

## General Description

The DSH101C and DSH101N 2-way, poppet-type, solenoid valves are used in applications requiring on/off valves and low leakage. Single acting cylinder applications typically utilize valves of this type. Valves can be used for bleed down flow and/or raising and lowering a vertical cylinder. Normally open and normally closed configurations plus manual overrides are available.

## Operation

### Normally Closed

The valve pilot is held on its seat by spring force, blocking pilot flow. This allows pressure at the inlet to hold the poppet on its seat, thus, preventing flow through the valve (inlet to outlet). When the coil is energized, the valve pilot is pulled off its seat. This vents pressure inside the poppet to the outlet port, creating a pressure imbalance across the main poppet which allows flow from the inlet to the outlet.

### Normally Closed, Fast Response

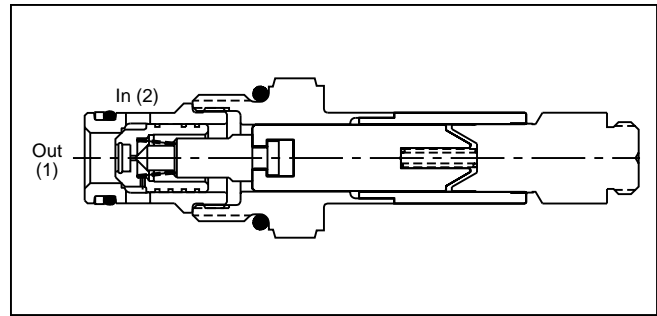
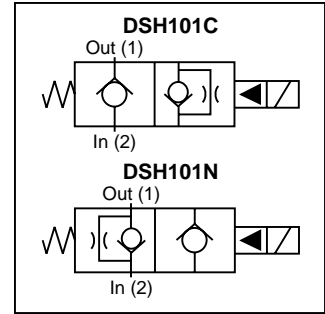
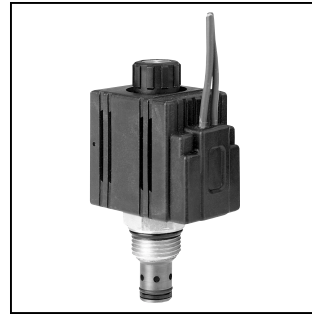
The operation of this version is identical to the normally closed valve except for the travel of the poppet. The distance that the poppet travels is much shorter. This gives the fast response valve a faster opening time and a reduced maximum flow rate.

### Normally Open

The valve pilot is held off of its seat by spring force. Pilot flow is vented to the outlet port, creating a pressure imbalance that moves the main poppet off its seat, allowing flow from the inlet to the outlet. When the coil is energized, the valve pilot and main poppet are forced to close, thus blocking flow from the inlet to the outlet.

## Features

- Low hysteresis
- Replaceable, one piece encapsulated, coils with minimal amperage draw
- Variety of coil terminations and voltages
- Variety of manual override options available

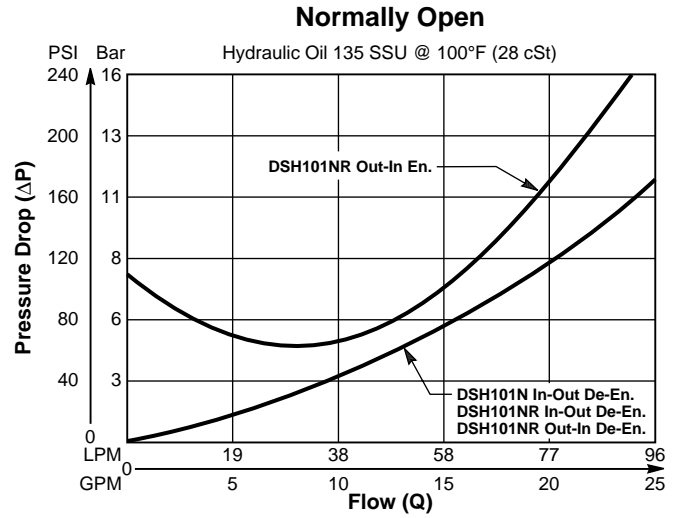
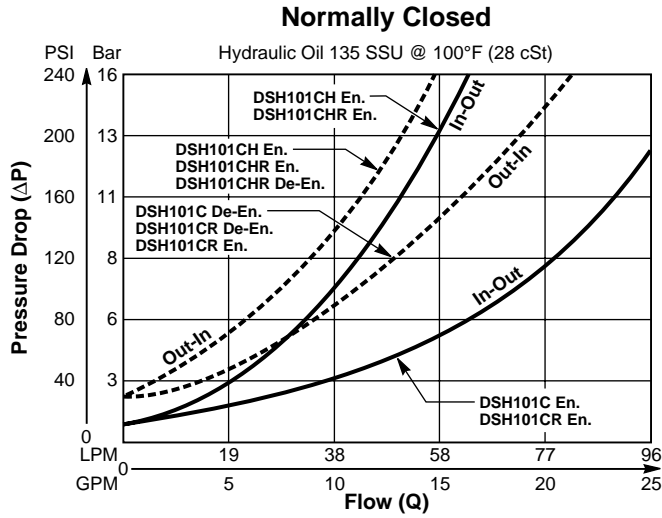


## Specifications

<b>Rated Flow</b>	<b>DSH101CH &amp; DSH101CHR</b> 30 LPM (8 GPM) <b>All other versions</b> 60 LPM (15 GPM)
<b>Maximum Inlet Pressure</b>	345 Bar (5000 PSI) - Steel 210 Bar (3000 PSI) - Aluminum
<b>Leakage</b>	10 drops/min. (2/3 cc/min.) at 345 Bar (5000 PSI)
<b>Operating Temp. Range (Ambient)</b>	-40°C to +93.3°C (Nitrile) (-40°F to +200°F) -31.7°C to +121.1°C (Fluorocarbon) (-25°F to +250°F)
<b>Cartridge Material</b>	All parts steel. All operating parts hardened steel.
<b>Body Material</b>	Steel or Aluminum
<b>Filtration</b>	ISO Code 16/13, SAE Class 4 or better
<b>Mounting</b>	No restrictions
<b>Cavity</b>	Common Cavity No. C10-2

**Performance Curves**

**Pressure Drop vs. Flow** (Through cartridge only)



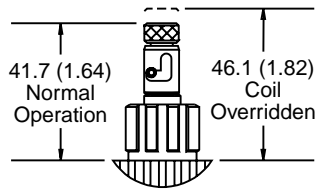
**Solenoid Coil Specifications**

<b>Voltage</b>	10 VDC	12 VDC	24 VDC	120 VAC	240 VAC
<b>Watts</b>	20	20	20	20	20
<b>Amps</b>	1.45	1.17	0.57	.144	.079

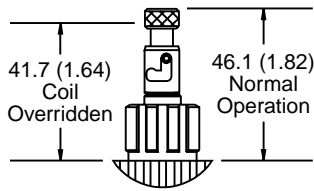
<b>Response Time</b> (at nominal flow, 5000 PSI)	<b>DSH101C &amp; DSH101CR</b> (Normally Closed)	<b>DSH101CH &amp; DSH101CHR</b> (N.C. Fast Res.)	<b>DSH101N &amp; DSH101NR</b> (Normally Open)
<b>Open</b>	100ms	50ms	35ms
<b>Close</b>	175ms	90ms	175ms

<b>Wire Class</b>	"H" for all voltages
<b>A.C. Rectifiers</b>	Integral full wave bridge

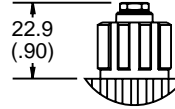
\*Inch equivalents for millimeter dimensions are shown in (\*\*)



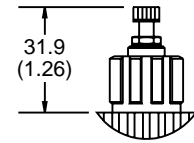
**Push & Twist  
Manual Override  
(N.C. Valves Only)**



**Push & Twist  
Manual Override  
(N.O. Valves Only)**

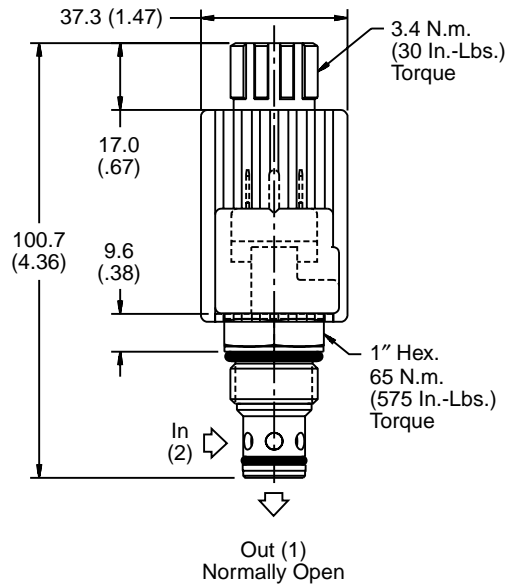
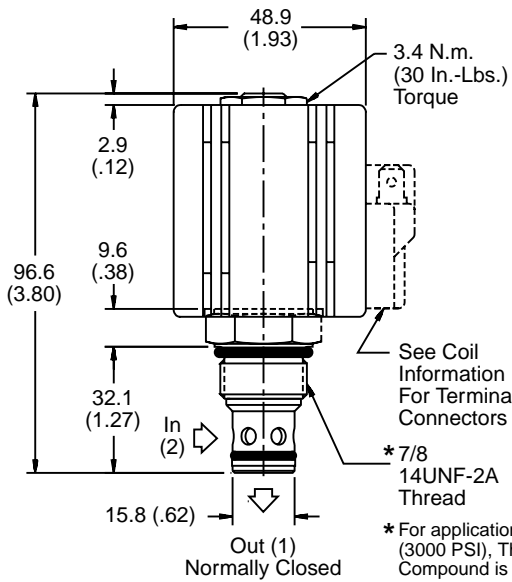


**Flush  
Manual Override  
(N.O. Valves Only)**

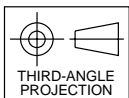
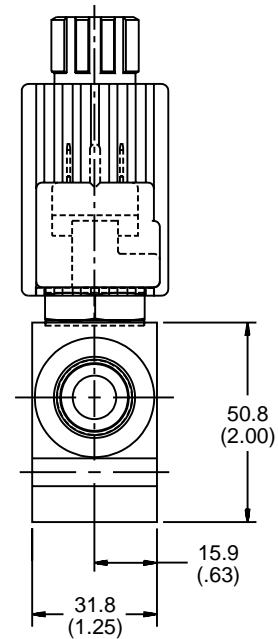
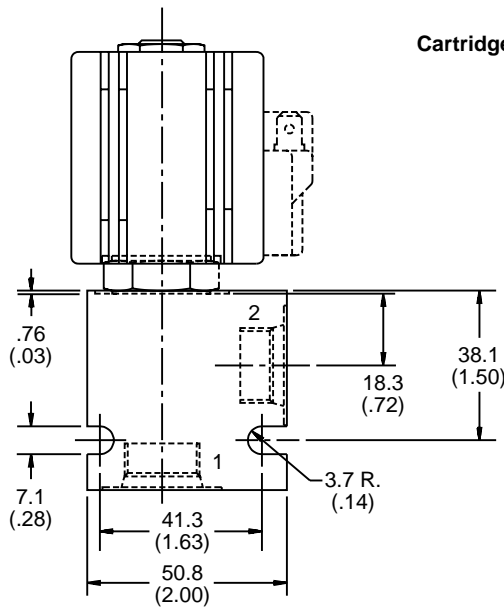


**Extended  
Manual Override  
(N.O. Valves Only)**

**Cartridge Only**



**Cartridge In Body**



<b>DSH</b>	<b>10</b>	<b>1</b>							
Solenoid Valve	Size	Poppet Type	Style	Override Option	Seals	Coil Voltage	Coil Wattage	Coil Termination	Body Option

Code	Style
10	1 7/8" - 14UNF-2B Threaded Cavity with .625" Dia. Seat

Code	Type
Omit	Nitrile
V	Fluorocarbon

Code	Type
Omit	Cartridge without Coil
L	20 Watt

Code	Description
C	Normally Closed, Metered reverse flow.
CH	Normally Closed, Metered reverse flow. Fast response.
CHR	Normally Closed, Full reverse flow. Fast response.
<b>CR</b>	<b>Normally Closed, Full reverse flow.</b>
N	Normally Open, Metered reverse flow.
NR	Normally Open, Full reverse flow.

Code	Type
Omit	Without Manual Override
E	Push Type Manual Override with Extended Rod (Normally Open Only)
M	Push Type Manual Override with Flush Rod (Normally Open Only)
T	Push & Twist Manual Override

Code	Description
Omit	Cartridge without Coil
D010	10 VDC
D012	12 VDC
D024	24 VDC
A120	120/110 VAC, 60/50 Hz
A240	240/220 VAC, 60/50 Hz

Code	Description
Omit	Cartridge without Coil
C	1/2" NPTF Conduit Connector with 24" 18 AWG Wires
D	DIN 43650 (Hirschmann) Plug Face
P	SAE 1B-0.25 SAE Double Spade (DC Only)
W	Double Wire, 24" 18 AWG (DC Only)
WP	Waterproof Double Wire, 24" 16 AWG (DC Only)

Code	Port Size & Material
Omit	Cartridge Only
4P	1/4" NPTF (B10-2-4P) Steel
A4P	1/4" NPTF (B10-2-A4P) Aluminum
6P	3/8" NPTF (B10-2-6P) Steel
A6P	3/8" NPTF (B10-2-A6P) Aluminum
8P	1/2" NPTF (B10-2-8P) Steel
A8P	1/2" NPTF (B10-2-A8P) Aluminum
6T	SAE-6 (B10-2-6T) Steel
A6T	SAE-6 (B10-2-A6T) Aluminum
8T	SAE-8 (B10-2-8T) Steel
A8T	SAE-8 (B10-2-A8T) Aluminum
4B	1/4" BSPG (B10-2-4B) Steel
A4B	1/4" BSPG (B10-2-A4B) Aluminum
6B	3/8" BSPG (B10-2-6B) Steel
A6B	3/8" BSPG (B10-2-A6B) Aluminum
8B	1/2" BSPG (B10-2-8B) Steel
A8B	1/2" BSPG (B10-2-A8B) Aluminum

**SERVICE PARTS**

Coil Size	Coil Wattage	Coil Termination	Coil Voltage										
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Code</th> <th>Size</th> </tr> <tr> <td>S10</td> <td>5/8" I.D.</td> </tr> <tr> <td>SW10</td> <td>5/8" I.D.</td> </tr> </table>	Code	Size	S10	5/8" I.D.	SW10	5/8" I.D.	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Code</th> <th>Type</th> </tr> <tr> <td>L</td> <td>20 Watts</td> </tr> </table>	Code	Type	L	20 Watts		
Code	Size												
S10	5/8" I.D.												
SW10	5/8" I.D.												
Code	Type												
L	20 Watts												

Code	Description
C	Conduit
D	DIN 43650
P	Double Spade
S	Double Screw
W	Double Wire
WP	Waterproof Double Wire

Code	Description
D010	10 VDC
D012	12 VDC
D024	24 VDC
A120	120 VAC
A240	240 VAC

**DIN Connector:**  
 Grey — 692914  
 Black — 692915

**Coil Nut:**  
 DSH101C, CR, CH — 118127-00  
 DSH101N, NR — 118113-00

**Nitrile Seal Kit:**  
 DSH101 — SK10-2

**Fluorocarbon Seal Kit:**  
 DSH101 — SK10-2V

**Notes:** See Series 10 Coil Data Sheet.  
 For other coil voltages and terminations, consult factory.  
 S10 Coil applies to all terminations except WP.  
 SW10 Coil applies to WP termination only.

Shipping Weight  
 Cartridge Only .20 kg (0.41 lbs.)  
 Cartridge in Body .97 kg (2.11 lbs.)

**NOTE: If system pressure does not exceed 210 Bar (3000 PSI), aluminum bodies can be used. Higher pressures require steel bodies.**