

MECHANICAL LOGIC ELEMENTS



LOGIC ELEMENTS ..... ML3

W 9 / 2016

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LOGIC ELEMENTS

	GPM	PSI	LPM	BAR	CAVITY	MODEL	PAGE
	40	3500	154	241	1 5/16-12	SL-PLA	ML4
	40	3500	154	241	1 5/16-12	SL-PLB	ML6
	40	3500	154	241	1 5/16-12	SL-PLC	ML8

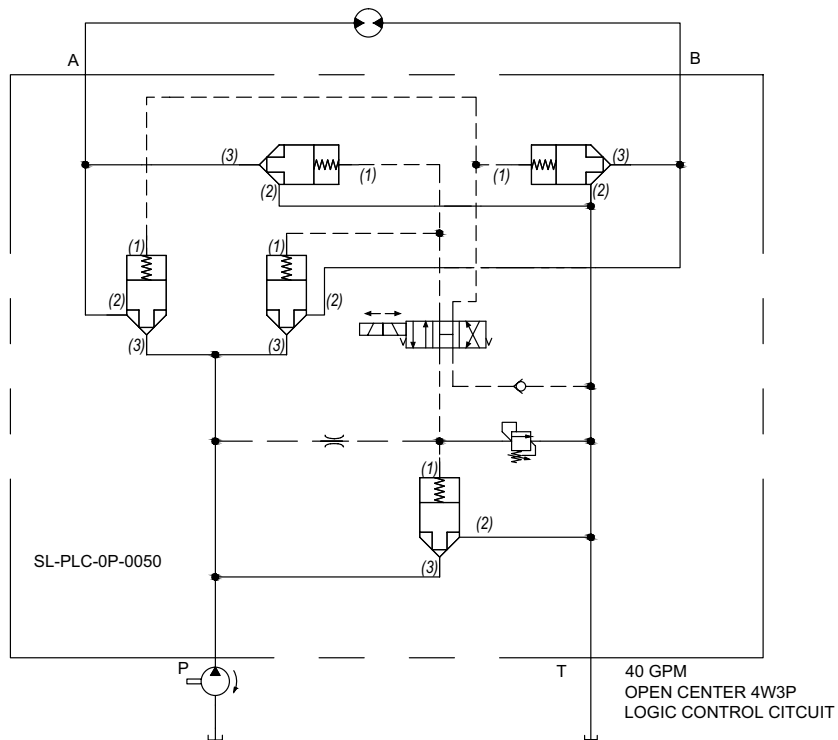
TYPICAL SCHEMATIC

Typical application for the PLA, PLB, and PLC is to provide the main stage of a high-flow capacity on/off function. A low flow solenoid valve is generally used to provide pilot control.

The PLA and PLB are intended for flow in one direction only, whereas the PLC can be used for bi-directional operation.

The differing pilot ratios between the three valves affect pressure drop versus flow, and **opening pressure versus pilot pressure**.

The differing pilot ratios between the three valves affect pressure drop versus flow, and **opening pressure as a function of pilot pressure**.



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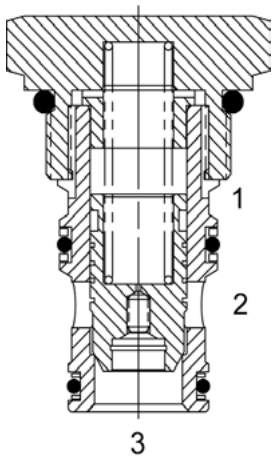


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**SL-PLA SUPER SERIES, LOGIC VALVE**



**DESCRIPTION**

16 size, 1 5/16-12 thread, "Super" series, logic valve.

**OPERATION**

The SL-PLA with an orifice between ports (3) and (1) maintains a constant flow rate from (3) regardless of load pressure changes in the system upstream of (3), or in the bypass leg at (2) as long as pressure at (2) is less than (1). Used for basic blocking applications.

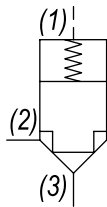
**FEATURES**

- Hardened parts for long life.
- Industry common cavity.



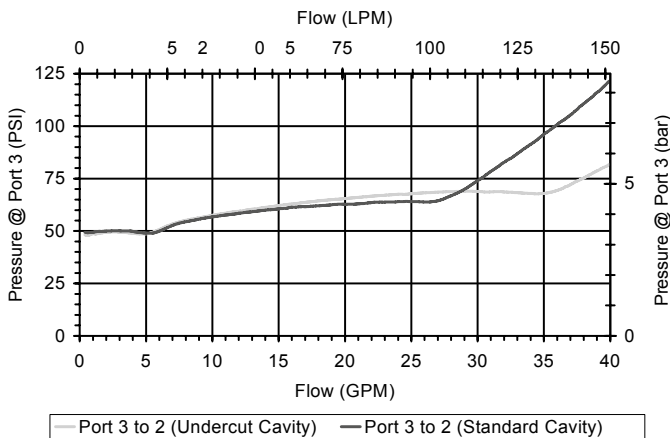
For bidirectional applications see SL-PLC.  
For metering see SLPCA or SL-PCB.

**HYDRAULIC SYMBOL**



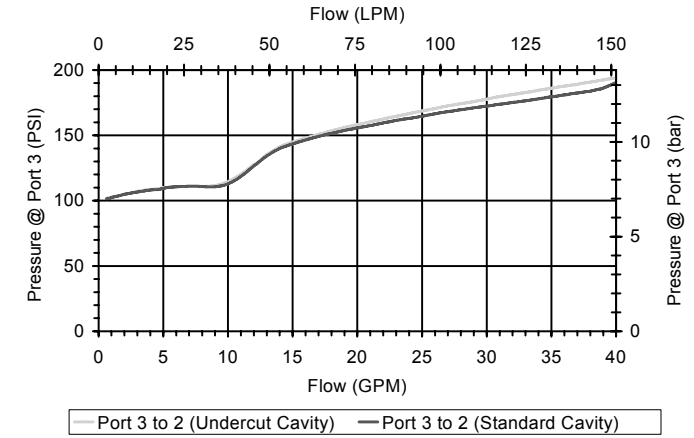
**PERFORMANCE**

Actual Test Data (Cartridge Only)



**VALVE SPECIFICATIONS**

Nominal Flow	40 GPM (151 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	.69 lbs (.31 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	90 ft-lbs (122 Nm)
Cavity	SUPER 3WS
Cavity Form Tool (Finishing)	40500021
Seal Kit	21191409
Seat Ratio	Area of the pilot is 1.2 times the area of the seat at Port (3)



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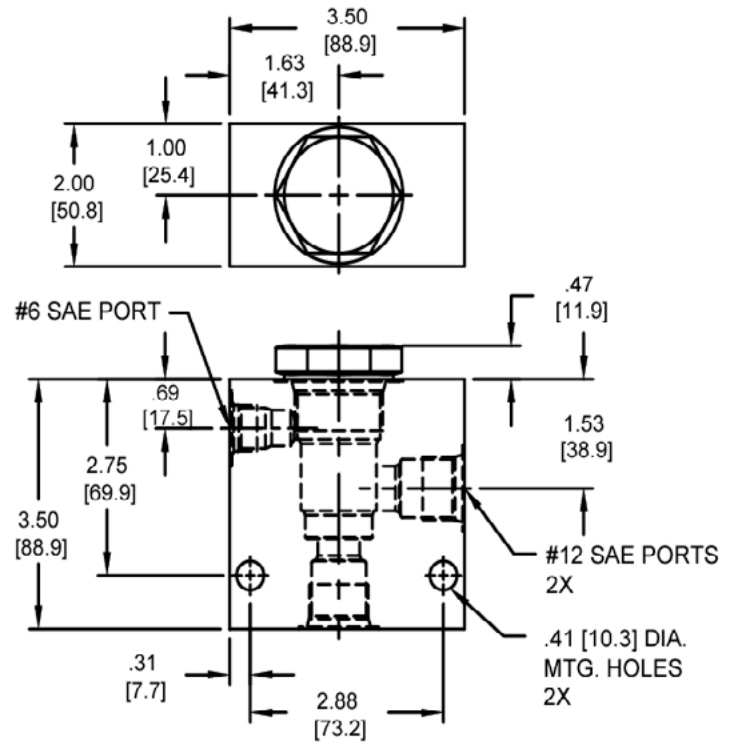
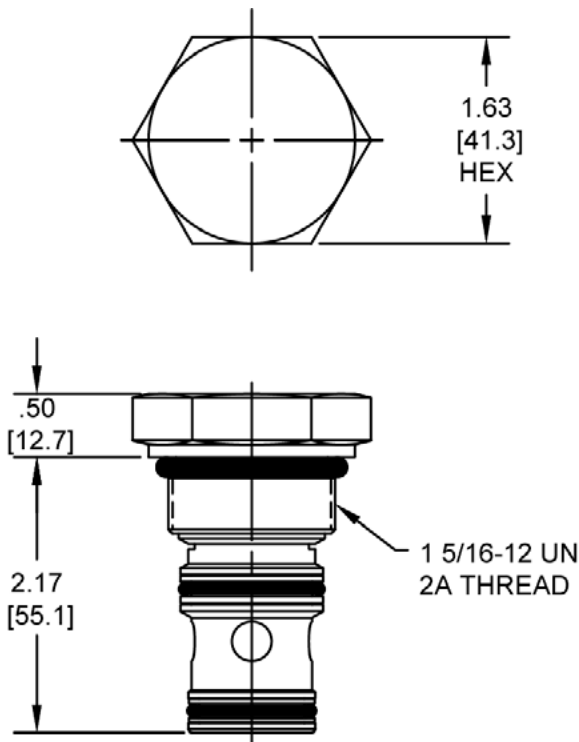


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**DIMENSIONS**



Body Weight: 1.89 lbs (.86 kg)

**ORDERING INFORMATION**

<p><b>SL-PLA</b> -</p> <p><b>OPTIONS</b></p> <p>Buna, Pilot to Close <b>0P</b></p> <p>Viton, Pilot to Close <b>VP</b></p> <p>Buna, Vent to Open <b>0V</b></p> <p>Viton, Vent to Open <b>VV</b></p> <p>Buna, Pilot to Close w/seals <b>0B</b></p> <p>Viton, Pilot to Close w/seals <b>VB</b></p> <p>Buna, Vent to Open w/seals <b>0C</b></p> <p>Viton, Vent to Open w/seals <b>VC</b></p>	<p>-</p> <p>-</p> <p>-</p>	<p><b>BODIES</b></p> <p><b>Blank</b> Without Body</p> <p><b>S</b> #12 SAE Ports</p> <p><b>PRESSURE SETTING</b></p> <p><b>0020</b> 20 PSI</p> <p><b>0050</b> 50 PSI</p> <p><b>0100</b> 100 PSI</p> <p><b>0150</b> 150 PSI</p>
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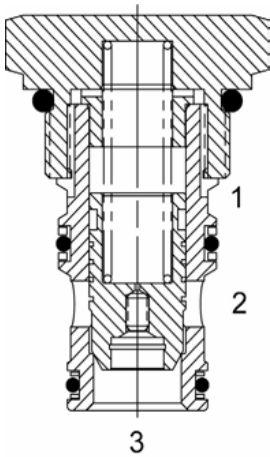


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**SL-PLB SUPER SERIES, LOGIC VALVE**



**DESCRIPTION**

16 size, 1 5/16-12 thread, "Super" series, logic valve.

**OPERATION**

The SL-PLB with an orifice between ports (3) and (1) maintains a constant flow rate from (3) regardless of load pressure changes in the system upstream of (3), or in the bypass leg at (2) as long as pressure at (2) is less than (1). Used for basic blocking applications.

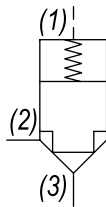
**FEATURES**

- Hardened parts for long life.
- Industry common cavity.



For bidirectional applications see SL-PLC.  
For metering see SLPCA or SL-PCB.

**HYDRAULIC SYMBOL**

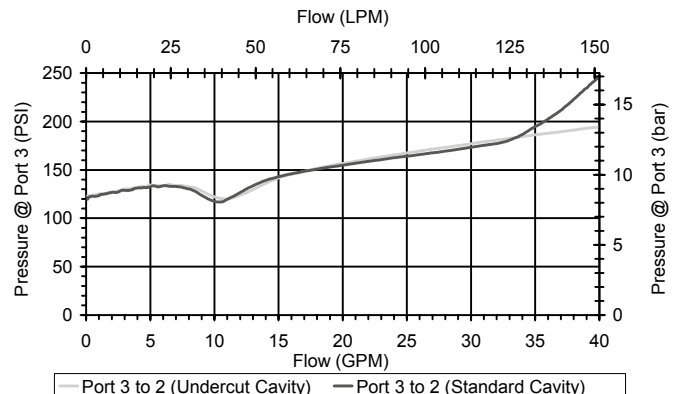
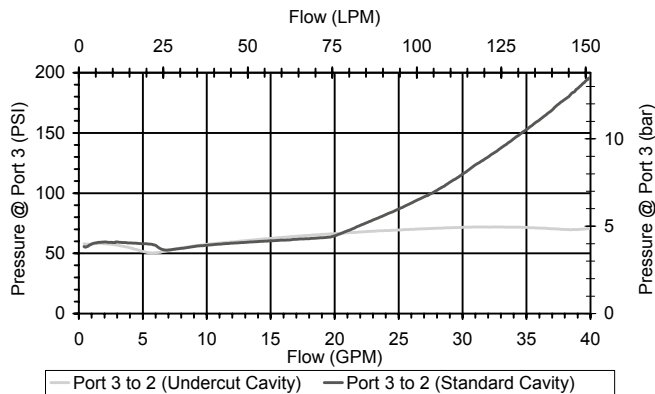


**PERFORMANCE**

Actual Test Data (Cartridge Only)

**VALVE SPECIFICATIONS**

Nominal Flow	40 GPM (151 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	.69 lbs (.31 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	90 ft-lbs (122 Nm)
Cavity	SUPER 3WS
Cavity Form Tool (Finishing)	40500021
Seal Kit	21191409
Seat Ratio	Area of the pilot is 1.5 times the area of the seat at Port (3)



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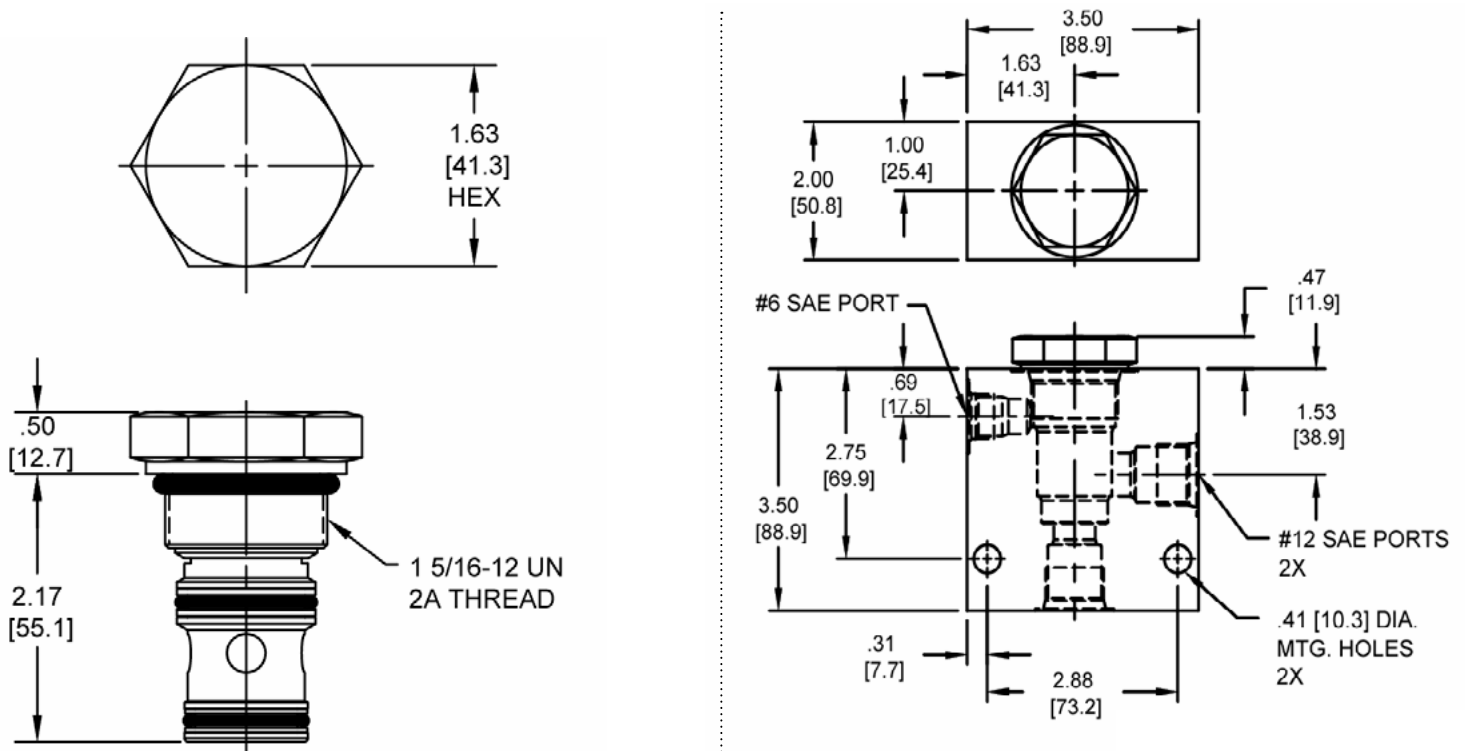


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**DIMENSIONS**



Body Weight: 1.89 lbs (.86 kg)

**ORDERING INFORMATION**

<p><b>SL-PLB</b> -</p> <p><b>OPTIONS</b></p> <p>Buna, Pilot to Close <b>OP</b></p> <p>Viton, Pilot to Close <b>VP</b></p> <p>Buna, Vent to Open <b>OV</b></p> <p>Viton, Vent to Open <b>VV</b></p> <p>Buna, Pilot to Close w/seals <b>OB</b></p> <p>Viton, Pilot to Close w/seals <b>VB</b></p> <p>Buna, Vent to Open w/seals <b>OC</b></p> <p>Viton, Vent to Open w/seals <b>VC</b></p>	<p>-</p> <p>-</p> <p>-</p>	<p><b>BODIES</b></p> <p>Blank Without Body</p> <p><b>S</b> #12 SAE Ports</p> <p><b>PRESSURE SETTING</b></p> <p><b>0020</b> 20 PSI</p> <p><b>0050</b> 50 PSI</p> <p><b>0100</b> 100 PSI</p> <p><b>0150</b> 150 PSI</p>
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**SL-PLC SUPER SERIES, LOGIC VALVE**

**DESCRIPTION**

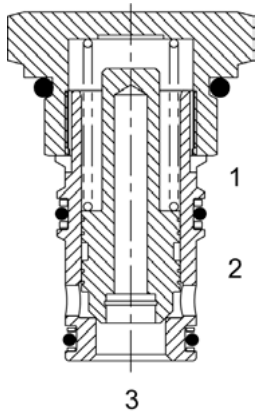
16 size, 1 5/16-12 thread, "Super" series, logic valve.

**OPERATION**

The SL-PLC with an orifice between ports (3) and (1) maintains a constant flow rate from (3) regardless of load pressure changes in the system upstream of (3), or in the bypass leg at (2) as long as pressure at (2) is less than (1). Used for basic bidirectional blocking applications.

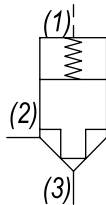
**FEATURES**

- Hardened parts for long life.
- Industry common cavity.



For metering see SL-PCA or SL-PCB.

**HYDRAULIC SYMBOL**

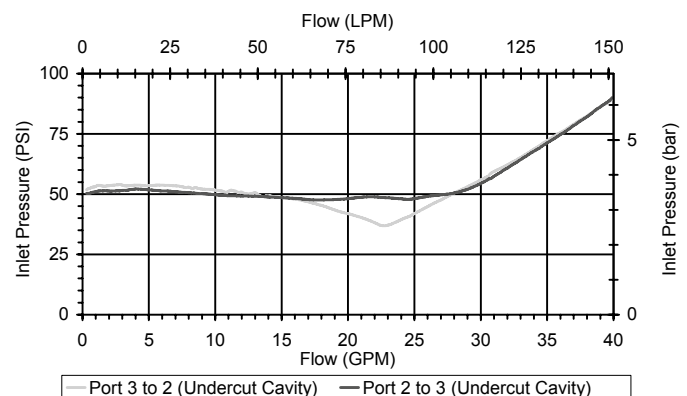
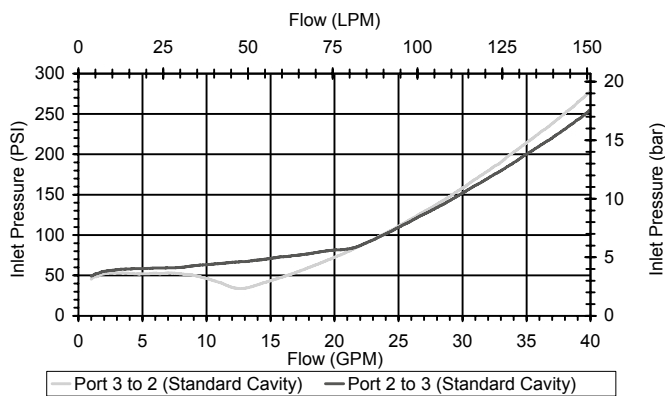


**PERFORMANCE**

Actual Test Data (Cartridge Only)

**VALVE SPECIFICATIONS**

Nominal Flow	40 GPM (151 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	.65 lbs (.29 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	90 ft-lbs (122 Nm)
Cavity	SUPER 3WS
Cavity Form Tool (Finishing)	40500021
Seal Kit	21191409
Seat Ratio	Area of the pilot is 2 times the area of the seat at Port (3)



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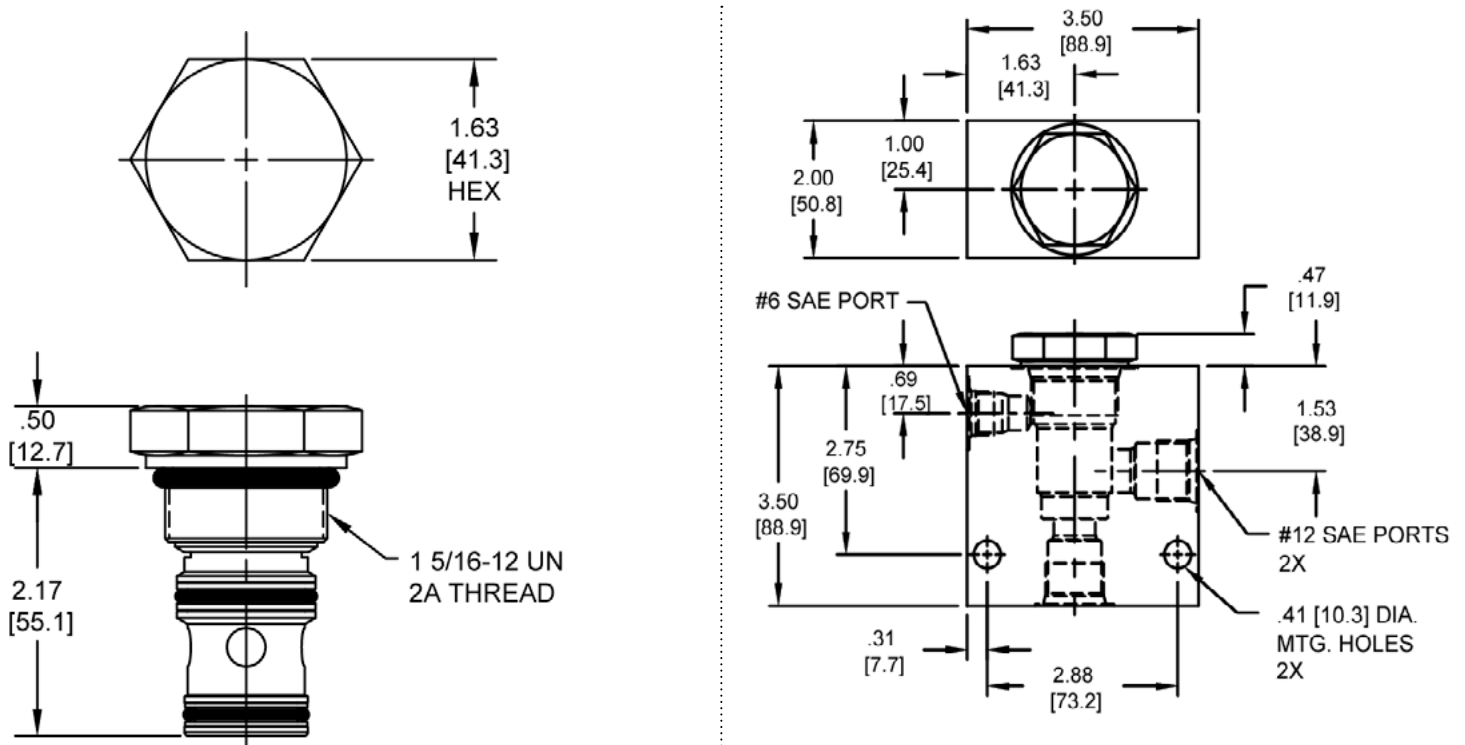
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**DIMENSIONS**



Body Weight: 1.89 lbs (.86 kg)

**ORDERING INFORMATION**

<p><b>SL-PLC</b> -</p> <p style="text-align: center;"><b>OPTIONS</b></p> <p>Buna, Pilot to Close <b>0P</b></p> <p>Viton, Pilot to Close <b>VP</b></p> <p>Buna, Pilot to Close w/seals <b>0B</b></p> <p>Viton, Pilot to Close w/seals <b>VB</b></p>	<p style="text-align: center;"><b>PRESSURE SETTING</b></p> <p><b>0020</b> 20 PSI</p> <p><b>0050</b> 50 PSI</p> <p><b>0100</b> 100 PSI</p> <p><b>0150</b> 150 PSI</p>	<p style="text-align: center;"><b>BODIES</b></p> <p><b>Blank</b> Without Body</p> <p><b>S</b> #12 SAE Ports</p>
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