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TECNORD

Phone +39 059 254895    Fax +39 059 253512    E-mail: tecnord@tecnord.com

a Delta Power Co.
**MA-S2A Pilot Operated Poppet, 2 Way, Normally Closed**

**DESCRIPTION**
7 size, 5/8-18 thread, “Mini” series, solenoid operated, 2 way normally closed, pilot operated poppet valve with reverse flow de-energized.

**OPERATION**
When de-energized the MA-S2A blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restricts flow from (2) to (1).

**FEATURES**
- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

**HYDRAULIC SYMBOL**

**PERFORMANCE**
Actual Test Data (Cartridge Only)

**VALVE SPECIFICATIONS**
- **Nominal Flow**: 5 GPM (19 LPM)
- **Rated Operating Pressure**: 3000 PSI (207 bar)
- **Typical Internal Leakage**: 0-5 drops/min
- **Viscosity Range**: 36 to 3000 SSU (3 to 647 cSt)
- **Filtration**: ISO 18/16/13
- **Media Operating Temperature Range**: -40°C to 250°C (-40°F to 120°C)
- **Weight**: .13 lbs. (.06 kg)
- **Operating Fluid Media**: General Purpose Hydraulic Fluid
- **Cartridge Torque Requirements**: 15 ft-lbs (20.3 Nm)
- **Coil Nut Torque Requirements**: 3-5 ft-lbs (4.1-6.8 Nm)
- **Cavity**: MINI 2W
- **Cavity Tools kit (form tool, reamer, tap)**: 40500003
- **Seal Kit (Buna)**: 21191000

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*a Delta Power Co.*
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TECNORD

Phone +39 059 254895 Fax +39 059 253512 E-mail: tecnord@tecnord.com

a Delta Power Co.
HA-S2A Pilot Operated Poppet, 2 Way, Normally Closed

DESCRIPTION
“High Pressure” 7 size, 5/8-18 thread, “Mini” series, solenoid operated, 2 way normally closed, pilot operated poppet valve with free reverse flow de-energized.

OPERATION
When de-energized the HA-S2A blocks flow from (1) to (2) and allows flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restricts flow from (2) to (1).

FEATURES
- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Industry common cavity.
- Unitized, molded coil design (for most common termination, see coil page).
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

HYDRAULIC SYMBOL

PERFORMANCE
Actual Test Data (Cartridge Only)

Valve Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Flow</td>
<td>5 GPM (19 LPM)</td>
</tr>
<tr>
<td>Rated Operating Pressure</td>
<td>4000 PSI (276 bar)</td>
</tr>
<tr>
<td>Typical Internal Leakage</td>
<td>0-5 drops/ min</td>
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<tr>
<td>Viscosity Range</td>
<td>36 to 3000 SSU (3 to 647 cSt)</td>
</tr>
<tr>
<td>Filtration</td>
<td>ISO 18/16/13</td>
</tr>
<tr>
<td>Media Operating Temperature</td>
<td>-40° to 250° F (-40° to 120° C)</td>
</tr>
<tr>
<td>Weight</td>
<td>.14 lbs. (.06 kg)</td>
</tr>
<tr>
<td>Operating Fluid Media</td>
<td>General Purpose Hydraulic Fluid</td>
</tr>
<tr>
<td>Cartridge Torque Requirements</td>
<td>15 ft-lbs (20.3 Nm)</td>
</tr>
<tr>
<td>Coil Nut Torque Requirements</td>
<td>3-5 ft-lbs (4.1-6.8 Nm)</td>
</tr>
<tr>
<td>Cavity</td>
<td>MINI 2W</td>
</tr>
<tr>
<td>Cavity Tools kit (form tool, reamer, tap)</td>
<td>40500003</td>
</tr>
<tr>
<td>Seal Kit</td>
<td>21191000</td>
</tr>
</tbody>
</table>

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a Delta Power Co.
MA-S2F Pilot Operated Poppet, 2 Way, Normally Closed – Soft Seat

DESCRIPTION
7 size, 5/8-18 thread, “Mini” series, solenoid operated, 2 way normally closed, pilot operated soft seat poppet valve with reverse flow de-energized.

OPERATION
When de-energized the MA-S2F blocks flow from (1) to (2) and allows free reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restricts flow from (2) to (1).

FEATURES
- Soft seat for ultra low leakage.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

HYDRAULIC SYMBOL
Operational shift limit 2.5 GPM (9.5 LPM). For shifted flow performance consult chart.

PERFORMANCE
Actual Test Data (Cartridge Only)

VALVE SPECIFICATIONS
- Maximum Flow: 2.5 GPM (9.5 LPM)
- Rated Operating Pressure: 1500 PSI (103 bar)
- Typical Internal Leakage (150 SSU): Negligible
- Viscosity Range: 36 to 3000 SSU (3 to 647 cSt)
- Filtration: ISO 18/16/13
- Media Operating Temperature Range: 32° to 160° F (0° to 70° C)
- Weight: .12 lbs (.05 kg)
- Operating Fluid Media: General Purpose Hydraulic Fluid
- Cartridge Torque Requirements: 15 ft-lbs (20.3Nm)
- Coil Nut Torque Requirements: 3-5 ft-lbs (4.1-6.8 Nm)
- Cavity: MINI 2W
- Cavity Tools kit (form tool, reamer, tap): 40500003
- Seal Kit: 21191000

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a Delta Power Co.
SOLENOID OPERATED DIRECTIONAL CONTROLS

DIMENSIONS

ORDERING INFORMATION

MA-S2F -

OPTIONS
Buna Standard 00
Viton Standard V0
Buna, Screen A0
Viton, Screen W0

BODIES
Blank Without Body
N ¼” BSP Ports
S #6 SAE Ports

VOLTAGE
12 12 VDC
24 24 VDC
22 220 VAC with molded full wave rectifier

“M” COIL TERMINATION
(All DC Except as Noted)
Double Lead DL
(* several types of termination can be attached on leads on request)
DIN 43650 (Hirschmann) HC

Approximate Coil Weight: .30 lbs. (.14 kg.)

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a Delta Power Co.
HA-S2A Pilot Operated Poppet, 2 Way, Normally Closed

DESCRIPTION
“High Pressure” 7 size, 5/8-18 thread, “Mini” series, solenoid operated, 2 way normally closed, pilot operated poppet valve with free reverse flow de-energized.

OPERATION
When de-energized the HA-S2A blocks flow from (1) to (2) and allows flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restricts flow from (2) to (1).

FEATURES
- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Industry common cavity.
- Unitized, molded coil design (for most common termination, see coil page).
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

HYDRAULIC SYMBOL

PERFORMANCE
Actual Test Data (Cartridge Only)

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<thead>
<tr>
<th>Flow (GPM)</th>
<th>Pressure Drop (PSI)</th>
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<tr>
<td>20</td>
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<table>
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<th>Pressure Drop (BAR)</th>
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</thead>
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</tr>
<tr>
<td>15</td>
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<tr>
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</tr>
</tbody>
</table>

| Port 1 to 2 (eng) | Port 2 to 1 (de-eng) |

VALVE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Flow</td>
<td>5 GPM (19 LPM)</td>
</tr>
<tr>
<td>Rated Operating Pressure</td>
<td>4000 PSI (276 bar)</td>
</tr>
<tr>
<td>Typical Internal Leakage</td>
<td>0-5 drops/min</td>
</tr>
<tr>
<td>Viscosity Range</td>
<td>36 to 3000 SSU (3 to 647 cSt)</td>
</tr>
<tr>
<td>Filtration</td>
<td>ISO 18/16/13</td>
</tr>
<tr>
<td>Media Operating Temperature Range</td>
<td>-40° to 250° F (-40° to 120° C)</td>
</tr>
<tr>
<td>Weight</td>
<td>.14 lbs. (.06 kg)</td>
</tr>
<tr>
<td>Operating Fluid Media</td>
<td>General Purpose Hydraulic Fluid</td>
</tr>
<tr>
<td>Cartridge Torque Requirements</td>
<td>15 ft-lbs (20.3 Nm)</td>
</tr>
<tr>
<td>Coil Nut Torque Requirements</td>
<td>3-5 ft-lbs (4.1-6.8 Nm)</td>
</tr>
<tr>
<td>Cavity Tools kit (form tool, reamer, tap)</td>
<td>40500003</td>
</tr>
<tr>
<td>Seal Kit</td>
<td>21191000</td>
</tr>
</tbody>
</table>

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TECNORD
Phone +39 059 254895    Fax +39 059 253512    E-mail: tecnord@tecnord.com

a Delta Power Co.
SOLENOID OPERATED DIRECTIONAL CONTROLS

DIMENSIONS

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DIMENSIONS

ORDERING INFORMATION

HA-S2A - - -

OPTIONS
Buna Standard 00
Viton Standard V0

“M” COIL TERMINATION
Double Lead DL
(* several types of termination can be attached on leads on request)
DIN 43650 (Hirschman) – (AC&DC) HC

BODIES
Blank Without Body
N ¼" BSP Ports
S #6 SAE Ports

VOLTAGE
12 12 VDC
24 24 VDC
22 220 VAC with molded full wave rectifier

Note: Aluminum, NOT durability rated for 4000 PSI. Consult factory for body options.

Approximate Coil Weight: .30 lbs/.14 kg.
SOLENOID OPERATED DIRECTIONAL CONTROLS

MA-S2F Pilot Operated Poppet, 2 Way, Normally Closed – Soft Seat

DESCRIPTION
7 size, 5/8-18 thread, "Mini" series, solenoid operated, 2 way normally closed, pilot operated soft seat poppet valve with reverse flow de-energized.

OPERATION
When de-energized the MA-S2F blocks flow from (1) to (2) and allows free reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restricts flow from (2) to (1).

FEATURES
- Soft seat for ultra low leakage.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

HYDRAULIC SYMBOL

Operational shift limit 2.5 GPM (9.5 LPM). For shifted flow performance consult chart.

PERFORMANCE
Actual Test Data (Cartridge Only)

<table>
<thead>
<tr>
<th>Flow (LPM)</th>
<th>Pressure Drop (PSI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
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<tr>
<td>10</td>
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<tr>
<td>25</td>
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<td>30</td>
<td>30</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Flow (GPM)</th>
<th>Pressure Drop (BAR)</th>
</tr>
</thead>
<tbody>
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<tr>
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</tr>
<tr>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

VALVE SPECIFICATIONS
- Maximum Flow 2.5 GPM (9.5 LPM)
- Rated Operating Pressure 1500 PSI (103 bar)
- Typical Internal Leakage (150 SSU) Negligible
- Viscosity Range 36 to 3000 SSU (3 to 647 cSt)
- Filtration ISO 18/16/13
- Media Operating Temperature Range 32° to 160° F (0° to 70° C)
- Weight .12 lbs. (.05 kg)
- Operating Fluid Media General Purpose Hydraulic Fluid
- Cartridge Torque Requirements 15 ft-lbs (20.3 Nm)
- Coil Nut Torque Requirements 3-5 ft-lbs (4.1-6.8 Nm)
- Cavity MINI 2W
- Cavity Tools kit (form tool, reamer, tap) 40500003
- Seal Kit 21191000

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a Delta Power Co.
**SOLENOID OPERATED DIRECTIONAL CONTROLS**

**TECNORD**

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**TECNORD**  
*a Delta Power Co.*

**DIMENSIONS**

![Dimension Diagram](image)

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>OPTIONS</th>
<th>BODIES</th>
<th>VOLTAGE (other voltages available on request)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buna Standard</td>
<td>Blank</td>
<td>12 VDC</td>
</tr>
<tr>
<td>Viton Standard</td>
<td>Without Body</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Viton, Screen</td>
<td>#6 SAE Ports</td>
<td>220 VAC with molded full wave rectifier</td>
</tr>
<tr>
<td>A0</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Blank</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>DL</td>
<td>S</td>
<td></td>
</tr>
</tbody>
</table>

Note: Use screen only if flow direction is from (1) to (2).

"M" COIL TERMINATION  
(All DC Except as Noted)

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL</td>
<td>Double Lead</td>
</tr>
<tr>
<td>DIN 43650 (Hirschmann)</td>
<td>DIN 43650 (Hirschmann)</td>
</tr>
</tbody>
</table>

Approximate Coil Weight: .30 lbs. (.14 kg.)

---

**TECNORD**  
Phone +39 059 254895  
Fax +39 059 253512  
E-mail: tecnord@tecnord.com
**PB-S2A Pilot Operated Poppet, 2 Way, Normally Closed**

### DESCRIPTION
8 size, 3/4-16 thread, “Power” series, solenoid operated, 2 way normally closed, pilot operated poppet valve with reverse flow de-energized.

### OPERATION
When de-energized the PB-S2A blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restricts flow from (2) to (1).

**OPERATION OF MANUAL OVERRIDE OPTION:** To override, pull knob out. On the detented version, after pulling knob out twist 180 degrees and release. The valve will remain in that position.

### FEATURES
- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

### PERFORMANCE
Actual Test Data (Cartridge Only)

<table>
<thead>
<tr>
<th>Flow (GPM)</th>
<th>Pressure Drop (PSI)</th>
<th>Pressure Drop (BAR)</th>
</tr>
</thead>
<tbody>
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<td>0</td>
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</tr>
<tr>
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</tr>
</tbody>
</table>

### VALVE SPECIFICATIONS
- **Nominal Flow:** 8 GPM (30 LPM)
- **Rated Operating Pressure:** 3500 PSI (241 bar)
- **Typical Internal Leakage (150 SSU):** 0-5 drops/min
- **Viscosity Range:** 36 to 3000 SSU (3 to 647 cSt)
- **Filtration:** ISO 18/16/13
- **Media Operating Temperature Range:** -40° to 250° F (-40° to 120° C)
- **Weight:** .20 lbs. (.09 kg)
- **Operating Fluid Media:** General Purpose Hydraulic Fluid
- **Cartridge Torque Requirements:** 25 ft-lbs (34 Nm)
- **Coil Nut Torque Requirements:** 4-6 ft-lbs (5.4-8.1 Nm)
- **Cavity:** POWER 2W
- **Cavity Tools Kit (form tool, reamer, tap):** 40500005
- **Seal Kit:** 21191100

### HYDRAULIC SYMBOL

---

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*a Delta Power Co.*
SOLENOID OPERATED DIRECTIONAL CONTROLS

DIMENSIONS

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>OPTIONS</th>
<th>PB-S2A</th>
<th>-</th>
<th>-</th>
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<tbody>
<tr>
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<tr>
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<tr>
<td>Viton, Screen, Override, Detent</td>
<td>B4</td>
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</table>

Note: Use screen only if flow direction is from (1) to (2).

“K” COIL TERMINATION
(All DC Except as Noted)

<table>
<thead>
<tr>
<th>DL</th>
<th>HC</th>
<th>DI</th>
<th>IMMERSSION PROOF “P” TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Lead</td>
<td>DIN 43650 (Hirschman) – (AC &amp; DC)</td>
<td>Deutsch – Integral DT04-2P</td>
<td>“I” Coil AMP Superseal - Integral</td>
</tr>
<tr>
<td>(“several types of termination can be attached on leads on request)</td>
<td></td>
<td></td>
<td>“I” Coil Deutsch – Integral DT04-2P</td>
</tr>
</tbody>
</table>

Approximate Coil Weight: .42 lbs (.19 kg.)

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a Delta Power Co.
**PB-S2F Pilot Operated Poppet, 2 Way Normally Closed – Soft Seat**

**DESCRIPTION**

8 size, 3/4-16 thread, “Power” series, solenoid operated, 2 way normally closed, pilot operated soft seat poppet valve with reverse flow de-energized.

**OPERATION**

When de-energized the PB-S2F blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restrict flow from (2) to (1).

**OPERATION OF MANUAL OVERRIDE OPTION:** To override, pull knob out. On the detented version, after pulling knob out twist 180 degrees and release. The valve will remain in that position.

**FEATURES**

- Soft seat for ultra low leakage.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

**HYDRAULIC SYMBOL**

Operational shift limit is 6 GPM. For shifted performance consult chart.

**PERFORMANCE**

Actual Test Data (Cartridge Only)

<table>
<thead>
<tr>
<th>Flow (GPM)</th>
<th>Pressure Drop (PSI)</th>
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<td>2</td>
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<table>
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<tr>
<td>4</td>
<td>0.32</td>
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| Port 1 to 2 (eng) | Port 2 to 1 (de-eng) |

**VALVE SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Maximum Flow</th>
<th>6 GPM (23 LPM)</th>
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<tbody>
<tr>
<td>Rated Operating Pressure</td>
<td>2500 PSI (172 bar)</td>
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<tr>
<td>Typical Internal Leakage (150 SSU)</td>
<td>Negligible</td>
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<tr>
<td>Viscosity Range</td>
<td>36 to 3000 SSU (3 to 647 cSt)</td>
</tr>
<tr>
<td>Filtration</td>
<td>ISO 18/16/13</td>
</tr>
<tr>
<td>Media Operating Temperature Range</td>
<td>-35° to 200°F (-37° to 93°C)</td>
</tr>
<tr>
<td>Weight</td>
<td>.19 lbs. (.08 kg)</td>
</tr>
<tr>
<td>Operating Fluid Media</td>
<td>General Purpose Hydraulic Fluid</td>
</tr>
<tr>
<td>Cartridge Torque Requirements</td>
<td>25 ft-lbs (34 Nm)</td>
</tr>
<tr>
<td>Coil Nut Torque Requirements</td>
<td>4-6 ft-lbs (5.4-8.1 Nm)</td>
</tr>
<tr>
<td>Cavity</td>
<td>POWER 2W</td>
</tr>
<tr>
<td>Cavity Tools kit (form tool, reamer, tap)</td>
<td>40500005</td>
</tr>
<tr>
<td>Seal Kit</td>
<td>21191100</td>
</tr>
</tbody>
</table>

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a Delta Power Co.
SOLENOID OPERATED DIRECTIONAL CONTROLS

DIMENSIONS

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ORDERING INFORMATION

PB-S2F

OPTIONS
- Buna Standard 00
- Viton Standard V0
- Buna, Override, Detent 0M
- Viton, Override, Detent VM
- Buna, Screen A0
- Viton, Screen W0
- Buna, Override, Nondetent B1
- Viton, Override, Nondetent V1
- Buna, Screen, Override, Detent B4
- Viton, Screen, Override, Detent B4
- Viton, Screen, Override, Nondetent B4
- Viton, Screen, Override, Detent V3
- Viton, Screen, Override, Detent V4

BODIES
- Blank Without Body
- N ¼" BSP Ports
- N1 3/8"BSP Ports
- S #6 SAE Ports
- B1 12 VDC
- V1 24 VDC
- V3 220 VAC without internal rectifier
- V4

VOLTAGE (*other voltages available on request)

IMMERSION PROOF “P” TYPE
- “I” Coil AMP Superseal - Integral
- “I” Coil Deutsch - Integral DT04-2P
- “I” Coil AMP Jr. Timer - Integral
- “I” Coil Metri-Pack - Integral

Approximate Coil Weight: .42 lbs/.19 kg.

Note: Use screen only if flow direction is from (1) to (2).

“K” COIL TERMINATION
(All DC Except as Noted)

DL Double Lead
("several types of termination can be attached on leads on request")
HC DIN 43650 (Hirschmann) – (AC & DC)
DI Deutsch – Integral DT04-2P
PIA "I" Coil AMP Superseal - Integral
PID "I" Coil Deutsch - Integral DT04-2P
PIJ "I" Coil AMP Jr. Timer - Integral
PIM "I" Coil Metri-Pack - Integral
**DESCRIPTION**

10 size, 7/8-14 thread, "Delta" series, solenoid operated, 2 way normally closed, pilot operated poppet valve with reverse flow de-energized.

**OPERATION**

When de-energized the DE-S2A blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restricts flow from (2) to (1).

**OPERATION OF MANUAL OVERRIDE OPTION:** To override, turn the manual override screw counterclockwise. To release turn the manual override screw clockwise.

**FEATURES**

- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

**HYDRAULIC SYMBOL**

![Hydraulic Symbol]

**PERFORMANCE**

Actual Test Data (Cartridge Only)

![Performance Graph]

**VALVE SPECIFICATIONS**

- Nominal Flow: 15 GPM (57 LPM)
- Rated Operating Pressure: 3500 PSI (241 bar)
- Typical Internal Leakage (150 SSU): 0-5 drops/min
- Viscosity Range: 36 to 3000 SSU (3 to 647 cSt)
- Filtration: ISO 18/16/13
- Media Operating Temperature Range: -40° to 250° F (-40° to 120° C)
- Weight: .27 lbs. (.12 kg)
- Operating Fluid Media: General Purpose Hydraulic Fluid
- Cartridge Torque Requirements: 30 ft-lbs (40.6 Nm)
- Coil Nut Torque Requirements: 4-6 ft-lbs (5.4-8.1 Nm)
- Cavity: DELTA 2W
- Cavity Tools kit (form tool, reamer, tap): 40500000
- Seal Kit: 21191200

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DIMENSIONS

 através de o uso de uma fita métrica. Medidas aproximadas:

- 1.476 [37.5] HEX NJ1
- 0.748 [19.1] HEX NJ1
- 0.988 [25] HEX NJ1
- 1.752 [44.5] HEX NJ1
- 2.356 [59.4] HEX NJ1
- 3.521 [89.6] HEX NJ1
- 7/8" 14-UNF 2A THREAD

ORDERING INFORMATION

DE-S2A - - -

OPTIONS
Buna Standard O0
Viton Standard V0
Buna, Override OM
Viton, Override VM
Buna & Screen A0
Viton & Screen W0
Buna, Screen, Override B3
Viton, Screen, Override V3

BODIES
Blank Without Body
N 1/2" BSP Ports
S #8 SAE Ports

VOLTAGE (*other voltages available on request)
12 12 VDC
24 24 VDC
22 220 VAC without internal rectifier

Note: Use screen only if flow direction is from (1) to (2).

"V" COIL TERMINATION
(All DC Except as Noted)

DL Double Lead
(" several types of termination can be attached on leads on request)

HC DIN 43650 (Hirschman) – (AC & DC)
DI Deutsch – Integral DT04-2P
DIA "I" Coil AMP Superseal - Integral
DID "I" Coil Deutsch – Integral DT04-2P
DIJ "I" Coil AMP Jr. Timer - Integral
DIM "I" Coil Metri-Pack – Integral

Approximate Coil Weight: .56 lbs (.25 kg.)

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da Delta Power Co.
HE-S2A Pilot Operated Poppet, 2 Way Normally Closed

DESCRIPTION
“High Pressure” 10 size, 7/8-14 thread, “Delta” series, solenoid operated, 2 way normally closed, pilot operated poppet valve with reverse flow de-energized.

OPERATION
When de-energized the HE-S2A blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restricts flow from (2) to (1).

FEATURES
- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

HYDRAULIC SYMBOL

USES “L” COIL.

PERFORMANCE
Actual Test Data (Cartridge Only)

VALVE SPECIFICATIONS
- Nominal Flow: 15 GPM (57 LPM)
- Rated Operating Pressure: 4000 PSI (276 bar)
- Typical Internal Leakage: 0-5 drops/min
- Viscosity Range: 36 to 3000 SSU (3 to 647 cSt)
- Filtration: ISO 18/16/13
- Media Operating Temperature Range: -40° to 250° F (-40° to 120° C)
- Weight: 0.39 lbs. (.17 kg)
- Operating Fluid Media: General Purpose Hydraulic Fluid
- Cartridge Torque Requirements: 30 ft-lbs (40.6 Nm)
- Coil Nut Torque Requirements: 4-6 ft-lbs (5.4-8.1 Nm)
- Cavity: DELTA 2W
- Cavity Tools Kit (form tool, reamer, tap): 40500000
- Seal Kit: 21191200

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SOLENOID OPERATED DIRECTIONAL CONTROLS

TECNORD

DIMENSIONS

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a Delta Power Co.

ORDERING INFORMATION

HE-S2A - - - -

OPTIONS
Buna Standard 00
Viton Standard V0

BODIES
Blank Without Body
N 1/2" BSP Ports
S #6 SAE Ports

VOLTAGE (*other voltages available on request)
12 12 VDC
24 24 VDC
22 220 VAC without internal rectifier

“L” COIL TERMINATION
(All DC Except as Noted)
DL Double Lead
(* several types of termination can be attached on leads on request)
HC DIN 43650 (Hirschman) – (AC & DC)
DI Deutsch – Integral DT04-2P

IMMERSION PROOF “L” TYPE
LIA “I” Coil AMP Superseal - Integral
LID “I” Coil Deutsch – Integral DT04-2P
LIJ “I” Coil AMP Jr. Timer - Integral
LIM “I” Coil Metri-Pack – Integral

Approximate Coil Weight: .69 lbs. (.31 kg.)
DE-S2F Pilot Operated Poppet, 2 Way Normally Closed – Soft Seat

DESCRIPTION
10 size, 7/8-14 thread, “Delta” series, solenoid operated, 2 way normally closed, pilot operated soft seat poppet valve with reverse flow de-energized.

OPERATION
When de-energized the DE-S2F blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) but restricts reverse flow from (2) to (1).

OPERATION OF MANUAL OVERRIDE OPTION: To override, turn the manual override screw counterclockwise. To release turn the manual override screw clockwise.

FEATURES
• Soft seat for ultra low leakage.
• Efficient wet-armature construction.
• Cartridges are voltage interchangeable.
• Manual override option.
• Industry common cavity.
• Unitized, molded coil design.
• Continuous duty rated solenoid.
• Optional coil voltages and terminations.

HYDRAULIC SYMBOL

Operational shift limit 10 GPM (38 LPM). For shifted flow performance consult chart.

PERFORMANCE
Actual Test Data (Cartridge Only)

<table>
<thead>
<tr>
<th>Flow (GPM)</th>
<th>Pressure Drop (PSI)</th>
</tr>
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<td>0</td>
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<tr>
<td>15</td>
<td>20</td>
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<tr>
<td>20</td>
<td>25</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Flow (LPM)</th>
<th>Pressure Drop (BAR)</th>
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</thead>
<tbody>
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<td>0</td>
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<tr>
<td>5</td>
<td>10</td>
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<td>10</td>
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<tr>
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<td>20</td>
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Valve Specifications

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Specification</th>
</tr>
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<tbody>
<tr>
<td>Nominal Flow</td>
<td>10 GPM (38 LPM)</td>
</tr>
<tr>
<td>Rated Operating Pressure</td>
<td>1000 PSI (69 bar)</td>
</tr>
<tr>
<td>Typical Internal Leakage</td>
<td>Negligible</td>
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<tr>
<td>Viscosity Range</td>
<td>36 to 300 SSU (3 to 647 cSt)</td>
</tr>
<tr>
<td>Filtration</td>
<td>ISO 18/16/13</td>
</tr>
<tr>
<td>Media Operating Temperature</td>
<td>32°F to 160°F (0°C to 70°C)</td>
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<tr>
<td>Weight</td>
<td>.25 lbs. (.11 kg)</td>
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<tr>
<td>Operating Fluid Media</td>
<td>General Purpose Hydraulic Fluid</td>
</tr>
<tr>
<td>Cartridge Torque Requirements</td>
<td>30 ft-lbs (40.6 Nm)</td>
</tr>
<tr>
<td>Coil Nut Torque Requirements</td>
<td>4-6 ft-lbs (5.4-8.1 Nm)</td>
</tr>
<tr>
<td>Cavity</td>
<td>DELTA 2W</td>
</tr>
<tr>
<td>Cavity Tools kit (form tool, reamer, tap)</td>
<td>40500000</td>
</tr>
<tr>
<td>Seal Kit</td>
<td>21191200</td>
</tr>
</tbody>
</table>

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**SOLENOID OPERATED DIRECTIONAL CONTROLS**

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---

**DIMENSIONS**

**ORDERING INFORMATION**

**DE-S2F**

**OPTIONS**
- Buna Standard: 00
- Viton Standard: V0
- Buna, Override: 0M
- Viton, Override: VM
- Buna & Screen: A0
- Viton & Screen: W0
- Buna, Screen, Override: B3
- Viton, Screen, Override: V3

**BODIES**
- Blank: Without Body
- N: 1/2" BSP Ports
- S: #8 SAE Ports

**VOLTAGE**
- 12: 12 VDC
- 24: 24 VDC
- 22: 220 VAC without internal rectifier

**IMMERSION PROOF “D” TYPE**
- DL: Double Lead
- HC: DIN 43650 (Hirschman) – (AC & DC) Superseal - Integral
- DI: Deutsch – Integral DT04-2P
- DIA: “I” Coil AMP Superseal - Integral
- DID: “I” Coil Deutsch – Integral DT04-2P
- DJ: “I” Coil AMP Jr. Timer - Integral
- DJI: “I” Coil Deutsch – Integral DT04-2P
- DIM: “I” Coil Metri-Pack – Integral

**Note:** Use screen only if flow direction is from (1) to (2).

**“V” COIL TERMINATION**

(All DC Except as Noted)

- DL: Double Lead
- (* several types of termination can be attached on leads on request)
- HC: DIN 43650 (Hirschman) – (AC & DC)
- DI: Deutsch – Integral DT04-2P

**Approximate Coil Weight:** .56 lbs (.25 kg.)
TT-S2A Pilot Operated Poppet, 2 Way Normally Closed

DESCRIPTION
12 size, 1 1/16-12 thread, “Tecnord” series, solenoid operated, 2 way normally closed, pilot operated poppet valve with reverse flow de-energized.

OPERATION
When de-energized the TT-S2A blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restricts flow from (2) to (1).

OPERATION OF MANUAL OVERRIDE OPTION: To override, pull knob out. On the detented version, after pulling knob out twist 180 degrees and release. The valve will remain in that position.

FEATURES
- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

HYDRAULIC SYMBOL

PERFORMANCE
Actual Test Data (Cartridge Only)

<table>
<thead>
<tr>
<th>Flow (GPM)</th>
<th>Pressure Drop (PSI)</th>
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<tr>
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<table>
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<th>Flow (LPM)</th>
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</thead>
<tbody>
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<td>125</td>
<td>75</td>
</tr>
<tr>
<td>150</td>
<td>90</td>
</tr>
</tbody>
</table>

Valve Specifications

- Nominal Flow: 25 GPM (95 LPM)
- Rated Operating Pressure: 3000 PSI (207 bar)
- Typical Internal Leakage: 0-5 drops/min
- Viscosity Range: 36 to 3000 SSU (3 to 647 cSt)
- Filtration: ISO 18/16/13
- Media Operating Temperature Range: -40° to 250° F (-40° to 120° C)
- Weight: .49 lbs. (.22 kg)
- Operating Fluid Media: General Purpose Hydraulic Fluid
- Cartridge Torque Requirements: 50 ft-lbs (67.8 Nm)
- Coil Nut Torque Requirements: 4-6 ft-lbs (5.4-8.1 Nm)
- Cavity: TECNORD 2W
- Cavity Tools kit (form tool, reamer, tap): 40500032
- Seal Kit: 21191300

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SOLENOID OPERATED DIRECTIONAL CONTROLS

DIMENSIONS

ORDERING INFORMATION

TT-S2A -  -  -

OPTIONS
Buna, Standard 00
Viton, Standard V0
Buna, Override OM
Viton, Override VM
Buna, Screen A0
Viton, Screen W0
Buna, Override, Non-detent B1
Viton, Override, Non-detent V1
Buna, Screen, Override, Detent B3
Viton, Screen, Override, Detent B4
Buna, Screen, Override, Non-detent B3
Viton, Screen, Override, Non-detent B4
Buna, Screen, Override, Detent V3
Viton, Screen, Override, Detent V4

BODIES
Blank Without Body
N ¾” BSP Ports
S #12 SAE Ports

VOLTAGE (*other voltages available on request)
12 12 VDC
24 24 VDC
22 220 VAC without internal rectifier

Note: Use screen only if flow direction is from (1) to (2).

“V” COIL TERMINATION
(All DC Except as Noted)

DL Double Lead
(*several types of termination can be attached on leads on request)

HC DIN 43650 (Hirschman) – (AC & DC)
DI Deutsch - Integral DT04-2P
DIA "I" Coil AMP Superseal - Integral
DID "I" Coil Deutsch – Integral DT04-2P
DIJ "I" Coil AMP Jr. Timer - Integral
DIM "I" Coil Metri-Pack – Integral

IMMERSION PROOF “D” TYPE

Approximate Coil Weight: .56 lbs (.25 kg)

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**SOLENOID OPERATED DIRECTIONAL CONTROLS**

**SJ-S2A Pilot Operated Poppet, 2 Way Normally Closed**

**DESCRIPTION**
16 size, 1 5/16-12 thread, “Super” series, solenoid operated, 2 way normally closed, pilot operated poppet valve with reverse flow de-energized.

**OPERATION**
When de-energized the SJ-S2A blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restricted flow from (2) to (1).

**OPERATION OF MANUAL OVERRIDE OPTION:**
To override, pull knob out. On the detented version, after pulling knob out twist 180 degrees and release. The valve will remain in that position.

**FEATURES**
- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

**HYDRAULIC SYMBOL**

**PERFORMANCE**
Actual Test Data (Cartridge Only)

<table>
<thead>
<tr>
<th>Flow (GPM)</th>
<th>Pressure Drop (PSI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
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</tr>
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</table>

**VALVE SPECIFICATIONS**
- Nominal Flow: 30 GPM (114 LPM)
- Rated Operating Pressure: 3500 PSI (241 bar)
- Typical Internal Leakage (150 SSU): 0-10 drops/min
- Viscosity Range: 36 to 3000 SSU (3 to 647 cSt)
- Filtration: ISO 18/16/13
- Media Operating Temperature Range: -40° to 250° F (-40° to 120° C)
- Weight: .72 lbs. (.32 kg)
- Operating Fluid Media: General Purpose Hydraulic Fluid
- Cartridge Torque Requirements: 90 ft-lbs (122 Nm)
- Coil Nut Torque Requirements: 4-6 ft-lbs (5.4-8.1 Nm)
- Cavity: SUPER 2W
- Cavity Tools kit (form tool, reamer, tap): 40500017
- Seal Kit: 21191400

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*a Delta Power Co.*
SOLENOID OPERATED DIRECTIONAL CONTROLS

DIMENSIONS

ORDERING INFORMATION

SJ-S2A

OPTIONS
Buna Standard 00
Viton Standard V0
Buna, Override, Detent 0M
Viton, Override, Detent VM
Buna, Override, Nondetent B1
Viton, Override, Nondetent V1

BODIES
Blank Without Body
N 1" BSP Ports
S #12 SAE Ports

VOLTAGE (*other voltages available on request)
12 12 VDC
24 24 VDC
22 220 VAC without internal rectifier

“V” COIL TERMINATION
(All DC Except as Noted)
DL Double Lead
(*several types of termination can be attached on leads on request)
HC DIN 43650 (Hirschman) – (AC & DC)
DI Deutsch – Integral DT04-2P
DIA "I" Coil AMP Superseal - Integral
DID "I" Coil Deutsch – Integral DT04-2P
DIJ "I" Coil AMP Jr. Timer - Integral
DIM "I" Coil Metri-Pack – Integral

IMMERSION PROOF “D” TYPE

Approximate Coil Weight: .56 lbs (.25 kg)

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a Delta Power Co.
PB-S2B Pilot Operated Poppet, 2 Way Normally Closed

**DESCRIPTION**

8 size, 3/4-16 thread, “Power” series, solenoid operated, 2 way normally closed, pilot operated poppet valve with reverse flow energized and de-energized.

**OPERATION**

When de-energized the PB-S2B blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and (2) to (1).

**OPERATION OF MANUAL OVERRIDE OPTION:** To override, pull knob out. On the detented version, after pulling knob out twist 180 degrees and release. The valve will remain in that position.

**FEATURES**

- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

**HYDRAULIC SYMBOL**

**PERFORMANCE**

Actual Test Data (Cartridge Only)

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<th>Pressure Drop (PSI)</th>
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**VALVE SPECIFICATIONS**

- **Nominal Flow:** 8 GPM (30 LPM)
- **Rated Operating Pressure:** 3500 PSI (241 bar)
- **Typical Internal Leakage (150 SSU):** 0-5 drops/min
- **Viscosity Range:** 36 to 3000 SSU (3 to 647 cSt)
- **Filtration:** ISO 18/16/13
- **Media Operating Temperature Range:** -40° to 250° F (-40° to 120° C)
- **Weight:** .20 lbs. (.09 kg)
- **Operating Fluid Media:** General Purpose Hydraulic Fluid
- **Cartridge Torque Requirements:** 25 ft-lbs (34 Nm)
- **Coil Nut Torque Requirements:** 4-6 ft-lbs (5.4-8.1 Nm)
- **Cavity:** POWER 2W
- **Cavity Tools kit (form tool, reamer, tap):** 40500005
- **Seal Kit:** 21191100

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---

**DIMENSIONS**

**ORDERING INFORMATION**

**PB-S2B**

**OPTIONS**
- Buna Standard 00
- Viton Standard V0
- Buna, Override, Detent 0M
- Viton, Override, Detent VM
- Buna, Screen A0
- Viton, Screen W0
- Buna, Override, Nondetent B1
- Viton, Override, Nondetent V1
- Buna, Screen, Override, Nondetent B3
- Viton, Screen, Override, Detent B4
- Viton, Screen, Override, Non-detent B5
- Viton, Screen, Override, Detent V3
- Viton, Screen, Override, Detent V4

**BODIES**
- Blank Without Body
- N ¾” BSP Ports
- N1 3/8”BSP Ports
- S #6 SAE Ports

**VOLTAGE** (*other voltages available on request)*
- 12 12 VDC
- 24 24 VDC
- 22 220 VAC without internal rectifier

**“K” COIL TERMINATION** *(All DC Except as Noted)*
- Double Lead DL
- Deutsch – Integral DT04-2P DI
- DIN 43650 (Hirschman) – (AC & DC) HC

**IMMERSION PROOF “P” TYPE**
- “I” Coil AMP Superseal - Integral PI A
- “I” Coil Deutsch – Integral DT04-2P PID
- “I” Coil AMP Jr. Timer - Integral PI J
- “I” Coil Metri-Pack - Integral PI M

Approximate Coil Weight: .42 lbs/.19 kg.
DE-S2B Pilot Operated Poppet, 2 Way Normally Closed

DESCRIPTION
10 size, 7/8-14 thread, “Delta” series, solenoid operated, 2 way normally closed, pilot operated poppet valve with reverse flow energized and de-energized.

OPERATION
When de-energized the DE-S2B acts as a check valve, allowing flow to pass from (2) to (1), while blocking flow from (1) to (2). When energized the valve opens allowing flow to pass from (1) to (2).

OPERATION OF MANUAL OVERRIDE OPTION: To override, turn the manual override screw counterclockwise. To release turn the manual override screw clockwise.

FEATURES
- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

HYDRAULIC SYMBOL

PERFORMANCE
Actual Test Data (Cartridge Only)

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<thead>
<tr>
<th>Flow (GPM)</th>
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<th>Pressure Drop (BAR)</th>
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<th>Flow (LPM)</th>
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VALVE SPECIFICATIONS
- Nominal Flow: 15 GPM (57 LPM)
- Rated Operating Pressure: 3500 PSI (241 bar)
- Typical Internal Leakage (150 SSU): 0-5 drops/min
- Viscosity Range: 36 to 3000 SSU (3 to 647 cSt)
- Filtration: ISO 18/16/13
- Media Operating Temperature Range: -40° to 250° F (-40° to 120° C)
- Weight: .27 lbs. (.12 kg)
- Operating Fluid Media: General Purpose Hydraulic Fluid
- Cartridge Torque Requirements: 30 ft-lbs (40.6 Nm)
- Coil Nut Torque Requirements: 4-6 ft-lbs (5.4-8.1 Nm)
- Cavity: DELTA 2W
- Cavity Tools kit (form tool, reamer, tap): 40500000
- Seal Kit: 21191200

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a Delta Power Co.
SOLENOID OPERATED DIRECTIONAL CONTROLS

TECNORD

DIMENSIONS

ORDERING INFORMATION

DE-S2B

OPTIONS

Buna Standard  00
Viton Standard  V0
Buna, Override  OM
Viton, Override  VM
Buna & Screen  A0
Viton & Screen  W0
Buna, Screen, Override  B3
Viton, Screen, Override  V3

BODIES

Blank  Without Body
N  1/2" BSP Ports
S  #8 SAE Ports

VOLTAGE

(* other voltages available on request)
12  12 VDC
24  24 VDC
22  220 VAC without internal rectifier

IMMERSION PROOF "D" TYPE

HC  DIN 43650 (Hirschman) – (AC & DC)
DI  Deutsch – Integral DT04-2P
DIA  "I" Coil AMP Superseal – Integral
DID  "I" Coil Deutsch – Integral DT04-2P
DIJ  "I" Coil AMP Jr. Timer – Integral
DIM  "I" Coil Metri-Pack – Integral

Note: Use screen only if flow direction is from (1) to (2).

“V" COIL TERMINATION

(All DC Except as Noted)

DL  Double Lead
(" several types of termination can be attached on leads on request)

DI  Deutsch – Integral DT04-2P

Approximate Coil Weight: .56 lbs (.25 kg.)

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SOLENOID OPERATED DIRECTIONAL CONTROLS

TT-S2B Pilot Operated Poppet, 2 Way Normally Closed

DESCRIPTION
12 size, 1 1/16-12 thread, "Tecnord" series, solenoid operated, 2 way normally closed, pilot operated poppet valve with reverse flow energized and de-energized.

OPERATION
When de-energized the TT-S2B blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and from (2) to (1).

OPERATION OF MANUAL OVERRIDE OPTION: To override, pull knob out. On the detented version, after pulling knob out twist 180 degrees and release. The valve will remain in that position.

FEATURES
- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

HYDRAULIC SYMBOL

PERFORMANCE
Actual Test Data (Cartridge Only)

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<th>Port 2 to 1 (de-eng)</th>
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<th>Flow (GPM)</th>
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VALVE SPECIFICATIONS

- Nominal Flow: 25 GPM (95 LPM)
- Rated Operating Pressure: 3000 PSI (207 bar)
- Typical Internal Leakage: 0-5 drops/min
- Viscosity Range: 36 to 3000 SSU (3 to 647 cSt)
- Filtration: ISO 18/16/13
- Media Operating Temperature Range: -40° to 250° F (-40° to 120° C)
- Weight: .49 lbs. (.22 kg)
- Operating Fluid Media: General Purpose Hydraulic Fluid
- Cartridge Torque Requirements: 50 ft-lbs (67.8 Nm)
- Coil Nut Torque Requirements: 4-6 ft-lbs (5.4-8.1 Nm)
- Cavity: TECNORD 2W
- Cavity Tools kit (form tool, reamer, tap): 40500032
- Seal Kit: 21191300

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da Delta Power Co.
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**Description**

“High pressure” 12 size, 1 1/16-12 thread, “Tecnord” series, solenoid operated, 2 way normally closed, pilot operated poppet valve with reverse flow energized and de-energized.

**Operation**

When de-energized the HT-S2B blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and from (2) to (1).

**Features**

- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

**Hydraulic Symbol**

![Hydraulic Symbol](image)

**Performance**

Actual Test Data (Cartridge Only)

![Flow vs Pressure Drop Graph](image)

**Valve Specifications**

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<tr>
<th>Parameter</th>
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<td>Rated Operating Pressure</td>
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<td>Typical Internal Leakage</td>
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<td>Viscosity Range</td>
<td>36 to 300 SSU (3 to 647 cSt)</td>
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<td>Filtration</td>
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<td>Media Operating Temperature Range</td>
<td>-40° to 250° F (-40° to 120° C)</td>
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<td>Weight</td>
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<td>Operating Fluid Media</td>
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<td>Cartridge Torque Requirements</td>
<td>50 ft-lbs (67.8 Nm)</td>
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<tr>
<td>Coil Nut Torque Requirements</td>
<td>5-7 ft-lbs (6.8-9.5 Nm)</td>
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<td>Cavity</td>
<td>TECNORD 2W</td>
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<tr>
<td>Cavity Tools kit (form tool, reamer, tap)</td>
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</tr>
<tr>
<td>Seal Kit</td>
<td>21191301</td>
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</tbody>
</table>

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TECNORD

a Delta Power Co.
**DESCRIPTION**

16 size, 1-5/16-12 thread, “Super” series, solenoid operated, 2 way normally closed, pilot operated poppet valve with reverse flow energized and de-energized.

**OPERATION**

When de-energized the SJ-S2B blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and from (2) to (1).

**OPERATION OF MANUAL OVERRIDE OPTION:** To override, pull knob out. On the detented version, after pulling knob out twist 180 degrees and release. The valve will remain in that position.

**FEATURES**

- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

**HYDRAULIC SYMBOL**

![Hydraulic symbol diagram]

**PERFORMANCE**

Actual Test Data (Cartridge Only)

<table>
<thead>
<tr>
<th>Flow (GPM)</th>
<th>Pressure Drop (PSI)</th>
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</thead>
<tbody>
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<table>
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<tr>
<th>Flow (LPM)</th>
<th>Pressure Drop (BAR)</th>
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</thead>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>150</td>
<td>15</td>
</tr>
</tbody>
</table>

**VALVE SPECIFICATIONS**

- Nominal Flow: 30 GPM (114 LPM)
- Rated Operating Pressure: 3500 PSI (241 bar)
- Typical Internal Leakage: 0-10 drops/min
- Viscosity Range: 36 to 3000 SSU (3 to 647 cSt)
- Filtration: ISO 18/16/13
- Media Operating Temperature Range: -40°F to 250°F (-40°C to 120°C)
- Weight: .72 lbs. (.32 kg)
- Operating Fluid Media: General Purpose Hydraulic Fluid
- Cartridge Torque Requirements: 90 ft-lbs (122 Nm)
- Coil Nut Torque Requirements: 4-6 ft-lbs (5.4-8.1 Nm)
- Cavity: SUPER 2W
- Cavity Tools kit (form tool, reamer, tap): 40500017
- Seal Kit: 21191401

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