on standard 2.0-inch (50.8 mm) centers

Premium Construction Materials:

- Body – 7075-T651 extruded aluminum bar
- Poppets and seats – hardened and ground steel
- O-ring seals and backup rings – polyurethane and PTFE

Applications

- Up to 5000 psi (340 bar) applications where pressure and flow are intermittent
- Maintain loads for very long periods of time without replenishing pressure supply



P Port Check Valve

Standard Options:

- Pressure port check valve
- EPR, Viton or other seal materials
- Solenoids, connectors and bolt kits



Solenoid Valve Schematic Details

P = Hydraulic Pressure Line • T = Tank
A = Hydraulic Line A • B = Hydraulic Line B

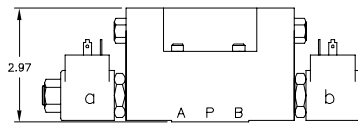
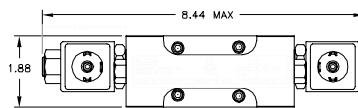
D03-4WPSV – 2-Position, 4-Way Solenoid Actuated Directional Control Valve

Apply current to **coil a** results in **P** to **A** while **B** is open to **T**.

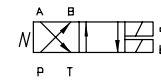
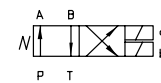
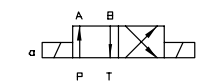
Apply current to **coil b** results in **P** to **B** while **A** is open to **T**.

Removing current from both **coil a** and **b** blocks **P**.

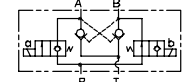
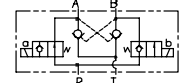
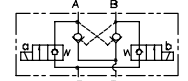
For a spring offset function, when no current is applied, **P** is open to **A** or **B** depending on “spool” designation (**A** or **B**) and **B** or **A** is open to **T**. This is the default or “failsafe” position. When current is applied to **coils a** and **b**, **P** is open to **B** or **A** and **A** or **B** is open to **T**.



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ACTUAL FUNCTION



D03-4W3P – 3-Position, 4-Way Solenoid Actuated Directional Control Valve

Apply current to **coils 1** and **2** results in **P** to **A** while **B** is open to **T**.

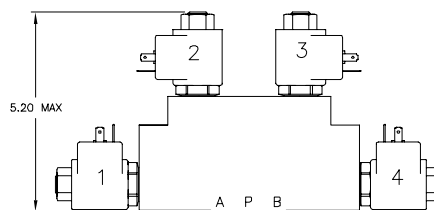
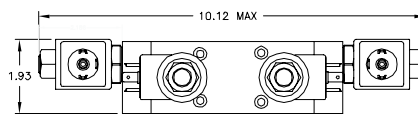
Apply current to **coils 3** and **4** results in **P** to **B** while **A** is open to **T**.

Removing current from all coils defaults to the center position:

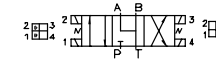
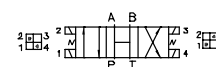
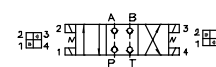
“C”=All ports closed

“H”=All ports common

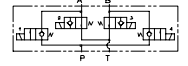
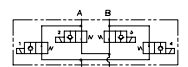
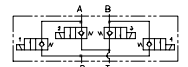
“O”=P port blocked, A and B ports open to T



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ACTUAL FUNCTION



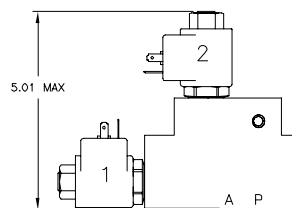
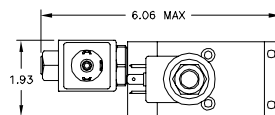
D03-3W2P – 2-Position, 3-Way Solenoid Actuated Directional Control Valve

For a normally open valve, applying current to **coils 1** and **2** results in **P** being blocked. When current is removed from **coils 1** and **2**, **P** is open to **A** and **T** is blocked.

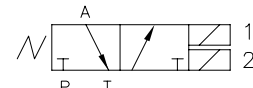
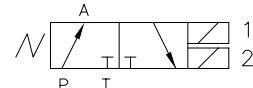
For a normally closed valve, apply current to **coils 1** and **2** to bring **P** to **A**.

“Y”=Normally open

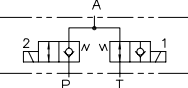
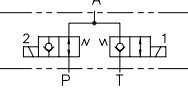
“X”=Normally closed



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ACTUAL FUNCTION



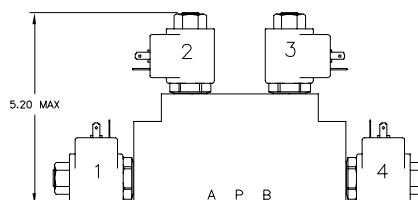
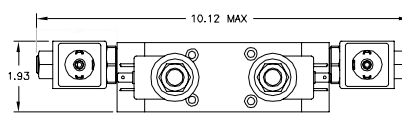
D03-23W2P – Two 2-Position, 3-Way Solenoid Actuated Directional Control Valves

Functions as two D03-3W2P valves using **A** and **B** from the valve pad as independently actuated hydraulic lines. A **P** port check valve isolates each side of the 3-way valves so no pressure decay occurs when either valve is actuated. This valve can be configured as two separate 3-way valves:

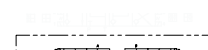
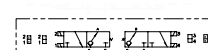
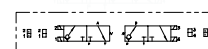
“YY” – Both valves normally open

“XX” – Both valves normally closed

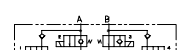
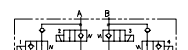
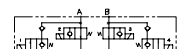
“XY” – One valve normally open, one normally closed



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ACTUAL FUNCTION



Please see back page of this brochure for ordering codes.

Ordering Information

| Poppet Valve # | P-Port-CV | | Seal Material | | Bolt Kit | | Voltage | | DIN | | | | |
|--|-----------|-------|-----------------|----------|----------|-------|---------|--------|--------|---------|---------|---|--------|
| | -0=None | -P=CV | -P=Polyurethane | -V=Viton | -E=EPR | -0=No | -K=Yes | -12VDC | -24VDC | -115VAC | -230VAC | -0=No | -D=Yes |
| D03-4WPSV <i>4-way, 2-position</i> | - | - | - | - | - | - | - | - | - | - | - | Default None=2 Position A=Spring Offset P->A B=Spring Offset P->B | |
| D03-4W3P <i>4-way, 3-position</i> | - | - | - | - | - | - | - | - | - | - | - | Spool Config C=All Blocked H=All Common O=A+B->T | |
| D03-3W2P <i>3-way, 2-position</i> | - | - | - | - | - | - | - | - | - | - | - | Config Y=Normally Open X=Normally Closed | |
| D03-23W2P <i>Two x 3-way, 2-position</i> | - | P | - | - | - | - | - | - | - | - | - | Config YY=Both Open XX=Both Closed XY=One Closed, One Open | |

Example

D03-3W2P - 0 - V - K - 12VDC - D - X
3-way, 2-position; No P-Port CV; Viton Seal Material; Bolt Kit included; 12VDC; DIN; Normally Closed Configuration.

For other value configurations or customization, consult your local distributor or IDI.

Also available:

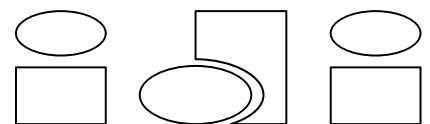
E,H,& P Series Air-Driven Liquid Pumps

These Air-driven liquid pumps are ideally suited for intermittent pressure/flow applications.

- Removes the costs and complexities of pressure-compensated variable-volume pumps
- Unlike electric driven pumps, consumes no energy upon achieving and maintaining hydraulic pressure
- Sparkless operation is suitable for explosion-proof areas without any special modification
- Optional custom designs including multi-pump systems and turnkey packages



Interface Devices, Inc.
 230 Depot Rd.
 Milford, CT 06460
 Tel: 203-878-4648 ~ Fax: 203-882-0885 ~ Toll Free: 800-539-0193
 info@interfacedevices.com ~ www.interfacedevices.com



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