

TECNORD

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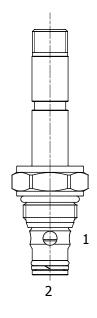
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SOLENOID OPERATED DIRECTIONAL CONTROLS

HB-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

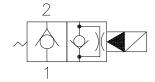
When de-energized the HB-S2A blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and restricts flow from (2) to (1).

MANUAL OVERRIDE OPTION: to override, turn the manual override screw counter-clockwise. To release, turn the manual override screw clockwise.

FEATURES

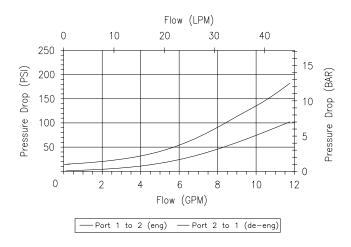
- · Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- · Industry common cavity.
- · Unitized, molded coil design.
- · Continuous duty rated solenoid.
- · Optional coil voltages and terminations.

HYDRAULIC SYMBOL



PERFORMANCE

Actual Test Data (Cartridge Only)



VALVE SPECIFICATIONS

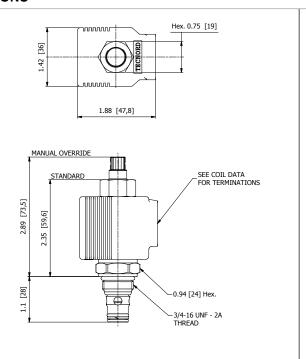
Nominal Flow	12 GPM (45 LPM)
Rated Operating Pressure	5000 PSI (350 bar)
Typical Internal Leakage	0-5 drops/min at 5000 PSI
(150 SSU)	(350 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 210°F (-40° to 100°C)
	BUNA seals
	-4° to 250°F (-20° to 120°C)
	VITON seals
Weight	.29 lbs (.13 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	41-47 Nm (30-35 ft-lbs)
Coil Nut Torque Requirements	4-6 Nm (3-4.5 ft-lbs)
Cavity	Power 2W
Cavity Tools Kit	40500005
Seal Kit	21191100

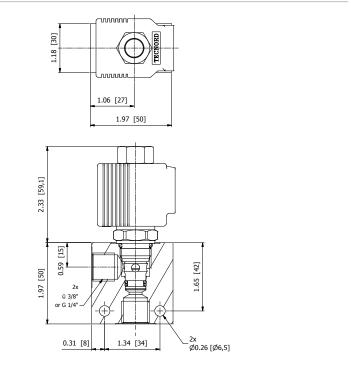
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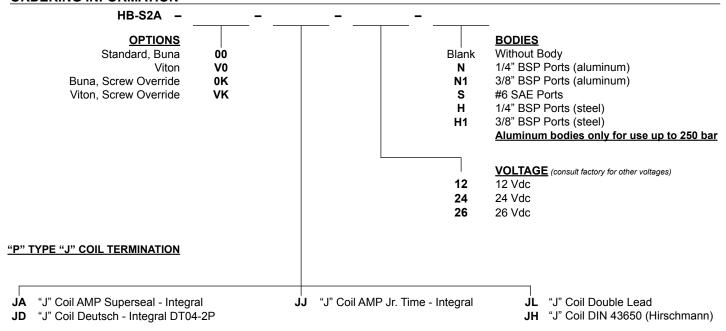








ORDERING INFORMATION



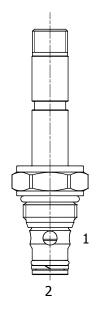
Approximate Coil Weight: .42 lbs (.19 kg)

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HB-S2B Pilot Operated, 2 Way Normally Closed with Reversed Flow Energized



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

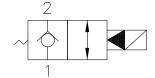
When de-energized the HB-S2B blocks flow from (1) to (2) and allows reverse flow from (2) to (1). When energized the valve allows flow from (1) to (2) and from (2) to (1).

MANUAL OVERRIDE OPTION: to override, turn the manual override screw counter-clockwise. To release, turn the manual override screw clockwise.

FEATURES

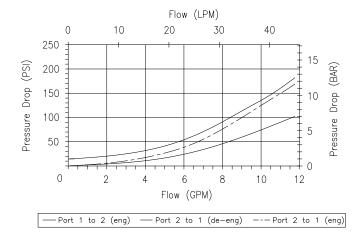
- Hardened parts for long life.
- · Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- · Manual override option.
- · Industry common cavity.
- · Unitized, molded coil design.
- · Continuous duty rated solenoid.
- Optional coil voltages and terminations.

HYDRAULIC SYMBOL



PERFORMANCE

Actual Test Data (Cartridge Only)



VALVE SPECIFICATIONS

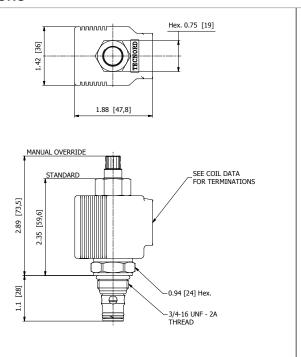
Nominal Flow	12 GPM (45 LPM)
Rated Operating Pressure	5000 PSI (350 bar)
Typical Internal Leakage	0-5 drops/min at 5000 PSI
(150 SSU)	(350 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 210°F (-40° to 100°C)
	BUNA seals
	-4° to 250°F (-20° to 120°C)
	VITON seals
Weight	.29 lbs (.13 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	41-47 Nm (30-35 ft-lbs)
Coil Nut Torque Requirements	4-6 Nm (3-4.5 ft-lbs)
Cavity	Power 2W
Cavity Tools Kit	40500005
Seal Kit	21191100

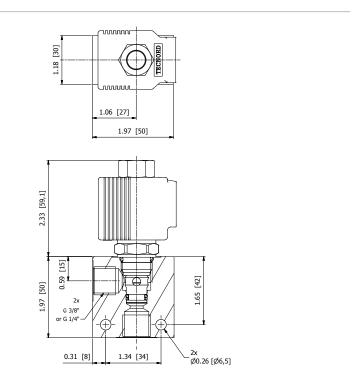
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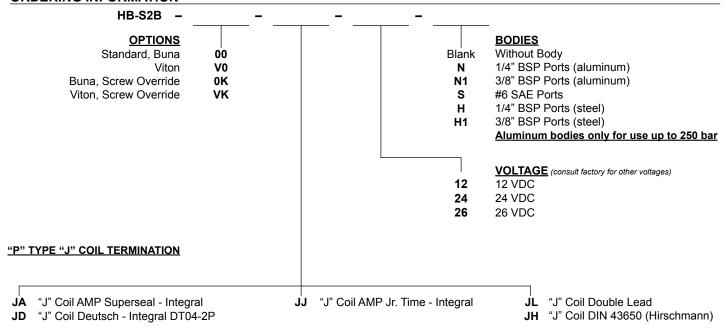
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Approximate Coil Weight: .42 lbs (.19 kg)

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HB-S2C Pilot Operated Poppet, 2 Way Normally Open

1 2

DESCRIPTION

8 size, 3/4-16 thread, "Power" series, solenoid operated, 2 way normally open, pilot operated poppet valve with reverse flow energized.

OPERATION

When de-energized the HB-S2C allows flow from (1) to (2) and restricted flow from (2) to (1). When energized the valve blocks flow from (1) to (2) and allows flow from (2) to (1).

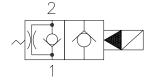
PUSH TYPE MANUAL OVERRIDE OPTION: to override, push the manual override button.

SCREW TYPE MANUAL OVERRIDE OPTION: to override, turn the manual override screw clockwise. To release, turn the manual override screw counter-clockwise.

FEATURES

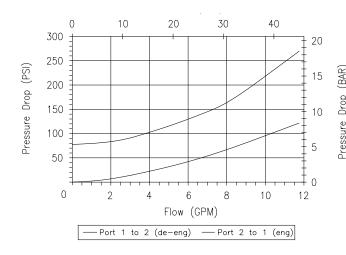
- · Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Industry common cavity.
- · Unitized, molded coil design.
- · Continuous duty rated solenoid.
- · Optional coil voltages and terminations.

HYDRAULIC SYMBOL



PERFORMANCE

Actual Test Data (Cartridge Only)



VALVE SPECIFICATIONS

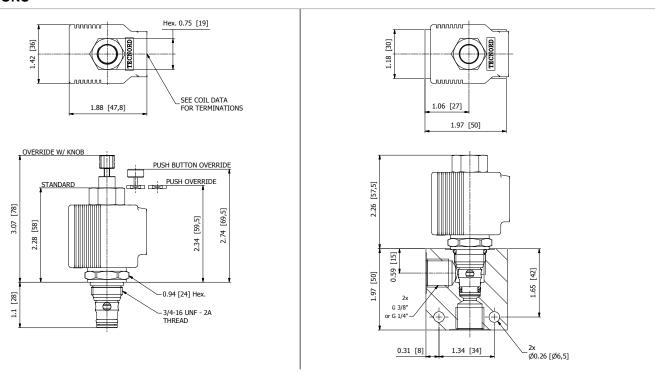
Nominal Flow	12 GPM (45 LPM)
Rated Operating Pressure	5000 PSI (350 bar)
Typical Internal Leakage	0-5 drops/min at 5000 PSI
(150 SSU)	(350 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 210°F (-40° to 100°C)
	BUNA seals
	-4° to 250°F (-20° to 120°C)
	VITON seals
Weight	.29 lbs (.13 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	41-47 Nm (30-35 ft-lbs)
Coil Nut Torque Requirements	4-6 Nm (3-4.5 ft-lbs)
Cavity	Power 2W
Cavity Tools Kit	40500005
Seal Kit	21191100

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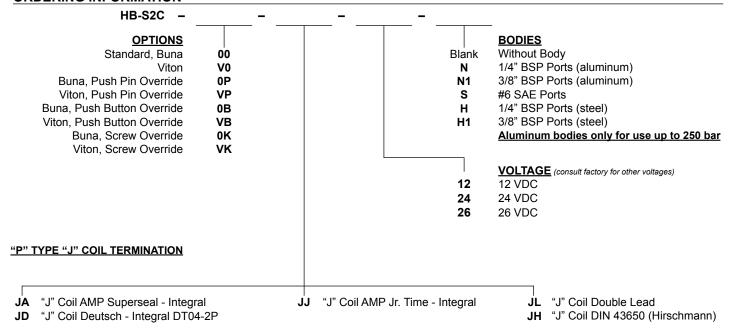
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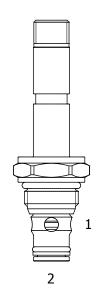


Approximate Coil Weight: .42 lbs (.19 kg)

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HB-S2D Pilot Operated Poppet, 2 Way Normally Open with Reverse Flow De-Energized



DESCRIPTION

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

OPERATION

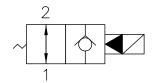
When de-energized the HB-S2D allows flow from (1) to (2) or from (2) to (1). When energized the valve blocks flow from (1) to (2) and allows flow from (2) to (1).

PUSH TYPE MANUAL OVERRIDE OPTION: to override, push the manual override button. **SCREW TYPE MANUAL OVERRIDE OPTION:** to override, turn the manual override screw clockwise. To release, turn the manual override screw counter-clockwise.

FEATURES

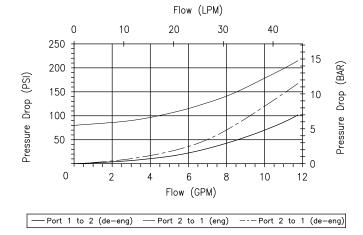
- · Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- · Manual override option.
- · Industry common cavity.
- · Unitized, molded coil design.
- · Continuous duty rated solenoid.
- · Optional coil voltages and terminations.

HYDRAULIC SYMBOL



PERFORMANCE

Actual Test Data (Cartridge Only)



VALVE SPECIFICATIONS

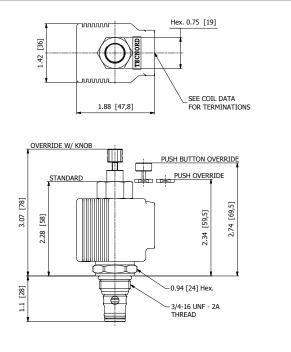
Nominal Flow	12 GPM (45 LPM)
Rated Operating Pressure	5000 PSI (350 bar)
Typical Internal Leakage	0-5 drops/min at 5000 PSI
(150 SSU)	(350 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 210°F (-40° to 100°C)
	BUNA seals
	-4° to 250°F (-20° to 120°C)
	VITON seals
Weight	.29 lbs (.13 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	41-47 Nm (30-35 ft-lbs)
Coil Nut Torque Requirements	4-6 Nm (3-4.5 ft-lbs)
Cavity	Power 2W
Cavity Tools Kit	40500005
Seal Kit	21191100

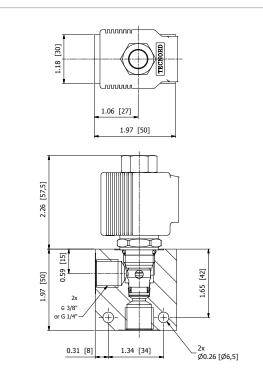
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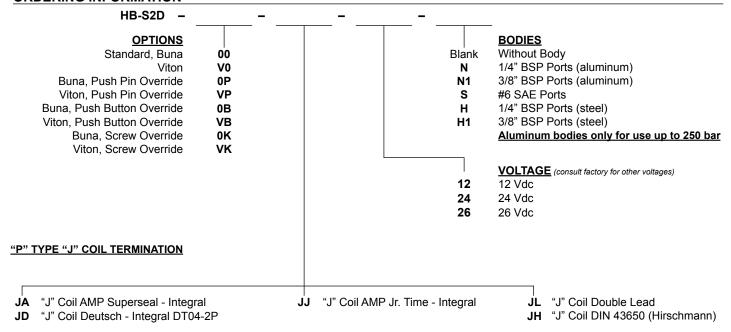
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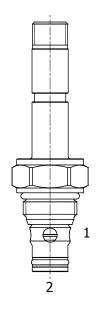
Approximate Coil Weight: .42 lbs (.19 kg)

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SOLENOID OPERATED DIRECTIONAL CONTROLS

HB-S2L Piloted Operated Poppet, 2 Way Double Lock Normally Closed



DESCRIPTION

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

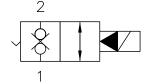
OPERATION

When de-energized the HB-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

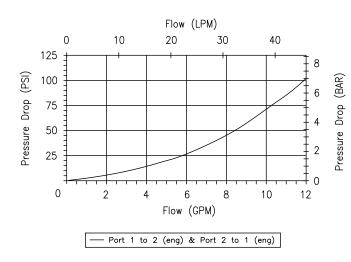
- Hardened parts for long life.
- · Efficient wet-armature construction.
- · Cartridges are voltage interchangeable.
- · Industry common cavity.
- Unitized, molded coil design.
- · Continuous duty rated solenoid.
- Optional coil voltages and terminations.

HYDRAULIC SYMBOL



PERFORMANCE

Actual Test Data (Cartridge Only)



VALVE SPECIFICATIONS

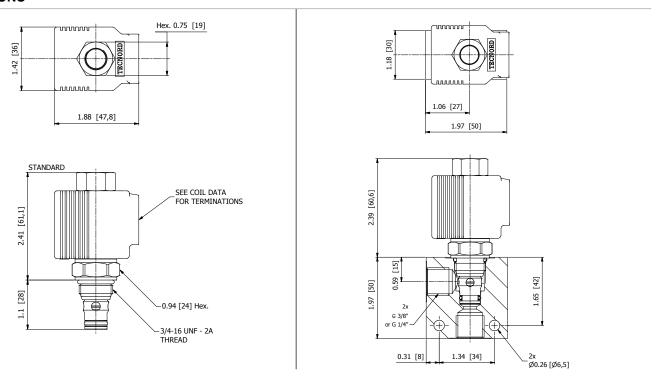
Nominal Flow	12 GPM (45 LPM)
Rated Operating Pressure	5000 PSI (350 bar)
Typical Internal Leakage	0-5 drops/min at 5000 PSI
(150 SSU)	(350 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 210°F (-40° to 100°C)
	BUNA seals
	-4° to 250°F (-20° to 120°C)
	VITON seals
Weight	.29 lbs (.13 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	41-47 Nm (30-35 ft-lbs)
Coil Nut Torque Requirements	4-6 Nm (3-4.5 ft-lbs)
Cavity	Power 2W
Cavity Tools Kit	40500005
Seal Kit	21191100

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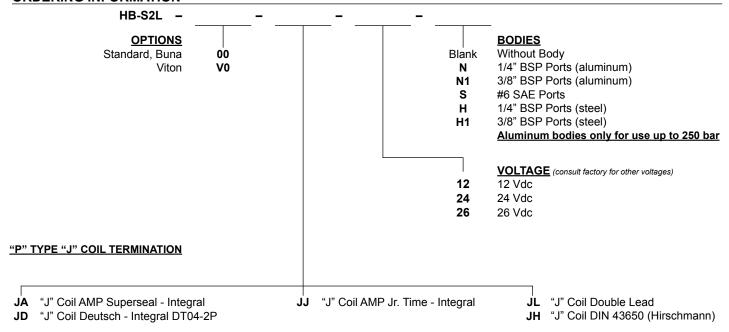
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Approximate Coil Weight: .42 lbs (.19 kg)

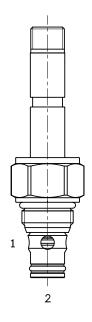
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SOLENOID OPERATED DIRECTIONAL CONTROLS

HB-S2K Piloted Operated Poppet, 2 Way Double Lock Normally Open



DESCRIPTION

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

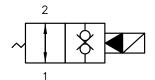
OPERATION

When de-energized the HB-S2K allows flow from (1) to (2) or from (2) to (1). When energized the valve blocks flow from (1) to (2) and allows flow from (2) to (1).

FEATURES

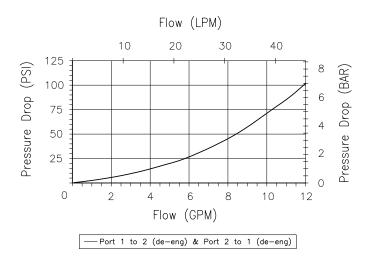
- · Hardened parts for long life.
- · Efficient wet-armature construction.
- · Cartridges are voltage interchangeable.
- · Manual override option.
- Industry common cavity.
- · Unitized, molded coil design.
- · Continuous duty rated solenoid.
- Optional coil voltages and terminations.

HYDRAULIC SYMBOL



PERFORMANCE

Actual Test Data (Cartridge Only)



VALVE SPECIFICATIONS

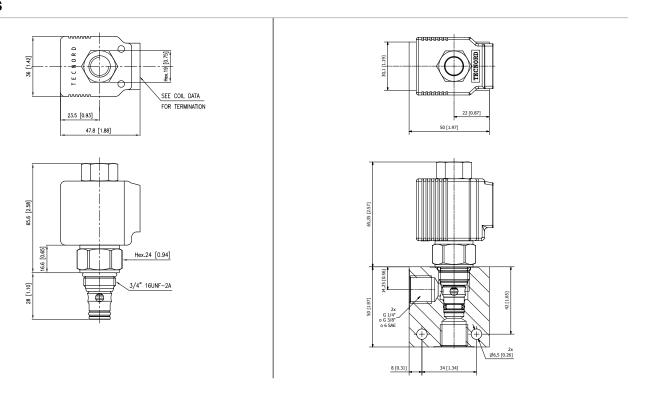
Nominal Flow	12 GPM (45 LPM)
Rated Operating Pressure	5000 PSI (350 bar)
Typical Internal Leakage	0-5 drops/min at 5000 PSI
(150 SSU)	(350 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 210°F (-40° to 100°C)
	BUNA seals
	-4° to 250°F (-20° to 120°C)
	VITON seals
Weight	.29 lbs (.13 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	41-47 Nm (30-35 ft-lbs)
Coil Nut Torque Requirements	4-6 Nm (3-4.5 ft-lbs)
Cavity	Power 2W
Cavity Tools Kit	40500005
Seal Kit	21191100

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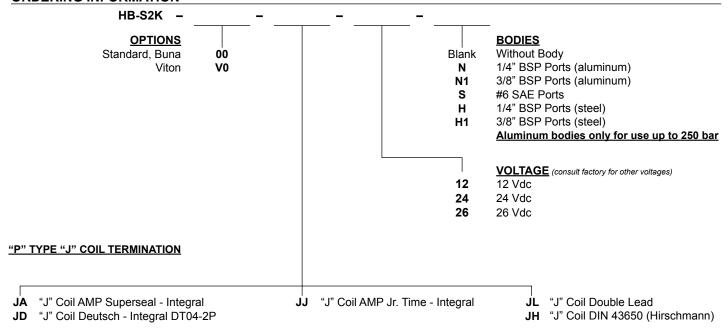
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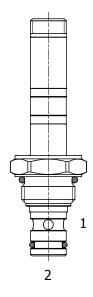
Approximate Coil Weight: .42 lbs (.19 kg)

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PB-S2I Direct Acting Poppet, 2 Way Normally Closed



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 from (2) to (1). When energized the valve allows flow from (1) to (2) and from (2) to (1).

PUSH TYPE MANUAL OVERRIDE OPTION: to override, push the manual override button. **SCREW TYPE MANUAL OVERRIDE OPTION:** to override, turn clockwise the manual override screw. To release, turn the manual override screw counter-clockwise.

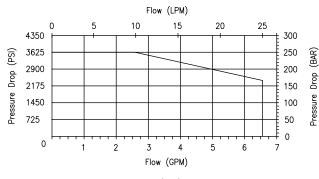
FEATURES

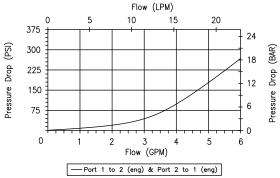
- · Hardened parts for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- · Industry common cavity.
- · Unitized, molded coil design.
- · Continuous duty rated solenoid.
- Optional coil voltages and terminations.

PERFORMANCE

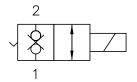
Actual Test Data (Cartridge Only)







HYDRAULIC SYMBOL



VALVE SPECIFICATIONS

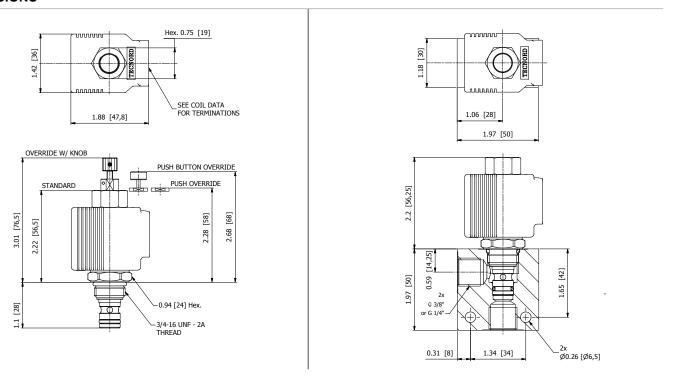
Nominal Flow	4 GPM (15 LPM)
Rated Operating Pressure	3600 PSI (250 bar)
Typical Internal Leakage	0-5 drops/min at 3600 PSI
(150 SSU)	(250 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 210°F (-40° to 100°C)
	BUNA seals
	-4° to 250°F (-20° to 120°C)
	VITON seals
Weight	.29 lbs (.13 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	41-47 Nm (30-35 ft-lbs)
Coil Nut Torque Requirements	4-6 Nm (3-4.5 ft-lbs)
Cavity	Power 2W
Cavity Tools Kit	40500005
Seal Kit	21191100

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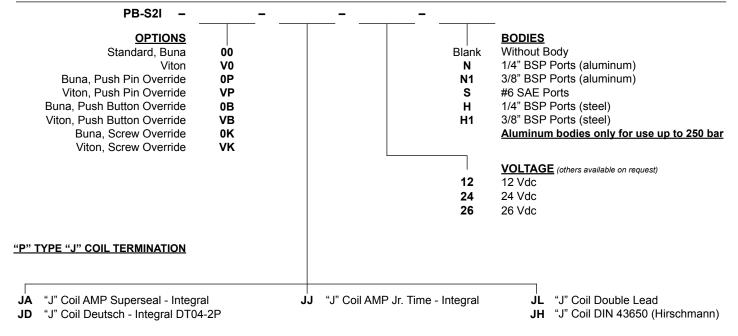
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Approximate Coil Weight: .42 lbs (.19 kg)

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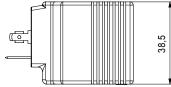
a Delta Power Company

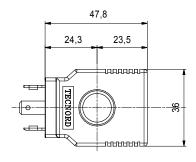
SOLENOID OPERATED DIRECTIONAL CONTROLS



Coil Data - "P" Type "J" Coil







DESCRIPTION

1/2 inch (13 mm) Immersion Proof Coil. Color identification: black

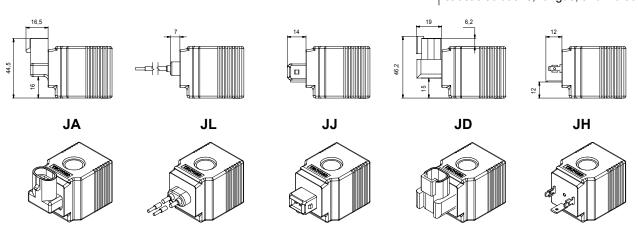
FEATURES

One piece encapsulated design that is:

- · Weatherproof
- Immersion proof
- Thermal shock/dunk tested
- · No external metal shell
- · Internal arc suppression diode available on request

COIL SPECIFICATION

Wattage	21 Watts Nominal
Duty Rating	Continuous Duty ±10% rated voltage at 120°F (49°C) ambient
Min Current for Actuation	80% of rated current at room temperature
Magnet Wire Class	Н
Heat insulation Class	F
Ambient Temperature Range	-30° to 60°C
Encapsulation Material	Thermo-Plastic, resistant to moisture, caustic solutions, fungus, and vibrations



ORDERING INFORMATION

P -		-	
TERMINATIONS			<u>VOLTAGE</u>
"J" Coil AMP Superseal - Integral	JA	12	12 Vdc / 6.8 Ohm
"J" Coil Double lead	JL	24	24 Vdc / 27 Ohm
"J" Coil AMP Jr. Timer - Integral	JJ	26	26 Vdc / 32 Ohm
"J" Coil Deutsch - Integral DT04-2P	JD		
"J" Coil DIN 43650 (Hirschmann)	JH		

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

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Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.

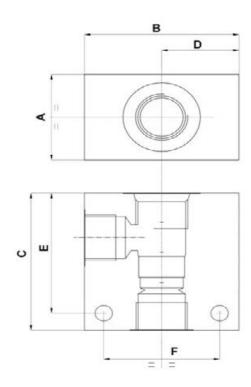
Valve Bodies

Standard Bodies (aluminium made) weight 0.18 kg

Port Size	Ordering code	Style / Size	Dimensions					
			Α	В	С	D	E	F
1/4 BSP	13.1011.124	2W-3/4	30	50	50	23	42	34
3/8 BSP	13.1011.125	2W-3/4	30	50	50	23	42	34
#6 SAE	13.1011.144	2W-3/4	30	50	50	23	42	34

Standard Bodies (steel made) weight 0.5 kg

Port Size	Ordering code	Style / Size	Dimensions					
			Α	В	С	D	E	F
1/4 BSP	13.1011.232	2W-3/4	30	50	50	23	42	34
3/8 BSP	13.1011.233	2W-3/4	30	50	50	23	42	34
#6 SAE	13.1011.234	2W-3/4	30	50	50	23	42	34



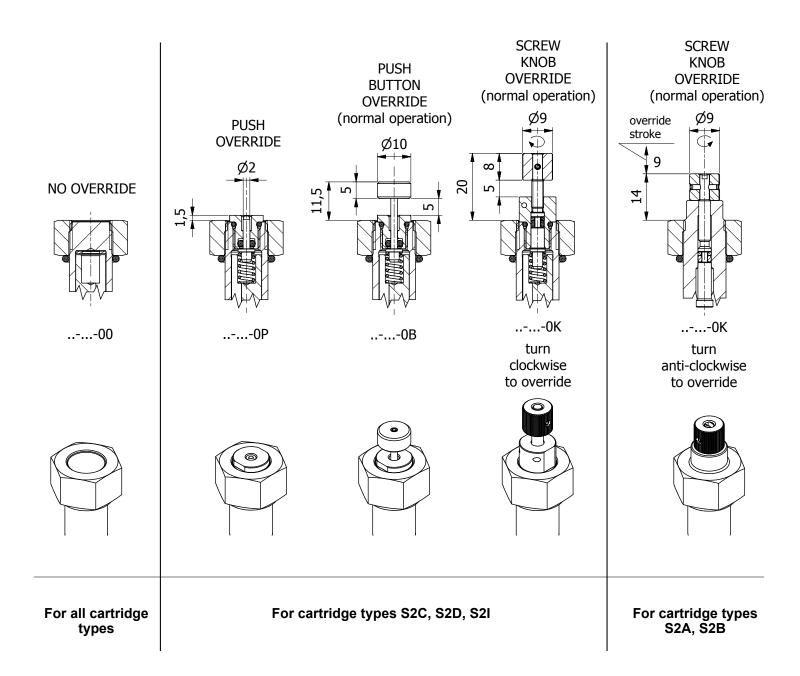
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Manual Override Options



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SOLENOID OPERATED DIRECTIONAL CONTROLS

Notes

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TECNORD

TECNORD COMPREHENSIVE PRODUCT LINE





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COMPREHENSIVE PRODUCT LINE

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MECHANICAL CARTRIDGE VALVES

PROPORTIONAL CARTRIDGE VALVES

TRANSMISSIONS & BRAKE VALVES

HYDRAULIC INTEGRATED CIRCUITS (HIC)

PWM DRIVERS

MACHINE MANAGEMENT SYSTEMS (MMS)

CUSTOMIZED SOFTWARE

JOYSTICK CONTROLLERS AND GRIPS

CABLE REMOTE CONTROL BOX

RC-DBM RADIO REMOTE CONTROL

RC-TRL RADIO REMOTE CONTROL CANBUS

MULTIDROM PROPORTIONAL ACTUATORS

TDV 100 DIRECTIONAL VALVES

PRE-ENGINEERED SYSTEMS
ECOMATIC SYSTEM
ARM-REST CONTROL UNIT
AUTOMATIC LEVELLING SYSTEM