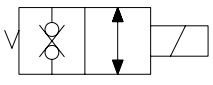
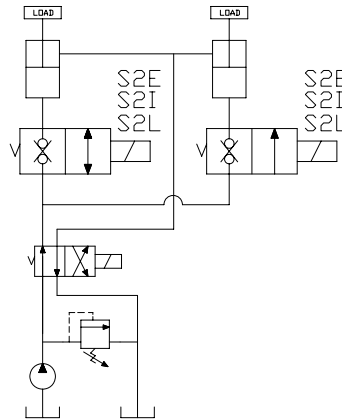


2 Way 2 Position Normally Closed Bi-Directional Valves

	GPM	PSI	LPM	BAR	MODEL	CAVITY	PAGE
	0.20	3000	0.76	207	MA-S2E	5/8"-18	38
	3	3000	11	207	PB-S2I	3/4"-16	40
	3	3000	15	207	DE-S2I	7/8"-14	42
	12	3000	45	207	DE-S2L	7/8"-14	44

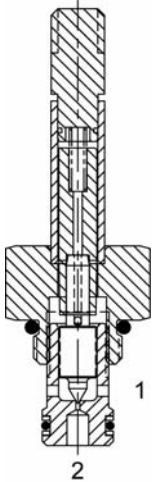
Typical Schematic

Typical application for the S2E, S2I, and S2L is where load holding in both directions is required.



**WARNING:** The specifications/application data shown in our catalogs and data sheets are intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.

**MA-S2E Poppet, 2 Way, Normally Closed, Bi-directional**



**DESCRIPTION**

7 size, 5/8-18 thread, "Mini" series, solenoid operated, 2 way normally closed, bi-directional poppet valve.

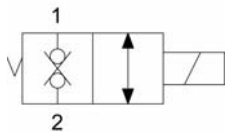
**OPERATION**

When de-energized the MA-S2E blocks flow from (1) to (2) and (2) to (1). When energized the valve allows flow from (1) to (2) and (2) to (1).

**FEATURES**

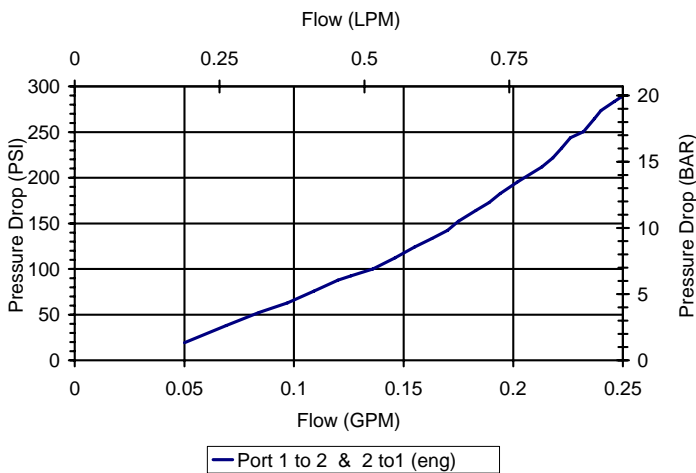
- Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Industry common cavity.
- Unitized, molded coil design.
- Continuous duty rated solenoid.
- Optional coil voltages and terminations.

**HYDRAULIC SYMBOL**



**PERFORMANCE**

Actual Test Data (Cartridge Only)

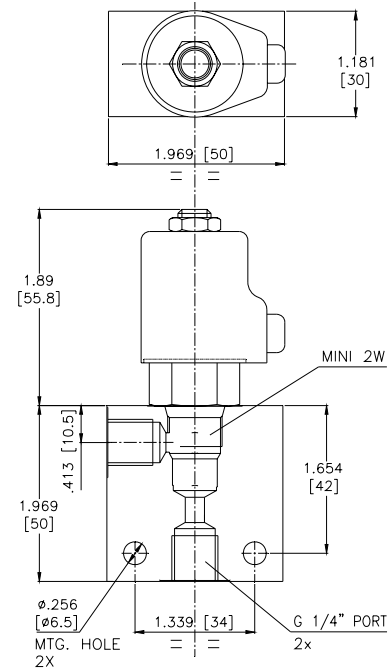
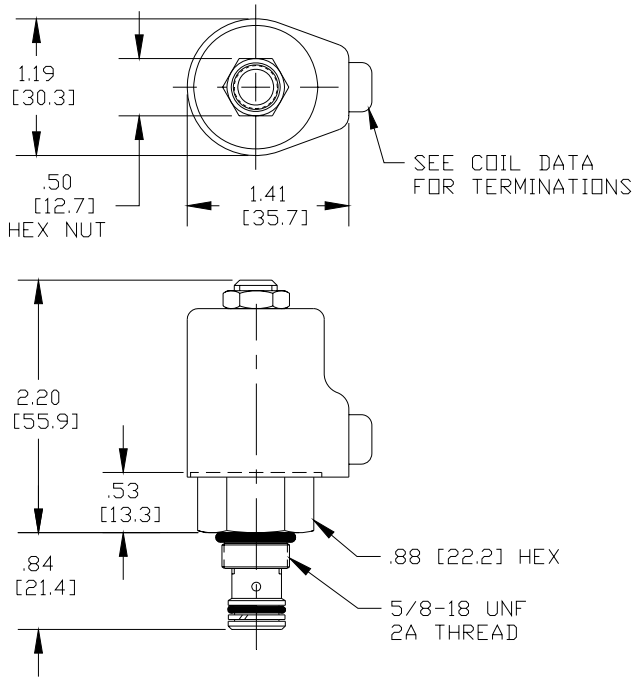


**VALVE SPECIFICATIONS**

Nominal Flow	.20 GPM (.76 LPM)
Rated Operating Pressure	3000 PSI (207 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	.18 lbs. (.08 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	21191003

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**DIMENSIONS**



**MA-S2E - - -**

**OPTIONS**

- Buna Standard **00**
- Viton Standard **V0**
- Buna, Screen **A0**
- Viton, Screen **W0**

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

**"M" COIL TERMINATION**

- Double Lead **DL**
- (\* several types of termination can be attached on leads on request)
- DIN 43650 (Hirschmann) **HC**

- Blank **N**
- S**

**BODIES**

- Without Body
- 1/4" BSP Ports
- #6 SAE Ports

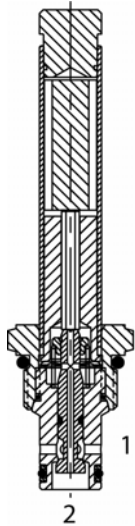
**VOLTAGE** (\*other voltages available on request)

- 12** 12 VDC
- 24** 24 VDC
- 22** 220 VAC with molded full wave rectifier

Approximate Coil Weight: .30 lbs/.14 kg.

**WARNING:** The specifications/application data shown in our catalogs and data sheets is intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.

*PB-S2I Poppet, 2 Way, Normally Closed, Bi-Directional*



**DESCRIPTION**

8 size, 3/4-16 thread, "Power" series, solenoid operated, 2 way normally closed, bi-directional poppet valve.

**OPERATION**

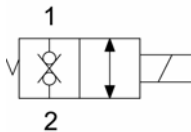
When de-energized the PB-S2I blocks flow from (1) to (2) and (2) to (1). When energized the valve allows flow from (1) to (2) and (2) to (1).

**OPERATION OF MANUAL OVERRIDE OPTION:** To override, turn the manual override screw clockwise. To release turn the manual override screw counter-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.
- Optional "I" Coil: Weatherproof, Thermal Shock, Immersion Safe.

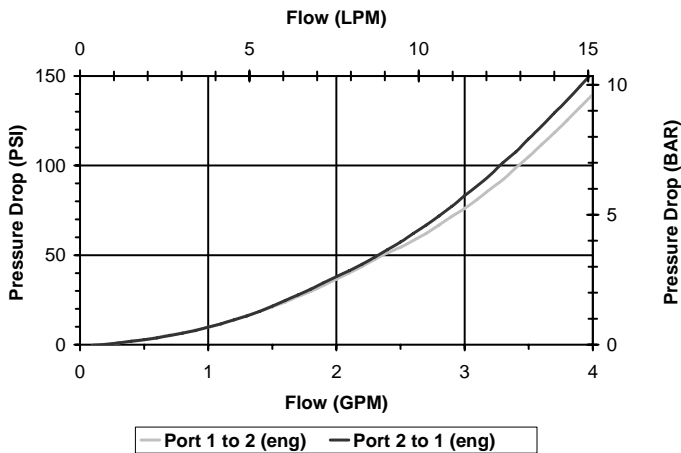
**HYDRAULIC SYMBOL**



Uses "V" coil.

**PERFORMANCE**

Actual Test Data (Cartridge Only)

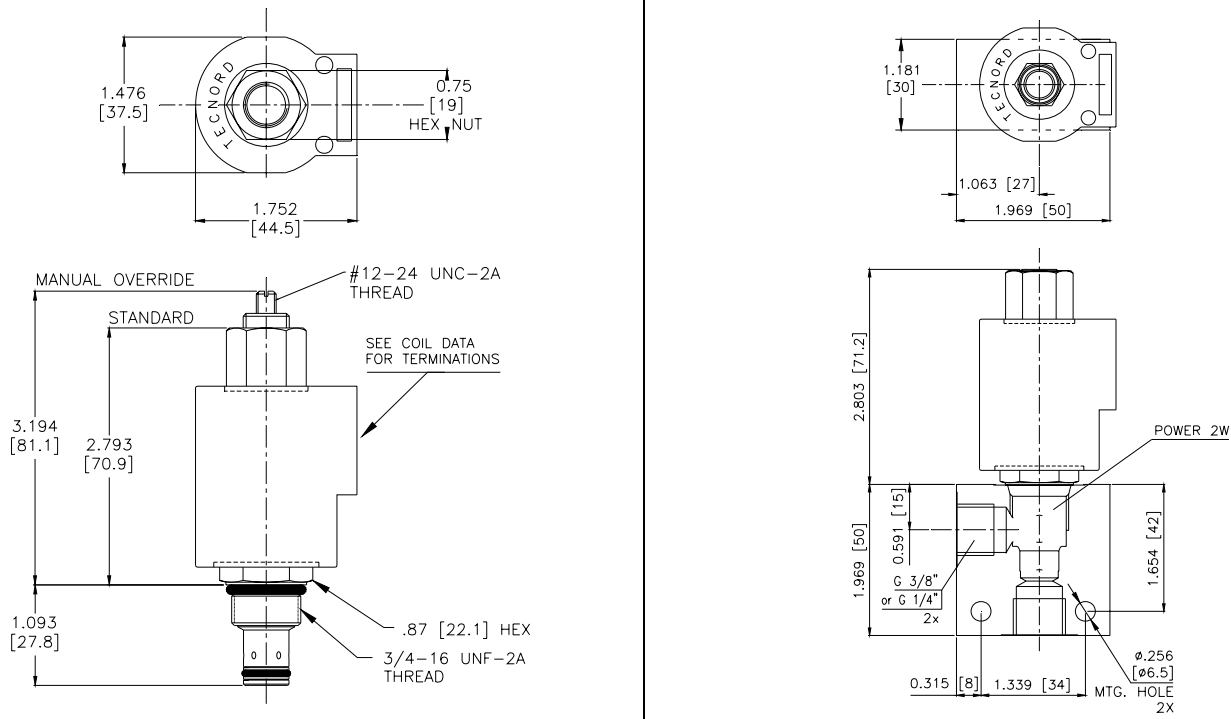


**VALVE SPECIFICATIONS**

Nominal Flow	3 GPM (11 LPM)
Rated Operating Pressure	3000 PSI (207 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	.15 lbs. (.07 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	25 ft-lbs (34 Nm)
Coil Nut Torque Requirements	4-6 ft-lbs (5.4-8.1Nm)
Cavity	POWER 2W
Cavity Tools kit (form tool, reamer, tap)	40500005
Seal Kit	21191102

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**DIMENSIONS**



**ORDERING INFORMATION**

**PB-S2I** - - - -

**OPTIONS**

- Buna Standard **00**
- Viton Standard **V0**
- Buna, Override **0M**
- Viton, Override **VM**
- Buna, Override, Knob **OK**
- Viton, Override, Knob **VK**
- Buna, Screen **A0**
- Viton, Screen **W0**
- Buna, Screen, Override **B2**
- Viton, Screen, Override **V2**
- Buna, Screen, Override, Knob **B5**
- Viton, Screen, Override, Knob **V5**

**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**
- DID**
- DIJ**
- DIM**

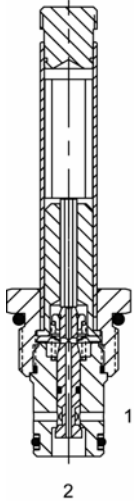
**IMMERSION PROOF "D" TYPE**

- "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: .56 lbs (.25 kg.)

**WARNING:** The specifications/application data shown in our catalogs and data sheets is intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.

DE-S2I Pilot Operated Poppet, 2 Way, Normally Closed



**DESCRIPTION**

10 size, 7/8-14 thread, "Delta" series, solenoid operated, 2 way normally closed, bi-directional valve.

**OPERATION**

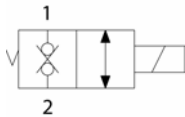
When de-energized the DE-S2I blocks flow from (1) to (2) or (2) to (1). When energized the valve allows flow from (1) to (2) or (2) to (1).

**OPERATION OF MANUAL OVERRIDE OPTION:** To override, turn the manual override screw clockwise. To release turn the manual override screw counter-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.
- Optional "I" Coil: Weatherproof, Thermal Shock, Immersion Safe.

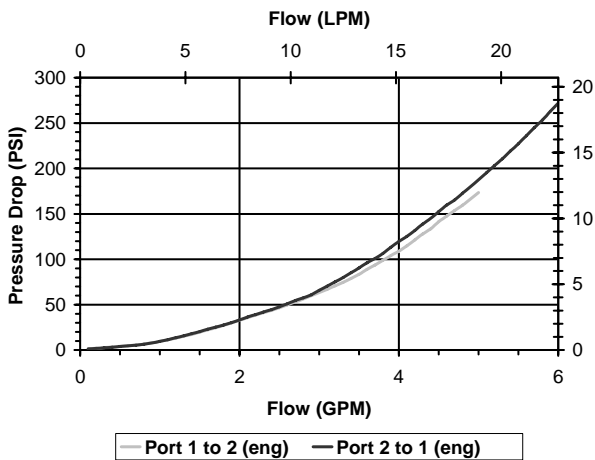
**HYDRAULIC SYMBOL**



for higher flow uses DE S2L

**PERFORMANCE**

Actual Test Data (Cartridge Only)

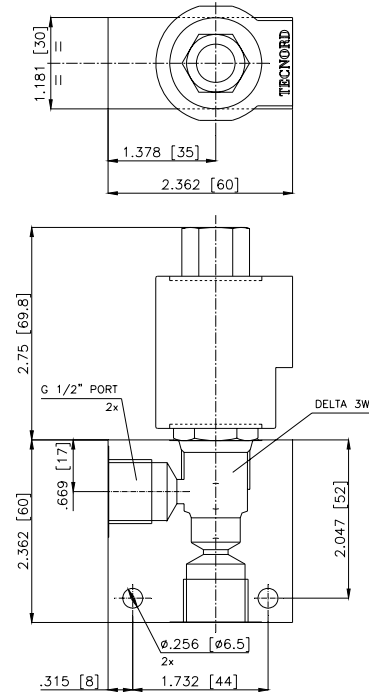
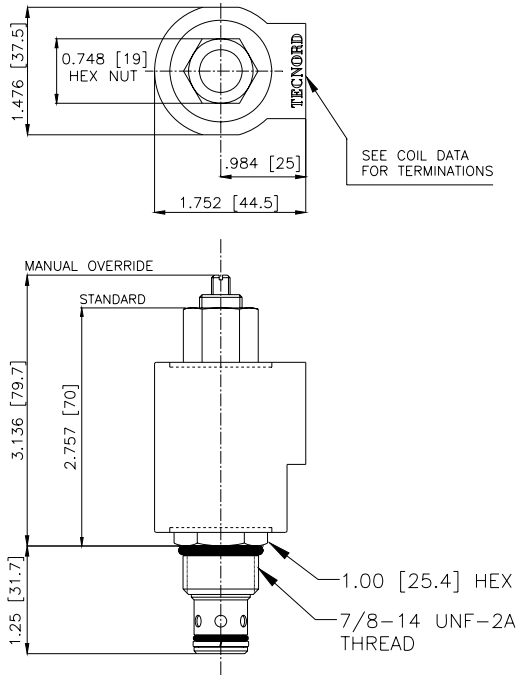


**VALVE SPECIFICATIONS**

Nominal Flow	4 GPM (15 LPM)
Rated Operating Pressure	3000 PSI (207 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	.21 lbs. (.09 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 (6.8 Nm)
Cavity	DELTA 2W
Cavity Tools kit (form tool, reamer, tap)	40500000
Seal Kit	21191202

**WARNING:** The specifications/application data shown in our catalogs and data sheets is intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.

**DIMENSIONS**



**ORDERING INFORMATION**

DE-S2I - - - -

**OPTIONS**

- Buna Standard **00**
- Viton Standard **V0**
- Buna, Override, Detent **0M**
- Viton, Override, Detent **VM**
- Buna, Override, Knob **OK**
- Viton, Override, Knob **VK**
- Buna, Screen **A0**
- Viton, Screen **W0**
- Buna, Screen, Override **B2**
- Viton, Screen, Override **V2**
- Buna, Screen, Override, Knob **B5**
- Viton, Screen, Override, Knob **V5**

**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** IMMERSION PROOF "D" TYPE
- DID** "I" Coil AMP Superseal - Integral
- DIJ** "I" Coil Deutsch – Integral DT04-2P
- DIM** "I" Coil AMP Jr. Timer - Integral
- "I" Coil Metri-Pack – Integral

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

**BODIES**

- Blank
- 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

**WARNING:** The specifications/application data shown in our catalogs and data sheets is intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.

**DE-S2L Piloted Operated Poppet, 2 Way, Normally Closed, Bi-directional**

**DESCRIPTION**

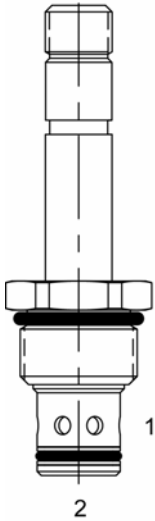
10 size, 7/8-14 thread, "Delta" series, solenoid operated, 2 way normally closed, bi-directional poppet valve.

**OPERATION**

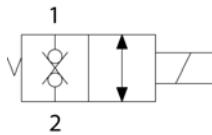
When de-energized the DE-S2L blocks flow from (1) to (2) and (2) to (1). When energized the valve allows flow from (1) to (2) and (2) to (1).

**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.
- Optional "I" Coil: Weatherproof, Thermal Shock, Immersion Safe.

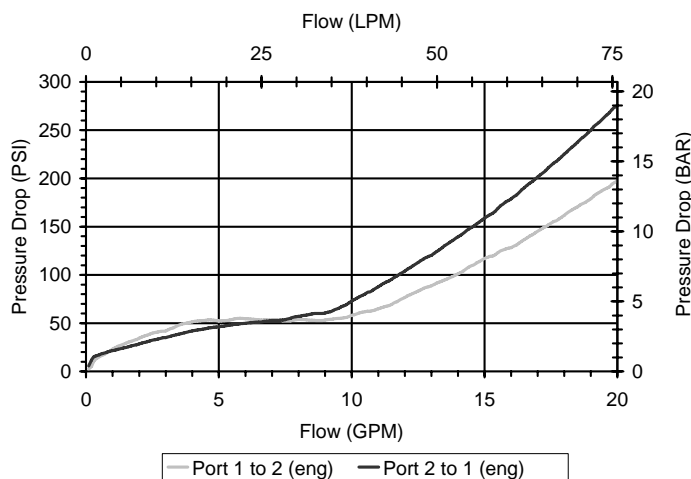


**HYDRAULIC SYMBOL**



**PERFORMANCE**

Actual Test Data (Cartridge Only)



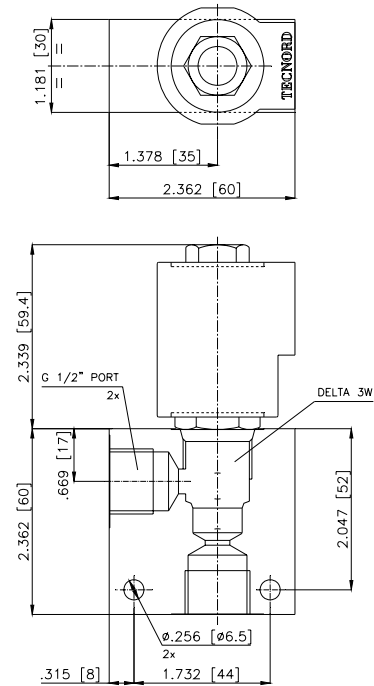
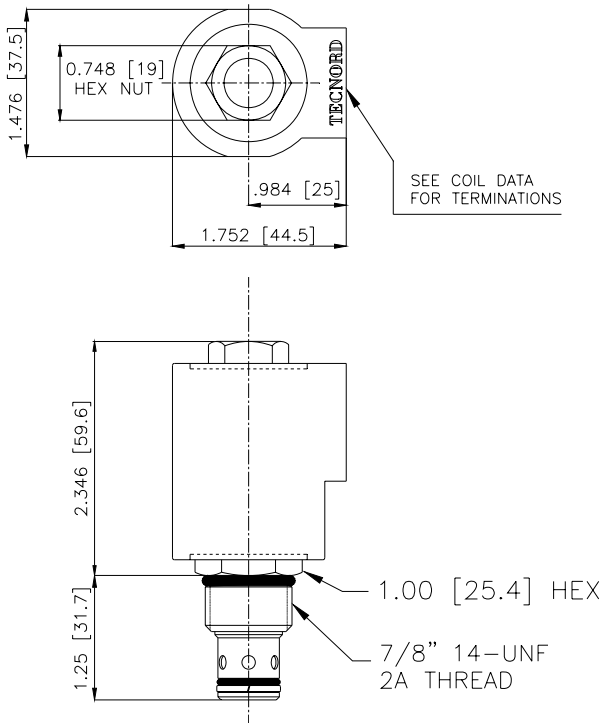
**VALVE SPECIFICATIONS**

Nominal Flow	12 GPM (45 LPM)
Rated Operating Pressure	3000 PSI (207 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	.26 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	21191202

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**DIMENSIONS**



**ORDERING INFORMATION**

DE-S2L - - -

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

**BODIES**  
 Blank  
**N** 1/2" BSP Ports  
**S** #8 SAE Ports

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

**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

**IMMERSION PROOF "D" TYPE**  
**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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