




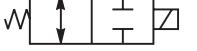




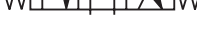
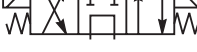







SERIES	CAVITY	DESCRIPTION	FLOW LPM/GPM	PRESSURE BAR/PSI	PAGE NO.	
Technical TipsSV2-SV6						
2 WAY POPPET TYPE						
	DSH081	C08-2	2 Position, 2 Way, N.C. or N.O.	30/8	350/5000	SV7-SV8
	DSH101	C10-2	2 Position, 2 Way, N.C. or N.O.	60/15	350/5000	SV9-SV10
	DSH121	C12-2	2 Position, 2 Way, N.C. or N.O.	90/24	350/5000	SV11-SV12
	DSH161	C16-2	2 Position, 2 Way, N.C. or N.O.	150/40	350/5000	SV13-SV14
	DSL201	C20-2	2 Position, 2 Way, N.C. or N.O.	260/70	250/3600	SV15-SV16
2 WAY SPOOL TYPE						
	DSL087 (NEW)	C08-2	Bi-Directional Poppet, N.C or N.O.	1.1/3	250/3600	SV17-SV18
	GS02 81	C08-2	Bi-Directional Poppet, N.C.	34/9	350/5000	SV19-SV20
	GS04 81	2R	Bi-Directional Poppet, N.C.	68/18	350/5000	SV21-SV22
	GS06 81	C16-2	Bi-Directional Poppet, N.C.	285/75	350/5000	SV23-SV24
	GS02 86	C08-2	Bi-Directional Poppet, N.O.	34/9	350/5000	SV25-SV26
	GS04 86	2R	Bi-Directional Poppet, N.O.	68/18	350/5000	SV27-SV28
	GS06 86	C16-2	Bi-Directional Poppet, N.O.	285/75	350/5000	SV29-SV30
2 WAY SPOOL TYPE						
	DSH082	C08-2	2 Position, 2 Way	15/4	350/5000	SV31-SV32
	DSH102	C10-2	2 Position, 2 Way	30/8	350/5000	SV33-SV34
3 WAY SPOOL TYPE						
	DSH083	C08-3	2 Position, 3 Way	15/4	350/5000	SV35-SV37
	DSH103	C10-3	2 Position, 3 Way	30/8	350/5000	SV38-SV40
4 WAY, 2 POSITION SPOOL TYPE						
	DSH084	C08-4	2 Position, 4 Way	15/4	350/5000	SV41-SV42
	DSH104	C10-4	2 Position, 4 Way	38/10	350/5000	SV43-SV44
	DSH164	C16-4	2 Position, 4 Way	113/30	350/5000	SV45-SV46
4 WAY, 3 POSITION SPOOL TYPE						
	GS02 51	C08-4	3 Position, 4 Way	17/4.5	350/5000	SV47-SV48
	GS02 53	C08-4	3 Position, 4 Way	15/4	350/5000	SV49-SV50
	GS02 57	C08-4	3 Position, 4 Way	13/3.5	350/5000	SV51-SV52
	GS02 59	C08-4	3 Position, 4 Way	13/3.5	350/5000	SV53-SV54
	DSL105	C10-4	3 Position, 4 Way	26/7	250/3600	SV55-SV56
	GS04 52D	C10-4	3 Position, 4 Way	42/11	350/5000	SV57-SV58
	GS04 54D	C10-4	3 Position, 4 Way	42/11	350/5000	SV59-SV60
	GS04 57D	C10-4	3 Position, 4 Way	42/11	350/5000	SV61-SV62
	GS04 59D	C10-4	3 Position, 4 Way	42/11	350/5000	SV63-SV64

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Technical Tips

COMMON OPTIONS

As you will see, Parker offers a variety of solenoid valve products. As such, some of the options mentioned below may not be available on all valves. Consult the model coding and dimensions for each valve for more specifics. Here are some of the common options available.

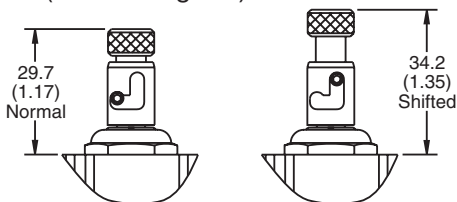
Seals: Valves feature a Polyurethane “D”-Ring. The “D”-Ring eliminates the need for backup rings. For more information on the “D”-Ring see the Technical Data section of the catalog. The majority of the products are also available in Nitrile or Fluorocarbon seals. Contact factory for availability. You should always match the seal compatibility to the temperature and fluid being used in your application.

Coils: Coils can be ordered as part of the full assembly or separately. Various terminations and voltages are available. For detailed information on the coil options consult the coil section of the catalog. The ordering information for each valve will direct you to the proper coil.

Manual Overrides: Many of our solenoid valves are also offered with a manual override. The override allows the user to shift the valve when coil force is not available. They provide a means of shifting the solenoid valve due to a loss of power or a coil failure. Overrides are intended for infrequent usage and are not designed to be used as a primary method of valve actuation.

The most common override option for the 2 Position valves is the push & twist style shown below. With a normally closed valve or a pull style tube, the valve is in normal operation (or de-energized)

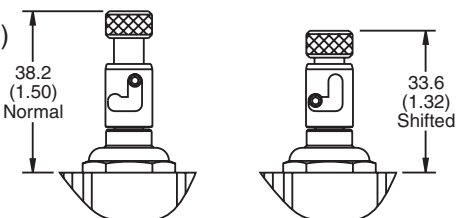
when the pin is seated in the slotted groove at the lowest position. To shift the valve manually, the operator pushes down on the knob



Normally Closed Pull Type Tube

and twists it counterclockwise. When the pressure is removed from the knob, an internal spring pushes the pin up the slotted groove to the upper position of the override. With a normally open valve, or push style tube, the actuation is reversed. The valve is in the normal position

(or de-energized) when the pin is in the upper position of the override. To shift the valve manually, the operator pushes

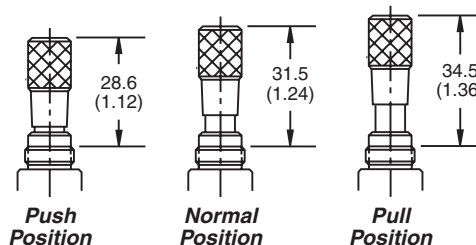


Normally Open Push Type Tube

Solenoid Valves

down on the knob and twists is clockwise. Once the pin is seated in the slotted groove, the operator can remove pressure and the valve will stay actuated.

3 Position valves are offered with a Push / Pull style override. This override is not detented. Springs hold the spool of the valve in the center position of the valve. When the knob is pulled, the spool is moved upward simulating the action of the upper coil. When the override is pushed, the spool moves downward simulating the action of the lower coil. When no pressure is applied to the knob, it centers the spool.



Screens: 2 way valves can be ordered with a small mesh screen (60 x 60 mesh) placed over the cage of the cartridge valve. This screen is intended for cursory protection of the internal components of the solenoid valve. It should not be used as the primary method of filtration. The mesh catches small pieces of debris that could impede spool or poppet movement. Note that a screen will trap debris from both directions. Thus, any debris coming from the nose of the cartridge would be trapped inside the valve. As such, we recommend that screens be implemented in only applications where hydraulic fluid passes through the cartridge from the side of the cage to the nose. It should also be noted that the pressure drop through the cartridge will be increased slightly due to the small restriction of the mesh. As the screen fills with debris, pressure drop will continue to rise.



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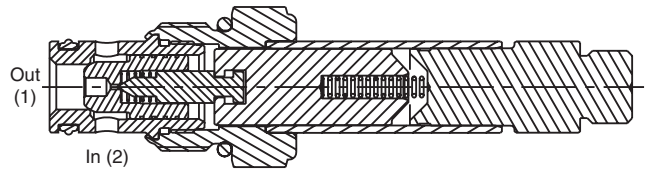
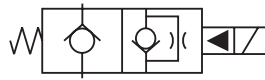
PRODUCT TYPES / APPLICATIONS

Two Way Poppet Valves

Two way poppet valves are pilot operated, low leakage solenoid actuated valves. Two way poppet valves control the flow of a two way function by blocking flow in one direction (similar to a check valve). They are generally selected due to their low leakage and ability to meet higher flow requirements. Poppet valves are often used on single operation actuators or in unloading functions. They are available in normally closed and normally open types. In addition, free reverse flow and fast response versions are available.

Normally Closed Poppet

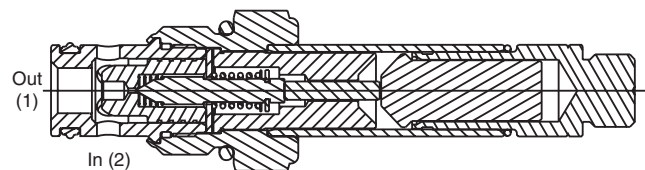
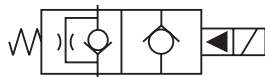
Normally closed two way poppet valves act as a check valve when de-energized, blocking flow from one direction and allowing restricted free flow in the reverse condition. When energized, the poppet lifts allowing free flow from the side to the nose of the cartridge. Should the application require free flow in both directions, the free reverse flow option should be chosen.



OPERATION - The valve pilot is held on its seat by spring force, blocking pilot flow. This allows pressure at the inlet (port 2) to hold the poppet on its seat, thus, preventing flow through the valve (2-1). If the nose of the cartridge (port 1) is pressurized, the pressure will overcome the spring force, pushing the poppet off of its seat, allowing free flow through the cartridge (1-2). When the coil is energized, the valve pilot is pulled off of its seat. This vents the pressure inside the poppet to port 1, creating a pressure imbalance across the main poppet. This differential lifts the poppet allowing flow from the side to nose (2-1). Since poppet valves are piloted operated, a minimum amount of pressure differential (25-50 psi) and flow between ports 2 and 1 must be present to overcome the spring and lift the poppet.

Normally Open Poppet

Normally open two way poppet valves, when de-energized, allow free flow from the side (port 2) of the cartridge to the nose (port 1). Flow in the reverse direction is restricted. Should free flow be required in both directions, the free reverse flow option should be specified. Once the coil is energized the normally open poppet valve acts as a check valve, blocking flow from one direction and allowing restricted free flow in the reverse condition.

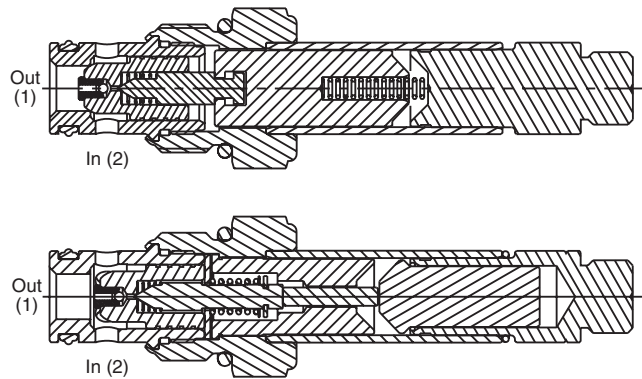
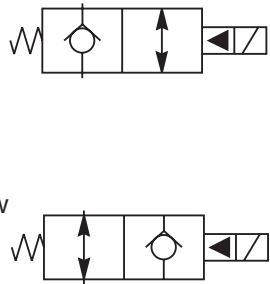


OPERATION - The valve pilot is held off its seat by spring force. Pilot flow is vented to port 1, creating a pressure imbalance that moves the main poppet. This differential lifts the poppet allowing flow from the side to nose (2-1). Since poppet valves are piloted operated, a minimum amount of pressure differential (25-50 psi) between ports 2 and 1 must be present to overcome the spring and lift the poppet. When the coil is energized, the coil force overcomes the spring force to drive the valve pilot and main poppet into their seats, thus blocking flow from port 2-1. If the nose of the cartridge (port 1) is pressurized, the pressure will overcome the spring force and solenoid force, pushing the poppet off of its seat, allowing restricted flow through the cartridge (1-2).

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Free Reverse Flow

The free reverse flow versions are available on both the normally closed and normally open poppet valves. As mentioned above, the operation is the same as the standard poppet valve except flow through the reverse direction is not restricted. The free reverse flow option is only needed if the application requires flow to pass through the cartridge valve from the nose to side (port 1 to port 2).



Fast Response

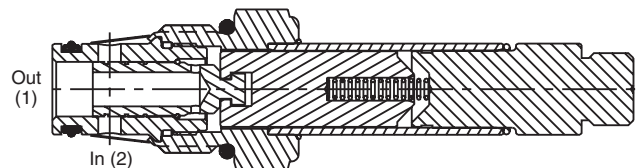
Since poppet valves are pilot operated valves, a few milliseconds are needed to move the pilot and allow the poppet to lift. Should a faster response time be required on normally closed poppet valves, this option can be chosen. The fast response is accomplished by reducing the movement of the pilot. Thus, the flow capacity of the poppet valve is also decreased.

Two Way Spool Valves

Two way spool valves are direct acting, fast responding solenoid actuated valves. Like the poppet valves described earlier, they block the flow of a two way function. Unlike two way poppet valves, spool valves block flow from both the side port and the nose port. They do not have the check like function of the poppet valve, thus they are either open or closed. Spool valves are directed operated, so they respond more quickly to coil voltage than poppet valves. Spool valves operate via a sliding spool, thus, some leakage will be present due to the required spool clearance. Spool valves block flow in both directions, but the preferred flow path is still from the side of the cartridge to the nose due to the flow forces acting on the spool. Two way spool valves are available in normally open and normally closed types.

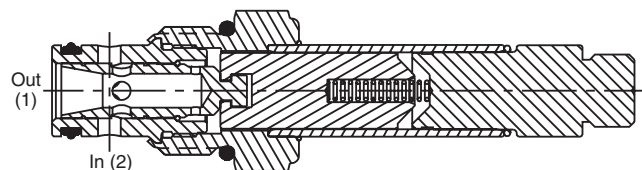
Normally Closed Spool

When de-energized, the spool is positioned by the spring force to cover both the side (2) and nose (1) ports of the valve. Thus, no flow is allowed from either direction. Once the coil is energized, the spool shifts exposing a flow path between the two ports. Flow can then be passed through the valve from either direction.



Normally Open Spool

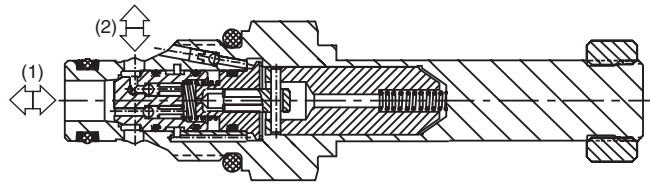
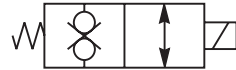
When de-energized, the spool is positioned by the spring force so that a flow path between the side (2) and nose (1) ports is exposed, allowing flow through the valve from either direction. Once the coil is energized, the spool shifts to cover both the side (2) and nose (1) ports of the valve. Thus, no flow is allowed from either direction.



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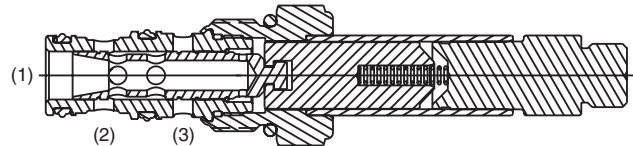
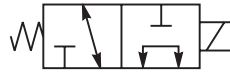
Bi-Directional Poppet Valve

Bi-directional poppet valves combine the dual blocking function of spool valves with the lower leakage capabilities of poppet valves. These valves also have a limited flow capacity compared to standard poppet or spool valves.



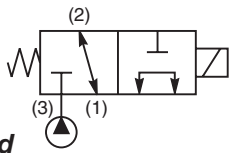
Two Position, Three Way Spool Valve

Three way spool solenoid valves provide directional control of flow. Each three way valve has a special internal spool which connects two of the three valve ports. When actuated, the spool connects a different combination of valve ports. These valves are often used for raise and lower functions of a single acting cylinder, control of a uni-directional motor, or as a circuit selector.

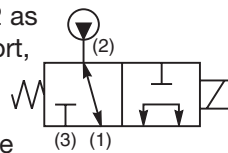


OPERATION - In the de-energized mode, the spool is positioned by spring force. When energized, the coil force directly shifts the spool against the spring, thus changing the flow through the valve. Each spool type can be used as a normally open, normally closed, or selector valve. To explain this we will review the DSL103A which is pictured here. When the valve is de-energized, ports 1 and 2 are open to one another. When energized, ports 1 and 3 are connected.

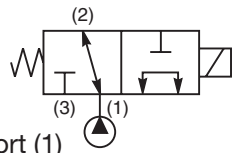
Thus, if we use port 3 as our pressure port, we have a **normally closed valve**. The pressure port (3) is blocked, while the actuator port (1) is drained to tank (2).



If we use port 2 as our pressure port, we have a **normally open valve**. The pressure port (2) is connected to the actuator port (1), and the tank port (3) is blocked.



If we use port 1 as our pressure port, we have a **selector valve**. The pressure port (1) is either connected to port (2) or port (3). Thus, it is "selecting" which port will get the system pressure and flow.

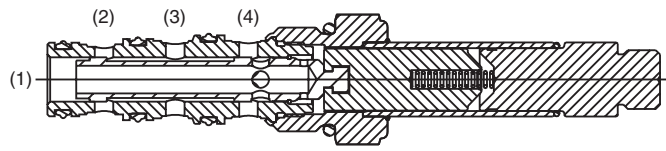
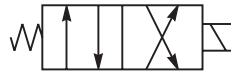


Note that in all three examples, we were using the same valve. The flow forces acting on the spool change depending on which port is pressurized. Thus, if you will be shifting the three way valve under full flow and pressure, it is important to review the shift limit characteristics for the flow paths you have chosen to be sure the coil has enough force to shift the spool. Various spools are available in this catalog to maximize the flow and pressure capacities for the desired flow function.

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**Two Position,
Four Way Spool Valve**

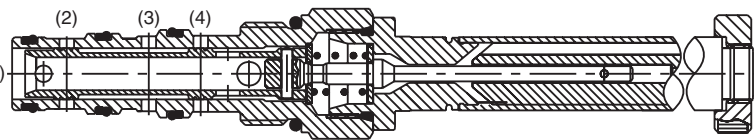
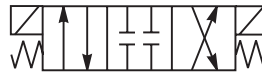
Four way spool solenoid valves provide directional control of flow. Each four way valve has a special internal spool which connects some combination of the four valve ports together. When actuated, the spool connects a different combination of valve ports. These valves are often used for the raise / lower function of a double acting cylinder, or as a forward / reverse function of bi-directional motors.



OPERATION - In the de-energized mode, the spool is positioned by spring force. When energized, the coil force directly shifts the spool against the spring, thus changing the flow through the valve. Each spool type is customized to provide the flow combination desired. The flow forces acting on the spool change depending on which port is pressurized. Thus, if you will be shifting the four way valve under full flow and pressure, it is important to review the shift limit characteristics for the flow paths you have chosen to ensure the coil has enough force to shift the spool. Various spools are shown in this catalog to maximize the flow and pressure capacities for the desired flow function.

**Three Position,
Four Way Spool Valve**

Three position, four way spool solenoid valves provide directional control of flow. Each four way valve has a special internal spool which connects some combination of the four ports together. When one coil is actuated, the spool connects a different combination of valve ports. When the other coil is actuated a third combination of valve ports are connected. These valves are often used for the raise / lower function of a double acting cylinder, or as a forward / reverse function of bi-directional motors. The center position can be used to stop the actuator in mid-stroke, or dump the pump flow.



OPERATION - In the de-energized mode, the spool is positioned by spring force. When energized, the coil force directly shifts the against the spring, thus changing the flow through the valve. Each spool type is customized to provide the flow combination desired. The flow forces acting on the spool change depending on which port is pressurized. Thus, if you will be shifting the four way valve under full flow and pressure, it is important to review the shift limit characteristics for the flow paths you chosen to ensure the coil has enough force to shift the spool. Various spools are shown in this catalog to maximize the flow and pressure capacities for the desired flow function.

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General Description

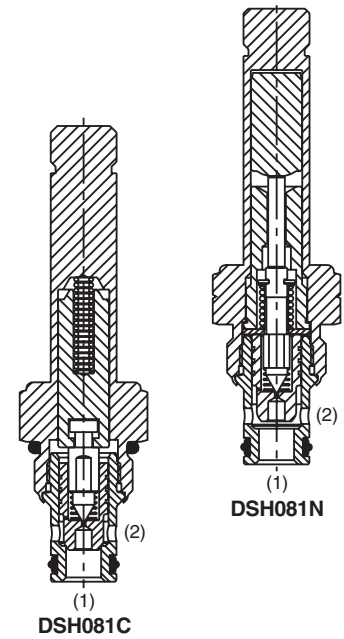
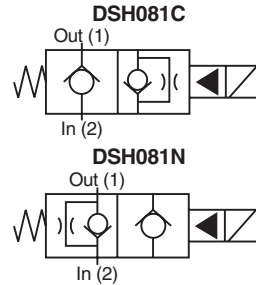
2-Way Poppet Valves.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Replaceable, one piece encapsulated, coils with minimal amperage draw
- Variety of coil terminations and voltages
- Variety of manual override options available
- Polyurethane “D”-Ring eliminates need for backup rings
- Spherical poppet for low leakage
- Nylon inserted jam-nut provides secure holding in high vibration applications
- All external parts zinc plated

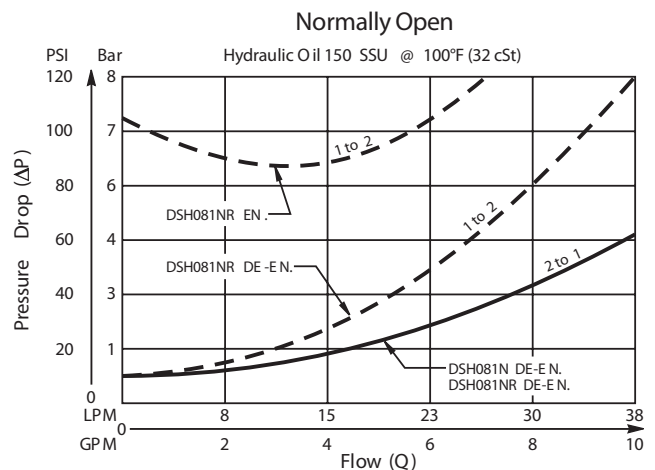
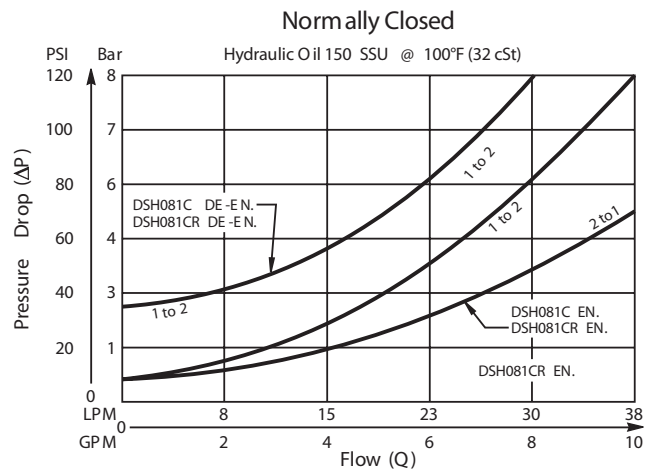
Specifications

Rated Flow	30 LPM (8 GPM)									
Maximum Inlet Pressure	350 Bar (5000 PSI)									
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.)									
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).									
Response Time	<table border="1"> <thead> <tr> <th></th> <th>Energized</th> <th>De-Energized</th> </tr> </thead> <tbody> <tr> <td>C, CR</td> <td>50 ms</td> <td>50 ms</td> </tr> <tr> <td>N, NR</td> <td>50 ms</td> <td>40 ms</td> </tr> </tbody> </table>		Energized	De-Energized	C, CR	50 ms	50 ms	N, NR	50 ms	40 ms
	Energized	De-Energized								
C, CR	50 ms	50 ms								
N, NR	50 ms	40 ms								
Cartridge Material	All parts steel. All operating parts hardened steel.									
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)									
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)									
Filtration	ISO 4406 18/16/13, SAE Class 4									
Approx. Weight	.11 kg (.25 lbs.)									
Cavity	C08-2 (See BC Section for more details)									



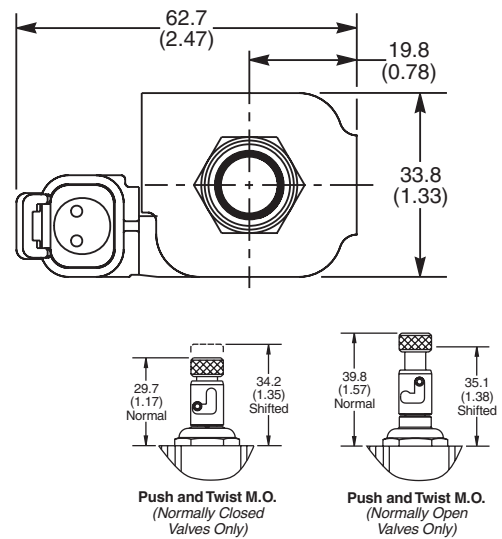
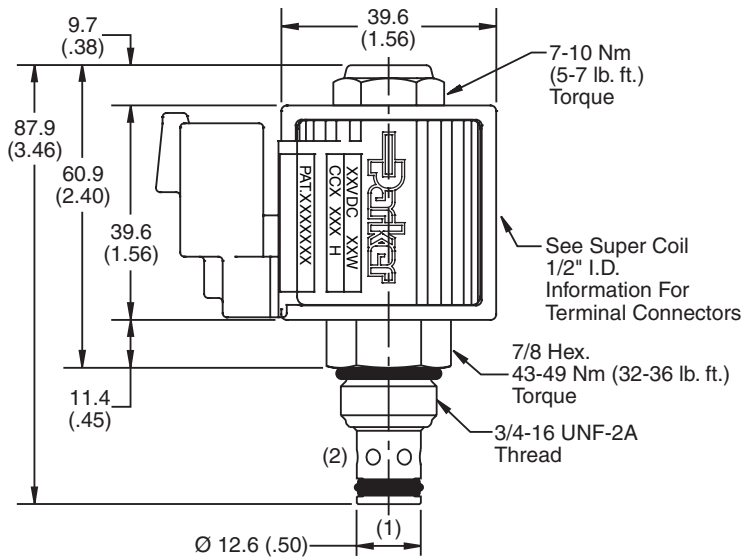
Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

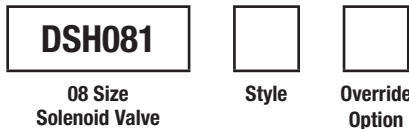


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- TD Technical Data

Dimensions Millimeters (Inches)



Ordering Information



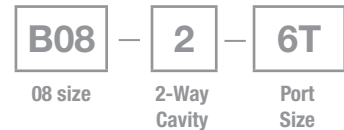
Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

*Order Bodies Separately
 See section BC*

Code / Style	
C Normally Closed Metered reverse flow	
CR Normally Closed Free reverse flow	
N Normally Open Metered reverse flow	
NR Normally Open Free reverse flow	

Code	Override Options
Omit	None
T	Push & Twist (N.C. & N.O.)



Code	Seals
Omit	"D"-Ring

Code	Port Size / Body Material
6T	SAE-6 / Steel (5000 PSI)

Kit	Part Number
D-Ring Seal	SK08-2
Nitrile Seal	SK08-2
Fluorocarbon Seal	SK08-2V

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

TD
Technical Data

General Description

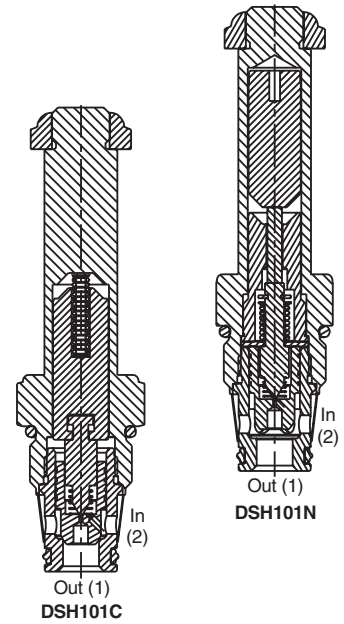
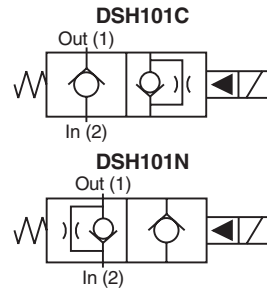
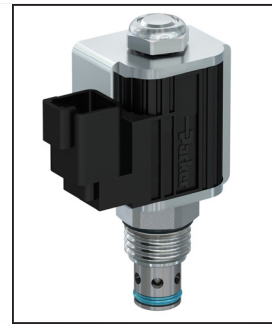
2-Way Poppet Valves.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Low hysteresis
- Replaceable, one piece encapsulated coils with minimal amperage draw
- Various coil terminations and voltages
- Various manual override options
- Polyurethane “D”-Ring eliminates need for backup rings
- Nylon inserted jam-nut provides secure holding in high vibration applications
- All external parts zinc plated

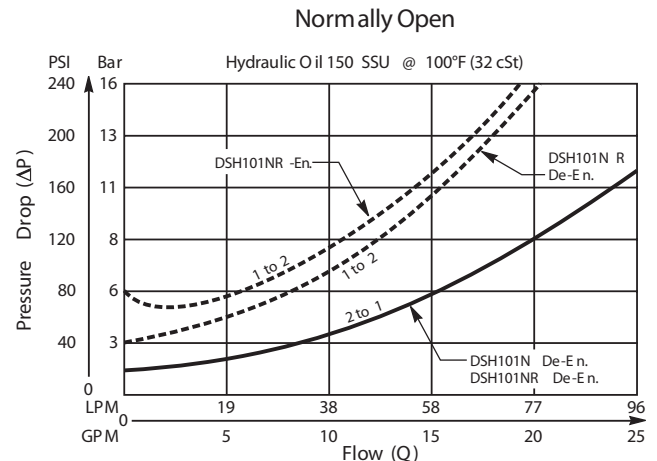
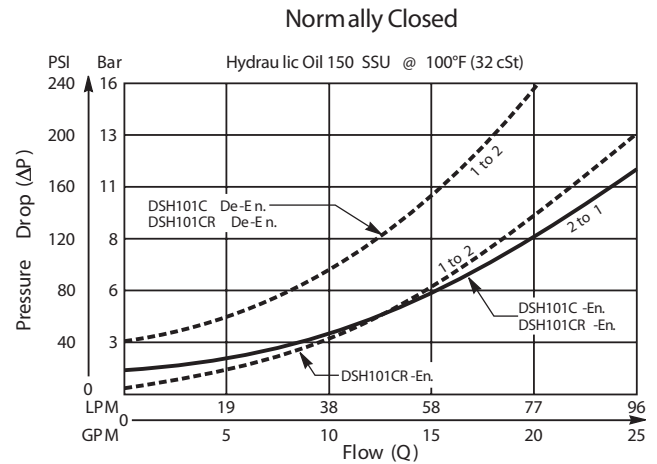
Specifications

Rated Flow	60 LPM (15 GPM)									
Maximum Inlet Pressure	350 Bar (5000 PSI)									
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.)									
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).									
Response Time	<table border="1"> <thead> <tr> <th></th> <th>Energized</th> <th>De-Energized</th> </tr> </thead> <tbody> <tr> <td>C, CR</td> <td>80 ms</td> <td>150 ms</td> </tr> <tr> <td>N, NR</td> <td>70 ms</td> <td>35 ms</td> </tr> </tbody> </table>		Energized	De-Energized	C, CR	80 ms	150 ms	N, NR	70 ms	35 ms
	Energized	De-Energized								
C, CR	80 ms	150 ms								
N, NR	70 ms	35 ms								
Cartridge Material	All parts steel. All operating parts hardened steel.									
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)									
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)									
Filtration	ISO 4406 18/16/13, SAE Class 4									
Approx. Weight	.20 kg (0.41 lbs.)									
Cavity	C10-2 (See BC Section for more details)									



Performance Curves

Pressure Drop vs. Flow (Through cartridge only)



CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

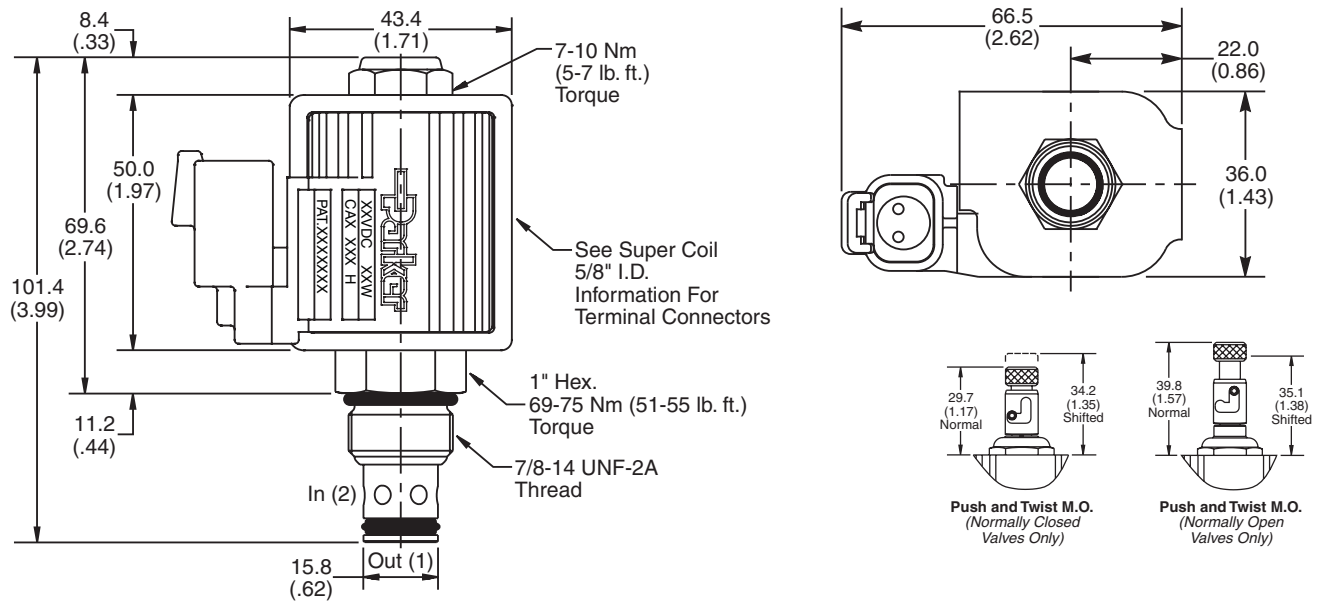
PV
Proportional Valves

CE
Coils & Electronics

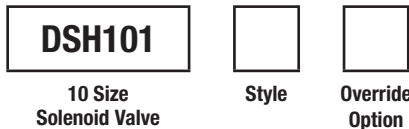
BC
Bodies & Cavities

TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information



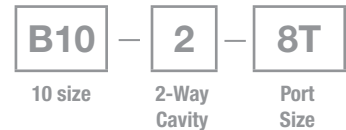
Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.

*Order Bodies Separately
 See section BC*

Code / Style	
C Normally Closed Metered reverse flow	
CR Normally Closed Free reverse flow	
N Normally Open Metered reverse flow	
NR Normally Open Free reverse flow	

Code	Override Options
Omit	None
T	Push & Twist (N.C. & N.O.)



Code	Seals
Omit	"D"-Ring

Code	Port Size / Body Material
8T	SAE-8 / Steel (5000 PSI)

Kit	Part Number
D-Ring Seal	SK10-2
Nitrile Seal	SK10-2
Fluorocarbon Seal	SK10-2V

CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
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PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

General Description

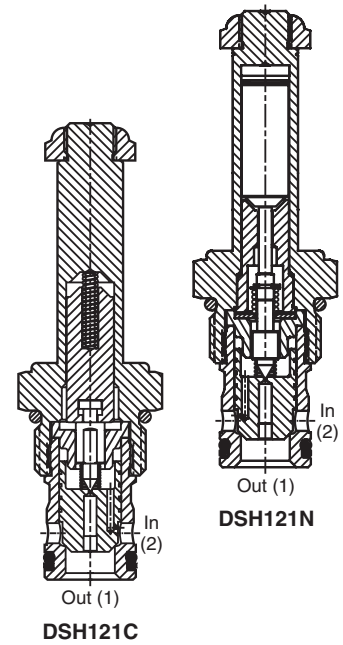
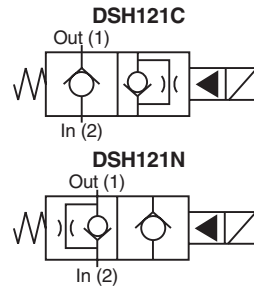
2-Way Poppet Valves.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Low hysteresis
- Replaceable, one piece encapsulated coils with minimal amperage draw
- Various coil terminations and voltages
- Various manual override options
- All external parts zinc plated

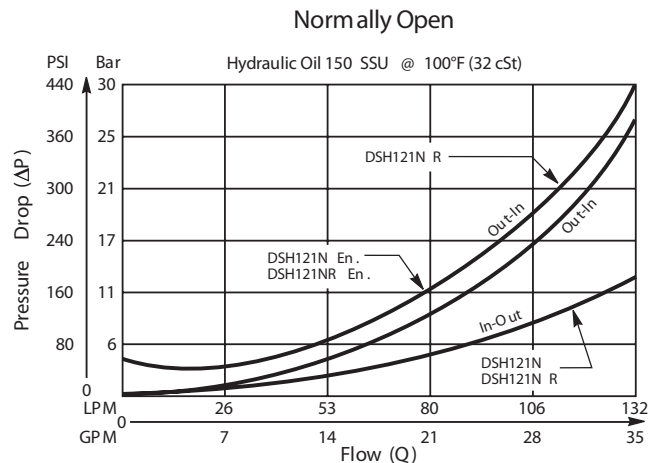
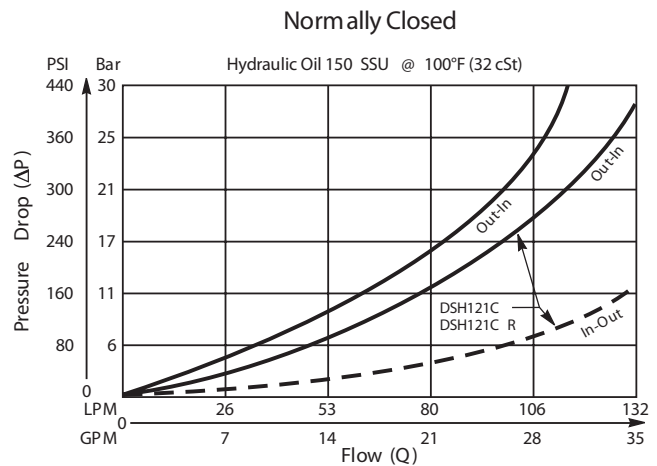
Specifications

Rated Flow	90 LPM (24 GPM)									
Maximum Inlet Pressure	350 Bar (5000 PSI)									
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.)									
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).									
Response Time	<table border="1"> <tr> <td></td> <td>Energized</td> <td>De-Energized</td> </tr> <tr> <td>C, CR</td> <td>100 ms</td> <td>150 ms</td> </tr> <tr> <td>N, NR</td> <td>70 ms</td> <td>150 ms</td> </tr> </table>		Energized	De-Energized	C, CR	100 ms	150 ms	N, NR	70 ms	150 ms
	Energized	De-Energized								
C, CR	100 ms	150 ms								
N, NR	70 ms	150 ms								
Cartridge Material	All parts steel. All operating parts hardened steel.									
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)									
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)									
Filtration	ISO 4406 18/16/13, SAE Class 4									
Approx. Weight	.29 kg (.65 lbs.)									
Cavity	C12-2 (See BC Section for more details)									



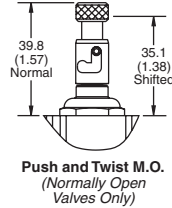
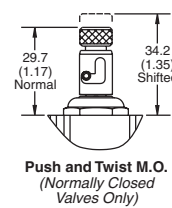
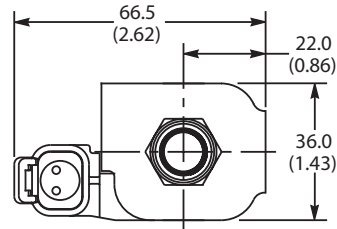
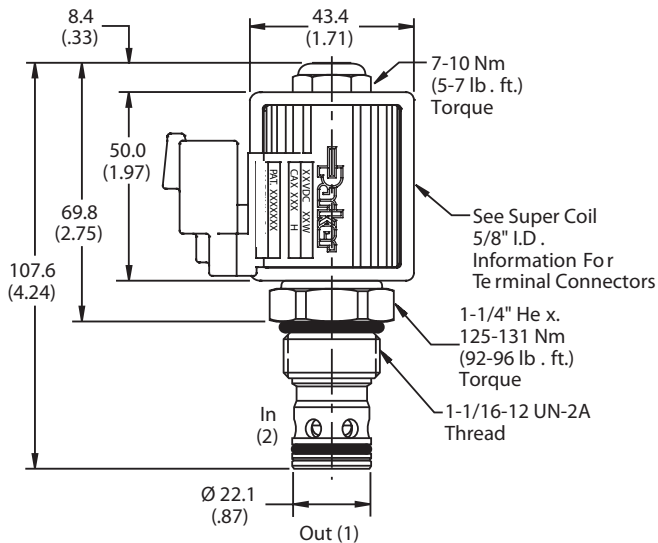
Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

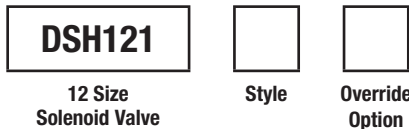


- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

Dimensions Millimeters (Inches)



Ordering Information



Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.

Order Bodies Separately See section BC

Code / Style	
C Normally Closed Metered reverse flow	
CR Normally Closed Free reverse flow	
N Normally Open Metered reverse flow	
NR Normally Open Free reverse flow	

Code	Override Options
Omit	None
T	Push & Twist (N.C. & N.O.)



Code	Seals
Omit	Nitrile

Code	Port Size / Body Material
8T	SAE-8 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK12-2
Fluorocarbon Seal	SK12-2V

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

TD
Technical Data

General Description

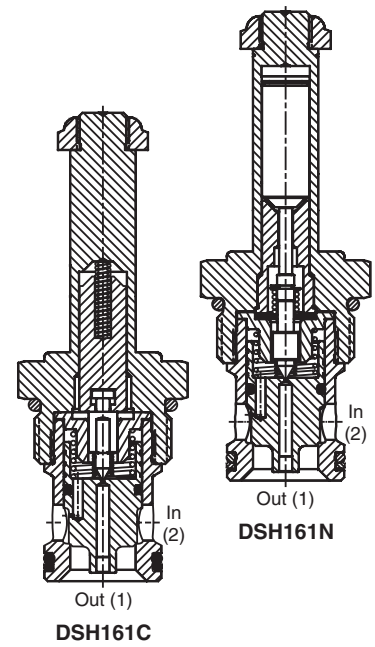
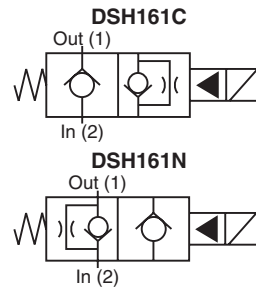
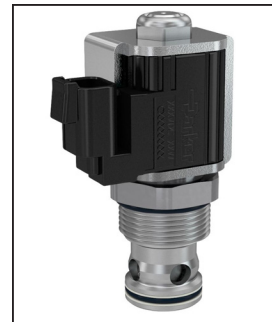
2-Way Poppet Valves.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Replaceable, one piece encapsulated coils with minimal amperage draw
- Various coil terminations and voltages
- Various manual override options
- All external parts zinc plated
- New 350 Bar (5000 PSI) rating

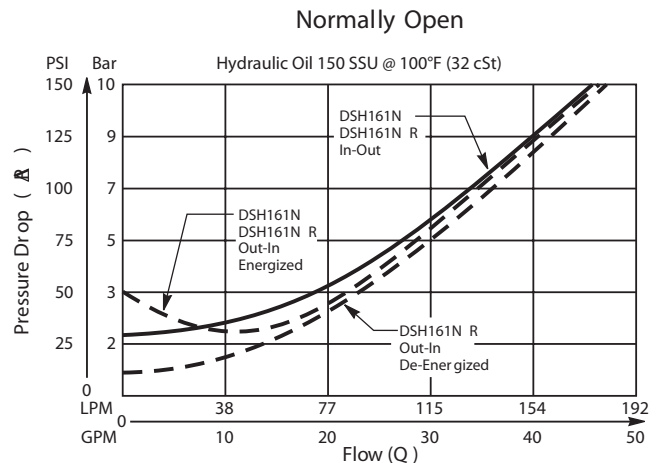
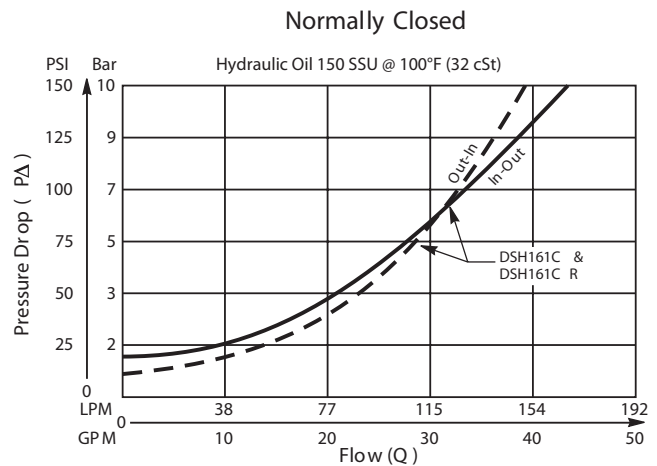
Specifications

Rated Flow	150 LPM (40 GPM)									
Maximum Inlet Pressure	350 Bar (5000 PSI)									
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.)									
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).									
Response Time	<table border="1"> <tr> <td></td> <td>Energized</td> <td>De-Energized</td> </tr> <tr> <td>C, CR</td> <td>50 ms</td> <td>130 ms</td> </tr> <tr> <td>N, NR</td> <td>45 ms</td> <td>75 ms</td> </tr> </table>		Energized	De-Energized	C, CR	50 ms	130 ms	N, NR	45 ms	75 ms
	Energized	De-Energized								
C, CR	50 ms	130 ms								
N, NR	45 ms	75 ms								
Cartridge Material	All parts steel. All operating parts hardened steel.									
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)									
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)									
Filtration	ISO 4406 18/16/13, SAE Class 4									
Approx. Weight	.34 kg (.75 lbs.)									
Cavity	C16-2 (See BC Section for more details)									



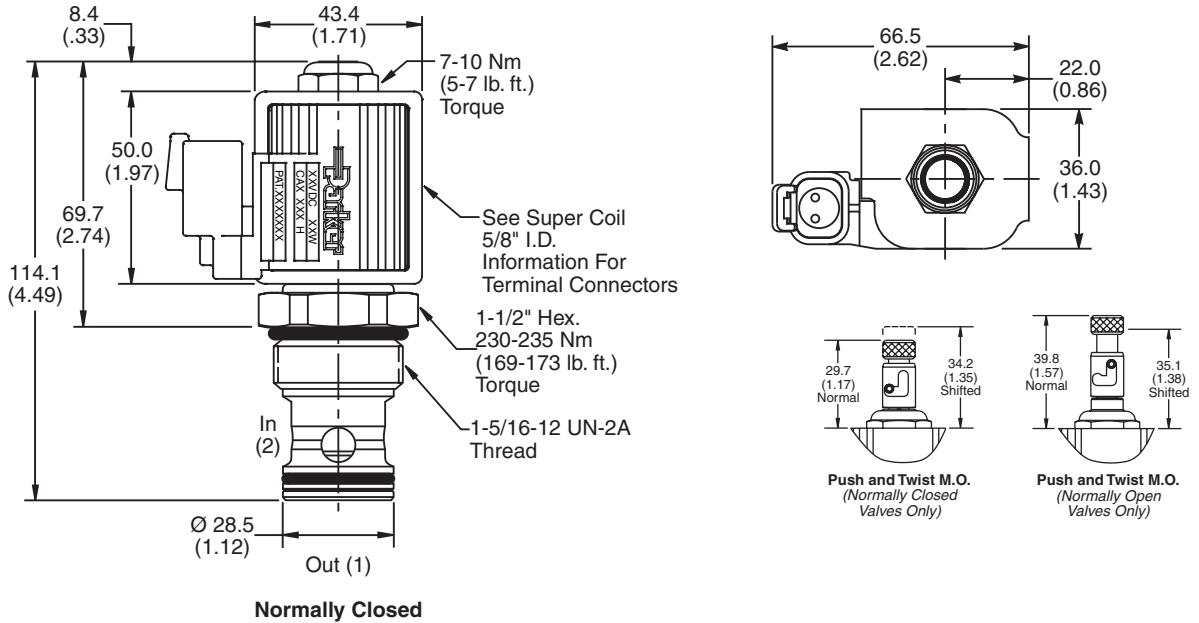
Performance Curves

Pressure Drop vs. Flow (Through cartridge only)



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

DSH161

16 Size Solenoid Valve **Style** **Override Option**

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.

*Order Bodies Separately
 See section BC*

Code / Style	
C Normally Closed Metered reverse flow	
CR Normally Closed Free reverse flow	
N Normally Open Metered reverse flow	
NR Normally Open Free reverse flow	

Code	Override Options
Omit	None
T	Push & Twist (N.C. & N.O.)

B16 – **2** – **16T**

16 size 2-Way Cavity Port Size

Code	Seals
Omit	Nitrile

Code	Port Size / Body Material
16T	SAE-16 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK16-2
Fluorocarbon Seal	SK16-2V

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

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Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

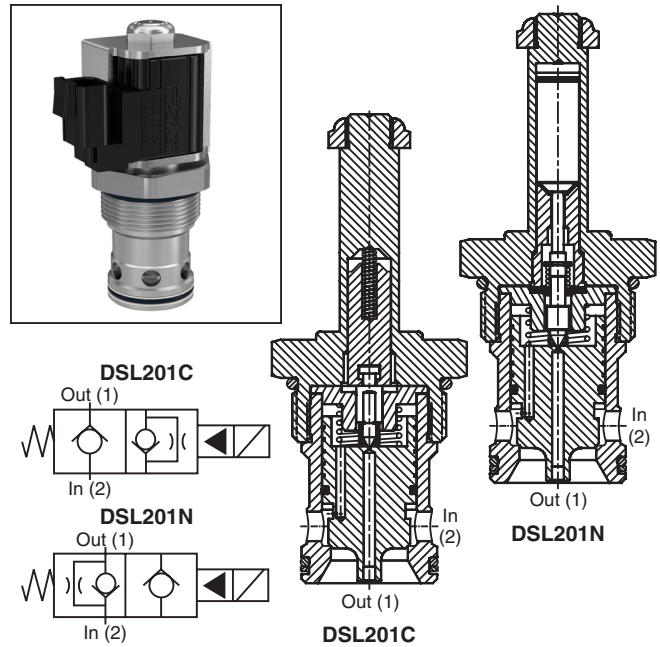
TD
Technical Data

General Description

2-Way Poppet Valves.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Replaceable, one piece encapsulated coils with minimal amperage draw
- Various coil terminations and voltages
- Various manual override options
- All external parts zinc plated
- New 250 Bar (3600 PSI) rating

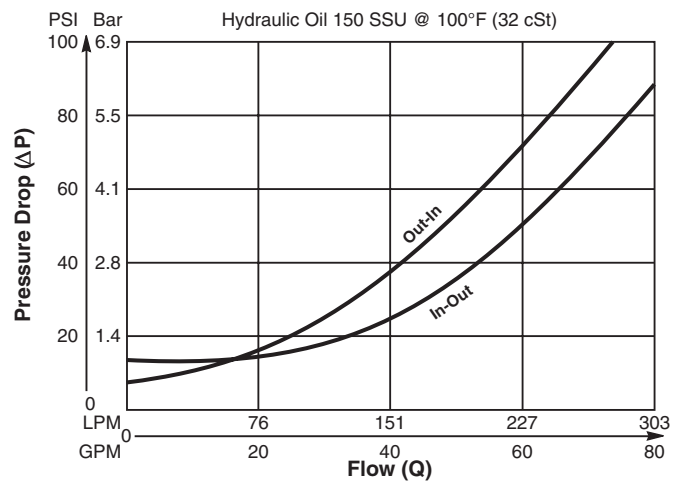


Specifications

Rated Flow	260 LPM (70 GPM)									
Maximum Inlet Pressure	250 Bar (3600 PSI)									
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.)									
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).									
Response Time	<table border="1"> <thead> <tr> <th></th> <th>Energized</th> <th>De-Energized</th> </tr> </thead> <tbody> <tr> <td>C, CR</td> <td>350 ms</td> <td>160 ms</td> </tr> <tr> <td>N, NR</td> <td>300 ms</td> <td>45 ms</td> </tr> </tbody> </table>		Energized	De-Energized	C, CR	350 ms	160 ms	N, NR	300 ms	45 ms
	Energized	De-Energized								
C, CR	350 ms	160 ms								
N, NR	300 ms	45 ms								
Cartridge Material	All parts steel. All operating parts hardened steel.									
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)									
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)									
Filtration	ISO 4406 18/16/13, SAE Class 4									
Approx. Weight	.34 kg (.75 lbs.)									
Cavity	C20-2 (See BC Section for more details)									

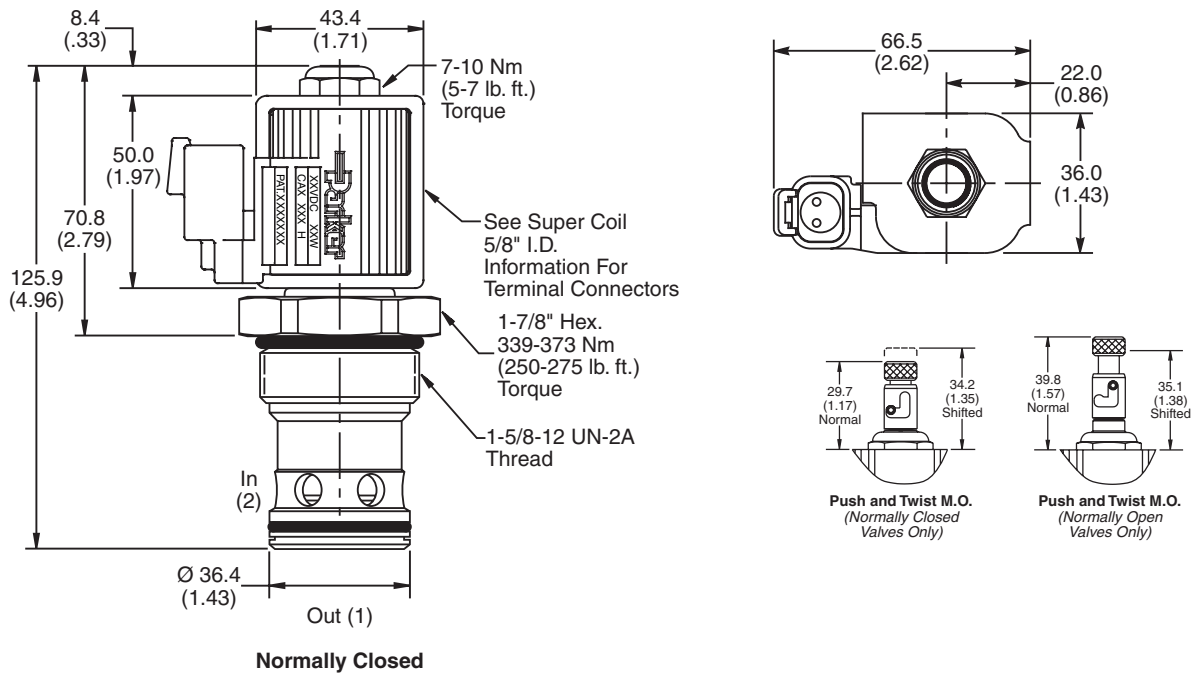
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

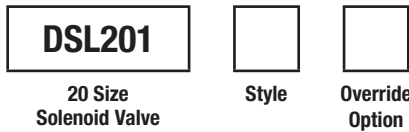


CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information



Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.

*Order Bodies Separately
 See section BC*

Code / Style	Diagram
C Normally Closed Metered reverse flow	
CR Normally Closed Free reverse flow	
N Normally Open Metered reverse flow	
NR Normally Open Free reverse flow	

Code	Override Options
Omit	None
T	Push & Twist (N.C. & N.O.)



Code	Seals
Omit	Nitrile

Code	Port Size / Body Material
20T	SAE-20 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK20-2
Fluorocarbon Seal	SK20-2V



CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

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Pressure Controls

LE
Logic Elements

DC
Directional Controls

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Solenoid Valves

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Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

TD
Technical Data

General Description

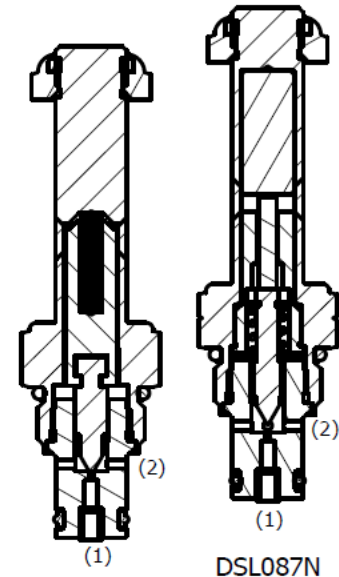
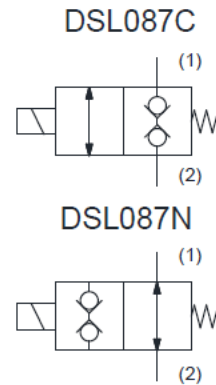
2-Way Poppet Valves.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Replaceable, one piece encapsulated, coils with minimal amperage draw
- Variety of coil terminations and voltages
- Polyurethane “D”-Ring eliminates need for backup rings
- Conical poppet for low leakage
- Nylon inserted jam-nut provides secure holding in high vibration applications
- All external parts zinc plated

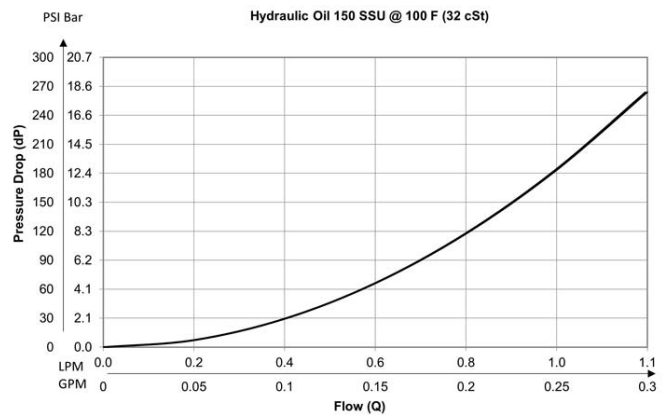
Specifications

Rated Flow	1.1 LPM (0.3 GPM)									
Maximum Input Pressure at Port 1	250 Bar (3600 PSI)									
Leakage at 150 SSU (32 cSt)	5 drops/min. (0.33 cc/min.) @ 250 Bar (3600 PSI)									
Minimum Operating Voltage, CCXXX Coil	85% of rated voltage at 20°C (72°F).									
Response Time	<table border="1"> <thead> <tr> <th></th> <th>Energized</th> <th>De-Energized</th> </tr> </thead> <tbody> <tr> <td>C</td> <td>30 ms</td> <td>30 ms</td> </tr> <tr> <td>N</td> <td>30 ms</td> <td>30 ms</td> </tr> </tbody> </table>		Energized	De-Energized	C	30 ms	30 ms	N	30 ms	30 ms
	Energized	De-Energized								
C	30 ms	30 ms								
N	30 ms	30 ms								
Cartridge Material	All parts steel. All operating parts hardened steel.									
Operating Temp. Range/Seals	-37°C to +93°C (“D” ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)									
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)									
Filtration	ISO 4406 18/16/13, SAE Class 4									
Approx. Weight	.11 kg (.25 lbs.)									
Cavity	C08-2 (See BC Section for more details)									



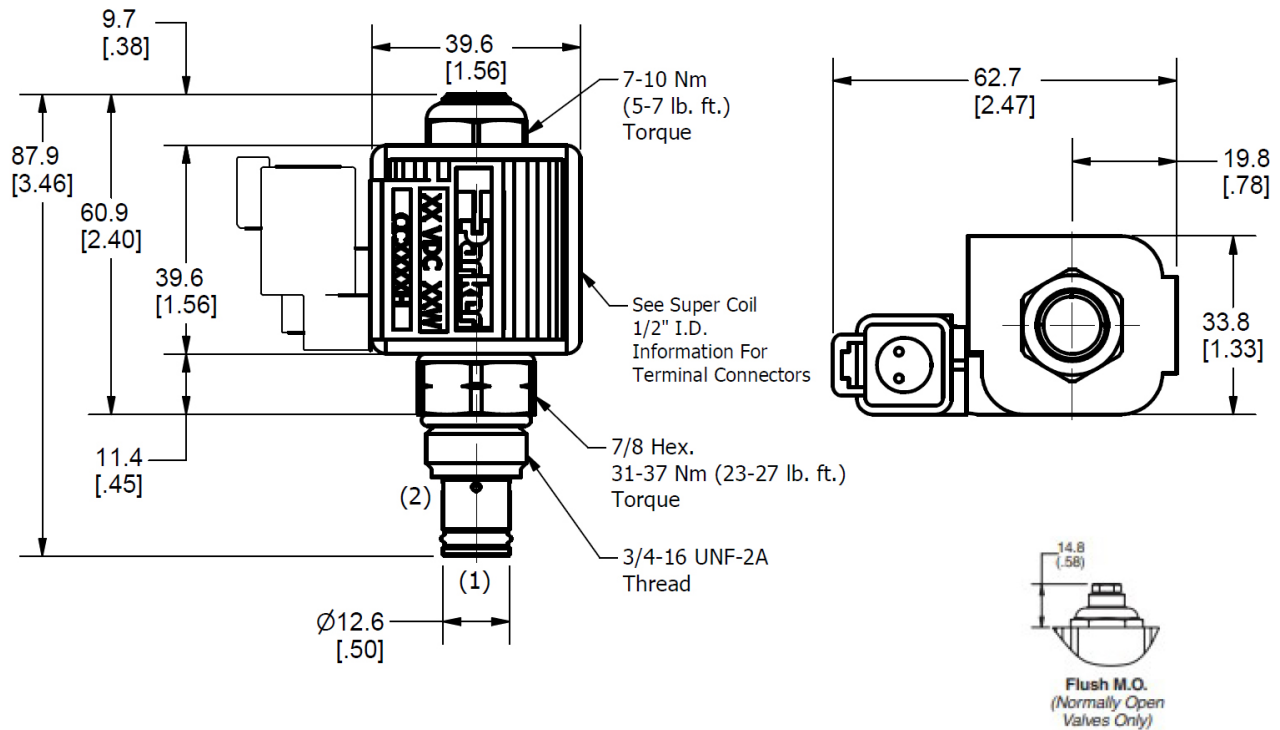
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)



- CV**
Check Valves
- SH**
Shuttle Valves
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Load/Motor Controls
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Pressure Controls
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Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

DSL087	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
08 Size Solenoid Valve	Style	Override Option	Screens

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.
REQUIRES LOW WATT (CCS) Coil

Code	Style
C	Normally Closed
N	Normally Open

Code	Seals
Omit	D-ring

Code	Override Options
Omit	None
M	Push Type with Flush Rod (N.O. Only)

Code	Screen
Omit	None
S	Screen

*Order Bodies Separately
 See section BC*

B08	—	2	—	6T
08 size		2-Way Cavity		Port Size

Code	Port Size / Body Material
6T	SAE-6 / Steel (5000 PSI)

Kit	Part Number
D-Ring Seal	SK08-2
Nitrile Seal	SK08-2
Fluorocarbon Seal	SK08-2V

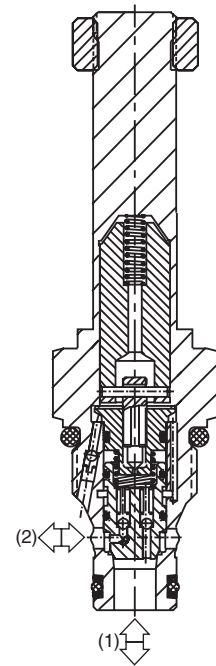
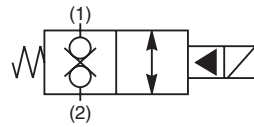
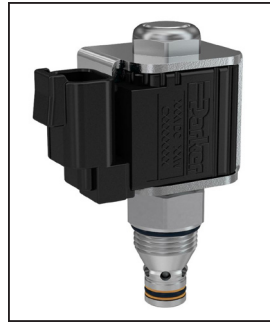
CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

General Description

2-Way, 2 Position, Normally Closed, Bi-Directional Poppet Valve. For additional information see Technical Tips on pages SV2-SV6.

Features

- Built-in thermal relief set at 36 Bar (500 PSI) above rated pressure
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O’Rings; Coil is interchangeable with 04 and 06 series poppet valves; Symmetrical coil can be reversed without affecting performance.

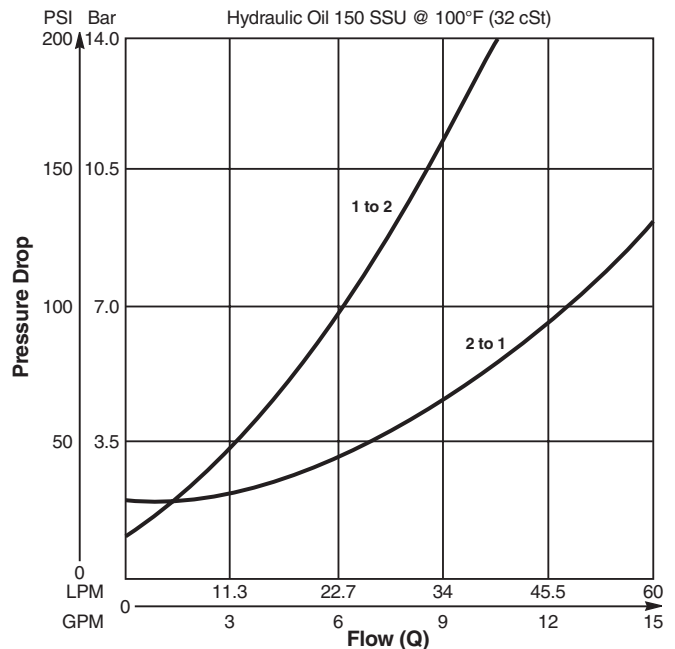


Specifications

Rated Flow	2 to 1 34 LPM (9 GPM) 1 to 2 19 LPM (5 GPM)
Maximum Inlet Pressure	81 350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	Open 40 ms Close 40 ms
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.14 kg (.31 lbs.)
Cavity	C08-2 (See BC Section for more details)

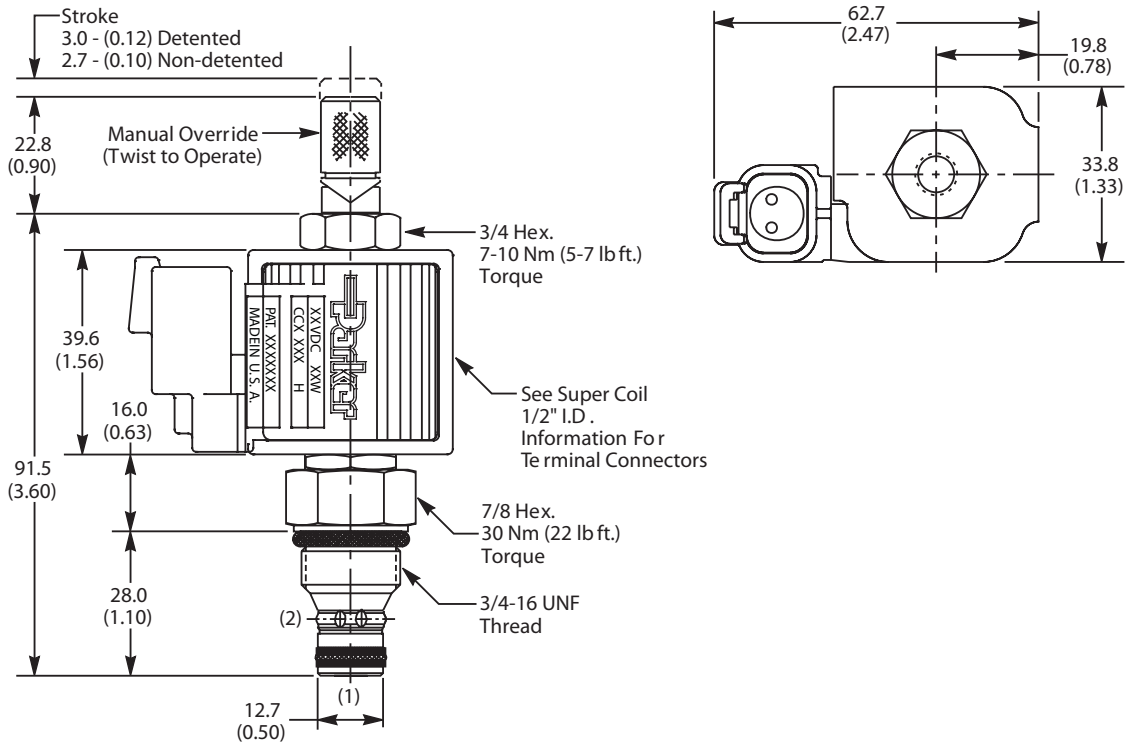
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)



- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS02	81		0	N
08 Size Solenoid Valve	Style Normally Closed	Override Option	Screen	Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
81	High Pressure ('SP' Coil)

Code	Screen
0	None

Code	Override Options
0	None
1	Detented

Code	Seals
N	Nitrile

Order Bodies Separately
 See section BC

B08	2	6T
08 size	2-Way Cavity	Port Size

Code	Port Size / Body Material
6T	SAE-6 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK30088N-1
Fluorocarbon Seal	SK30088V-1

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

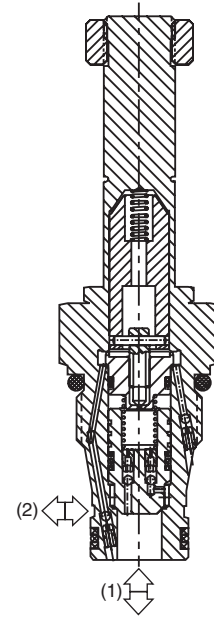
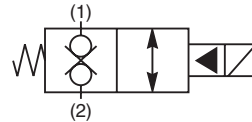
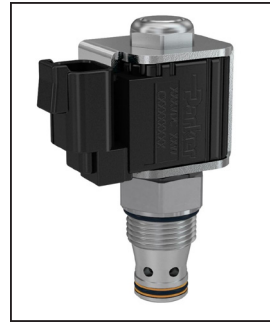
TD
Technical Data

General Description

2-Way, 2 Position, Normally Closed, Bi-Directional Poppet Valve. For additional information see Technical Tips on pages SV2-SV6.

Features

- Built-in thermal relief set at 36 Bar (500 PSI) above rated pressure
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O’Rings; Coil is interchangeable with 02 and 06 series poppet valves; Symmetrical coil can be reversed without affecting performance.

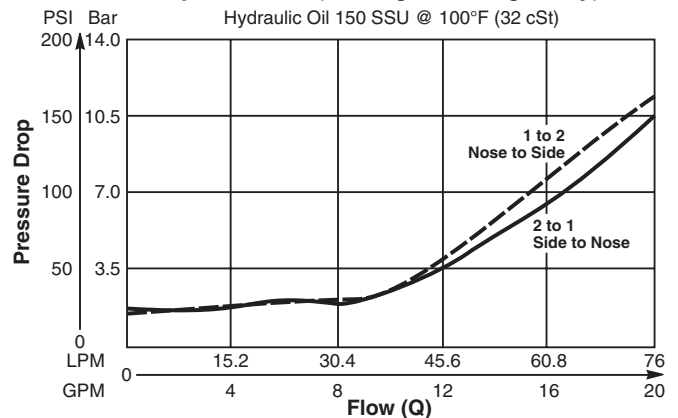


Specifications

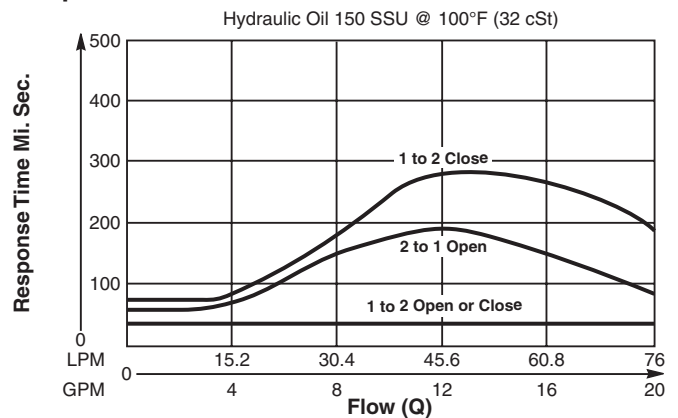
Rated Flow	2 to 1 68 LPM (18 GPM) 1 to 2 46 LPM (12 GPM)
Maximum Inlet Pressure	81 350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	See Performance Curves
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/ Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.17 kg (.37 lbs.)
Cavity	2R (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

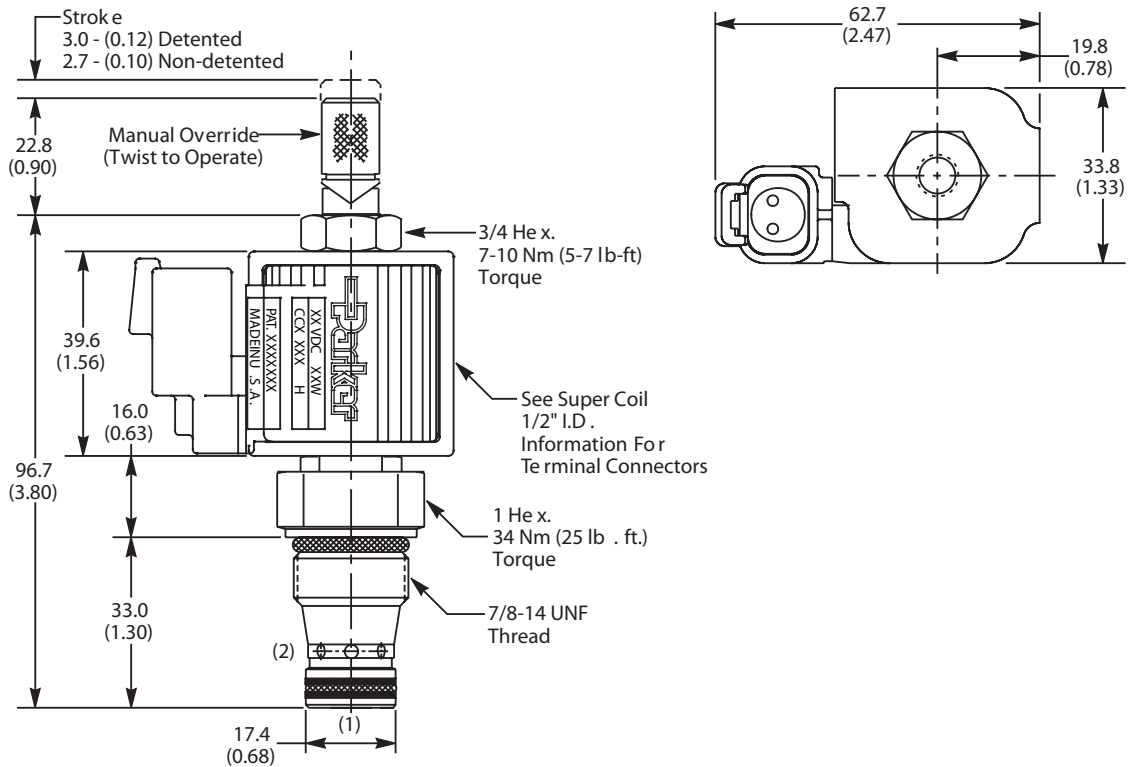


Response Time vs. Flow



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS04	81		0	N
10 Size Solenoid Valve	Style Normally Closed	Override Option	Screen	Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
81	High Pressure ('SP' Coil)

Code	Screen
0	None

Code	Override Options
0	None
2	Non-Detented

Code	Seals
N	Nitrile

Order Bodies Separately
 See section BC

BW14	-	2	-	8T
14 size		2-Way Cavity		Port Size

Code	Port Size / Body Material
8T	SAE-8 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK30113N-1
Fluorocarbon Seal	SK30113V-1



CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

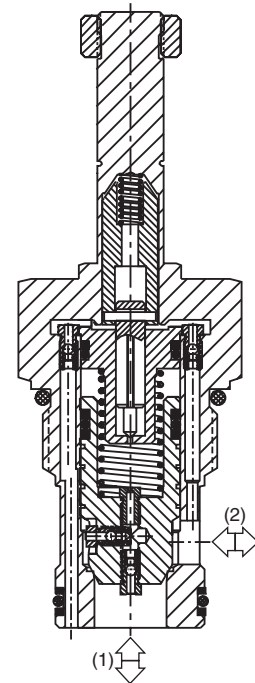
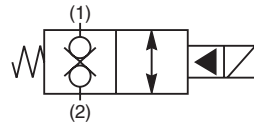
TD
Technical Data

General Description

2-Way, 2 Position, Normally Closed, Bi-Directional Poppet Valve. For additional information see Technical Tips on pages SV2-SV6.

Features

- Built-in thermal relief set at 36 Bar (500 PSI) above rated pressure
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O'Rings; Coil is interchangeable with 02 and 04 series poppet valves; Symmetrical coil can be reversed without affecting performance.

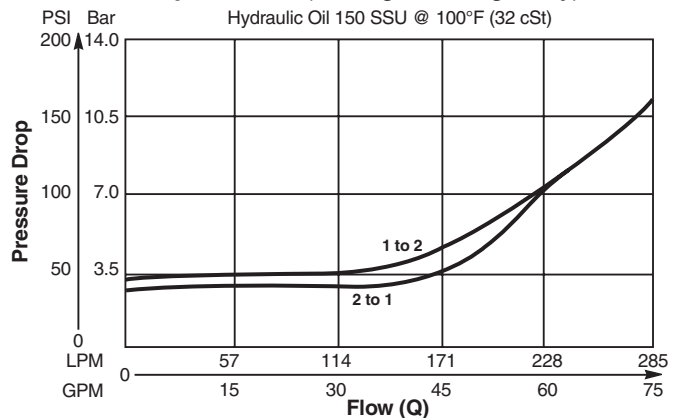


Specifications

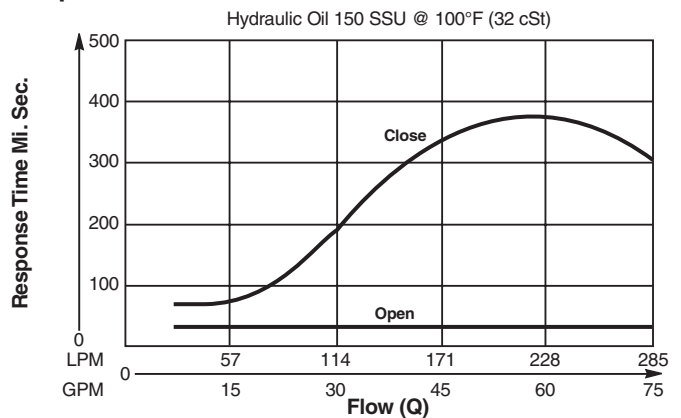
Rated Flow	285 LPM (75 GPM)
Maximum Inlet Pressure	81 350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	9 drops/min. (.58 cc/min.)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	See Performance Curves
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	0.4 kg (.88 lbs.)
Cavity	C16-2 (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

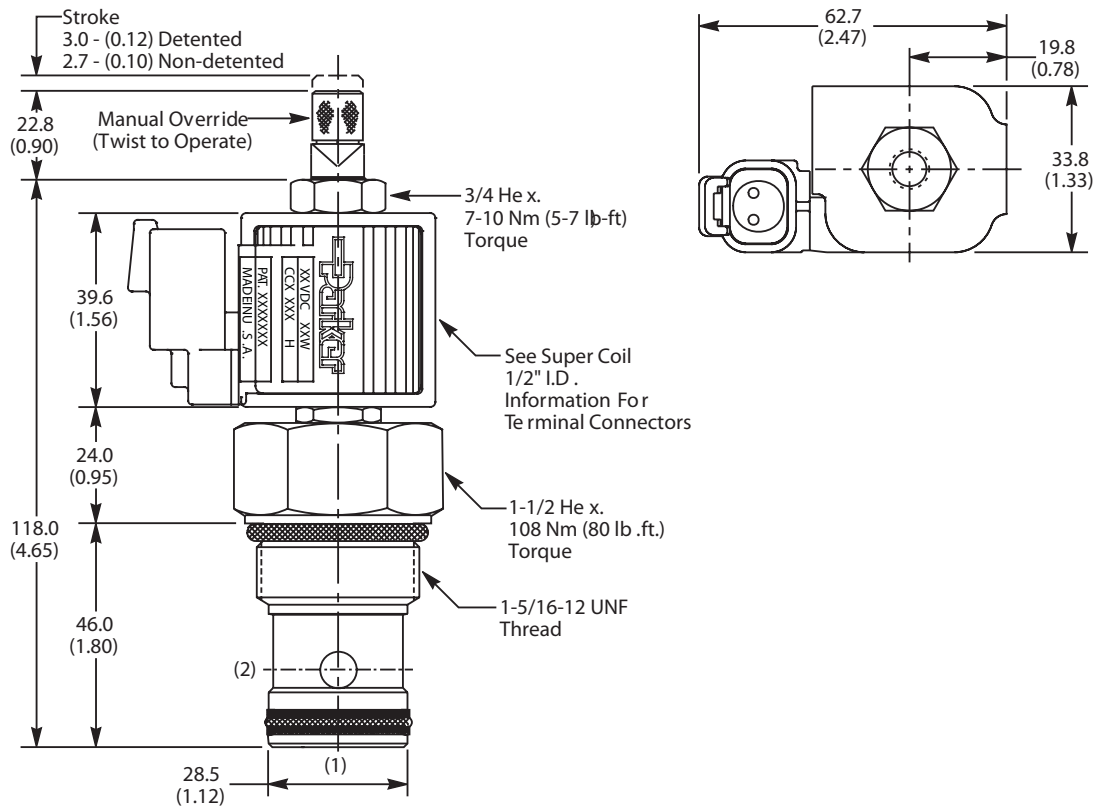


Response Time vs. Flow



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS06	81		0	N
16 Size Solenoid Valve	Style Normally Closed	Override Option	Screen	Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
81	High Pressure ('SP' Coil)

Code	Screen
0	None

Code	Override Options
0	None
2	Non-Detented

Code	Seals
N	Nitrile

Order Bodies Separately
 See section BC

B16	-	2	-	16T
16 size		2-Way Cavity		Port Size

Code	Port Size / Body Material
16T	SAE-16 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK30089N-1
Fluorocarbon Seal	SK30089V-1

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

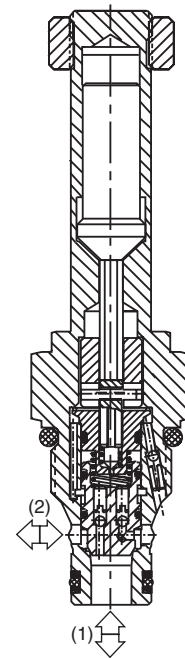
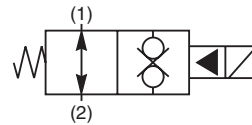
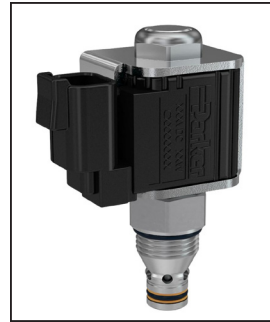
TD
Technical Data

General Description

2-Way, 2 Position, Normally Open, Bi-Directional Poppet Valve. For additional information see Technical Tips on pages SV2-SV6.

Features

- Built-in thermal relief set at 36 Bar (500 PSI) above rated pressure
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O’Rings; Coil is interchangeable with 04 and 06 series poppet valves; Symmetrical coil can be reversed without affecting performance.

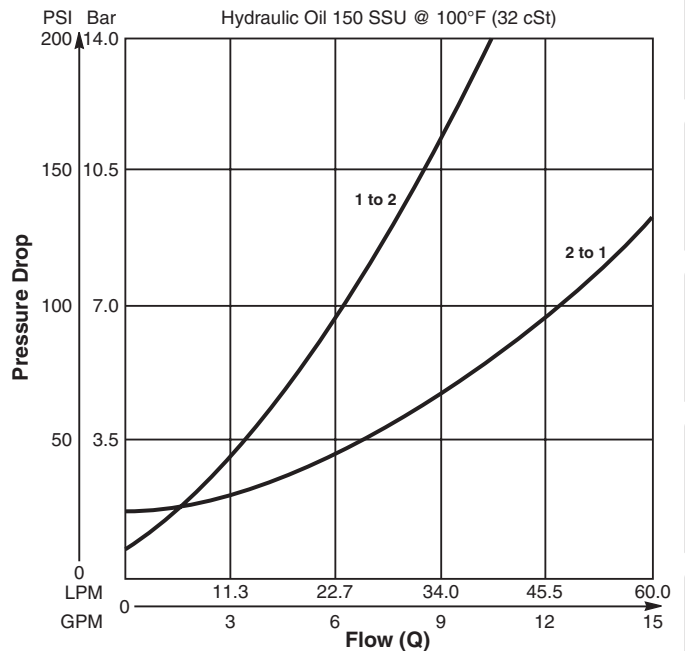


Specifications

Rated Flow	2 to 1 34 LPM (9 GPM) 1 to 2 19 LPM (5 GPM)
Maximum Inlet Pressure	86 350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	Open 40 ms Close 40 ms
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.14 kg (.31 lbs.)
Cavity	C08-2 (See BC Section for more details)

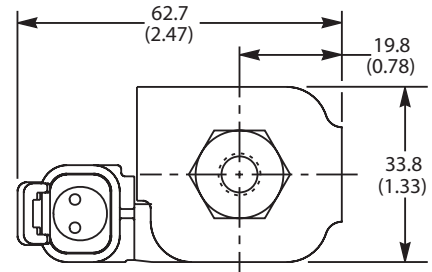
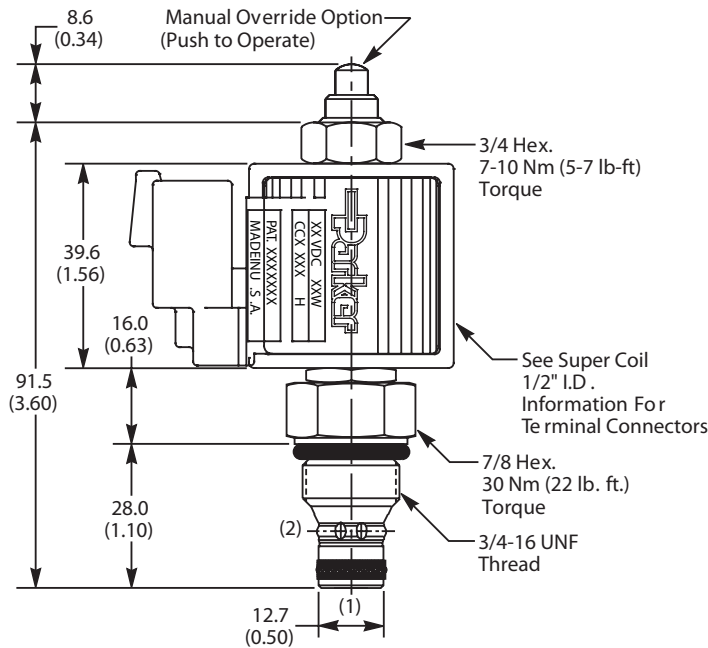
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)



- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS02	86		0	N
08 Size Solenoid Valve	Style Normally Open	Override Option	Screen	Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
86	High Pressure ('SP' Coil)

Code	Screen
0	None

Code	Override Options
0	None
1	Manual Override

Code	Seals
N	Nitrile

Order Bodies Separately
 See section BC

B08	—	2	—	6T
08 size		2-Way Cavity		Port Size

Code	Port Size / Body Material
6T	SAE-6 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK30088N-1
Fluorocarbon Seal	SK30088V-1



CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

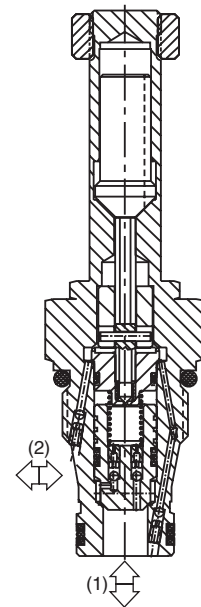
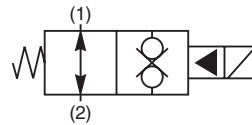
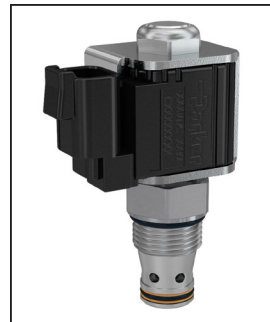
TD
Technical Data

General Description

2-Way, 2 Position, Normally Open, Bi-Directional Poppet Valve. For additional information see Technical Tips on pages SV2-SV6.

Features

- Built-in thermal relief set at 36 Bar (500 PSI) above rated pressure
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O’Rings; Coil is interchangeable with 02 and 06 series poppet valves; Symmetrical coil can be reversed without affecting performance.

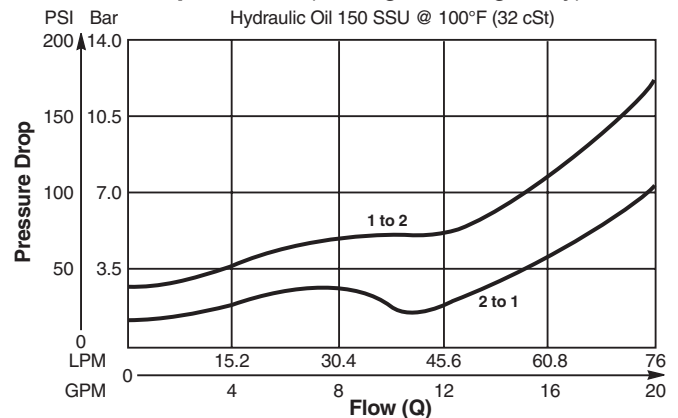


Specifications

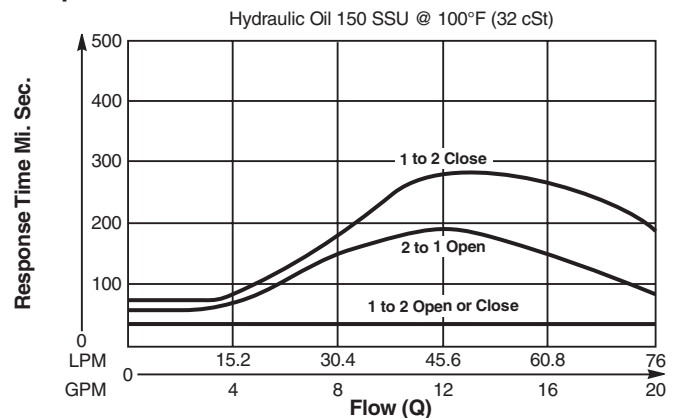
Rated Flow	2 to 1 68 LPM (18 GPM) 1 to 2 46 LPM (12 GPM)
Maximum Inlet Pressure	86 350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	See Performance Curves
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4404 18/16/13, SAE Class 4
Approx. Weight	.17 kg (.37 lbs.)
Cavity	2R (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

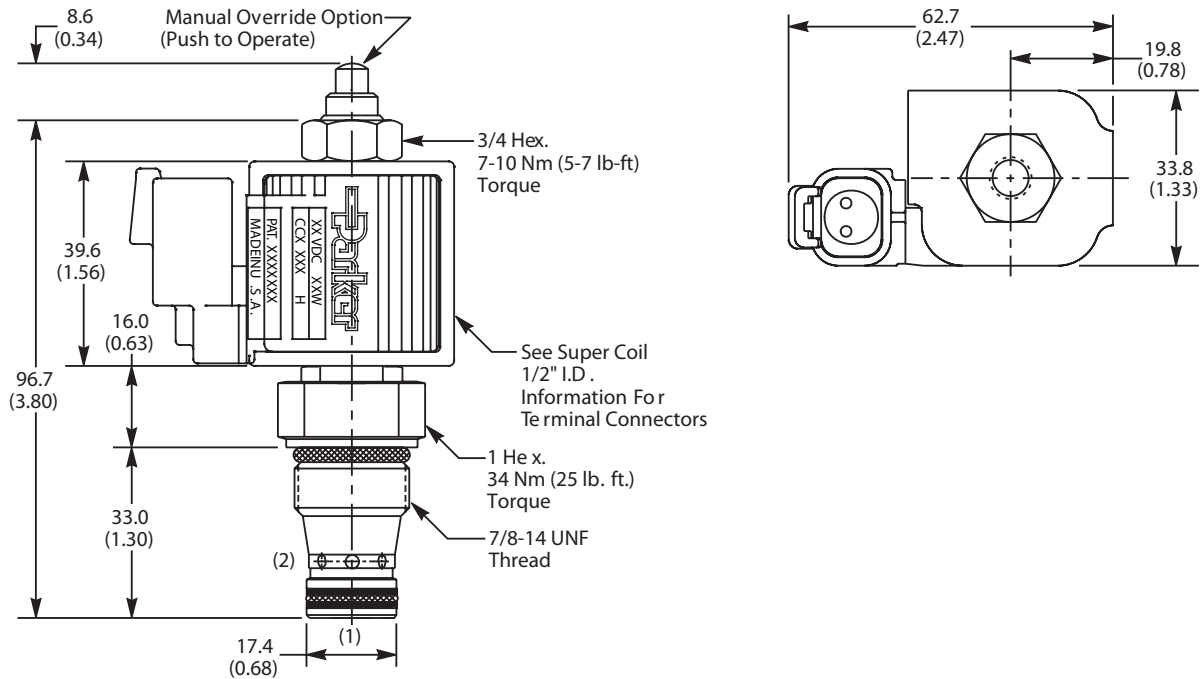


Response Time vs. Flow



- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS04	86		0	N
10 Size Solenoid Valve	Style Normally Open	Override Option	Screen	Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
86	High Pressure ('SP' Coil)

Code	Screen
0	None

Code	Override Options
0	None
1	Manual Override

Code	Seals
N	Nitrile

Order Bodies Separately
 See section BC

BW14	-	2	-	8T
14 size		2-Way Cavity		Port Size

Code	Port Size / Body Material
8T	SAE-8 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK30113N-1
Fluorocarbon Seal	SK30113V-1

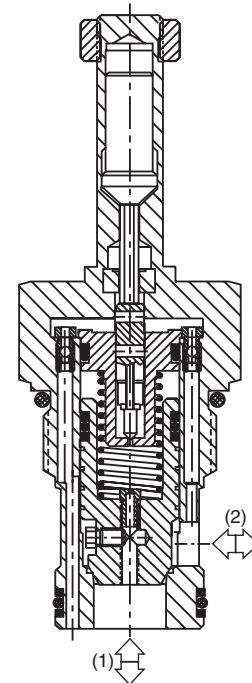
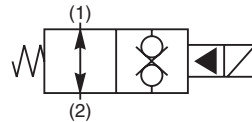
CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

General Description

2-Way, 2 Position, Normally Open, Bi-Directional Poppet Valve. For additional information see Technical Tips on pages SV2-SV6.

Features

- Built-in thermal relief set at 36 Bar (500 PSI) above rated pressure
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O'Rings; Coil is interchangeable with 02 and 04 series poppet valves; Symmetrical coil can be reversed without affecting performance.

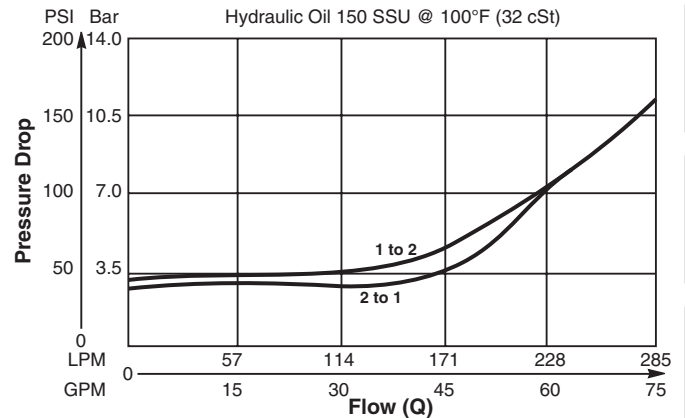


Specifications

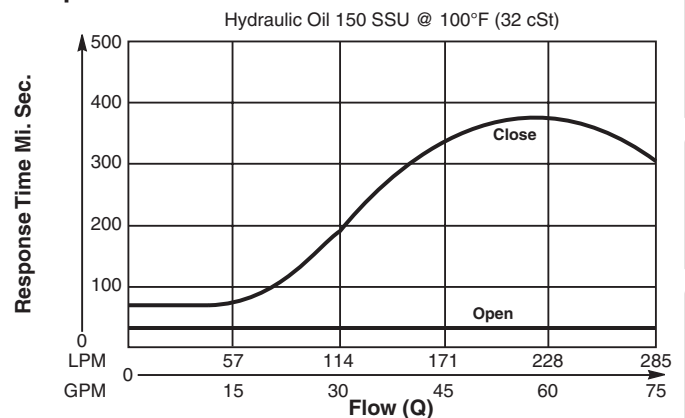
Rated Flow	285 LPM (75 GPM)
Maximum Inlet Pressure	86 350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	See Performance Curves
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	0.4 kg (.88 lbs.)
Cavity	C16-2 (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

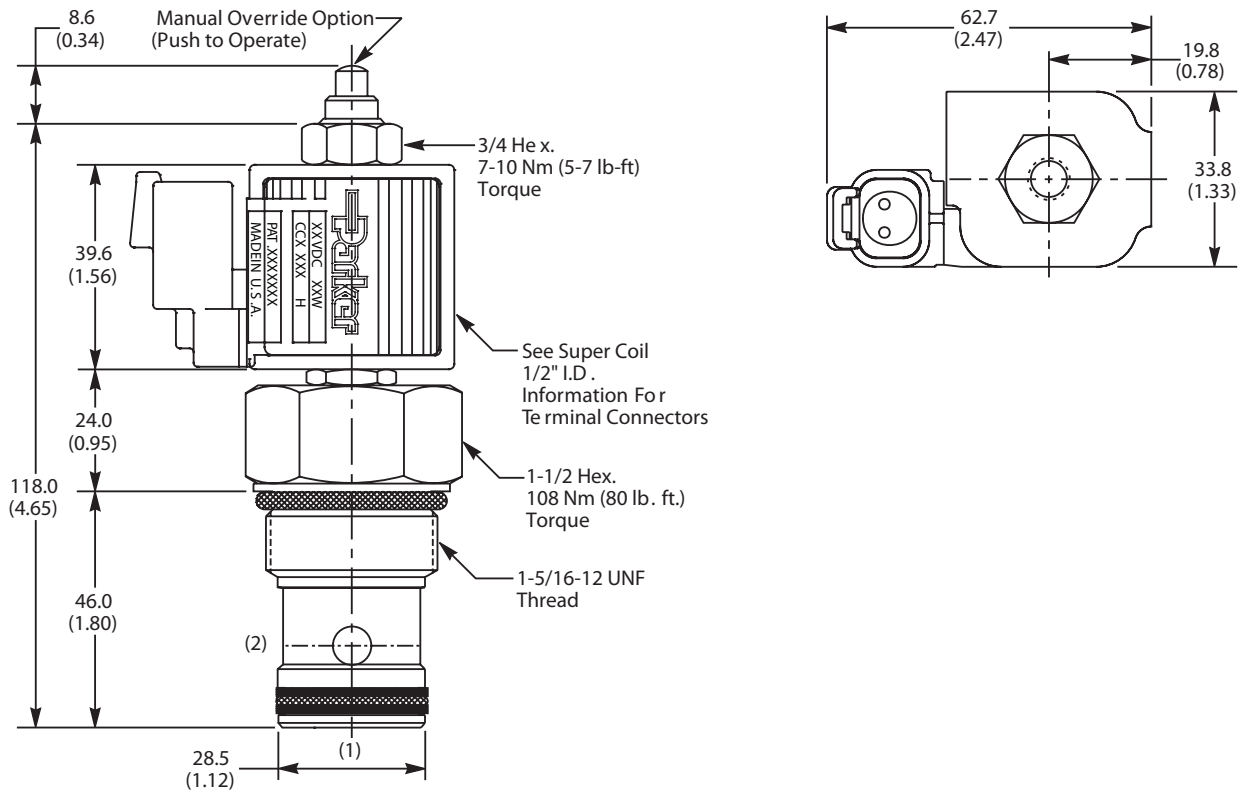


Response Time vs. Flow



- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS06	86		0	N
16 Size Solenoid Valve	Style Normally Open	Override Option	Screen	Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
86	High Pressure ('SP' Coil)

Code	Screen
0	None

Code	Override Options
0	None
1	Manual Override

Code	Seals
N	Nitrile

Order Bodies Separately
 See section BC

B16 - **2** - **16T**

16 size 2-Way Cavity Port Size

Code	Port Size / Body Material
16T	SAE-16 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK30089N-1
Fluorocarbon Seal	SK30089V-1



CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

TD
Technical Data

General Description

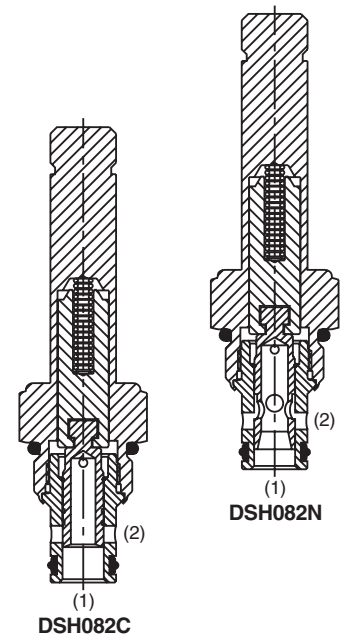
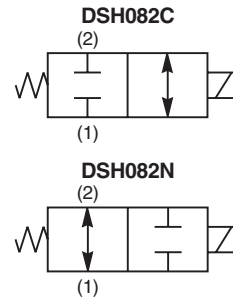
2-Way Spool Valves.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- High flow capacity with reduced space requirements
- Standard valve bodies and common cavities
- One-piece encapsulated coil with minimal amperage draw
- Manual overrides, seal variations and other options available
- No dynamic seals
- Variety of coil terminations
- Polyurethane “D”-Ring eliminates need for backup rings
- Nylon inserted jam-nut provides secure holding in high vibration applications
- All external parts zinc plated

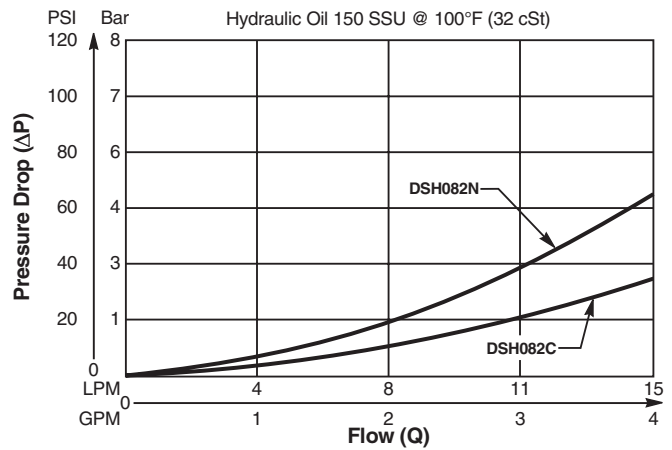
Specifications

Rated Flow	C - 15.0 LPM (4 GPM) N - 8.4 LPM (2.8 GPM)									
Maximum Inlet Pressure	350 Bar (5000 PSI)									
Leakage at 150 SSU (32 cSt)	160 cc/min. (10 in ³ /min.) at 350 Bar (5000 PSI)									
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).									
Response Time	<table border="1"> <tr> <td></td> <td>Energized</td> <td>De-Energized</td> </tr> <tr> <td>C</td> <td>40 ms</td> <td>40 ms</td> </tr> <tr> <td>N</td> <td>40 ms</td> <td>40 ms</td> </tr> </table>		Energized	De-Energized	C	40 ms	40 ms	N	40 ms	40 ms
	Energized	De-Energized								
C	40 ms	40 ms								
N	40 ms	40 ms								
Cartridge Material	All parts steel. All operating parts hardened steel.									
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)									
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)									
Filtration	ISO 4406 18/16/13, SAE Class 4									
Approx. Weight	.11 kg (.25 lbs.)									
Cavity	C08-2 (See BC Section for more details)									

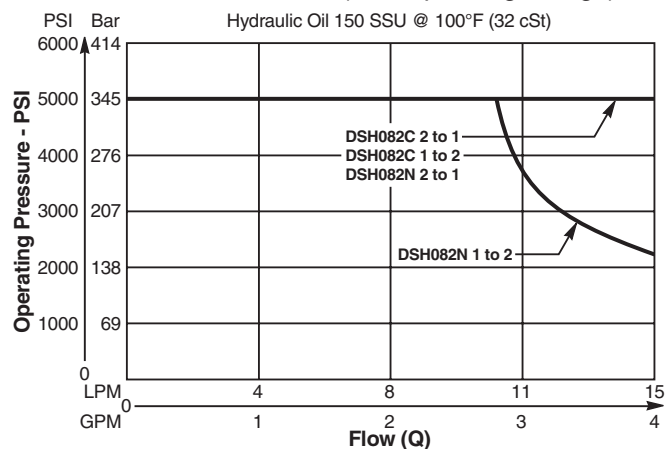


Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

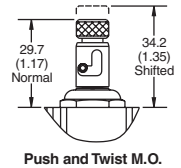
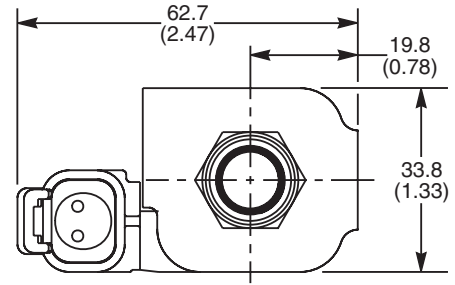
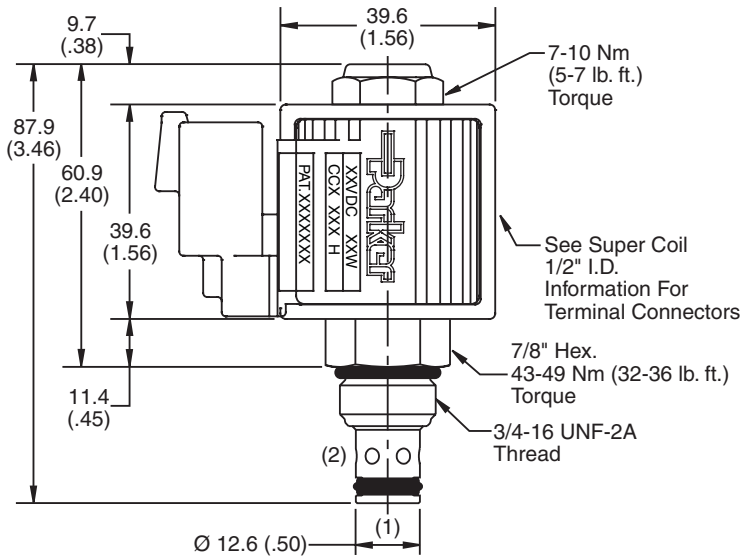


Shift Limit Characteristics (Min. Operating Voltage)



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

DSH082

08 Size Solenoid Valve **Style** **Override Option**

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

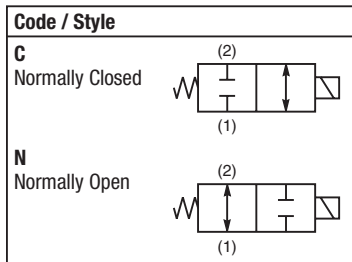
Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

*Order Bodies Separately
 See section BC*

B08 - **2** - **6T**

08 size 2-Way Cavity Port Size

Code	Port Size / Body Material
6T	SAE-6 / Steel (5000 PSI)



Code	Override Options
Omit	None
T	Push & Twist* (N.C. & N.O.)

*Requires Super Coil.

Code	Seals
Omit	"D"-Ring

Kit	Part Number
D-Ring Seal	SK08-2
Nitrile Seal	SK08-2
Fluorocarbon Seal	SK08-2V

CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

General Description

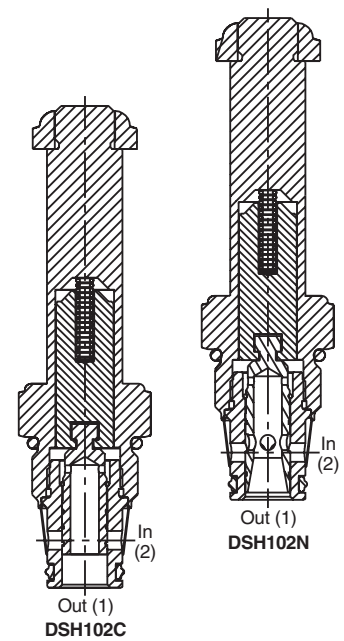
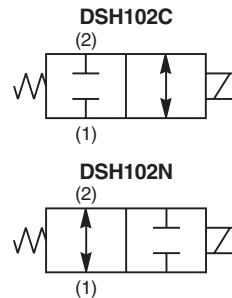
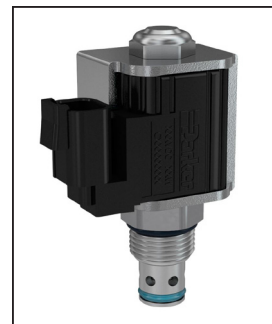
2-Way Spool Valves. For additional information see Technical Tips on pages SV2-SV6.

Features

- High flow capacity with reduced space requirements
- Standard valve bodies and common cavities
- One-piece encapsulated coil with minimal amperage draw
- Manual overrides, seal variations and other options available
- No dynamic seals
- Variety of coil terminations
- Polyurethane “D”-Ring eliminates need for backup rings
- Nylon inserted jam-nut provides secure holding in high vibration applications
- All external parts zinc plated

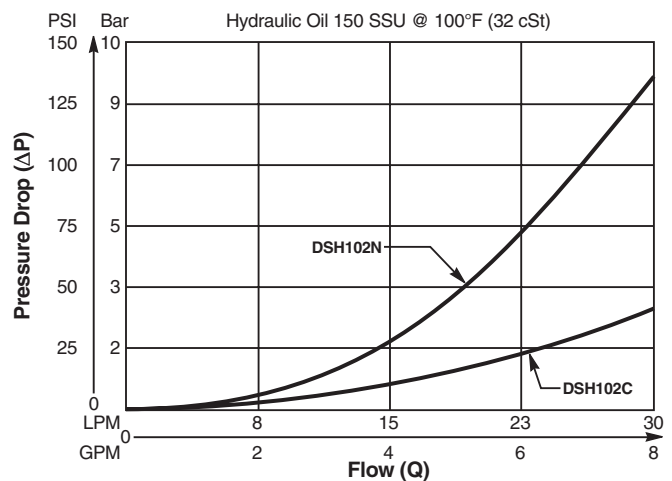
Specifications

Rated Flow	C - 30 LPM (8.0 GPM) N - 19 LPM (5.0 GPM)									
Maximum Inlet Pressure	350 Bar (5000 PSI)									
Leakage at 150 SSU (32 cSt)	160 cc/min. (10 in ³ /min.)									
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).									
Response Time	<table border="1"> <thead> <tr> <th></th> <th>Energized</th> <th>De-Energized</th> </tr> </thead> <tbody> <tr> <td>C</td> <td>30 ms</td> <td>20 ms</td> </tr> <tr> <td>N</td> <td>50 ms</td> <td>25 ms</td> </tr> </tbody> </table>		Energized	De-Energized	C	30 ms	20 ms	N	50 ms	25 ms
	Energized	De-Energized								
C	30 ms	20 ms								
N	50 ms	25 ms								
Cartridge Material	All parts steel. All operating parts hardened steel.									
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)									
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)									
Filtration	ISO 4406 18/16/13, SAE Class 4									
Approx. Weight	.18 kg (.40 lbs.)									
Cavity	C10-2 (See BC Section for more details)									

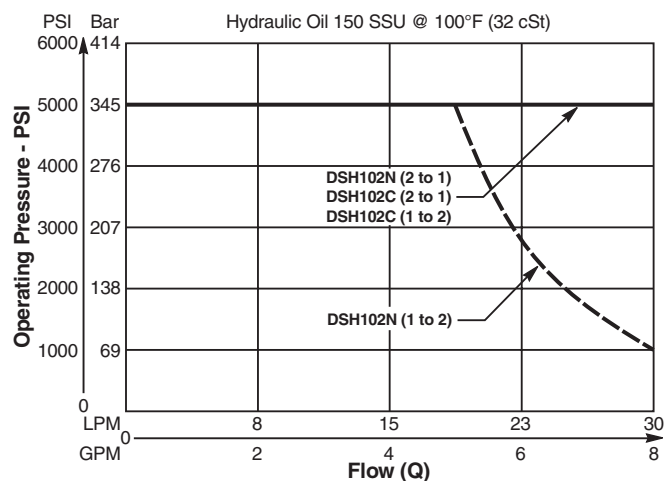


Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

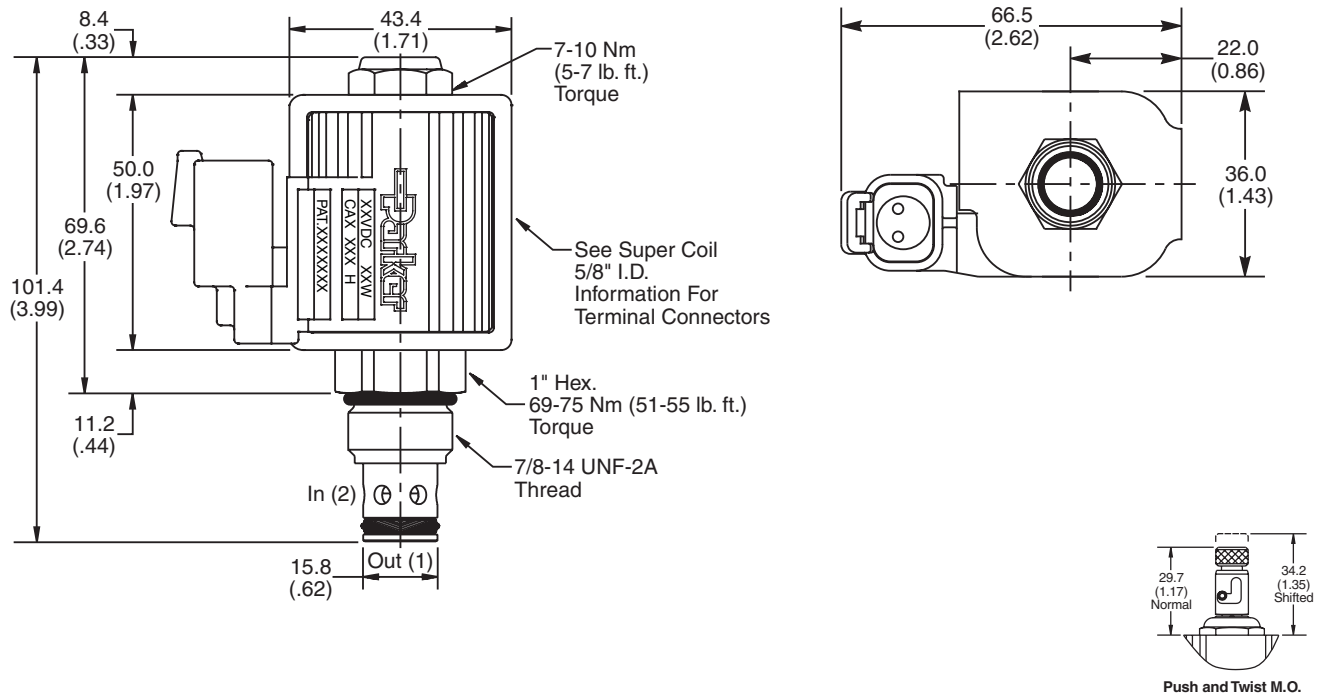


Shift Limit Characteristics (Min. Operating Voltage)

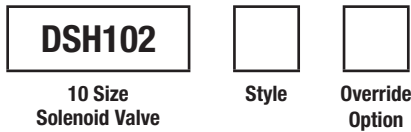


- CV Check Valves
- SH Shuttle Valves
- LM Load/Motor Controls
- FC Flow Controls
- PC Pressure Controls
- LE Logic Elements
- DC Directional Controls
- SV Solenoid Valves
- PV Proportional Valves
- CE Coils & Electronics
- BC Bodies & Cavities
- TD Technical Data

Dimensions Millimeters (Inches)

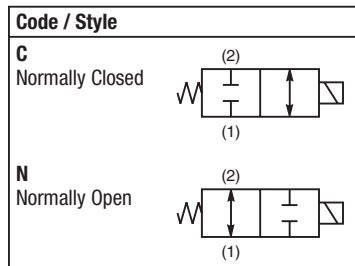


Ordering Information



Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.

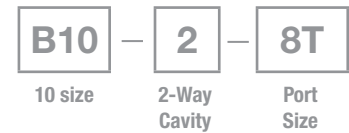


Code	Override Options
Omit	None
T	Push & Twist* (N.C. & N.O.)

Code	Seals
Omit	"D"-Ring

Kit	Part Number
D-Ring Seal	SK10-2
Nitrile Seal	SK10-2
Fluorocarbon Seal	SK10-2V

Order Bodies Separately
 See section BC



Code	Port Size / Body Material
8T	SAE-8 / Steel (5000 PSI)

- CV Check Valves
- SH Shuttle Valves
- LM Load/Motor Controls
- FC Flow Controls
- PC Pressure Controls
- LE Logic Elements
- DC Directional Controls
- SV Solenoid Valves
- PV Proportional Valves
- CE Coils & Electronics
- BC Bodies & Cavities
- TD Technical Data

General Description

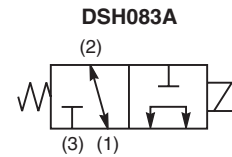
3-Way Spool Valves. For additional information see Technical Tips on pages SV2-SV6.

Features

- High flow capacity with reduced space requirements
- Standard valve bodies and common cavities
- One piece encapsulated coils with minimal amperage draw
- Manual overrides, seal variations and other options available
- No dynamic seals
- Variety of coil terminations
- Polyurethane “D”-Ring eliminates need for backup rings
- Nylon inserted jam-nut provides secure holding in high vibration applications
- All external parts zinc plated

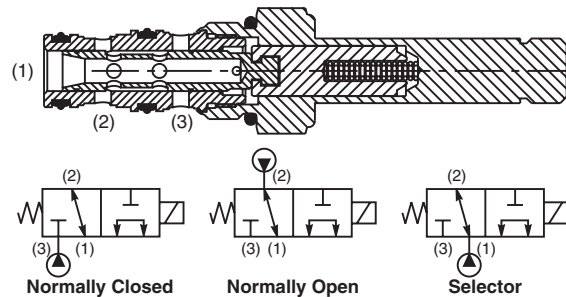
Specifications

Rated Flow	DSH083A	N.O.	11.3 LPM (3.0 GPM)
		N.C.	7.5 LPM (2.0 GPM)
		Selector	7.5 LPM (2.0 GPM)
	DSH083B	N.C.	15.0 LPM (4.0 GPM)
		Selector	15.0 LPM (4.0 GPM)
	DSH083N	N.O.	11.3 LPM (3.0 GPM)
	Selector	15.0 LPM (4.0 GPM)	
Maximum Inlet Pressure	350 Bar (5000 PSI)		
Leakage at 150 SSU (32 cSt)	160 cc/min. (10 in ³ /min.) at 350 Bar (5000 PSI) DSH083B - 250 cc/min. (15 in ³ /min.) DSH083N - 250 cc/min. (15 in ³ /min.)		
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).		
Response Time	50 ms		
Cartridge Material	All parts steel. All operating parts hardened steel.		
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)		
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)		
Filtration	ISO 4406 18/16/13, SAE Class 4		
Approx. Weight	.13 kg (.28 lbs.)		
Cavity	C08-3 (See BC Section for more details)		

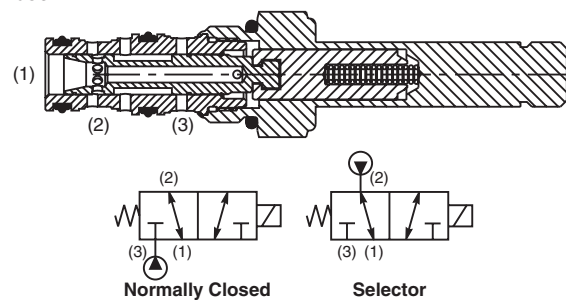


Construction/Symbols

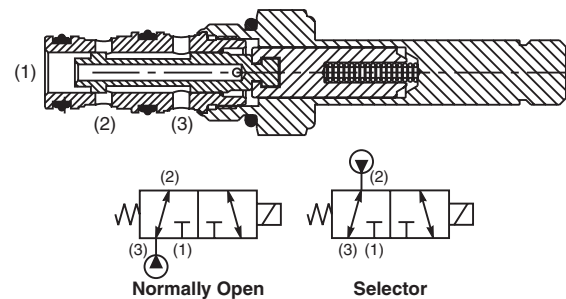
DSH083A



DSH083B

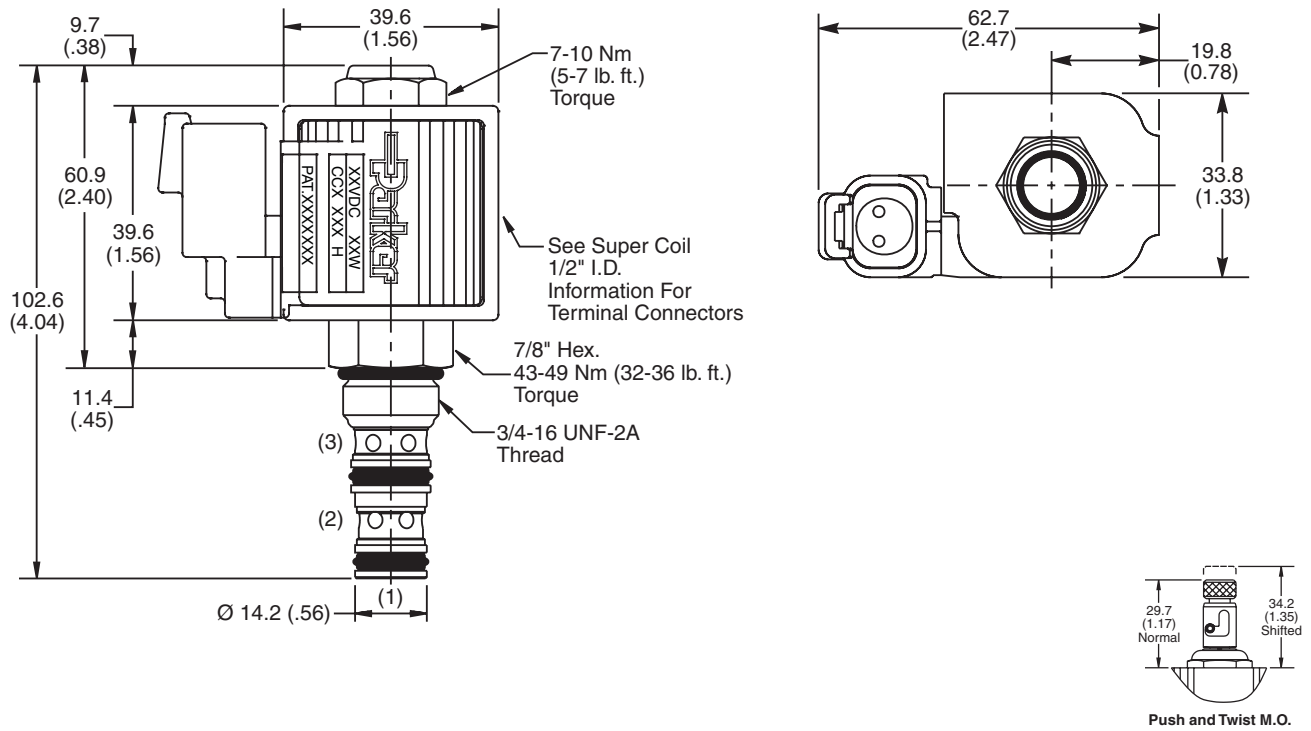


DSH083N



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)

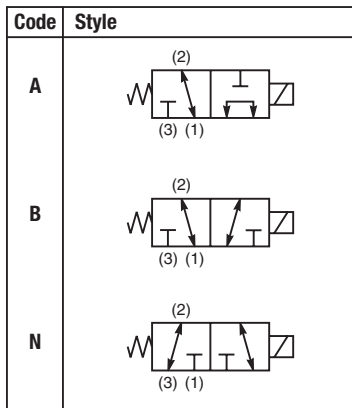


Ordering Information

DSH083	□	□
08 Size Solenoid Valve	Style	Override Option

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.



Code	Override Options
Omit	None
T	Push & Twist* (N.C. & N.O.)

*Requires Super Coil.

Code	Seals
Omit	"D"-Ring

Kit	Part Number
D-Ring Seal	SK08-3
Nitrile Seal	SK08-3
Fluorocarbon Seal	SK08-3V

Order Bodies Separately
 See section BC

B08	-	3	-	6T
08 size		3-Way Cavity		Port Size

Code	Port Size / Body Material
6T	SAE-6 / Steel (5000 PSI)

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

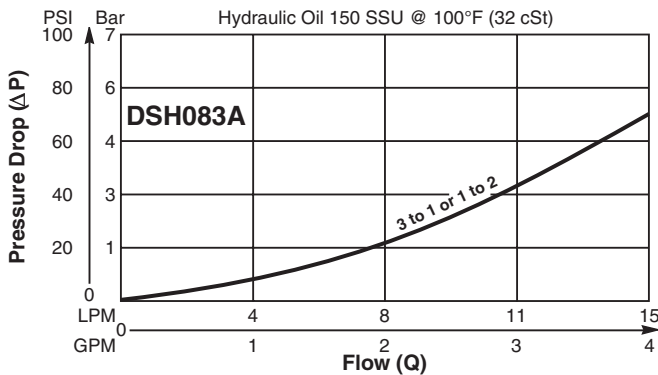
PV
Proportional Valves

CE
Coils & Electronics

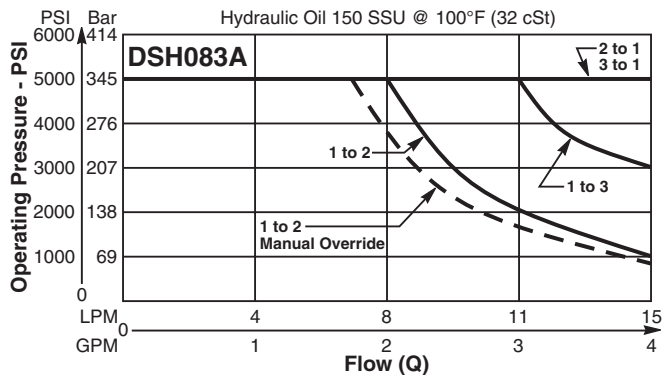
BC
Bodies & Cavities

TD
Technical Data

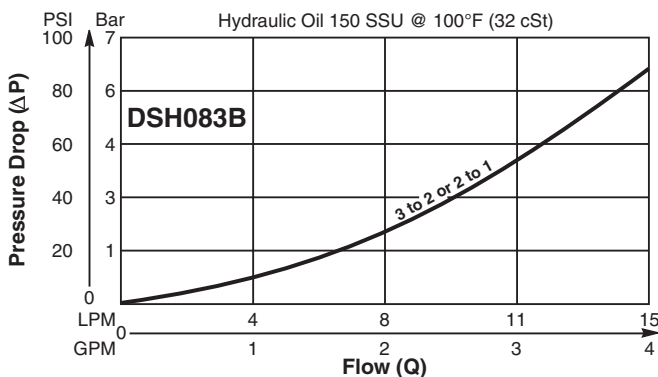
Pressure Drop vs. Flow (Through cartridge only)



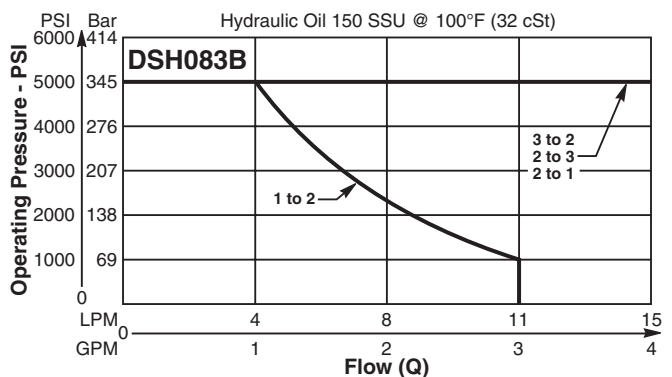
Shift Limit Characteristics (Min. Operating Voltage)



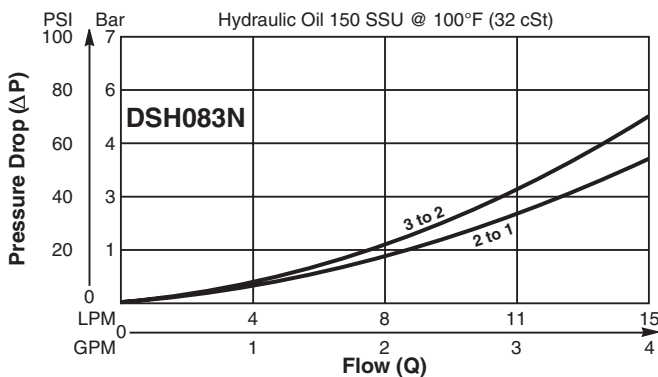
Pressure Drop vs. Flow (Through cartridge only)



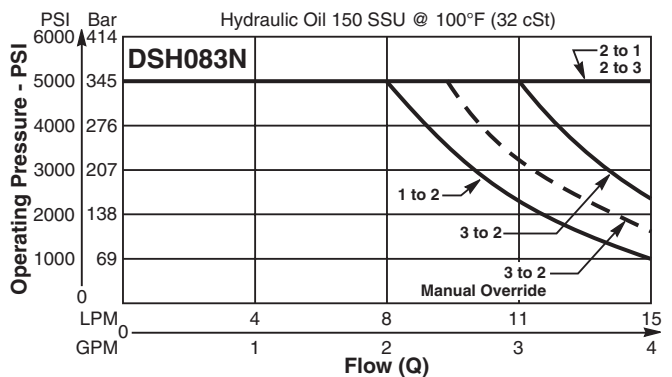
Shift Limit Characteristics (Min. Operating Voltage)



Pressure Drop vs. Flow (Through cartridge only)



Shift Limit Characteristics (Min. Operating Voltage)



- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

General Description

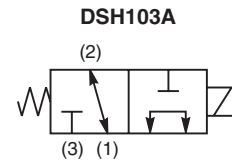
3-Way Spool Valves. For additional information see Technical Tips on pages SV2-SV6.

Features

- High flow capacity with reduced space requirements
- Standard valve bodies and common cavities
- One-piece encapsulated coil with minimal amperage draw
- Manual overrides, seal variations and other options available
- No dynamic seals
- Variety of coil terminations
- Polyurethane “D”-Ring eliminates need for backup rings
- Nylon inserted jam-nut provides secure holding in high vibration applications
- All external parts zinc plated

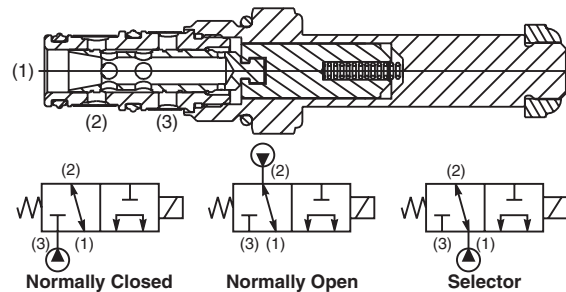
Specifications

Rated Flow	DSH103A	N.O.	17.0 LPM (4.5 GPM)	
		N.C.	15.0 LPM (4.0 GPM)	
		Selector	15.0 LPM (4.0 GPM)	
	DSH103B	N.C.	30.0 LPM (8.0 GPM)	
		Selector	30.0 LPM (8.0 GPM)	
	DSH103N	N.O.	15.0 LPM (4.0 GPM)	
		N.C.	15.0 LPM (4.0 GPM)	
		Selector	30.0 LPM (8.0 GPM)	
	Maximum Inlet Pressure	350 Bar (5000 PSI)		
	Leakage at 150 SSU (32 cSt)	160 cc/min. (10 in ³ /min.) DSH103B - 250 cc/min. (15 in ³ /min.) DSH103N - 250 cc/min. (15 in ³ /min.)		
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).			
Response Time	50 ms to 100 ms			
Cartridge Material	All parts steel. All operating parts hardened steel.			
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)			
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)			
Filtration	ISO 4406 18/16/13, SAE Class 4			
Approx. Weight	.19 kg (.42 lbs.)			
Cavity	C10-3 (See BC Section for more details)			

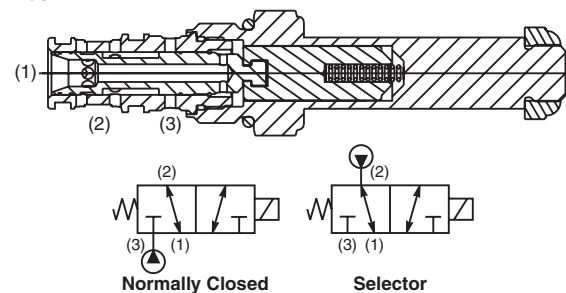


Construction/Symbols

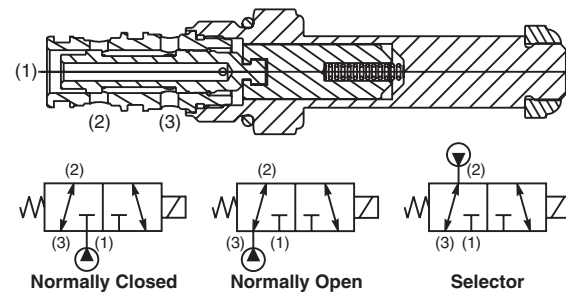
DSH103A



DSH103B

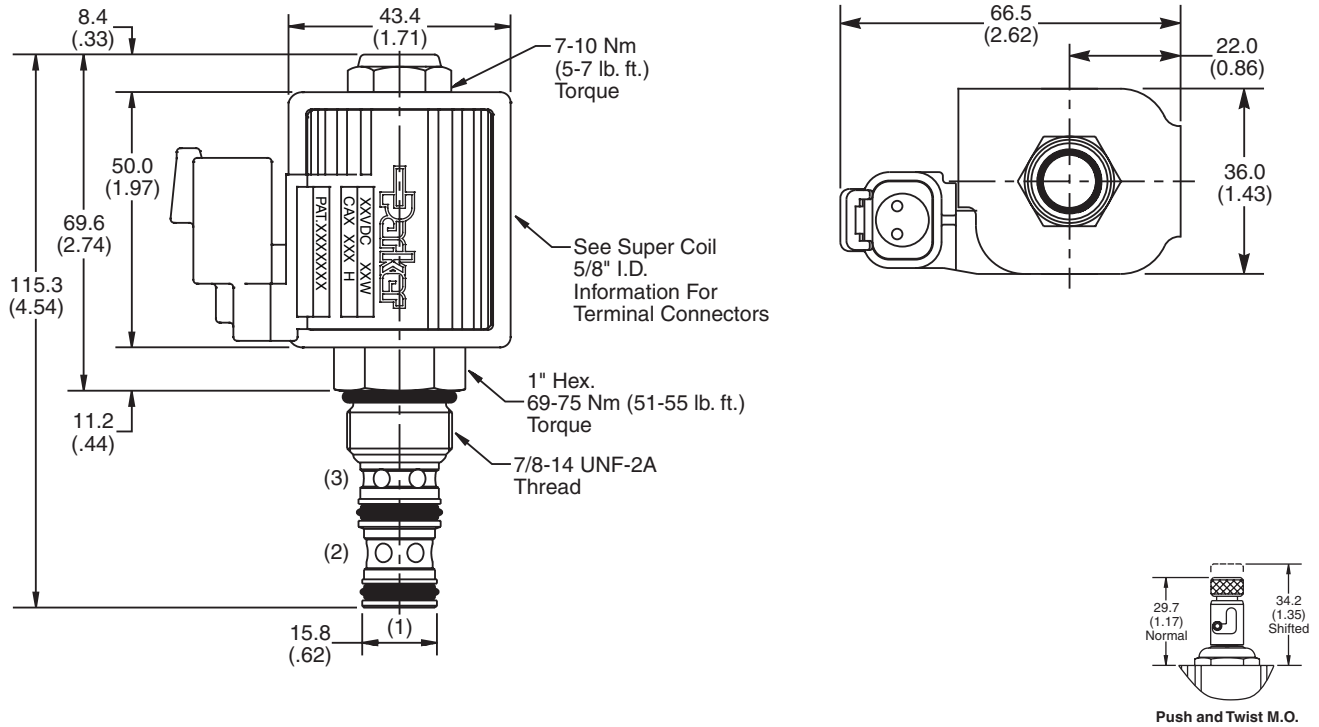


DSH103N

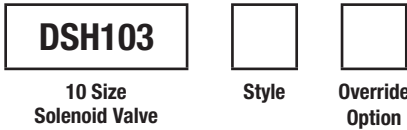


CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)

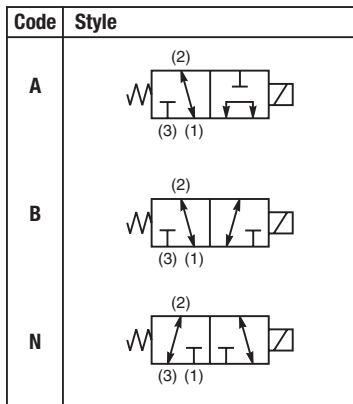


Ordering Information



Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.



Code	Override Options
Omit	None
T	Push & Twist (N.C. & N.O.)

Code	Seals
Omit	"D"-Ring

Kit	Part Number
D-Ring Seal	SK10-3
Nitrile Seal	SK10-3
Fluorocarbon Seal	SK10-3V

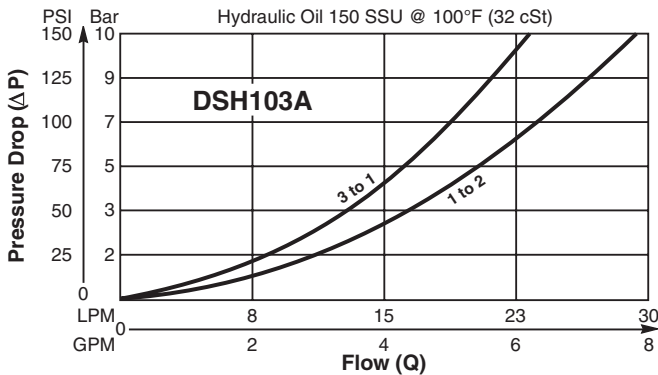
Order Bodies Separately
 See section BC



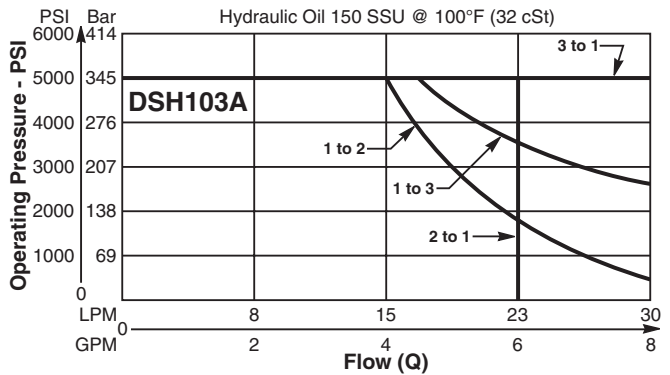
Code	Port Size / Body Material
8T	SAE-8 / Steel (5000 PSI)

- CV Check Valves
- SH Shuttle Valves
- LM Load/Motor Controls
- FC Flow Controls
- PC Pressure Controls
- LE Logic Elements
- DC Directional Controls
- SV Solenoid Valves
- PV Proportional Valves
- CE Coils & Electronics
- BC Bodies & Cavities
- TD Technical Data

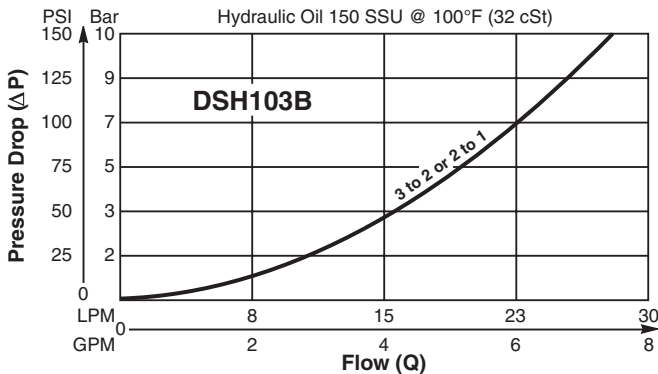
Pressure Drop vs. Flow (Through cartridge only)



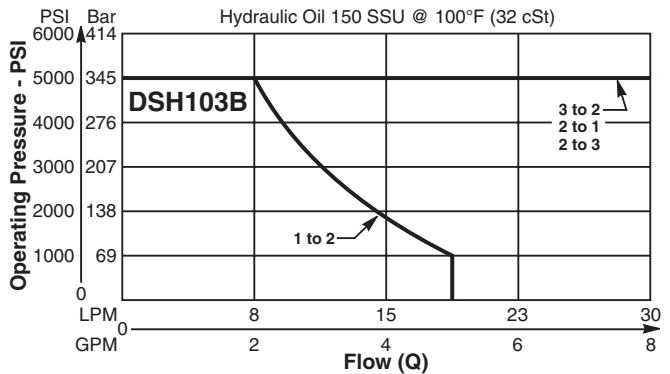
Shift Limit Characteristics (Min. Operating Voltage)



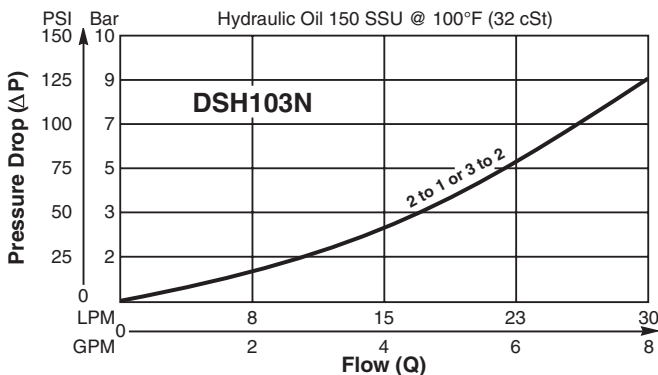
Pressure Drop vs. Flow (Through cartridge only)



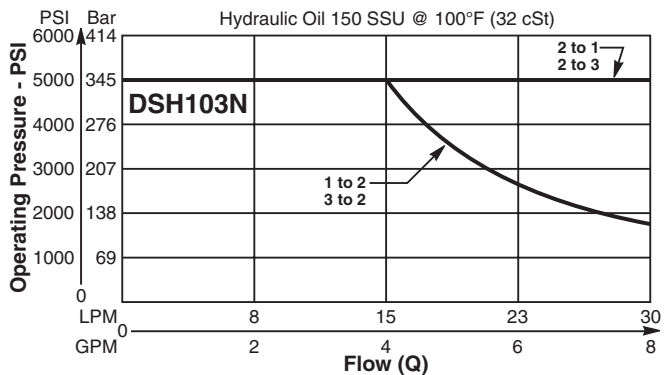
Shift Limit Characteristics (Min. Operating Voltage)



Pressure Drop vs. Flow (Through cartridge only)



Shift Limit Characteristics (Min. Operating Voltage)



- CV
- Check Valves
- SH
- Shuttle Valves
- LM
- Load/Motor Controls
- FC
- Flow Controls
- PC
- Pressure Controls
- LE
- Logic Elements
- DC
- Directional Controls
- SV
- Solenoid Valves
- PV
- Proportional Valves
- CE
- Coils & Electronics
- BC
- Bodies & Cavities
- TD
- Technical Data

General Description

4-Way Spool Valves. For additional information see Technical Tips on pages SV2-SV6.

Features

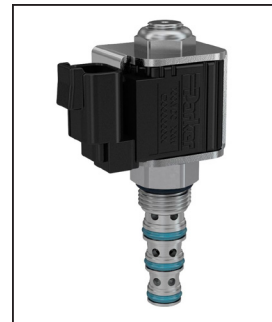
- High flow capacity with reduced space requirements
- Standard valve bodies and common cavities
- One-piece encapsulated coil with minimal amperage draw
- Manual overrides, seal variations and other options available
- No dynamic seals
- Variety of coil terminations
- Polyurethane “D”-Ring eliminates need for backup rings
- Nylon inserted jam-nut provides secure holding in high vibration applications
- All external parts zinc plated

Specifications

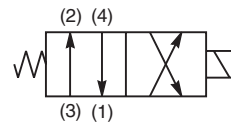
Rated Flow	11-15 LPM (3-4 GPM) See Shift Limit Characteristics
Max. Inlet Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	160 cc/min. (10 in ³ /min.) at 350 Bar (5000 PSI) DSH084B - 240 cc/min. (15 in ³ /min.)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	Energized - 50 ms De-energized - 30 ms
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.13 kg (.29 lbs.)
Cavity	C08-4 (See BC Section for more details)

Curve Selection Chart

SPOOL CODE	NEUTRAL					SHIFTED				
	4 to 1	3 to 2	2 to 1	3 to 1	3 to 4	4 to 1	3 to 2	2 to 1	3 to 1	3 to 4
B	4	3	—	—	—	—	—	2	—	4
E1	—	—	—	—	—	—	—	2	—	3
M9	—	—	3	—	1	—	—	—	4	—



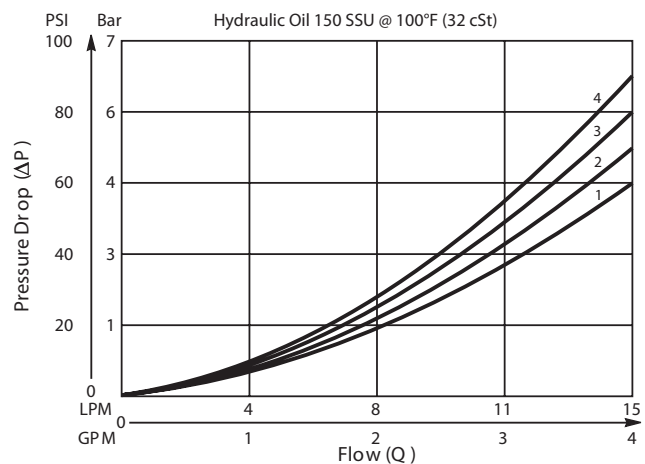
DSH084B



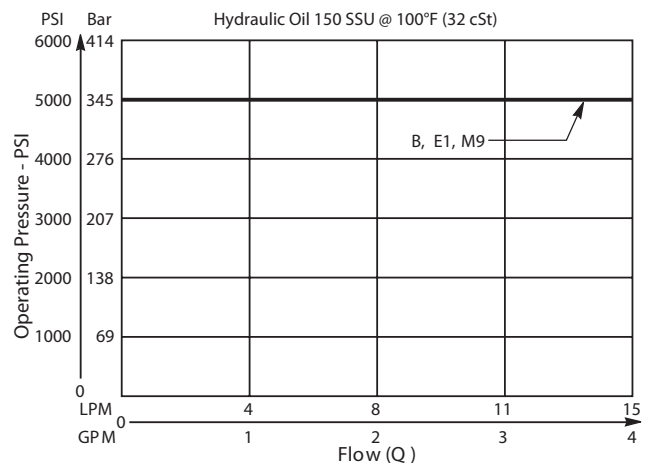
DSH084B

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

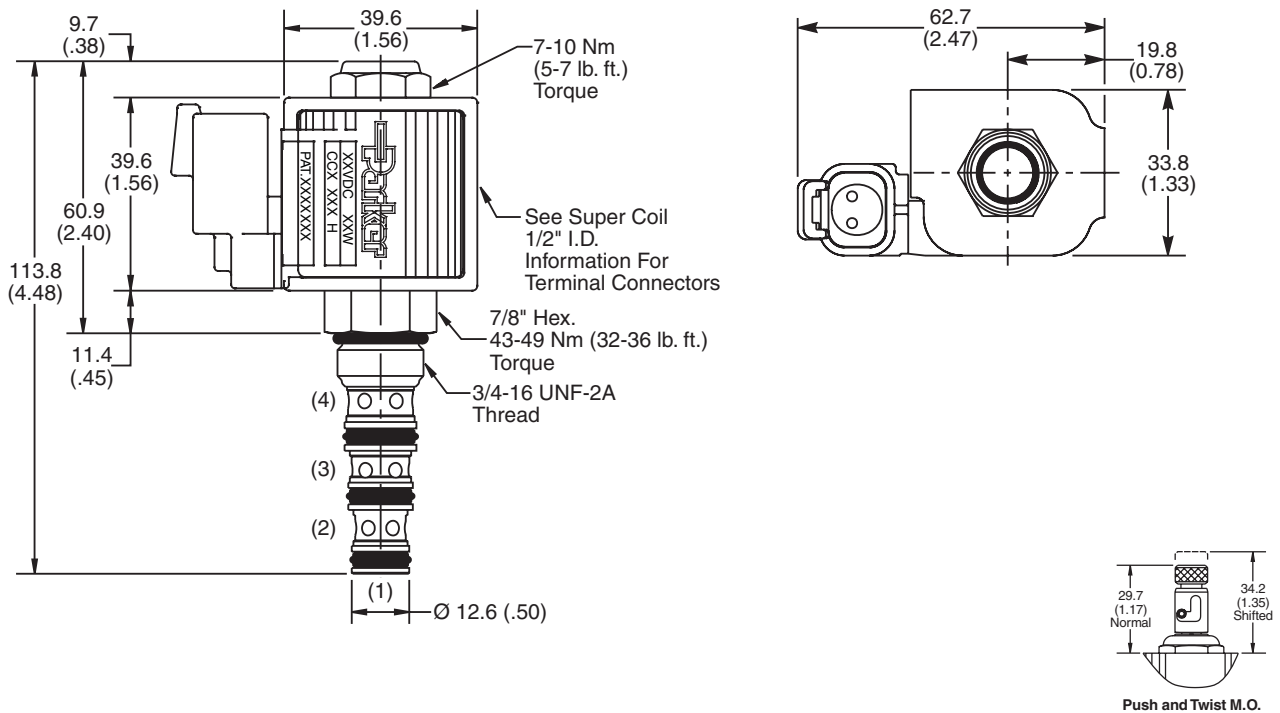


Shift Limit Characteristics (Min. Operating Voltage)



- CV
Check Valves
- SH
Shuttle Valves
- LM
Load/Motor Controls
- FC
Flow Controls
- PC
Pressure Controls
- LE
Logic Elements
- DC
Directional Controls
- SV
Solenoid Valves
- PV
Proportional Valves
- CE
Coils & Electronics
- BC
Bodies & Cavities
- TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

DSH084

08 Size Solenoid Valve **Style** **Override Option**

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
B	
E1	
M9	

Code	Override Options
Omit	None
T	Push & Twist*

*Requires Super Coil.

Code	Seals
Omit	"D"-Ring

Kit	Part Number
D-Ring Seal	SK08-4
Nitrile Seal	SK08-4
Fluorocarbon Seal	SK08-4V

Order Bodies Separately
 See section BC

B08 - **4** - **6T**

08 size 4-Way Cavity Port Size

Code	Port Size / Body Material
6T	SAE-6 / Steel (5000 PSI)

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

TD
Technical Data

General Description

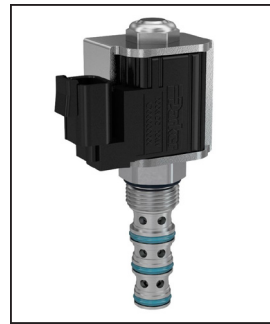
4-Way Spool Valves. For additional information see Technical Tips on pages SV2-SV6.

Features

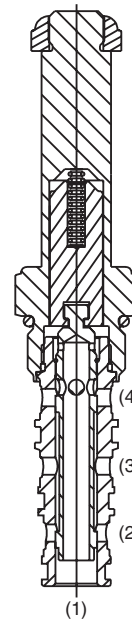
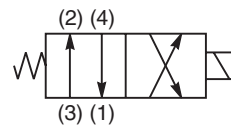
- High flow capacity with reduced space requirements
- Standard valve bodies and common cavities
- One-piece encapsulated coil with minimal amperage draw
- Manual overrides, seal variations and other options available
- No dynamic seals
- Variety of coil terminations
- Polyurethane “D”-Ring eliminates need for backup rings
- Nylon inserted jam-nut provides secure holding in high vibration applications
- All external parts zinc plated

Specifications

Rated Flow	25 - 38 LPM (6.5 - 10 GPM) See Shift Limit Characteristics
Maximum Inlet Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	160 cc/min (10 in ³ /min) DSH104B - 320 cc/min (19.5 in ³ /min)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	Energized - 30 - 60 ms De-energized - 30 - 60 ms
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/ Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.20 kg (.44 lbs.)
Cavity	C10-4 (See BC Section for more details)



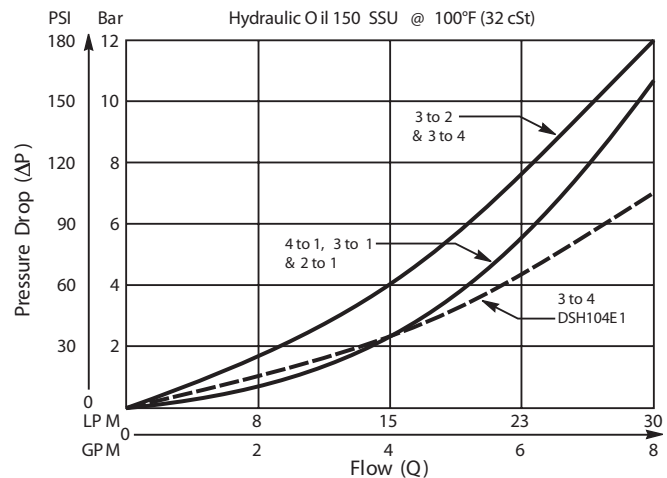
DSH104B



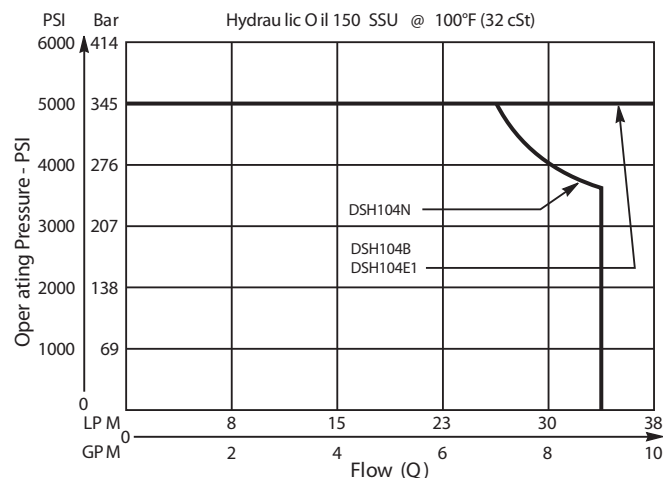
DSH104B

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

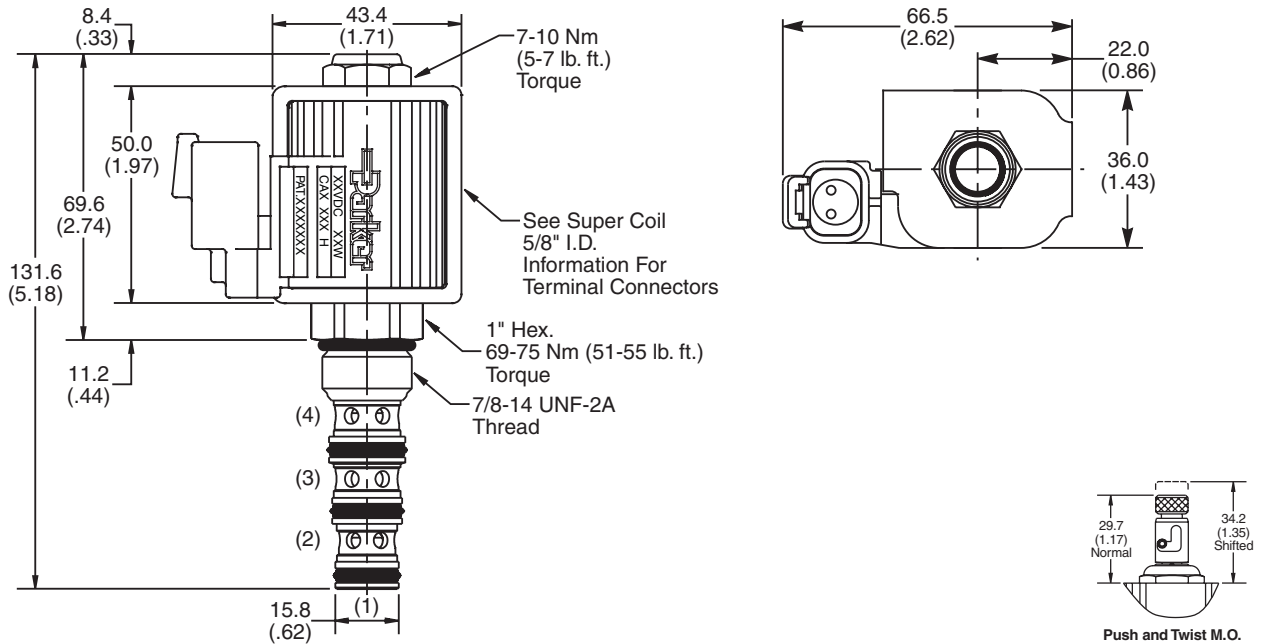


Shift Limit Characteristics (Min. Operating Voltage)



- CV
Check Valves
- SH
Shuttle Valves
- LM
Load/Motor Controls
- FC
Flow Controls
- PC
Pressure Controls
- LE
Logic Elements
- DC
Directional Controls
- SV
Solenoid Valves
- PV
Proportional Valves
- CE
Coils & Electronics
- BC
Bodies & Cavities
- TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

DSH104

10 Size Solenoid Valve Style Override Option

Code	Style
B	
E1	
N	

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.

Code	Override Options
Omit	None
T	Push & Twist

Code	Seals
Omit	"D"-Ring

Kit	Part Number
D-Ring Seal	SK10-4
Nitrile Seal	SK10-4
Fluorocarbon Seal	SK10-4V

Order Bodies Separately
 See section BC

B10 - **4** - **8T**

10 size 4-Way Cavity Port Size

Code	Port Size / Body Material
8T	SAE-8 / Steel (5000 PSI)

- CV** Check Valves
- SH** Shuttle Valves
- LM** Load/Motor Controls
- FC** Flow Controls
- PC** Pressure Controls
- LE** Logic Elements
- DC** Directional Controls
- SV** Solenoid Valves
- PV** Proportional Valves
- CE** Coils & Electronics
- BC** Bodies & Cavities
- TD** Technical Data

General Description

4-Way Spool Valves. For additional information see Technical Tips on pages SV2-SV6.

Features

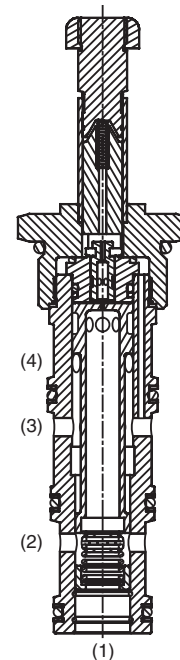
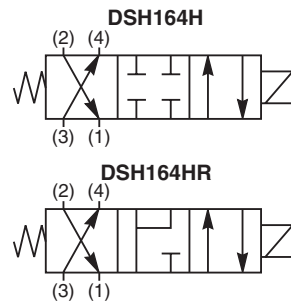
- High flow capacity with reduced space requirements
- Standard valve bodies and common cavities
- One-piece encapsulated coil with minimal amperage draw
- Seal variations and other options available
- No dynamic seals
- Variety of coil terminations
- Nylon inserted jam-nut provides secure holding in high vibration applications
- All external parts zinc plated

Application Note

This valve is a pilot operated spool type valve. It does not require a separate pilot supply, but does require that the work port pressure or the inlet pressure is 40-60 psi higher than port 1. In an open flowing condition, with zero load and low flow, it will require a 4-6 gpm flow to create internal pilot pressure to shift. If load pressure or system pressure is 40-60 psi higher than tank, the valve will shift. Ultimately, the valve shifts based upon pressure differential from port 3 to port 1 of 40-60 psi.

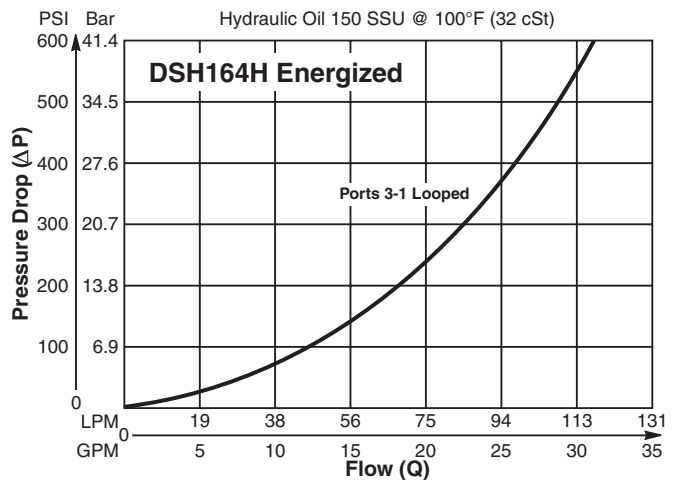
Specifications

Rated Flow	113 LPM (30 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Maximum Tank (port 1)	210 Bar (3000 PSI)
Leakage at 150 SSU (32 cSt)	350 cc/min (21 in ³ /min) De-Energ. 5.6 LPM (1.5 GPM) Energized Pilot Flow @ 207 Bar (3000 PSI)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	Pull In - 600 ms Drop Out - 130 ms
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.59 kg (1.3 lbs.)
Cavity	C16-4 (See BC Section for more details)

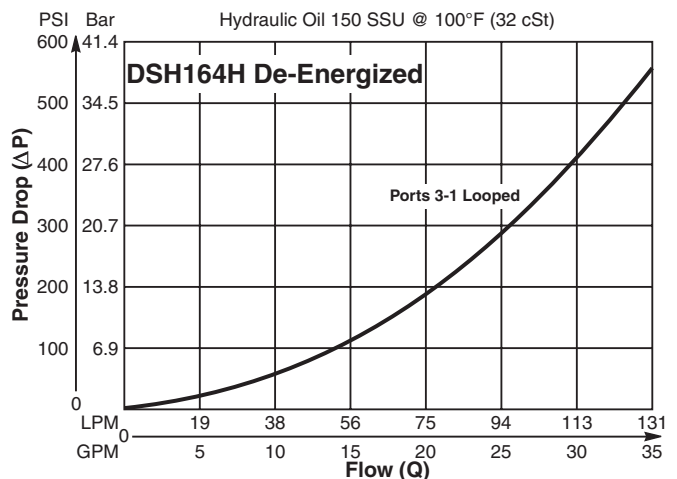


Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

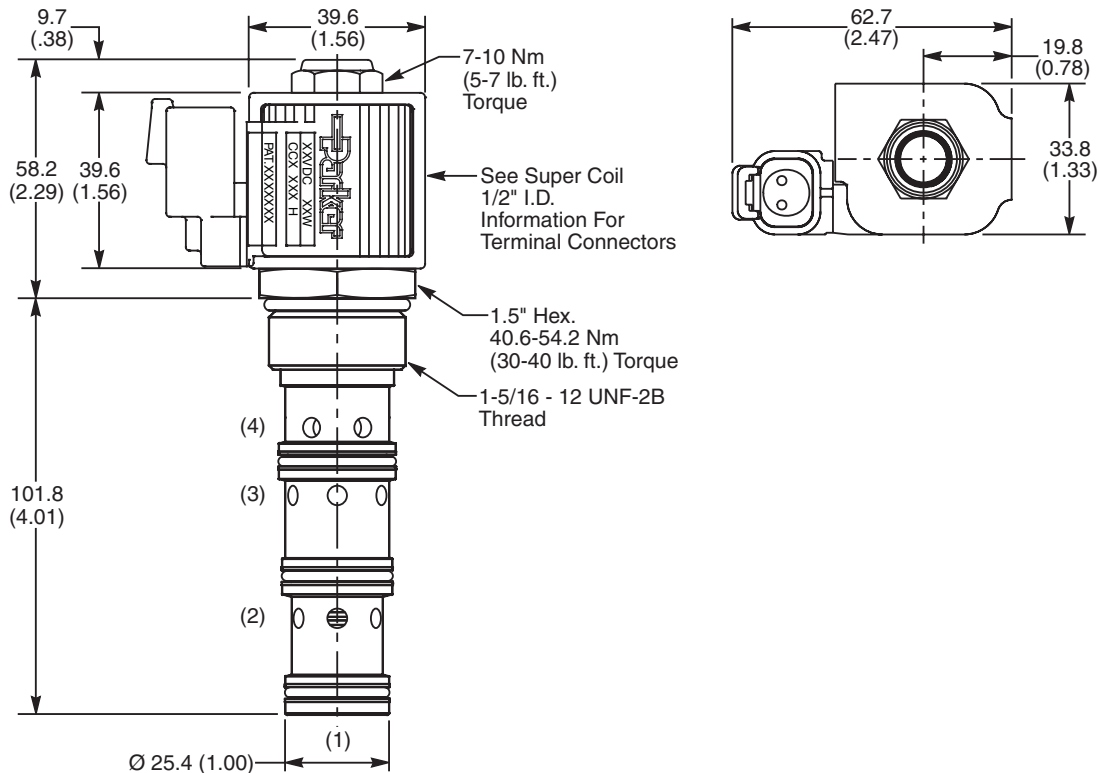


Pressure Drop vs. Flow (Through cartridge only)



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

DSH164

16 Size Solenoid Valve Style

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
H	
HR	

Code	Seals
Omit	Nitrile

Kit	Part Number
Nitrile Seal	SK16-4
Fluorocarbon Seal	SK16-4V

Order Bodies Separately
 See section BC

B16 - **4** - **16T**

16 size 4-Way Cavity Port Size

Code	Port Size / Body Material
16T	SAE-16 / Steel (5000 PSI)

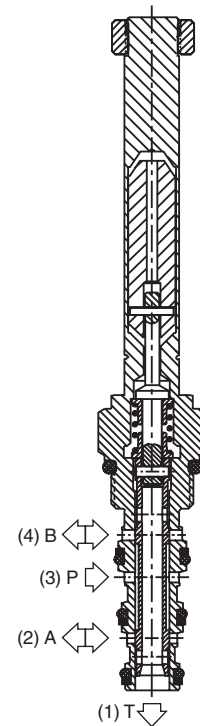
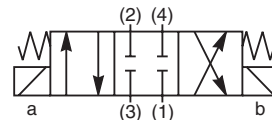
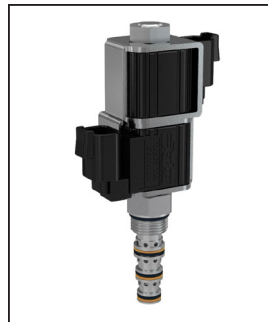
- CV
- Check Valves
- SH
- Shuttle Valves
- LM
- Load/Motor Controls
- FC
- Flow Controls
- PC
- Pressure Controls
- LE
- Logic Elements
- DC
- Directional Controls
- SV
- Solenoid Valves
- PV
- Proportional Valves
- CE
- Coils & Electronics
- BC
- Bodies & Cavities
- TD
- Technical Data

General Description

4-Way, 3 Position, Closed Center Spool Valve.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Designed to operate double acting cylinders, pilot circuits and bi-directional motors, etc.
- High flow capacity with reduced space requirements
- High pressure capability to 350 Bar (5000 PSI)
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O’Rings; Symmetrical coil can be reversed without affecting performance.
- Manual override available

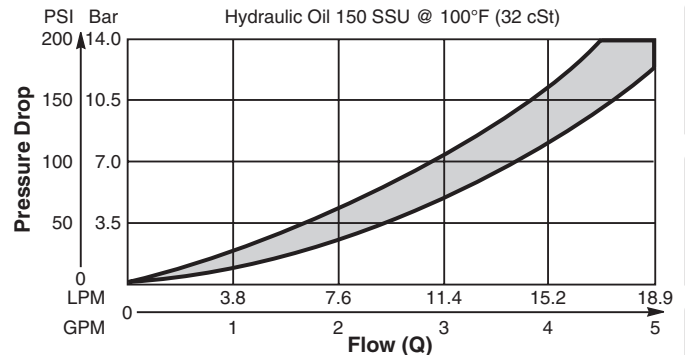


Specifications

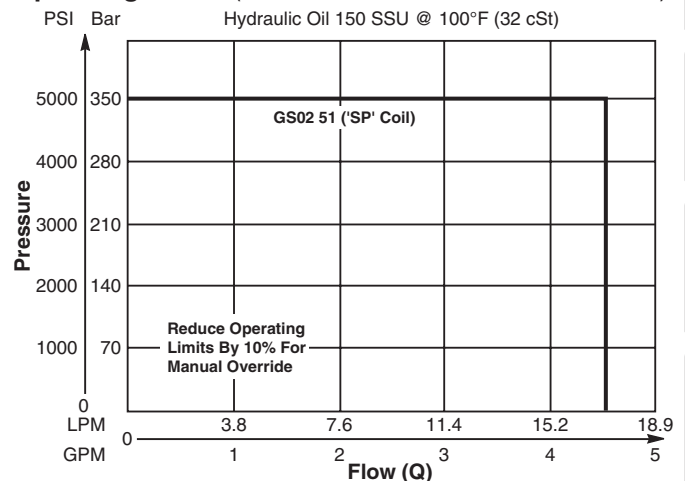
Rated Flow	High Flow/Pressure ('SP' Coil) 17 LPM (4.5 GPM)
Maximum Inlet Pressure	'SP' Coil 350 Bar (5000 PSI)
Maximum Tank Pressure	210 Bar (3000 PSI)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/ Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/ 16/13, SAE Class 4
Approx. Weight	.18 kg (.40 lbs.)
Cavity	C08-4 (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

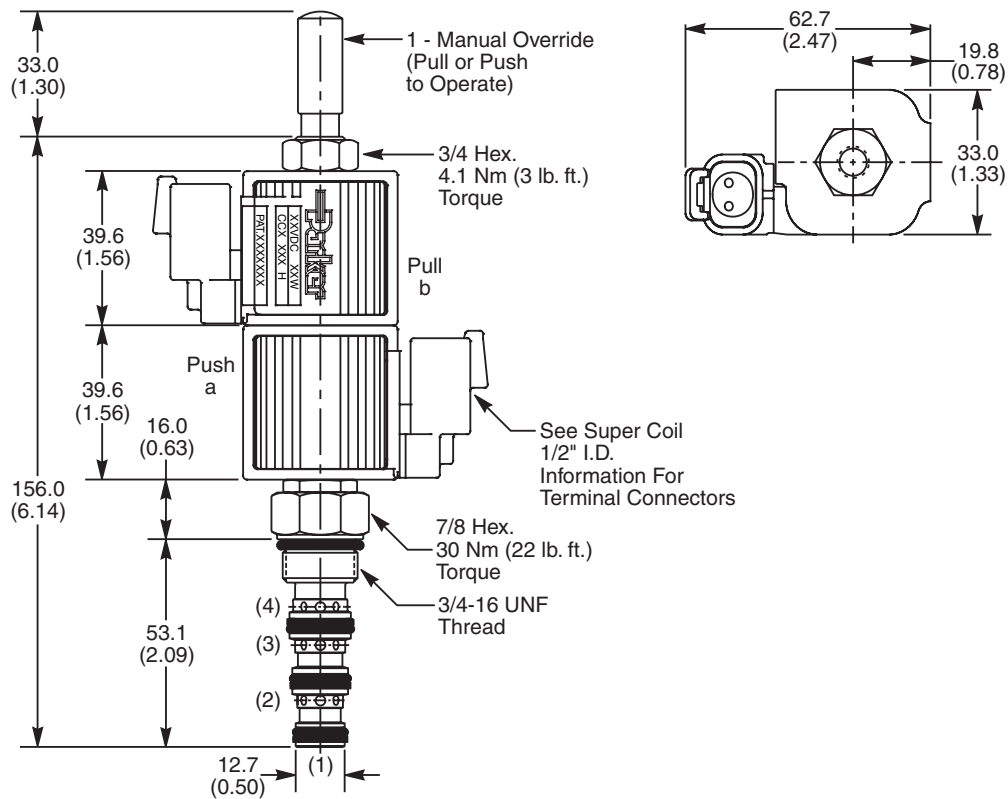


Operating Limits (Measured at 75% of Nominal Current)



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS02	51		0	N
08 Size Solenoid Valve	Style	Override Option	Screen	Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
51	High Flow and Pressure ('SP' Coil)

Code	Screen
0	Not Available

Code	Override Options
0	None
1	Manual Override

Code	Seals
N	Nitrile

Order Bodies Separately
 See section BC

B08	—	4	—	6T
08 size		4-Way Cavity		Port Size

Code	Port Size / Body Material
6T	SAE-6 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK30078N-1
Fluorocarbon Seal	SK30078V-1

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

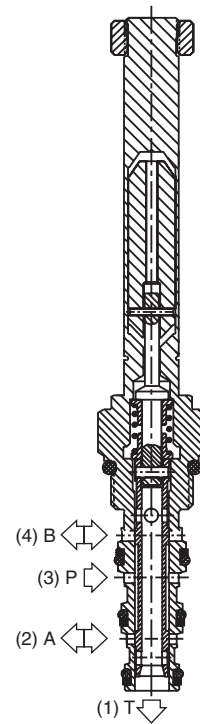
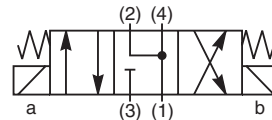
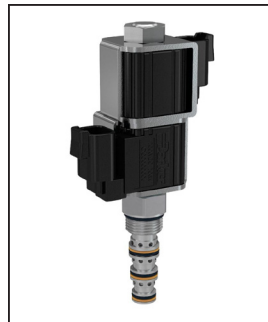
TD
Technical Data

General Description

4-Way, 3 Position, Floating Center Spool Valve.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Designed to operate double acting cylinders, pilot circuits and bi-directional motors, etc.
- High flow capacity with reduced space requirements
- High pressure capability to 350 Bar (5000 PSI)
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O’Rings; Symmetrical coil can be reversed without affecting performance.
- Manual override available

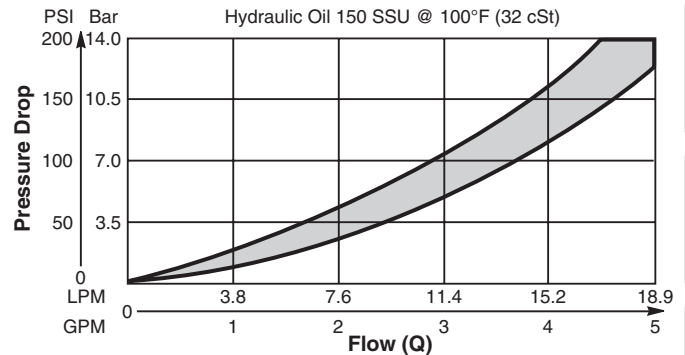


Specifications

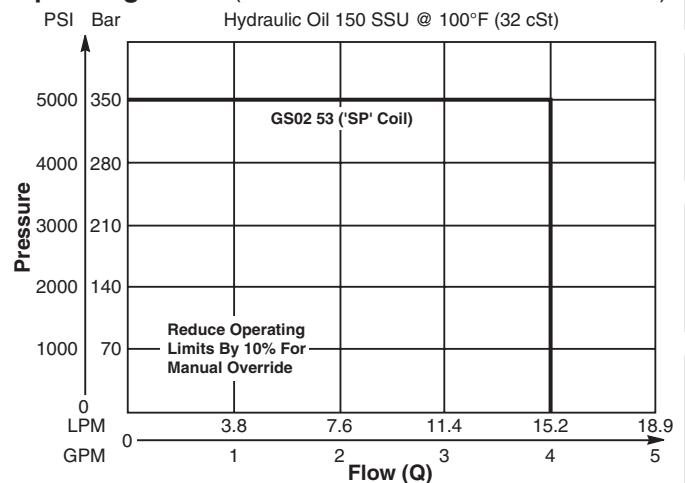
Rated Flow	High Flow/Pressure ('SP' Coil) 15 LPM (4.0 GPM)
Maximum Inlet Pressure	'SP' Coil 350 Bar (5000 PSI)
Maximum Tank Pressure	210 Bar (3000 PSI)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/ Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.18 kg (.40 lbs.)
Cavity	C08-4 (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

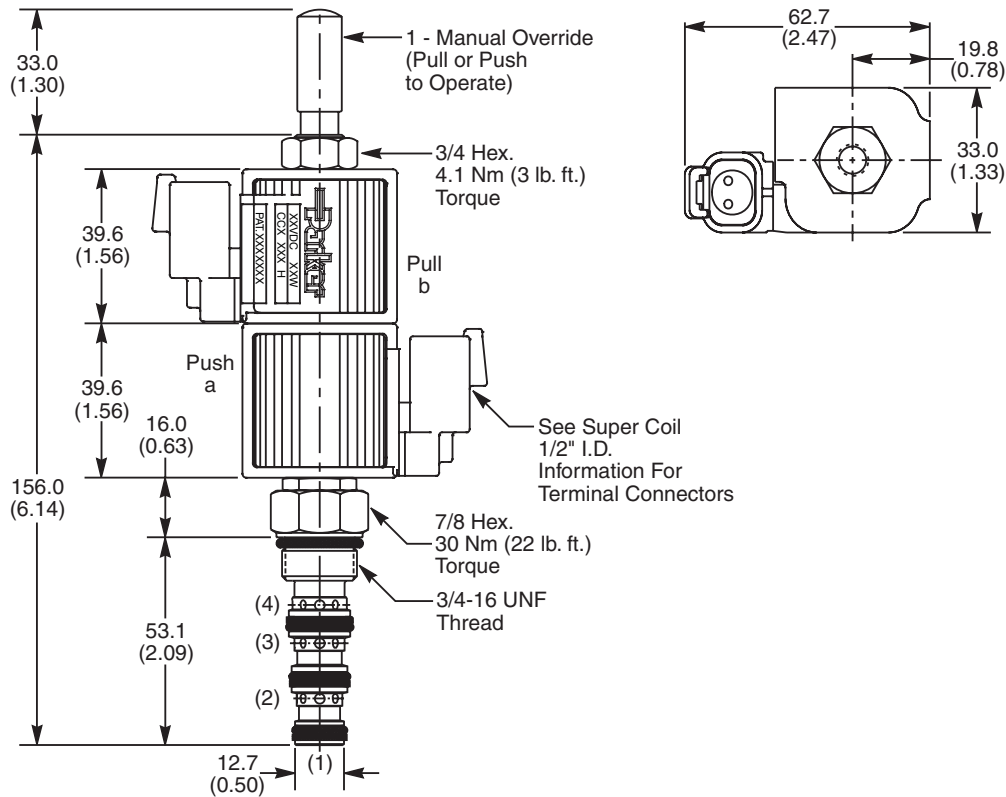


Operating Limits (Measured at 75% of Nominal Current)



- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS02	53		0	N
08 Size Solenoid Valve	Style	Override Option	Screen	Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
53	High Flow and Pressure ('SP' Coil)

Code	Screen
0	Not Available

Code	Override Options
0	None
1	Manual Override

Code	Seals
N	Nitrile

Order Bodies Separately
 See section BC

B08	4	6T
08 size	4-Way Cavity	Port Size

Code	Port Size / Body Material
6T	SAE-6 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK30078N-1
Fluorocarbon Seal	SK30078V-1

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

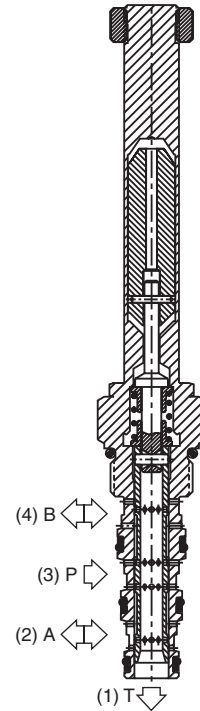
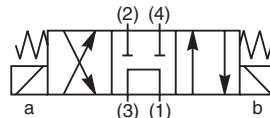
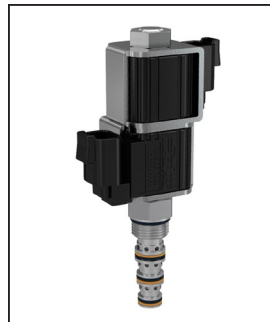
TD
Technical Data

General Description

4-Way, 3 Position, Tandem Center Spool Valve.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Designed to operate double acting cylinders, pilot circuits and bi-directional motors, etc.
- High flow capacity with reduced space requirements
- High pressure capability
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O’Rings; Symmetrical coil can be reversed without affecting performance.
- Manual override available

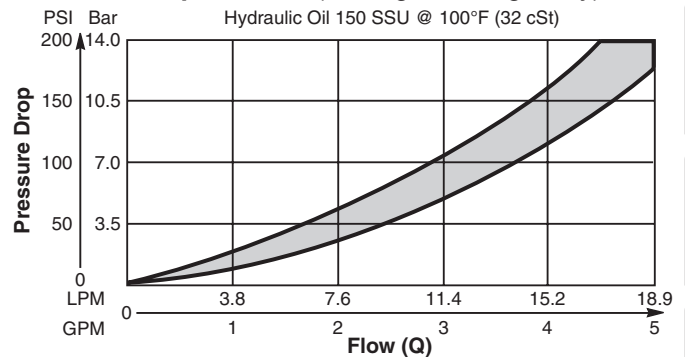


Specifications

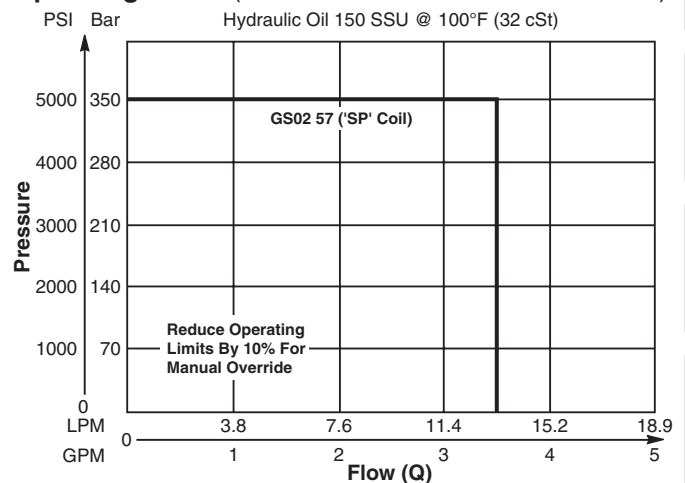
Rated Flow	13 LPM (3.5 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Maximum Tank Pressure	210 Bar (3000 PSI)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.18 kg (.40 lbs.)
Cavity	C08-4 (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

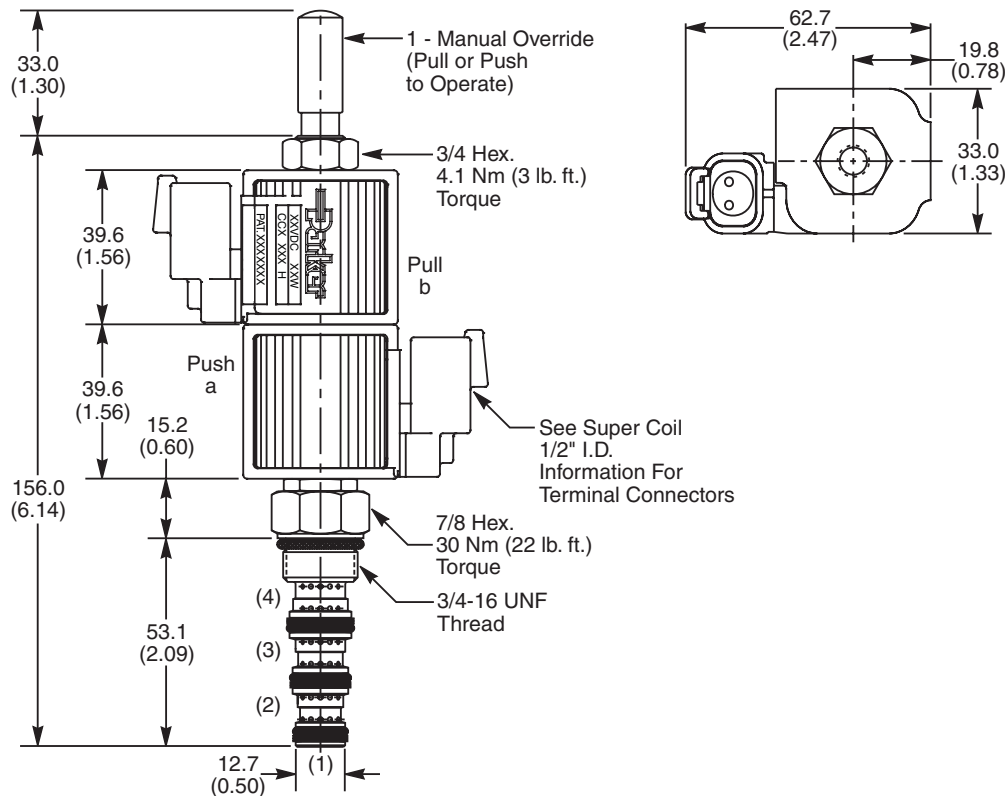


Operating Limits (Measured at 75% of Nominal Current)



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS02	57		0	N
08 Size Solenoid Valve	Style	Override Option	Screen	Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
57	High Flow ('SP' Coil)

Code	Screen
0	Not Available

Code	Override Options
0	None
1	Manual Override

Code	Seals
N	Nitrile

Order Bodies Separately
 See section BC

B08	—	4	—	6T
08 size		4-Way Cavity		Port Size

Code	Port Size / Body Material
6T	SAE-6 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK30078N-1
Fluorocarbon Seal	SK30078V-1

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

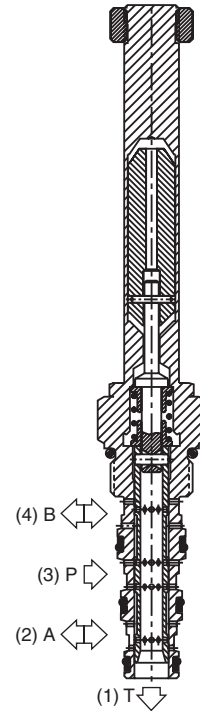
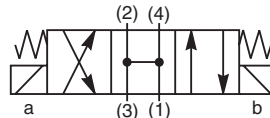
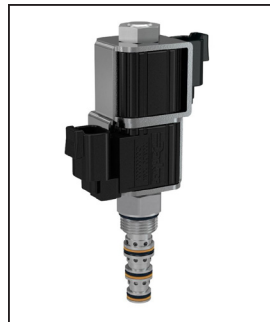
TD
Technical Data

General Description

4-Way, 3 Position, Open Center Spool Valve.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Designed to operate double acting cylinders, pilot circuits and bi-directional motors, etc.
- High flow capacity with reduced space requirements
- High pressure capability
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O’Rings; Symmetrical coil can be reversed without affecting performance.
- Manual override available

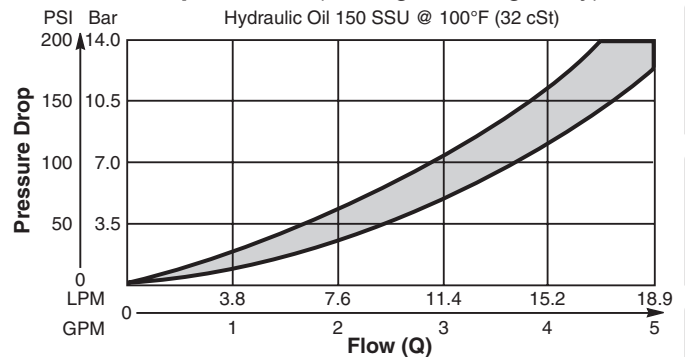


Specifications

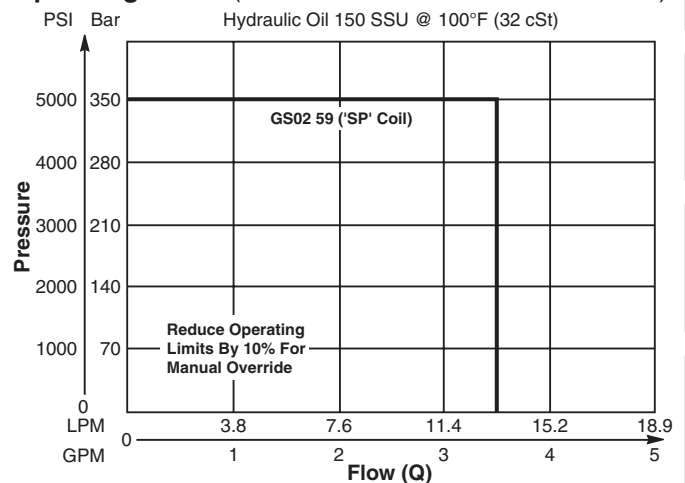
Rated Flow	13 LPM (3.5 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Maximum Tank Pressure	210 Bar (3000 PSI)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/ Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.18 kg (.40 lbs.)
Cavity	C08-4 (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

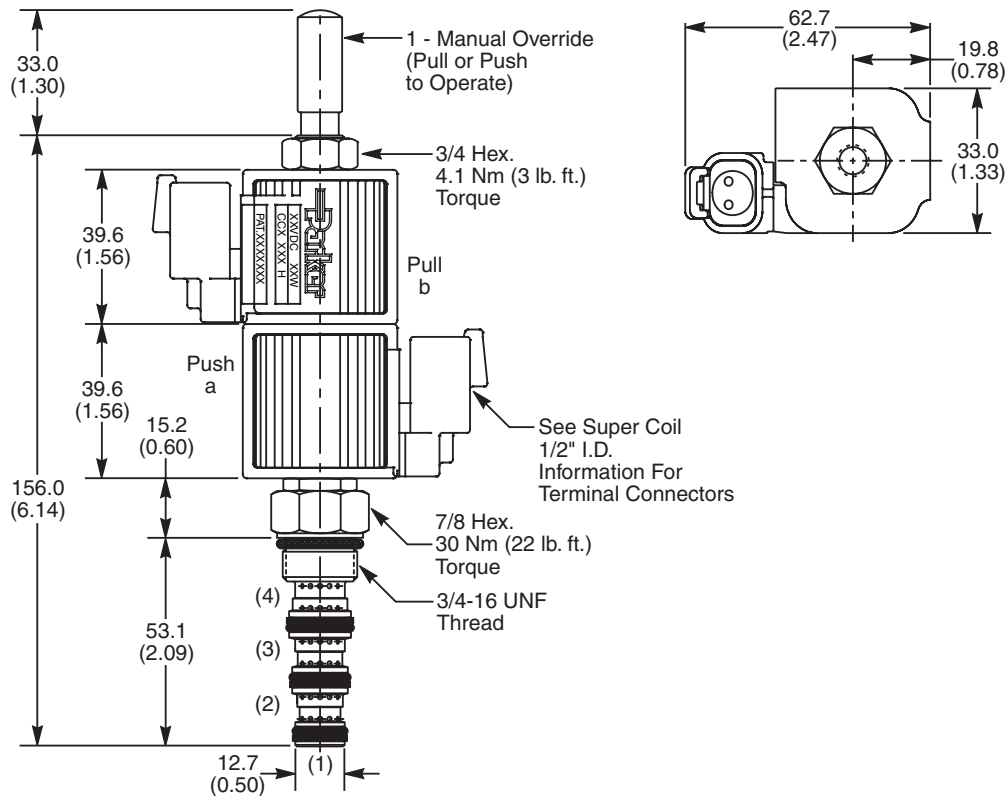


Operating Limits (Measured at 75% of Nominal Current)



- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS02	59		0	N
08 Size Solenoid Valve	Style	Override Option	Screen	Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 1/2" Super-Coil (CC series), for ordering information.

Code	Style
59	High Flow ('SP' Coil)

Code	Screen
0	Not Available

Code	Override Options
0	None
1	Manual Override

Code	Seals
N	Nitrile

Order Bodies Separately
 See section BC

B08	—	4	—	6T
08 size		4-Way Cavity		Port Size

Code	Port Size / Body Material
6T	SAE-6 / Steel (5000 PSI)

Kit	Part Number
Nitrile Seal	SK30078N-1
Fluorocarbon Seal	SK30078V-1

CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

General Description

4-Way Spool Valves. For additional information see Technical Tips on pages SV2-SV6.

Features

- High flow capacity with reduced space requirements
- Standard valve bodies and common cavities
- Replaceable, one piece encapsulated coils with minimal amperage draw
- Manual overrides, seal variations and other options available
- Oil immersed armature solenoid, no dynamic seals
- Variety of coil terminations and voltages
- Polyurethane “D”-Ring

Specifications

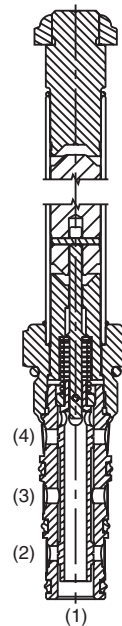
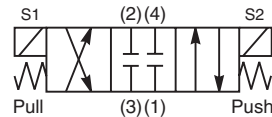
Rated Flow	C2, C9 19 LPM (5 GPM) C1, C4 26 LPM (7 GPM)
Maximum Inlet Pressure	250 Bar (3600 PSI)
Leakage at 150 SSU (32 cSt)	160 cc/min. (10 in ³ /min.)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	40 - 150 ms
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.29 kg (.64 lbs.)
Cavity	C10-4

Curve Selection Chart

SPOOL CODE	SPOOL SHIFTED				SPOOL CENTERED		
	3 to 2	3 to 4	2 to 1	4 to 1	3 to 1	2 to 1	4 to 1
C1	2	2	4	4	—	—	—
C2	1	1	2	2	5	4	3
C4	2	2	5	5	—	4	4
C9	1	1	2	2	5	—	—



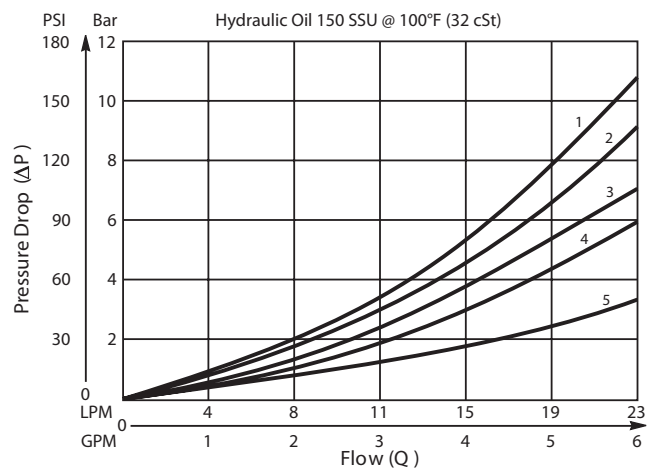
DSL105C1



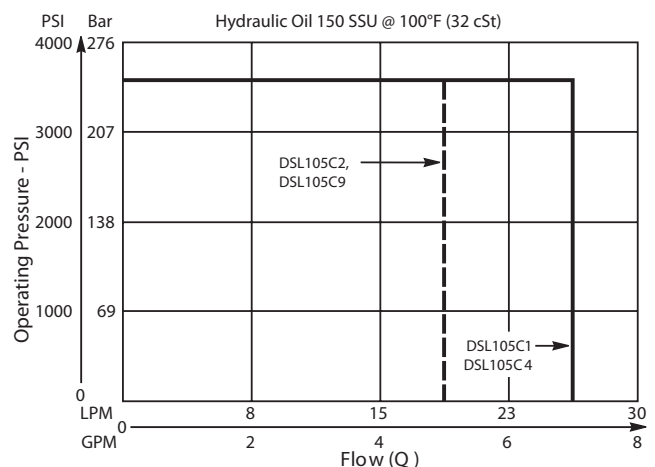
DSL105C1

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

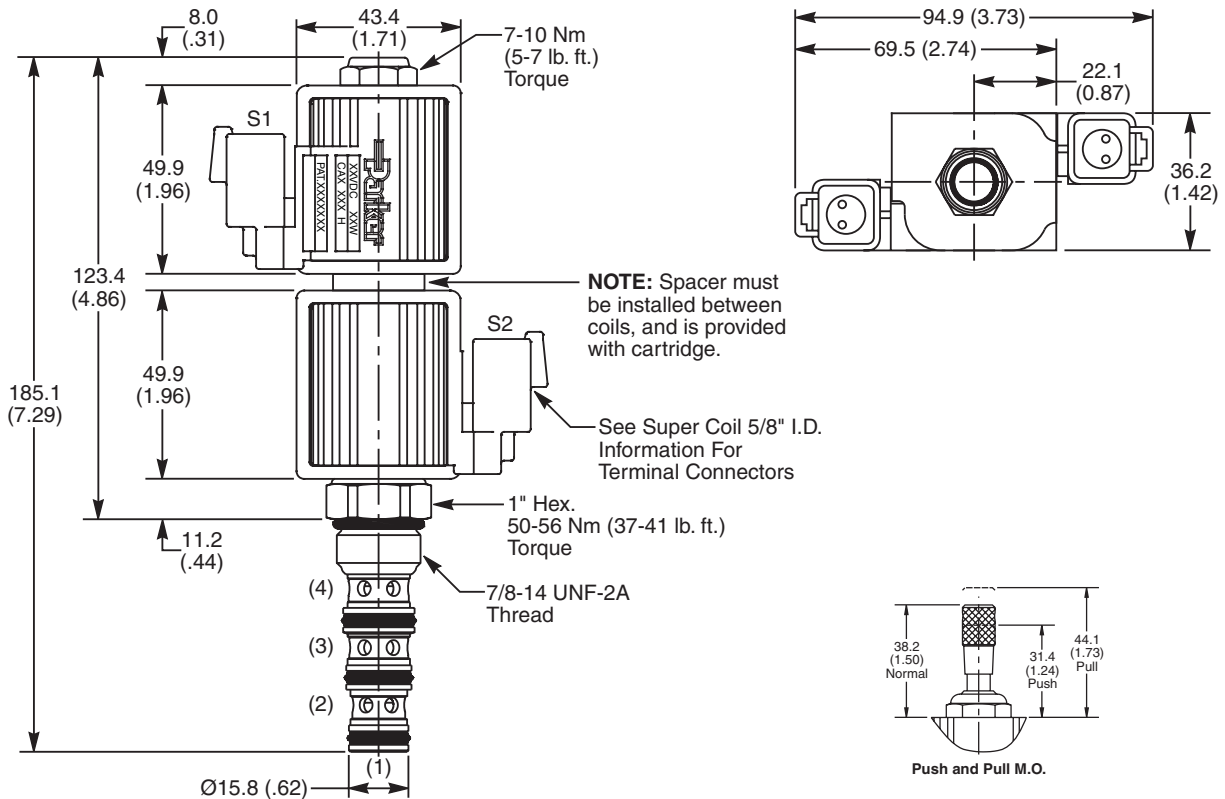


Shift Limit Characteristics (Min. Operating Voltage)

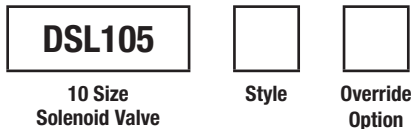


- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

Dimensions Millimeters (Inches)

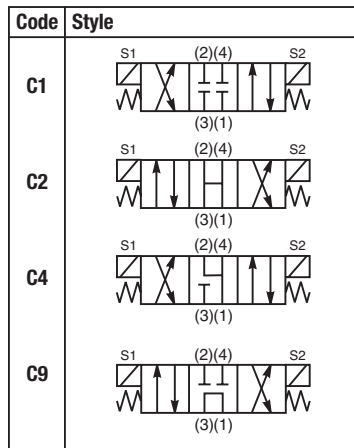


Ordering Information



Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.



Code	Override Options
Omit	None

Code	Seals
Omit	"D"-Ring

Kit	Part Number
D-Ring Seal	SK10-4
Nitrile Seal	SK10-4
Fluorocarbon Seal	SK10-4V

Order Bodies Separately
 See section BC



Code	Port Size / Body Material
8T	SAE-8 / Steel (5000 PSI)

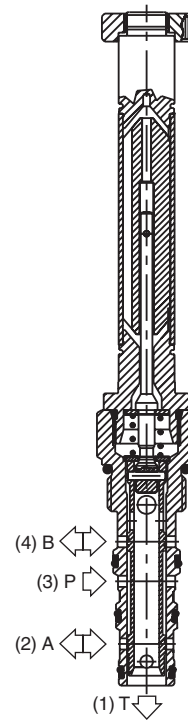
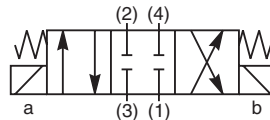
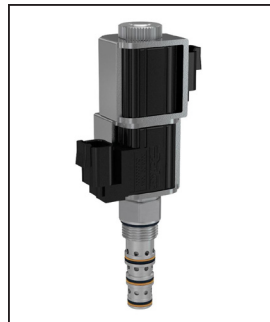
- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

General Description

4-Way, 3 Position, Closed Center Spool Valve.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Four way closed center valve designed to operate double acting cylinders and bi-directional motors, etc.
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O'Rings; Symmetrical coil can be reversed without affecting performance.

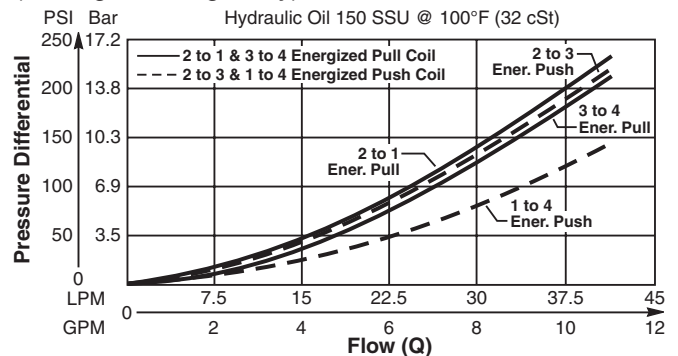


Specifications

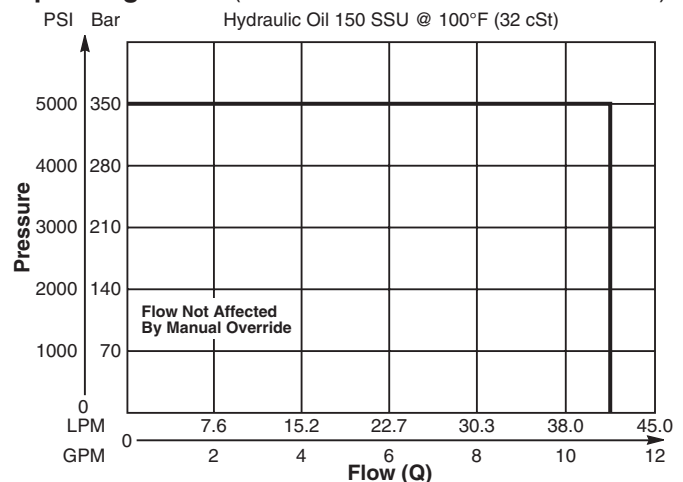
Rated Flow	42 LPM (11 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Maximum Tank Pressure	210 Bar (3000 PSI)
Leakage at 150 SSU (32 cSt)	160 cc/min @ 210 Bar (3000 PSI)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	Open 30-60 ms Close 20-40 ms
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.26 kg (.58 lbs.)
Cavity	C10-4 (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow Energized - GS045250ND
 (Through cartridge only)

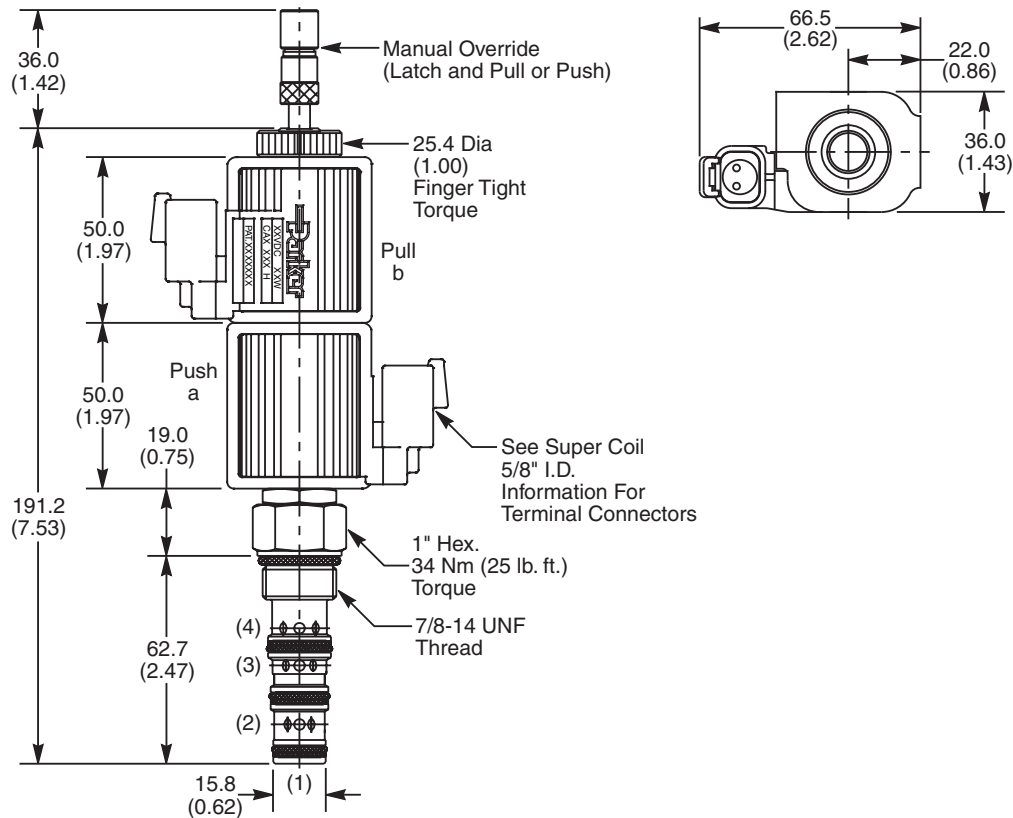


Operating Limits (Measured at 75% of Nominal Current)



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS04	52		0	N	D
10 Size Solenoid Valve	Style	Override Option	Screen	Seals	Design Level

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.

Code	Style
52	High Flow and Pressure ('SP' Coil)

Code	Screen
0	None (Contact factory for OEM requirements)

Code	Override Options
0	None
5	Standard - Center Detent only, Latch Operated, Push and Pull (*40 nt/9 lbs.)

Code	Seals
N	Nitrile

Code	Design Level
D	Industry Common Cavity

*Force to push at 210 Bar (3000 PSI). Less to Pull.

Kit	Part Number
Nitrile Seal	SK30506N-1
Fluorocarbon Seal	SK30506V-1

Order Bodies Separately
 See section BC

B10	—	4	—	8T
10 size		4-Way Cavity		Port Size

Code	Port Size / Body Material
8T	SAE-8 / Steel (5000 PSI)

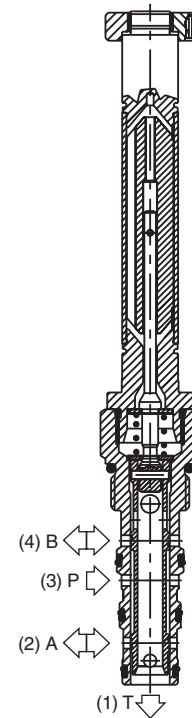
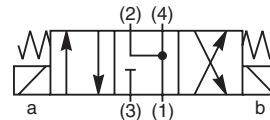
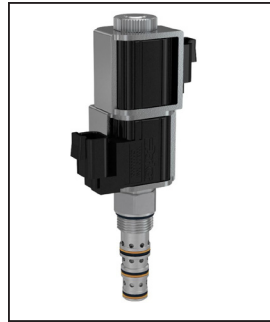
CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

General Description

4-Way, 3 Position, Floating Center Spool Valve.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Four way floating center valve designed to operate double acting cylinders and bi-directional motors, etc.
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O’Rings; Symmetrical coil can be reversed without affecting performance.

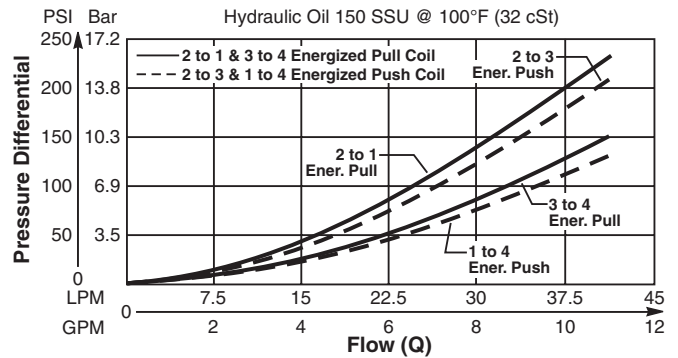


Specifications

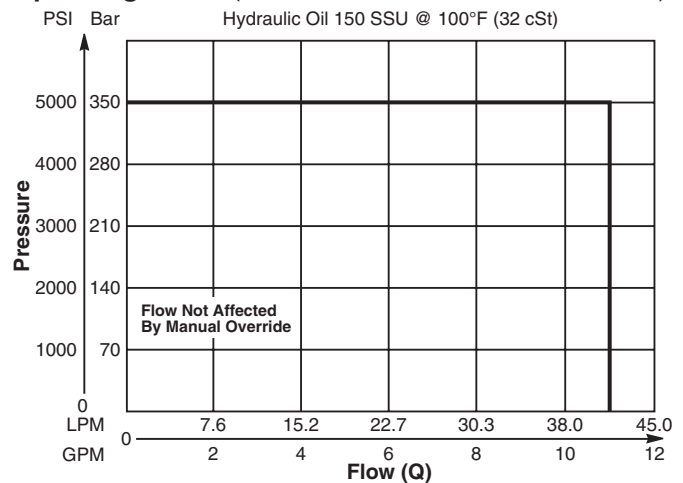
Rated Flow	42 LPM (11 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Maximum Tank Pressure	210 Bar (3000 PSI)
Leakage at 150 SSU (32 cSt)	160 cc/min @ 210 Bar (3000 PSI)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	Open 30-60 ms Close 20-40 ms
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.26 kg (.58 lbs.)
Cavity	C10-4 (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow Energized - GS045450ND
 (Through cartridge only)

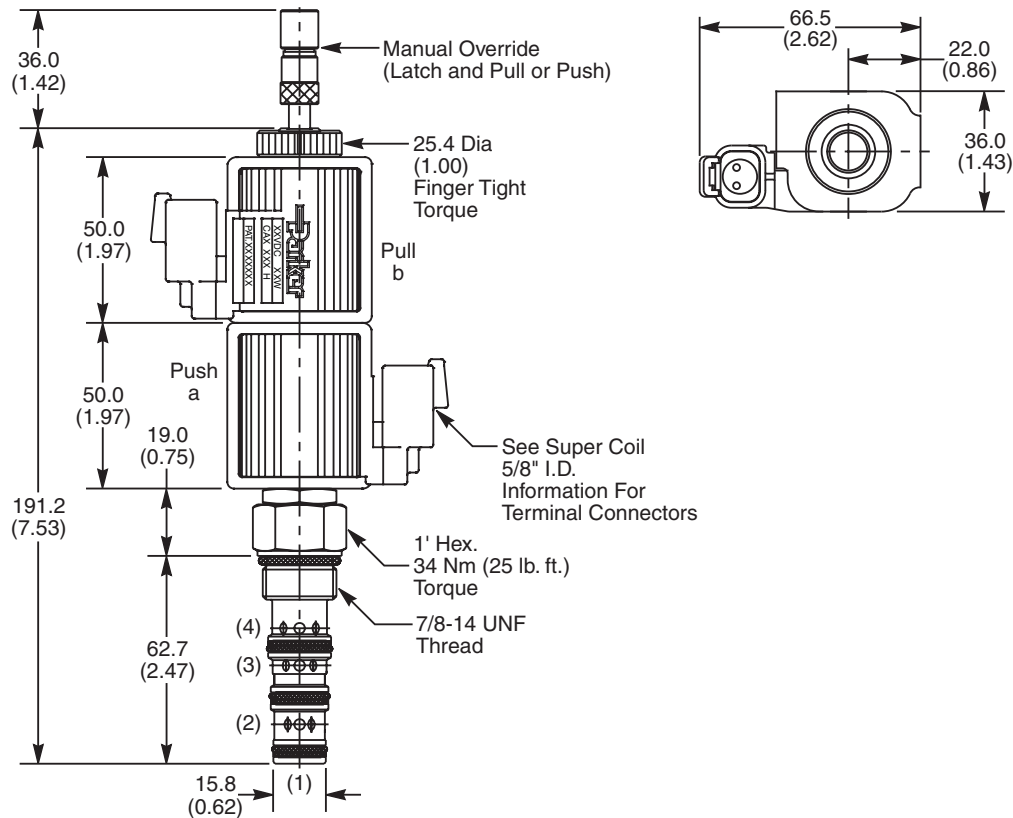


Operating Limits (Measured at 75% of Nominal Current)



- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics
- BC**
Bodies & Cavities
- TD**
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS04	54		0	N	D
10 Size Solenoid Valve	Style	Override Option	Screen	Seals	Design Level

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.

Code	Style
54	High Flow and Pressure ('SP' Coil)

Code	Screen
0	None (Contact factory for OEM requirements)

Code	Override Options
0	None
5	Standard - Center Detent only, Latch Operated, Push and Pull (*40 nt/9 lbs.)

Code	Seals
N	Nitrile

Code	Design Level
D	Industry Common Cavity

*Force to push at 210 Bar (3000 PSI). Less to Pull.

Kit	Part Number
Nitrile Seal	SK30506N-1
Fluorocarbon Seal	SK30506V-1

Order Bodies Separately
 See section BC

B10	—	4	—	8T
10 size		4-Way Cavity		Port Size

Code	Port Size / Body Material
8T	SAE-8 / Steel (5000 PSI)

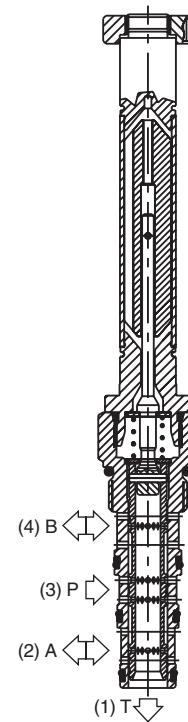
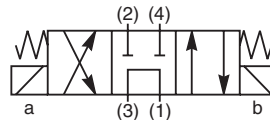
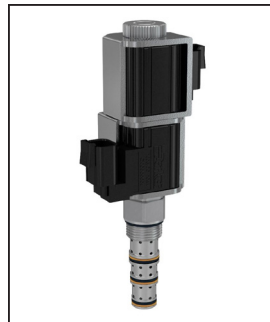
- CV
- Check Valves
- SH
- Shuttle Valves
- LM
- Load/Motor Controls
- FC
- Flow Controls
- PC
- Pressure Controls
- LE
- Logic Elements
- DC
- Directional Controls
- SV
- Solenoid Valves
- PV
- Proportional Valves
- CE
- Coils & Electronics
- BC
- Bodies & Cavities
- TD
- Technical Data

General Description

4-Way, 3 Position, Tandem Center Spool Valve.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Four way tandem center valve designed to operate double acting cylinders and bi-directional motors, etc.
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O'Rings; Symmetrical coil can be reversed without affecting performance.

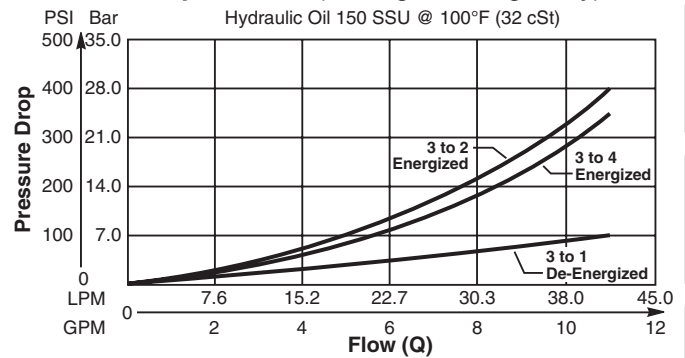


Specifications

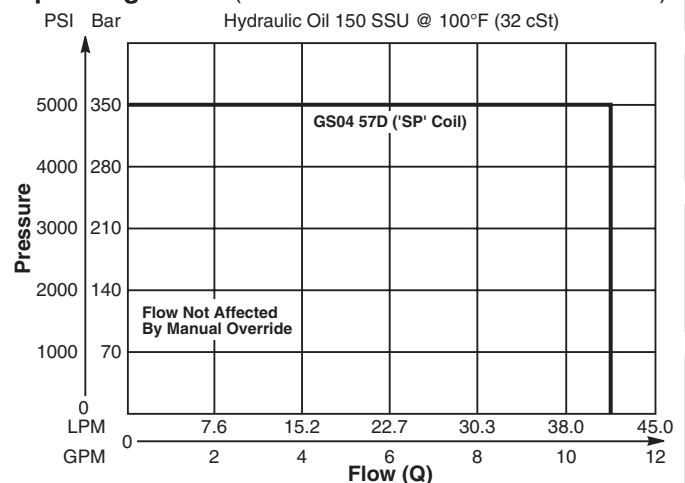
Rated Flow	42 LPM (11 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Maximum Tank Pressure	210 Bar (3000 PSI)
Leakage at 150 SSU (32 cSt)	160 cc/min @ 210 Bar (3000 PSI)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	Open 30-60 ms Close 20-40 ms
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.26 kg (.58 lbs.)
Cavity	C10-4 (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

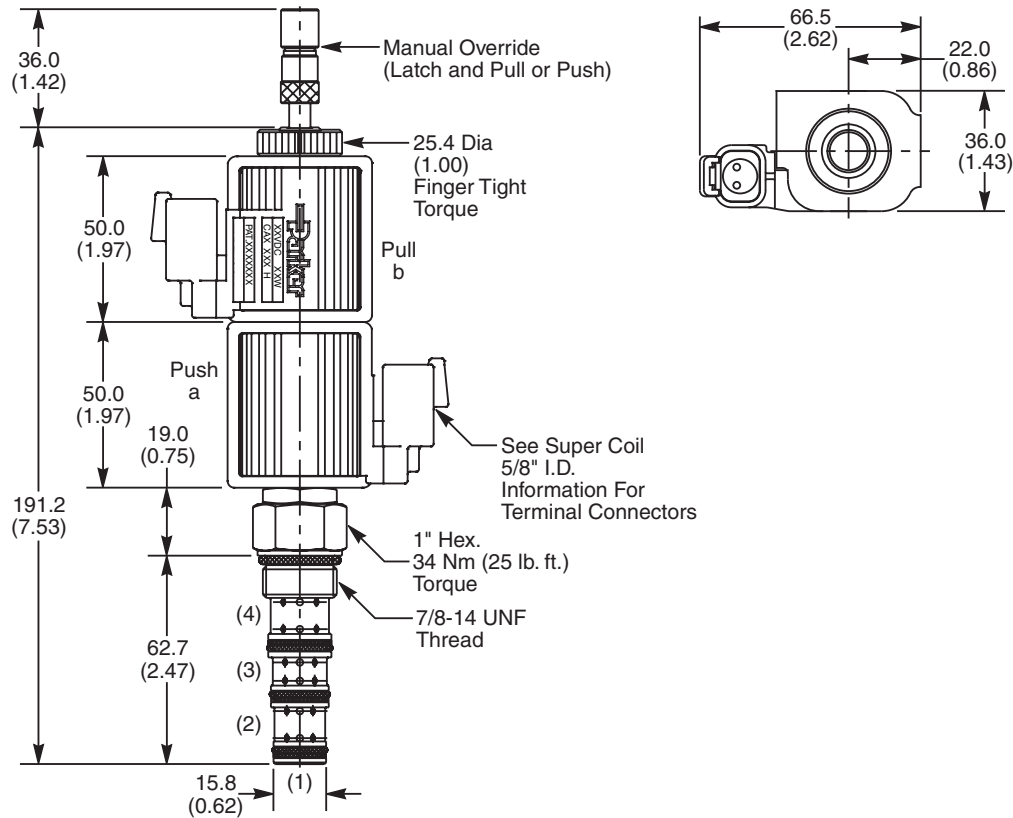


Operating Limits (Measured at 75% of Nominal Current)



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS04	57		0	N	D
10 Size Solenoid Valve	Style	Override Option	Screen	Seals	Design Level

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.

Code	Style
57	High Flow and Pressure ('SP' Coil)

Code	Screen
0	None (Contact factory for OEM requirements)

Code	Override Options
0	None
5	Standard - Center Detent only, Latch Operated, Push and Pull (*40 nt/9 lbs.)

Code	Seals
N	Nitrile

Code	Design Level
D	Industry Common Cavity

*Force to push at 210 Bar (3000 PSI). Less to Pull.

Kit	Part Number
Nitrile Seal	SK30506N-1
Fluorocarbon Seal	SK30506V-1

Order Bodies Separately
 See section BC

B10	—	4	—	8T
10 size		4-Way Cavity		Port Size

Code	Port Size / Body Material
8T	SAE-8 / Steel (5000 PSI)

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities

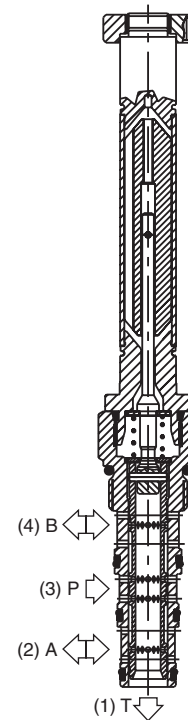
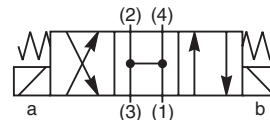
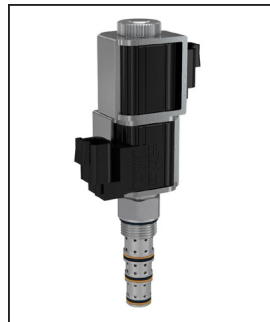
TD
Technical Data

General Description

4-Way, 3 Position, Open Center Spool Valve.
 For additional information see Technical Tips on pages SV2-SV6.

Features

- Four way open center valve designed to operate double acting cylinders and bi-directional motors, etc.
- One piece cartridge housing ensures internal concentricity
- Coil: Waterproof, hermetically sealed, requires no O’Rings; Symmetrical coil can be reversed without affecting performance.

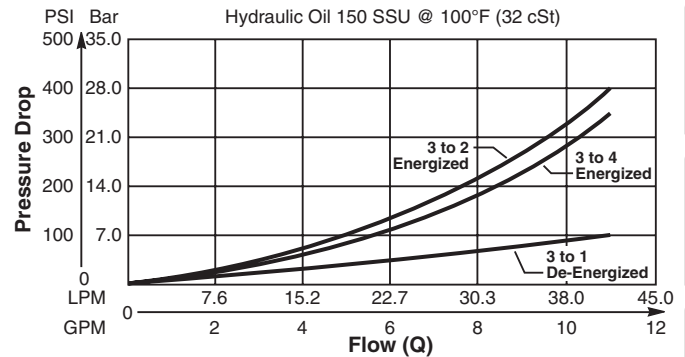


Specifications

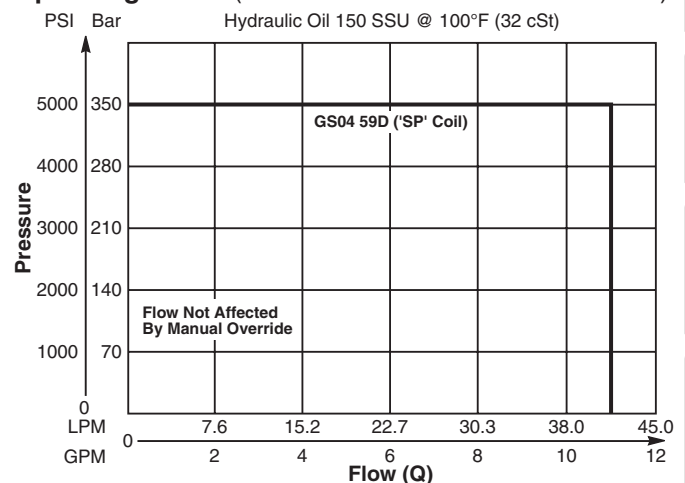
Rated Flow	42 LPM (11 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Maximum Tank Pressure	210 Bar (3000 PSI)
Leakage at 150 SSU (32 cSt)	160 cc/min @ 210 Bar (3000 PSI)
Minimum Operating Voltage	85% of rated voltage at 20°C (72°F).
Response Time	Open 30-60 ms Close 20-40 ms
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO 4406 18/16/13, SAE Class 4
Approx. Weight	.26 kg (.58 lbs.)
Cavity	C10-4 (See BC Section for more details)

Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

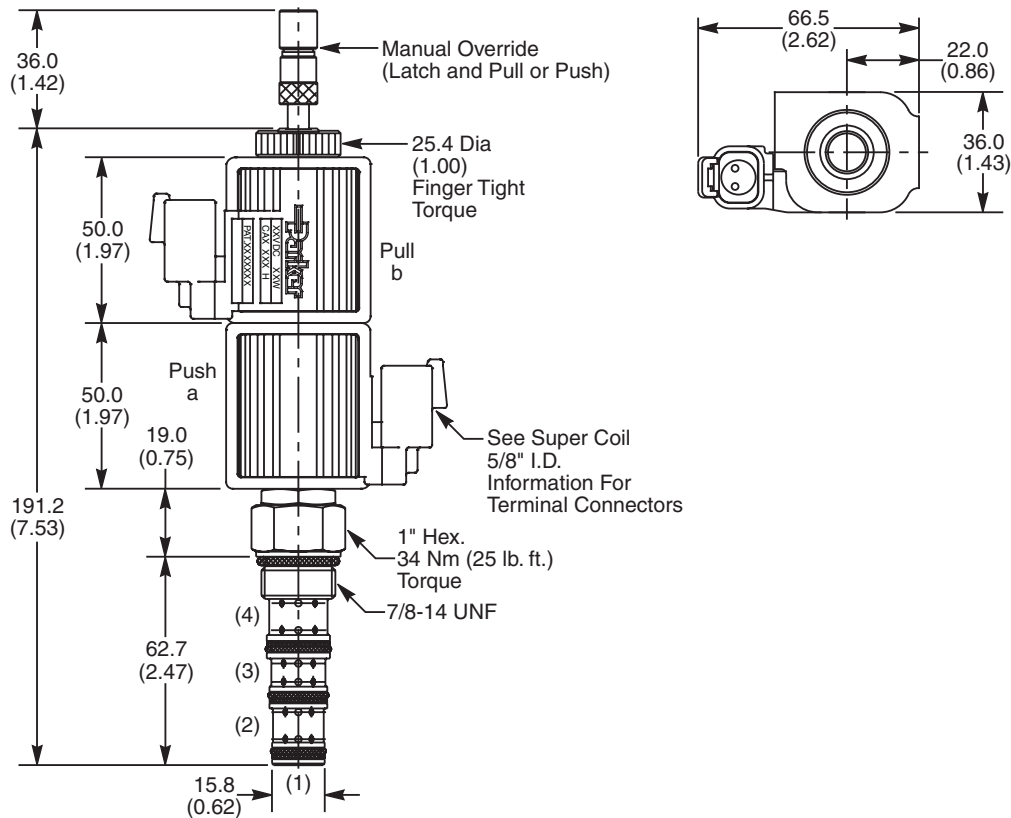


Operating Limits (Measured at 75% of Nominal Current)



- CV**
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Shuttle Valves
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- FC**
Flow Controls
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- LE**
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Directional Controls
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Technical Data

Dimensions Millimeters (Inches)



Ordering Information

GS04	59		0	N	D
10 Size Solenoid Valve	Style	Override Option	Screen	Seals	Design Level

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Coil(s) sold separately. Please see section CE of this catalog, 5/8" Super-Coil (CA series), for ordering information.

Code	Style
59	High Flow and Pressure ('SP' Coil)

Code	Screen
0	None (Contact factory for OEM requirements)

Code	Override Options
0	None
5	Standard - Center Detent only, Latch Operated, Push and Pull (*40 nt/9 lbs.)

Code	Seals
N	Nitrile

Code	Design Level
D	Industry Common Cavity

Order Bodies Separately
 See section BC

B10	—	4	—	8T
10 size		4-Way Cavity		Port Size

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Kit	Part Number
Nitrile Seal	SK30506N-1
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