DELTROL

fluid products

DIVISION OF DELTROL CORP

Cartridge Valves & Integrated Circuit Manifolds

Fluid Power

ISO 9001:2008
CERTIFIED

PERRY JOHNSON
REGISTRARS, INC.

DELTROL fluid products
DIVISION OF DELTROL CORP

World Class Performance

Committed to TOTAL Customer Satisfaction

Deltrol Fluid Products strives for **World Class Performance** standards in product design, quality, competitive prices and quick response. Whether manufacturing an extensive range of fluid power components, or assisting in the design and building of the complete package, our goal remains...

TOTAL Customer Satisfaction

At Deltrol Fluid Products, our mission is to create and maintain an image of leadership, quality and integrity with our customers, employees and suppliers. We continually strive to be a world-class manufacturer of cartridge valves, custom manifold systems, and in-line valves.

History

Located in Bellwood, Illinois, just outside of Chicago, and founded in 1963, Deltrol Fluid Products designed and manufactured in-line accessory hydraulic and pneumatic flow, needle, and check valves. When screw-in style cartridge valve technology developed, our product offering expanded to include cartridge valves.

Now, nearly fifty years since our founding, we have expanded our product line to include a full line of solenoid and manual operated, directional control, flow control, and pressure control screw-in and slip-in style cartridge valves.

We offer a comprehensive line of standard products and thrive on providing custom valves and integrated circuits that meet our customers' needs.

Design

Our design group is divided into two cross-functional teams, which allows us to focus on product designs that meet our customers' requirements. The valve design group can develop valves independently or integrate with our systems design group based on customers' special applications and needs. Our three-dimensional modeling software enables us to create the most compact and efficient solutions for our customers.

Integrated Manufacturing

Our vertically integrated manufacturing facility enables us to produce high quality, cost effective parts on site. Our state-of-the-art assembly and test equipment ensure efficient through-put that meets our demanding quality standards.

Quality

Our ISO 9001-2008 certified quality system ensures that our designs are produced to our customers' expectations. Our robust design verification and vendor qualification systems insure smooth transition from concept to production. 100% of the products we produce are functionally tested with automated computer-driven test systems.

Delivery

Our MRP based manufacturing system gives us the flexibility to meet our customers' delivery system requirements. We are experienced in working with various customer implementations of pull order systems. We work closely to understand our customers' ERP systems and have the flexibility to integrate our packaging and delivery with their requirements.

We take pride in our ability to provide high quality, cost effective customer solutions. We offer a wide range of standard products and excel at the opportunity to modify our current designs or develop unique products that meet our customers' special needs.

If the solution you need is not available in our catalog or you have a special application, please contact us so we can develop a component or system that meets your specific demands. Whether it's a unique environment, flow media, fit, or application, we are eager to work with you to provide products and services that make you most competitive in your marketplace.

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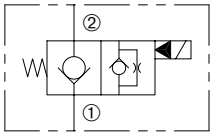
0.00.0 INTRODUCTION

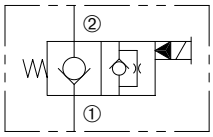
1.00.0 SOLENOID — Two-Way, Two-Position

Solenoid, Two-Way, Two-Position, Normally-Closed, Poppet



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
5.0	18.9	4000	276	DSV-080-2NCP	Series 8	1.01.1
16.0	60.6	3000	207	DSV2-100-2NCP	Series 10	1.03.1

Solenoid, Two-Way, Two-Position, Normally-Closed, Poppet, Manual Override



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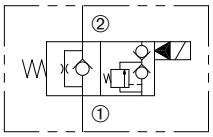
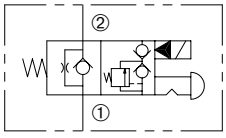
Solenoid, Two-Way, Two-Position, Normally-Open, Poppet



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
5.0	18.9	3000	207	DSV2-080-2NOP	Series 8	1.08.1
16.0	60.6	3000	207	DSV2-100-2NOP	Series 10	1.09.1

Solenoid, Two-Way, Two-Position, Normally-Open, Poppet, Manual Override



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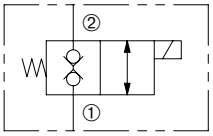
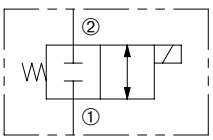
Solenoid, Two-Way, Two-Position, Normally-Closed, Bi-Directional, Poppet



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
5.0	18.9	3000	207	DSV-080-2NCSP	Series 8	1.11.1

Solenoid, Two-Way, Two-Position, Normally-Closed, Spool



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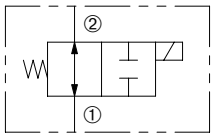
3.0	11.4	3000	207	DSV2-080-2NCS	Series 8	1.14.1
6.0	22.7	3000	207	DSV2-100-2NCS	Series 10	1.15.1

Solenoid, Two-Way, Two-Position, Normally-Open, Spool



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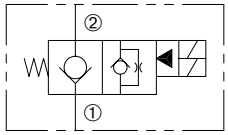
6.0	22.7	3000	207	DSV2-100-2NOS	Series 10	1.17.1

Solenoid, Two-Way, Two-Position, Normally-Closed, Dual-Coil, Poppet



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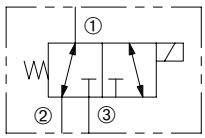
gpm	lpm	psi	bar			
5.0	18.9	4000	276	DDSV-080-2NCP	Series 8	1.18.1

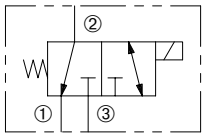
1.20.0 SOLENOID — Three-Way, Two-Position

Solenoid, Three-Way, Two-Position, Spool



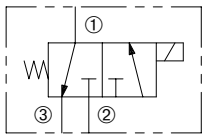
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
4.0	15.1	3000	207	DSV2-080-3	Series 8	1.20.1
6.0	22.7	3000	207	DSV2-100-3	Series 10	1.21.1

Solenoid, Three-Way, Two-Position, Spool



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
5.0	18.9	3000	207	DSV2-080-3B	Series 8	1.23.1
6.0	22.7	3000	207	DSV2-100-3B	Series 10	1.24.1

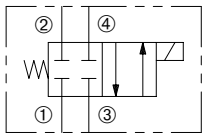
Solenoid, Three-Way, Two-Position, Spool



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
6.0	22.7	3000	207	DSV2-100-3D	Series 10	1.26.1

1.30.0 SOLENOID — Four-Way, Two-Position

Solenoid, Four-Way, Two-Position, Normally-Closed, Spool



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gpm	lpm	psi	bar			
3.0	11.4	3000	207	DSV2-080-4NC	Series 8	1.30.1
6.0	22.7	3000	207	DSV2-100-4NC	Series 10	1.31.1

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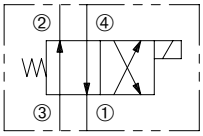
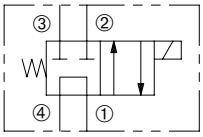
Solenoid, Four-Way, Two-Position, Cross Over, Spool



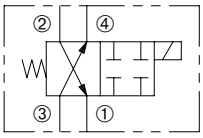
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
3.0	11.4	3000	207	DSV2-080-4CO	Series 8	1.32.1
6.0	22.7	3000	207	DSV2-100-4CO	Series 10	1.33.1

Solenoid, Four-Way, Two-Position, Tandem, Spool



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
3.0	11.4	3000	207	DSV2-080-4TC	Series 8	1.34.1

Solenoid, Four-Way, Two-Position, Normally-Open, Spool



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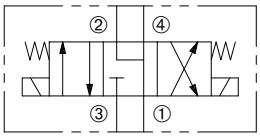
gpm	lpm	psi	bar			
3.0	11.4	3000	207	DSV2-080-4N0	Series 8	1.36.1

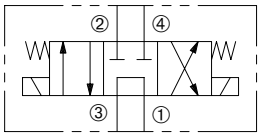
1.40.0 SOLENOID — Four-Way, Three-Position

Solenoid, Four-Way, Three-Position, Motor Center, Spool



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
3.0	11.4	3000	207	DSV-080-34M	Series 8	1.40.1
6.0	22.7	3000	207	DSV-100-34M	Series 10	1.41.1

Solenoid, Four-Way, Three-Position, Tandem Center, Spool



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gpm	lpm	psi	bar			
3.0	11.4	3000	207	DSV-080-34T	Series 8	1.42.1
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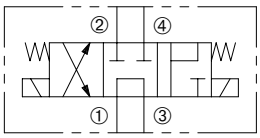
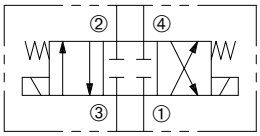
Solenoid, Four-Way, Three-Position, Regen, Spool



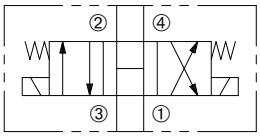
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
1.5	5.7	3000	207	DSV-100-34TR	Series 10	1.43.3

Solenoid, Four-Way, Three-Position, Closed Center, Spool



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
3.0	11.4	3000	207	DSV-080-34C	Series 8	1.44.1
6.0	22.7	3000	207	DSV-100-34C	Series 10	1.45.1

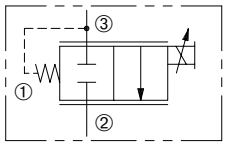
Solenoid, Four-Way, Three-Position, Open Center, Spool



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
1.5	5.7	3000	207	DSV-080-34O	Series 8	1.46.1
3.0	11.4	3000	207	DSV-100-34O	Series 10	1.47.1

1.80.0 SOLENOID — Electro-Proportional

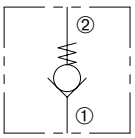
Proportional Flow Control, Normally-Closed



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
8.0	30.3	3000	207	DPV-100-2NC	Series 10	1.80.1

2.00.0 CHECK

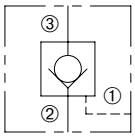
Check, Direct-Acting



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
1.0	3.8	3500	241	ZCO-42	Zero Profile	2.01.1
5.0	19.0	3500	241	ZCP6	Zero Profile	2.03.1
4.0	15.2	3000	207	ZC-62	Zero Profile	2.07.1
2.0	7.6	1500	103	ZCO-62	Zero Profile	2.08.1
5.0	18.9	3000	207	DCV-080-B	Series 8	2.09.1
20.0	75.7	3000	207	DCV-100-B	Series 10	2.10.1
5.0	18.9	3000	207	DCV-080-PB	Series 8	2.11.1
20.0	75.7	3000	207	DCV-100-PB	Series 10	2.12.1
10.0	37.9	3000	207	DCV-100-P	Series 10	2.14.1

3.00.0 MOTION CONTROL

Check, Pilot-To-Open



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
3.0	11.4	1500	103	ZPC-63	Zero Profile	3.01.1
3.0	11.4	4000	276	ZPC2-63	Zero Profile	3.02.1
5.0	18.9	3000	207	DPC-080-P	Series 8	3.03.1
6.0	22.7	3000	207	DPC-100-P	Series 10	3.04.1

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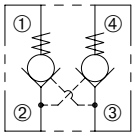
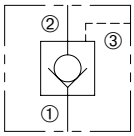
Check, Dual Pilot-To-Open



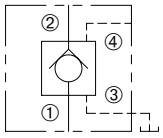
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
2.0	7.6	3000	207	DDPC-080-P	Series 8	3.07.1
6.0	22.8	4000	276	DDPC-100-P	Series 10	3.07.3

Check, Pilot-To-Close



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
3.0	11.4	4000	276	ZPTC-63	Zero Profile	3.08.1
12.0	45.4	3000	207	DPTC-100-P	Series 10	3.09.1

Check, Pilot-To-Open, Vented



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
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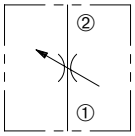
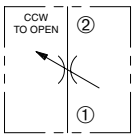
4.00.0 FLOW CONTROL

Needle Valve, Restrictive, Adjustable



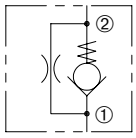
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
12.0	45.4	3000	207	DNV-080	Series 8	4.01.1
12.0	45.4	3000	207	DNV-100	Series 10	4.02.1
3.2	12.1	3000	207	NC-10-S	Series NC	4.04.1
7.0	26.5	3000	207	NC-20-S	Series NC	4.04.1
13.5	51.1	3000	207	NC-25-S	Series NC	4.04.1
22.5	85.2	3000	207	NC-30-S	Series NC	4.04.1
34.0	128.7	3000	207	NC-35-S	Series NC	4.04.1
13.5	51.1	5000	345	S-210-S	Series S	4.05.1
25.0	94.6	5000	345	S-310-S	Series S	4.05.1
40.0	151.4	5000	345	S-410-S	Series S	4.05.1

Rotary, Flow Control



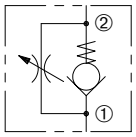
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
12.0	45.4	3000	207	DRNV-100	Series 10	4.07.1

Flow Control, Free Reverse Flow, Fixed



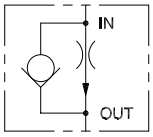
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
4.0	15.2	3000	207	ZFC-62	Zero Profile	4.10.1

Flow Control, Free Reverse Flow, Adjustable



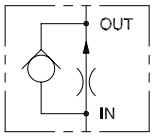
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
10.0	37.9	3000	207	DFC-080	Series 8	4.11.1
20.0	75.7	3000	207	DFC-100	Series 10	4.12.1

Flow Regulator, Free Reverse Flow, Pressure-Compensated, Fixed



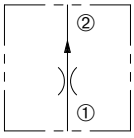
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
10.0	37.9	3000	207	PCM 88	In-Line	4.13.1

Flow Regulator, Free Reverse Flow, Pressure-Compensated, Fixed



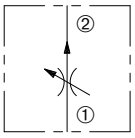
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
24.0	90.8	3000	207	LLPC	In-Line	4.14.1

Flow Regulator, Restrictive, Pressure-Compensated, Fixed



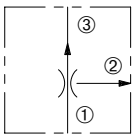
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
2.0	7.6	3000	207	DFR-080-2	Series 8	4.23.1

Flow Regulator, Restrictive, Pressure-Compensated, Adjustable



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
2.0	7.6	3000	207	DFRA-080-2	Series 8	4.24.1
10.0	37.9	3000	207	DFRA-100-2	Series 10	4.26.1

Flow Regulator, Bypass-Type, Pressure-Compensated, Fixed



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
10.0	37.9	3000	207	DFR-100-3	Series 10	4.30.1
25.0	94.6	3000	207	DFR-120-3	Series 12	4.32.1

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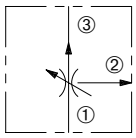
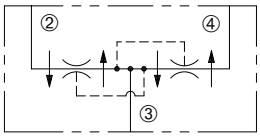
Flow Regulator, Bypass-Type, Pressure-Compensated, Adjustable



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
10.0	37.9	3000	207	DFRA-100-3	Series 10	4.31.1

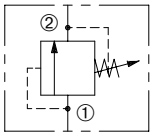
Flow Divider/Combiner, Pressure-Compensated



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
16.0	60.6	3000	207	DFD-100	Series 10	4.40.1

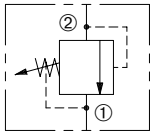
5.00.0 RELIEF

Relief, Direct-Acting, Adjustable, Poppet



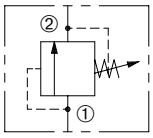
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
2.0	11.4	3000	207	ZRV-63	Zero Profile	5.01.1
10.0	37.9	3000	207	DRV2-080	Series 8	5.02.1
10.0	37.9	3000	207	DRV-080-*-H	Series 8	5.03.1
10.0	37.9	3000	207	DRV-100	Series 10	5.04.1

Relief, Direct-Acting, Differential-Area, Adjustable, Poppet



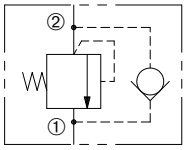
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
5.0	18.9	3000	207	ZDRV-63	Zero Profile	5.05.1
10.0	37.9	3000	207	DDRV-080	Series 8	5.06.1
10.0	37.9	3000	207	DDRV-080-*-H	Series 8	5.07.1
20.0	75.7	3600	248	DDRV-100	Series 10	5.08.1

Relief, Pilot-Operated, Adjustable



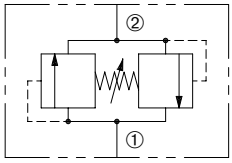
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
20.0	75.7	5000	345	DP0R-080	Series 8	5.09.1
30.0	113.6	3000	207	DP0R-100	Series 10	5.10.1

Relief, Anti-Cavitation Check



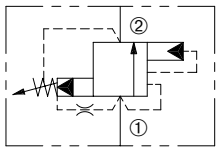
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
16.0	60.6	5500	380	RV-050	Series 050	5.12.1
20.0	75.7	5000	345	RV-060	Series 060	5.12.3
24.0	90.8	5000	345	RV-080	Series 080	5.12.5

Relief, Bi-Directional, Adjustable, Poppet



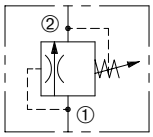
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
15.0	56.8	3600	248	DBRV-100	Series 10	5.13.1
20.0	75.7	5000	345	DBRV2-100-*-H	Series 10	5.14.1

Kick-Down Relief, Pilot-Operated, Adjustable



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
8.0	30.3	4000	276	DRVK-080	Series 8	5.20.1

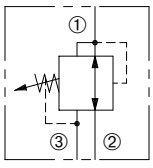
Thermal Relief, Adjustable



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
—	—	5000	345	ZTRV-62	Zero Profile	5.30.1

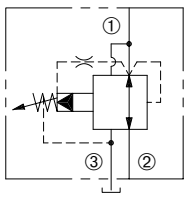
6.00.0 PRESSURE CONTROL

Pressure-Reducing/Relieving, Direct-Acting, Adjustable, Spool



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
4.0	15.1	3000	207	DPR-100	Series 10	6.02.1

Pressure-Reducing/Relieving, Pilot-Operated, Adjustable, Spool



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
5.0	18.9	5000	345	DPRR-080	Series 8	6.03.1

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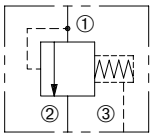
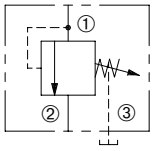
Differential Pressure Sensing, Fixed, Spool

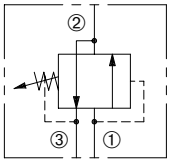


7.00.0 SEQUENCE

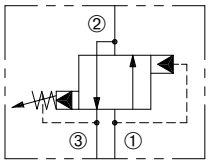
Sequence, Direct-Acting, Externally-Drained, Adjustable, Spool



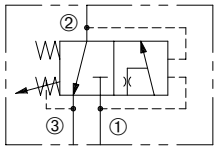
Sequence, Direct-Acting, Adjustable, Spool



Sequence, Pilot-Operated, Adjustable, Spool

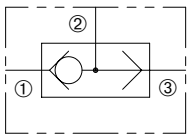


Kick-Down, Sequence, Pilot-Operated, Adjustable, Spool



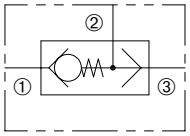
8.00.0 SHUTTLE

Shuttle, Ball-Type



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
4.0	15.2	3000	207	ZSHB-63	Zero Profile	8.02.1
6.0	22.7	3000	207	DSH-100	Series 10	8.05.1

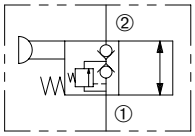
Shuttle, Spring Bias, Zero Leak



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
4.0	15.1	3000	207	ZSH2-63	Zero Profile	8.03.1

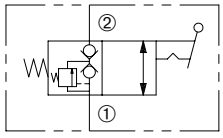
9.00.0 DIRECTIONAL VALVES

Directional, Two-Way, Two-Position, Normally-Closed, Manually-Operated



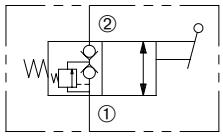
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
6.0	22.7	3000	207	DMP-080-2NCP	Series 8	9.01.1

Directional, Two-Way, Two-Position, Normally-Closed, Toggle-Operated, Detent



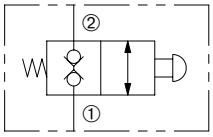
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
6.0	22.7	3000	207	DTV-080	Series 8	9.03.1

Directional, Two-Way, Two-Position, Normally-Closed, Toggle-Operated



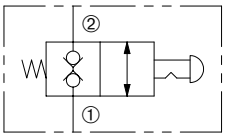
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
6.0	22.7	3000	207	DTV2-080	Series 8	9.04.1

Directional, Two-Way, Two-Position, Normally-Closed, Mechanically-Operated, Zero Leak



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
5.0	18.9	3000	207	DMR2-080	Series 8	9.05.1

Directional, Two-Way, Two-Position, Normally-Closed, Manually-Operated



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
5.0	18.9	3000	207	DMO-080-2NCSP	Series 8	9.07.1

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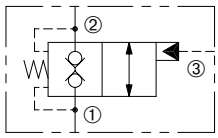
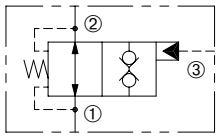
Directional, Pilot-To-Open, Poppet



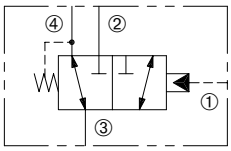
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
8.0	30.4	3000	207	DPOD-100-2NCP	Series 10	9.10.1

Directional, Pilot-To-Close, Poppet



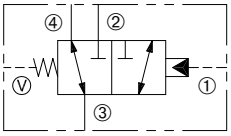
Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
10.0	38.9	3000	207	DPOD-100-2NOP	Series 10	9.12.1

Directional, Three-Way, Two-Position, Pilot-Operated



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
10.0	38.9	3000	207	DPOD-100-3	Series 10	9.20.1

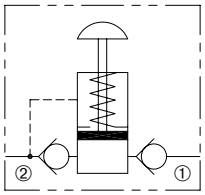
Directional, Three-Way, Two-Position, Pilot-Operated, Externally Vented



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
10.0	38.9	3000	207	DPOD2-100-3	Series 10	9.22.1

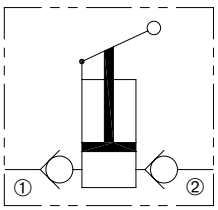
10.00.0 ACCESSORIES

Hand Pump, Nominal Flow 0.083 cu. in.



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
—	—	3000	207	DHP2-100	Series 10	10.01.1

Hand Pump, Nominal Flow 0.500 cu. in.



Flow		Pressure		Model	Series	Page
gpm	lpm	psi	bar			
—	—	3000	207	DHP-100	Series 10	10.02.1

11.00.0 TECHNICAL DATA

Notes

DELTROL fluid products
DIVISION OF DELTROL CORP

DELTROL fluid products
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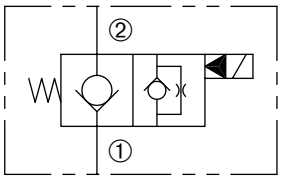
Model Number Index

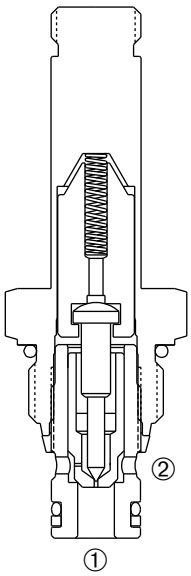
DSV-080-2NCP

Normally-Closed, Two-Way, Two-Position,
Pilot-Operated Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed with positive shut off to be used in load holding applications.

OPERATION

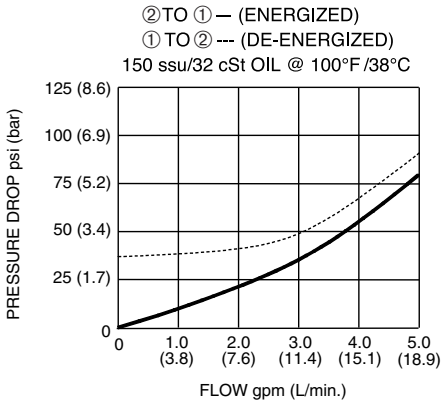
When de-energized, the DSV-080-2NCP acts as a check valve, allowing flow from ① to ②, while blocking flow from ② to ①.
When energized, the poppet lifts to open the ② to ① flow path.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, the valve will remain open. To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position. **Note:** Pull only to override and release to return option available. See page 1.01.3

FEATURES and BENEFITS

- 4000 PSI (276 Bar) rating.
- Continuous-duty solenoid.
- Hardened poppet and plunger for long life and low leakage.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Filter screen standard.
- Low leak option available.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



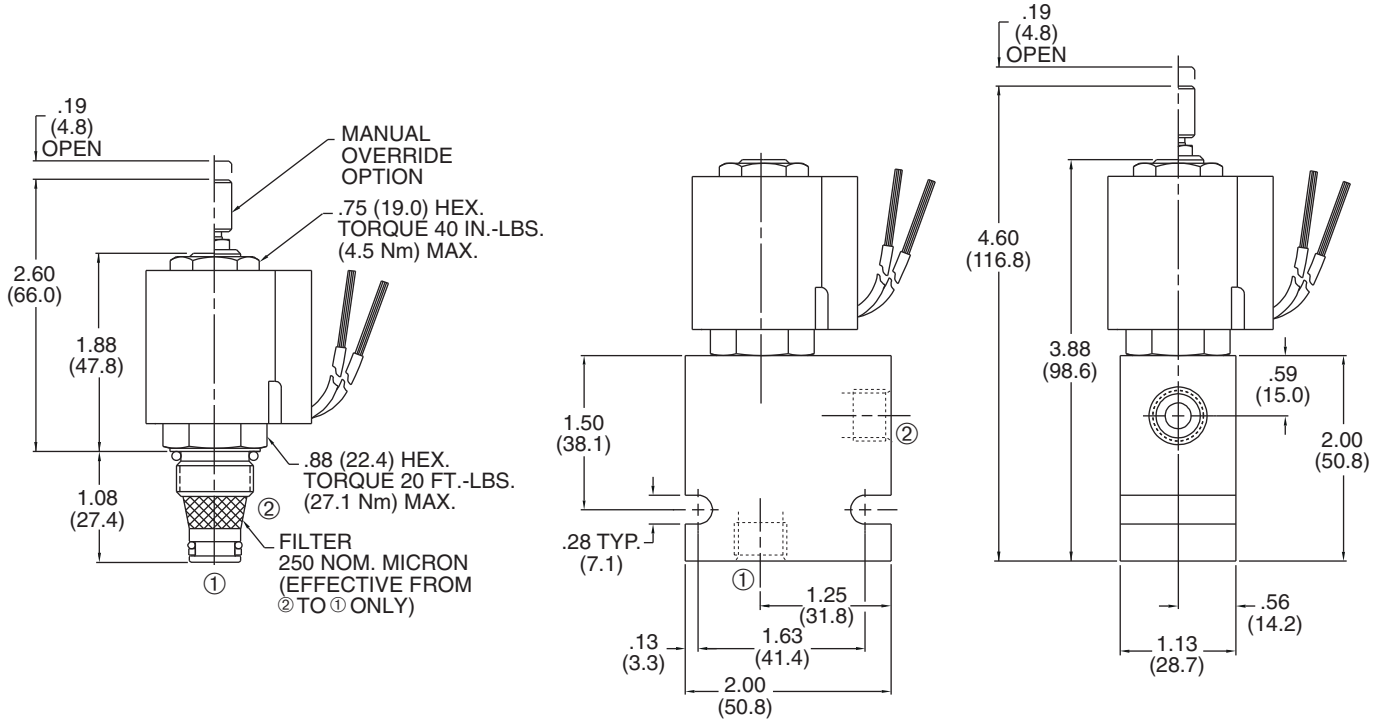
SPECIFICATIONS

Operating Pressure: 4000 PSI (276 Bar)
Flow: See PRESSURE DROP VS. FLOW graph
Internal Leakage: 5 drops/min. max. at 4000 PSI (276 Bar)
Low leakage available-
Less than 2 drops/min. max. at 4000 PSI (276 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 4000 PSI (276 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 16 m. sec. **Drop-Out:** 12 VDC 18 m. sec.
Recommended Filtration: Critical Application-ISO 17/15/13
Non-Critical Application-ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV-080-2NCP

Normally-Closed, Two-Way, Two-Position,
Pilot-Operated Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DSV - 080 - 2 NC P - * - ** - ** - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

NORMALLY CLOSED

POPPET

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)
See page 1.01.3 for additional options.

L = Low Leak Option
(Omit for standard)

D = DC
A = AC

VOLTAGE

1	= 12 Volt	6	= 240 Volt
2	= 24 Volt	9	= 20 Volt
5	= 120 Volt	10	= 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

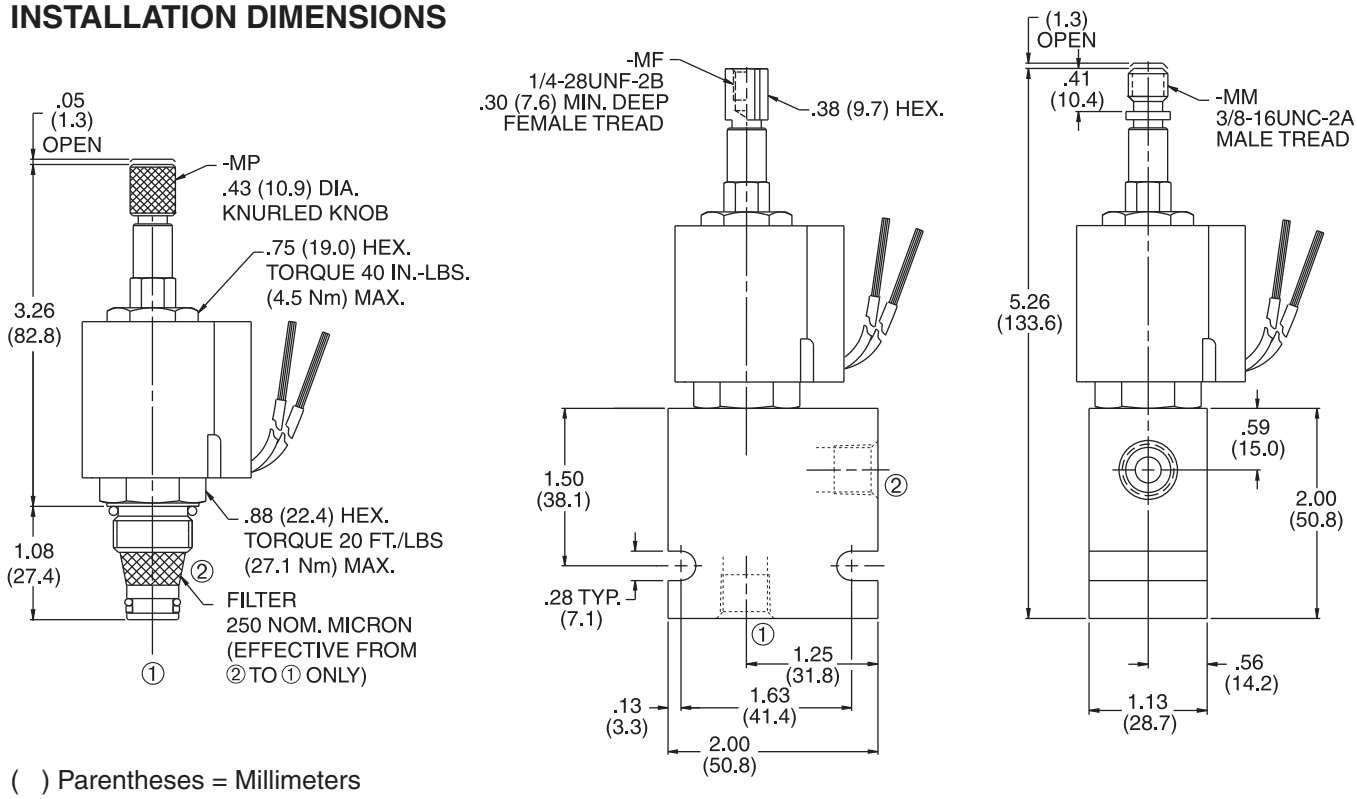
DELTROL fluid products
DIVISION OF DELTROL CORP

DSV-080-2NCP-*-M* (Pull-Type Manual Override)

Normally-Closed, Two-Way, Two-Position, Pilot-Operated Solenoid Valve

SERIES 8

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DSV - 080 - 2 NC P - * - M* - * * * * - **

- SOLENOID VALVE
- CAVITY/SEAL
- FLOW PATH
- NORMALLY CLOSED
- POPPET
- SEALS
  - N = Buna N
  - V = Viton
- M = Manual Override
  - See page 1.01.1 for additional options.
- THREAD STYLE
  - F = Female
  - M = Male
  - P = Knob
- D = DC
  - A = AC
- VOLTAGE
  - 1 = 12 Volt
  - 2 = 24 Volt
  - 5 = 120 Volt
  - 6 = 240 Volt
  - 9 = 20 Volt
  - 10 = 10 Volt
- COIL CONNECTION
  - DE = Double Lead
  - SE = Single Lead
  - HS = Hirschmann®
  - CS = Conduit
  - BE = Double Spade
  - EE = Single Stud
  - UE = Deutsch
- PORTING
  - 2N = 1/4 PTF
  - 3N = 3/8 PTF
  - 4T = SAE 4
  - 6T = SAE 6
  - Omit for Cartridge Only

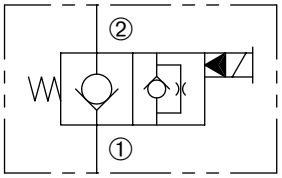
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

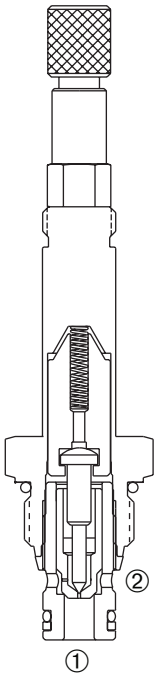
DSV-080-2NCP-*-M* (Pull-Type Manual Override)

Normally-Closed, Two-Way, Two-Position,
Pilot-Operated Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed with positive shut off to be used in load holding applications.

OPERATION

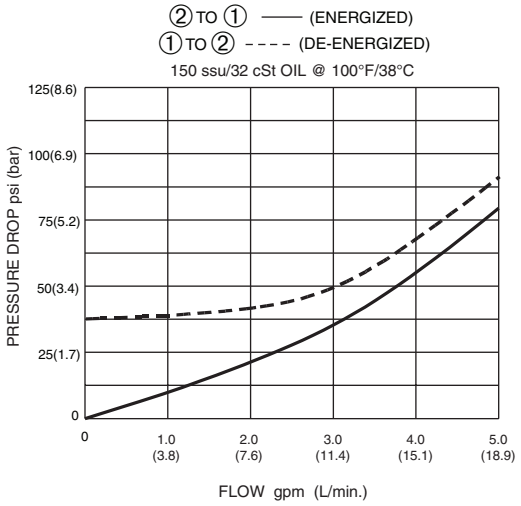
When de-energized, the DSV-080-2NCP-*-M* acts as a check valve, allowing flow from ① to ②, while blocking flow from ② to ①.
When energized, the poppet lifts to open the ② to ① flow path.

Operation of Manual Override Option: To override, pull spring-loaded knob/adapter on top of valve. Release to return to normal operation.
Note: Push, twist and release (detented in both positions) option available. See page 1.01.1

FEATURES and BENEFITS

- 4000 PSI (276 Bar) rating.
- Continuous-duty solenoid.
- Hardened poppet and plunger for long life and low leakage.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Filter screen standard.
- Industry common cavity.
- Compact size.
- Low leak option available.

PRESSURE DROP VS. FLOW



SPECIFICATIONS

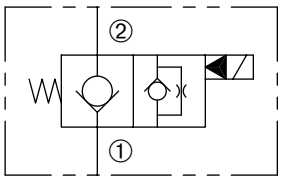
Operating Pressure: 4000 PSI (276 Bar)
Flow: See PRESSURE DROP VS. FLOW graph
Internal Leakage: 5 drops/min. max. at 4000 PSI (276 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 4000 PSI (276 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 16 m. sec. **Drop-Out:** 12 VDC 18 m. sec.
Recommended Filtration: Critical Application-ISO 17/15/13
Non-Critical Application-ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

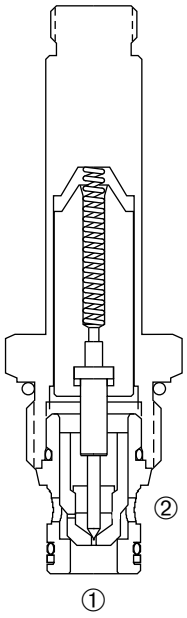
DSV2-100-2NCP

Normally-Closed, Two-Way, Two-Position,
Pilot-Operated Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed with positive shut off to be used in load holding applications.

OPERATION

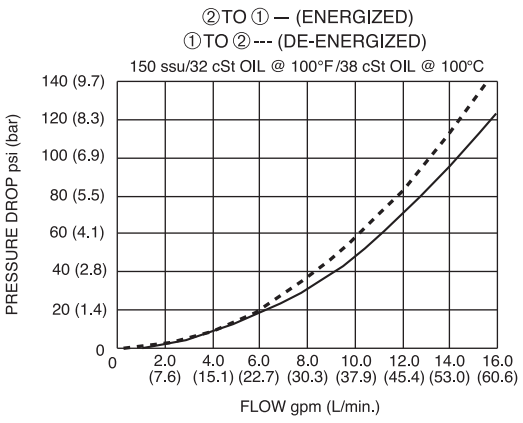
When de-energized, the DSV2-100-2NCP acts as a check valve, allowing flow from ① to ②, while blocking flow from ② to ①.
When energized, the poppet lifts to open the ② to ① flow path.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain open in a detented condition.
To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened poppet and plunger for long life and low leakage.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Filter screen standard.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 100 m. sec. **Drop-Out:** 12 VDC 180 m. sec.
Recommended Filtration: Critical Application-ISO 17/15/13
Non-Critical Application-ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

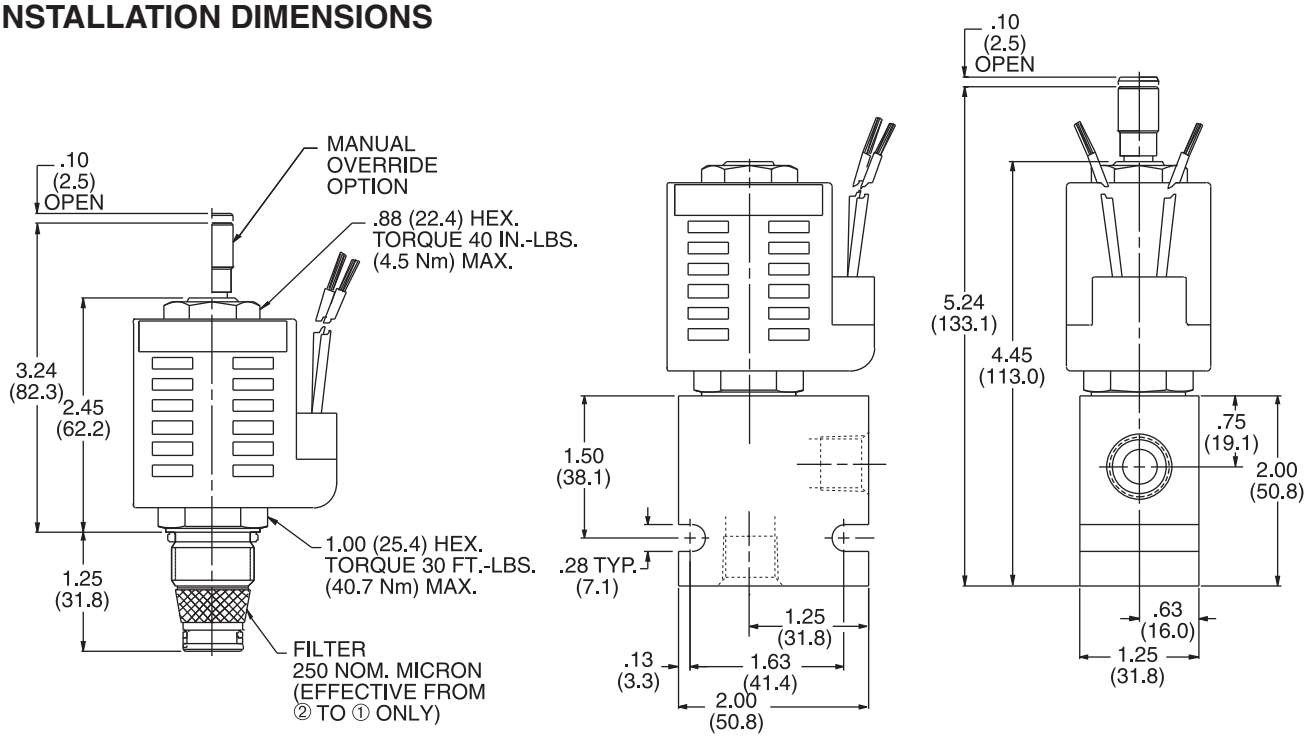
DELTROL fluid products
DIVISION OF DELTROL CORP

DSV2-100-2NCP

Normally-Closed, Two-Way, Two-Position,
Pilot-Operated Solenoid Valve

SERIES 10

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 100 - 2 NC P - * - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

NORMALLY CLOSED

POPPET

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE

1	= 12 Volt	6	= 240 Volt
2	= 24 Volt	9	= 20 Volt
5	= 120 Volt	10	= 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only

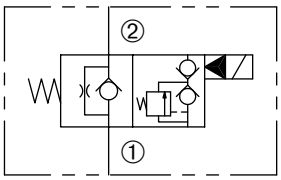
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

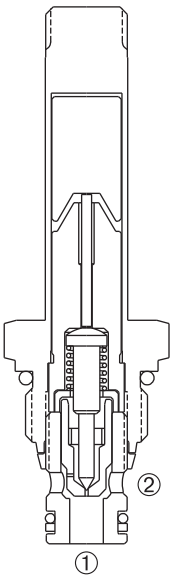
DSV2-080-2NOP

Normally-Open, Two-Way, Two-Position,
Poppet-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed with positive shut off to be used in load holding applications.

OPERATION

When de-energized, the DSV2-080-2NOP poppet is open to allow flow from ② to ①.

When energized, the poppet closes to block flow from ② to ①. In this condition, the cartridge allows reverse flow from ① to ② after overcoming the solenoid force of 75 PSI (5 Bar).

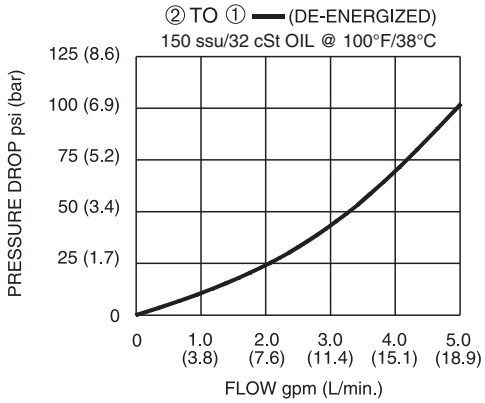
FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened poppet and plunger for long life and low leakage.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Filter screen standard.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 25 m. sec. **Drop-Out:** 12 VDC 30 m. sec.
Recommended Filtration: Critical Application-ISO 17/15/13
Non-Critical Application-ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

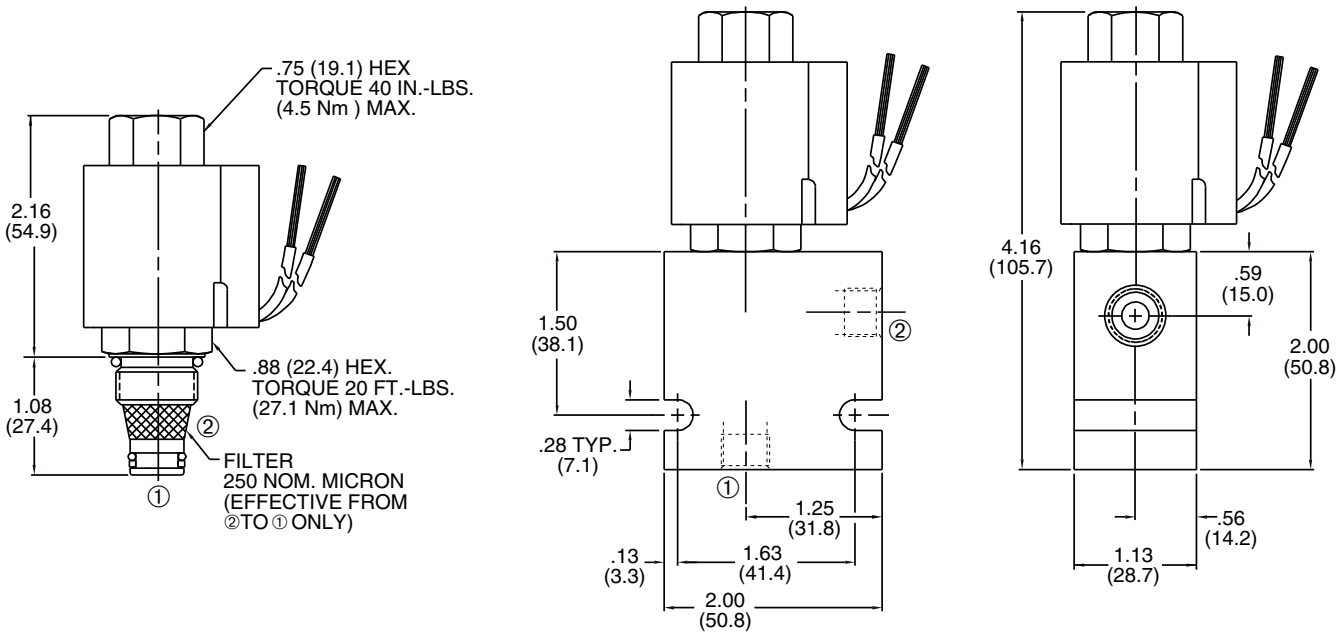
PRESSURE DROP VS. FLOW



DSV2-080-2NOP

Normally-Open, Two-Way, Two-Position,
Poppet-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 080 - 2 NO P - * - * * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

NORMALLY OPEN

POPPET

SEALS
N = Buna N
V = Viton

D = DC
A = AC

VOLTAGE

1	= 12 Volt	6	= 240 Volt
2	= 24 Volt	9	= 20 Volt
5	= 120 Volt	10	= 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

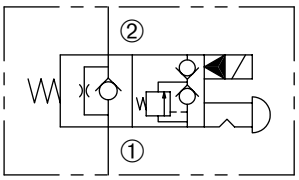
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

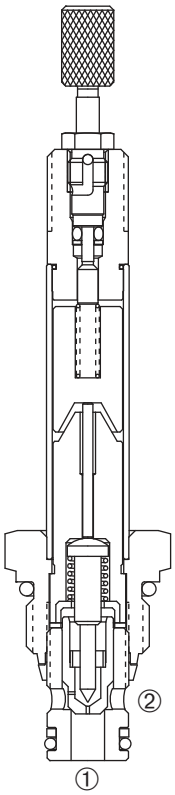
DSV2-080-2NOP-*-M (Push-Type Manual Override)

Normally-Open, Two-Way, Two-Position,
Poppet-Type Solenoid Valve

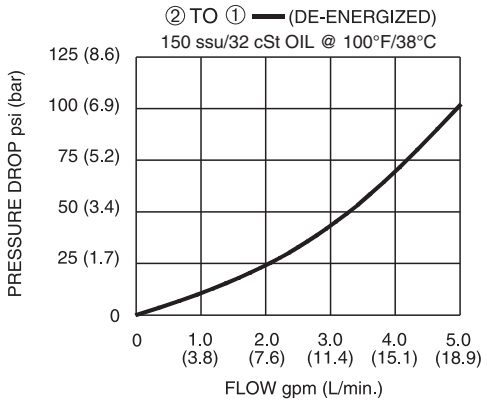
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed with positive shut off to be used in load holding applications.

OPERATION

When de-energized, the DSV2-080-2NOP-*-M poppet is open to allow flow from ② to ①.

When energized, the poppet closes to block flow from ② to ①. In this condition, the cartridge allows reverse flow from ① to ② after overcoming the solenoid force of 75 PSI (5 Bar).

Operation of Manual Override Option: To override, push knob in, twist clockwise and release. In this position, the valve will remain closed. To return to normal operation, push knob in, twist counterclockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened poppet and plunger for long life and low leakage.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Filter screen standard.
- Industry common cavity.
- Compact size.

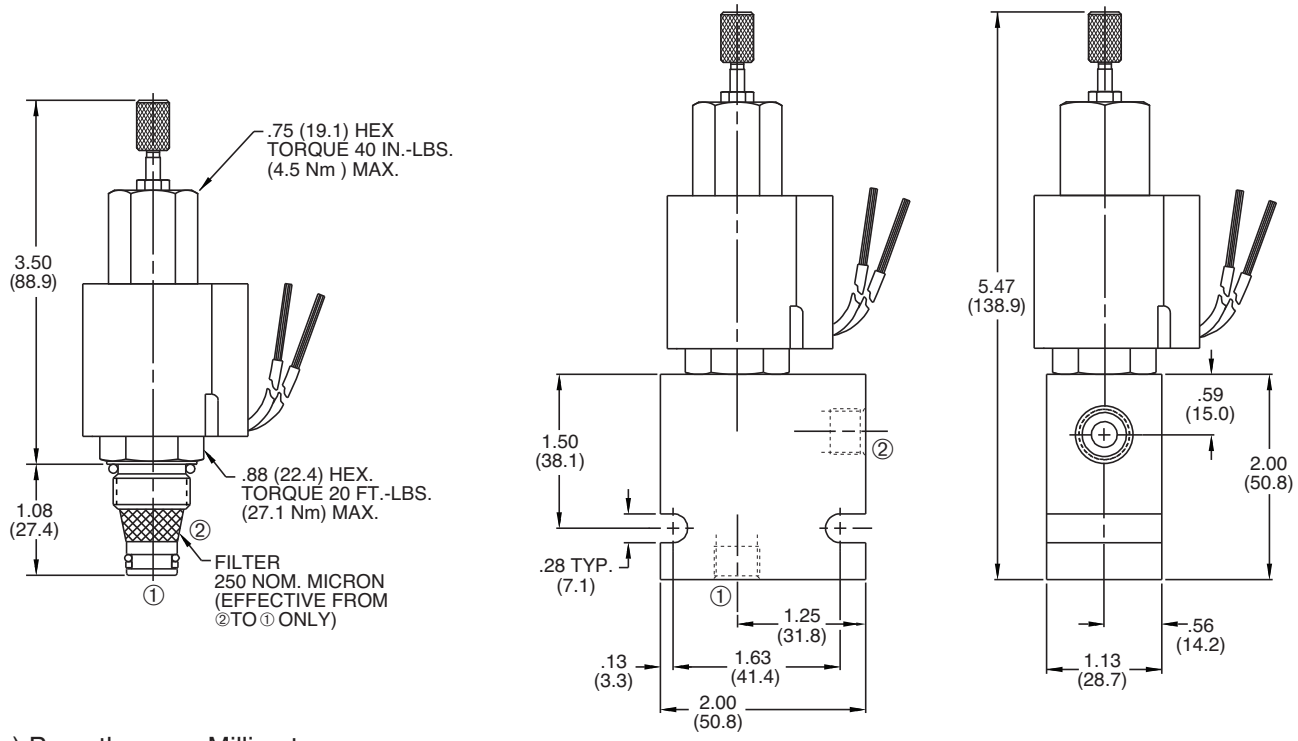
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal flow 5 gpm (18.9 L/min.)
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 25 m. sec. **Drop-Out:** 12 VDC 30 m. sec.
Recommended Filtration: Critical Application-ISO 17/15/13
Non-Critical Application-ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-080-2NOP-*-M (Push-Type Manual Override)

Normally-Open, Two-Way, Two-Position, Poppet-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 080 - 2 NO P - * - M - * * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

NORMALLY OPEN

POPPET

SEALS
N = Buna N
V = Viton

M = MANUAL OVERRIDE

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

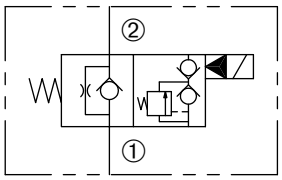
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

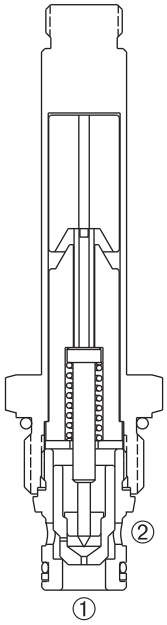
DSV2-100-2NOP

Normally-Open, Two-Way, Two-Position,
Poppet-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed with positive shut off to be used in load holding applications.

OPERATION

When de-energized, the DSV2-100-2NOP poppet is open to allow flow from ② to ①.

When energized, the poppet closes to block flow from ② to ①. In this condition, the cartridge allows reverse flow from ① to ② after overcoming the solenoid force - 50 PSI (3 Bar).

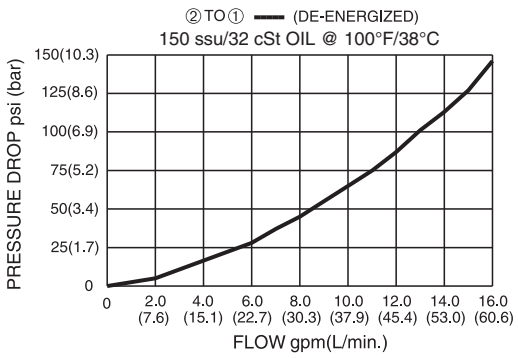
FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened poppet and plunger for long life and low leakage.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Filter screen standard.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 25 m. sec. **Drop-Out:** 12 VDC 30 m. sec.
Recommended Filtration: Critical Application-ISO 17/15/13
Non-Critical Application-ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

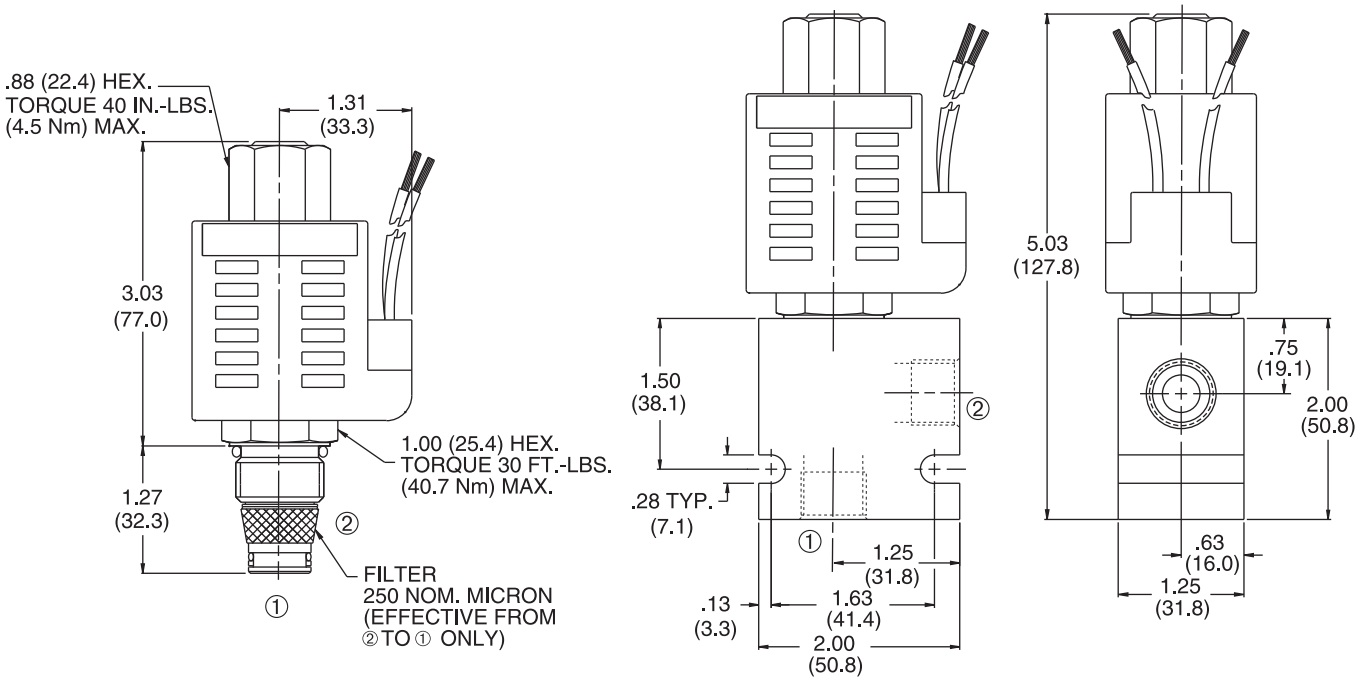
PRESSURE DROP VS. FLOW



DSV2-100-2NOP

Normally-Open, Two-Way, Two-Position,
Poppet-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 100 - 2 NO P - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

NORMALLY OPEN

POPPET

SEALS
N = Buna N
V = Viton

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only

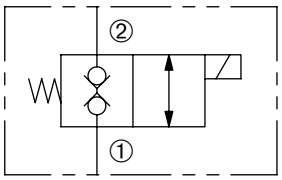
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

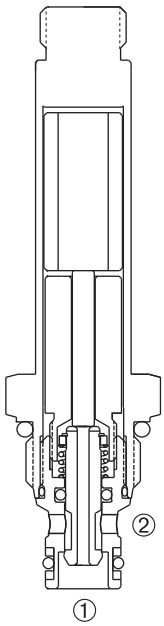
DSV-080-2NCSP

Normally-Closed, Two-Way, Two-Position,
Bi-Directional Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed with positive shut off, blocking in both directions, to be used in load holding applications.

OPERATION

When de-energized, the DSV-080-2NCSP blocks flow in both directions.

When energized, the poppet shifts to allow flow in either direction.
Operation of Manual Override Option: To override, push button in to activate. To return to normal valve function, release button.

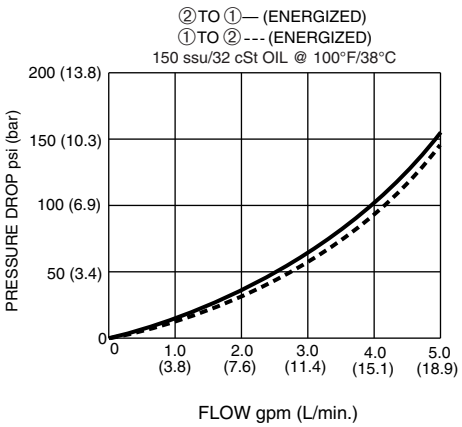
FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened poppet and seat for long life and low leakage.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Low leak valve available.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Low leak available-
Less than 2 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 41 m. sec. **Drop-Out:** 12 VDC 30 m. sec.
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



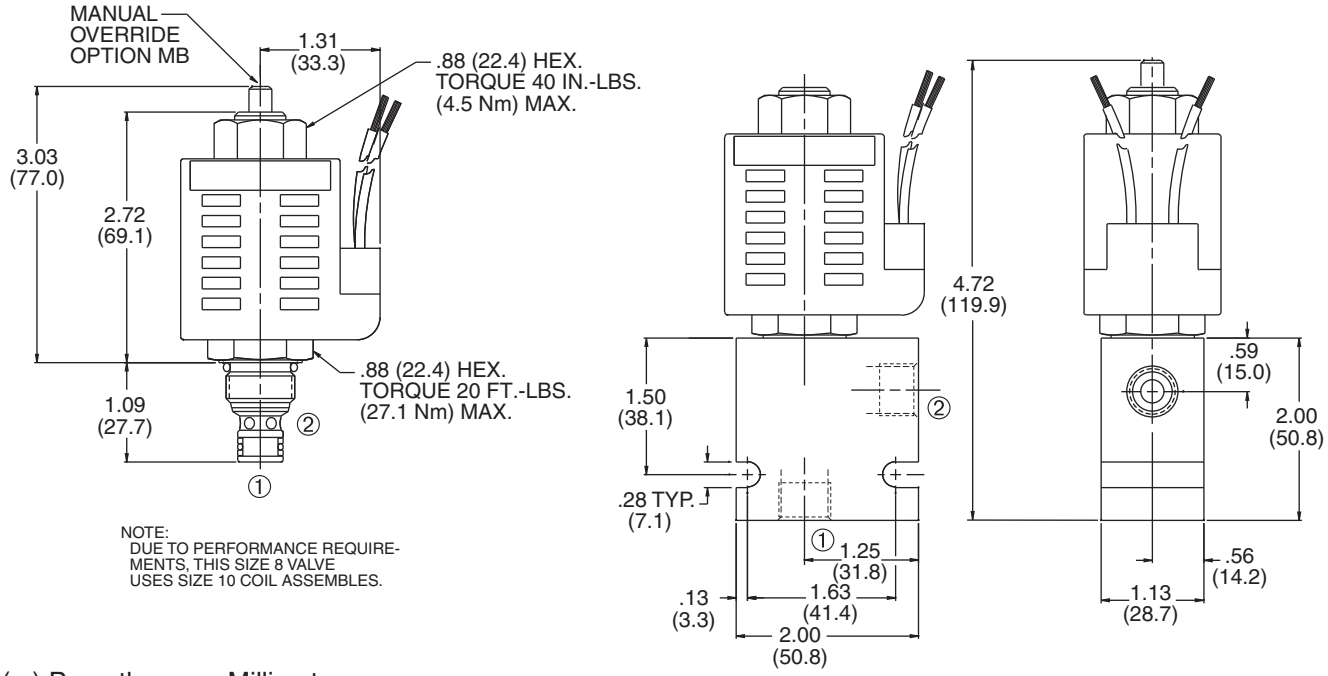
DELTROL fluid products
DIVISION OF DELTROL CORP

DSV-080-2NCSP

Normally-Closed, Two-Way, Two-Position,
Bi-Directional Solenoid Valve

SERIES 8

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV - 080 - 2 NC SP - * - ** - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

NORMALLY CLOSED

BI-DIRECTIONAL

SEALS
N = Buna
V = Viton

Manual Override
M = Push and Twist
MB = Push
(Omit for standard)

L = Low Leak Option
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud
U = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

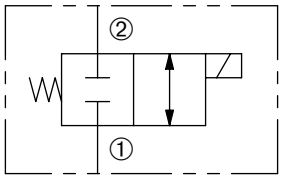
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

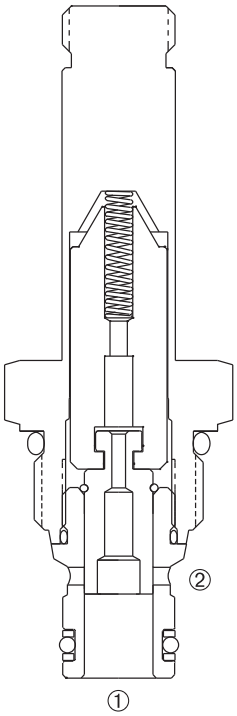
DSV2-080-2NCS

Normally-Closed, Two-Way, Two-Position,
Spool-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed to operate as a bi-directional blocking valve.

OPERATION

When de-energized, the DSV2-080-2NCS blocks flow in both directions.

When energized, the cartridge's spool shifts to allow flow in either direction.

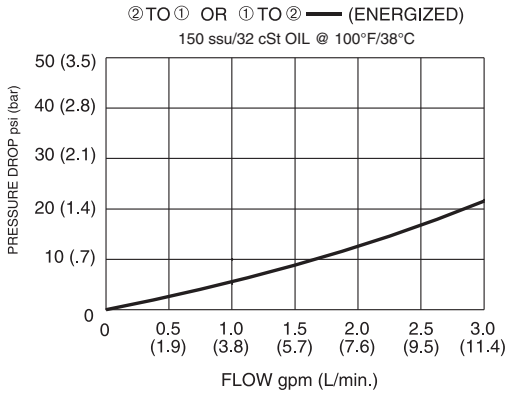
Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain open in a detented condition.

To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Both ports may be fully pressurized.
- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



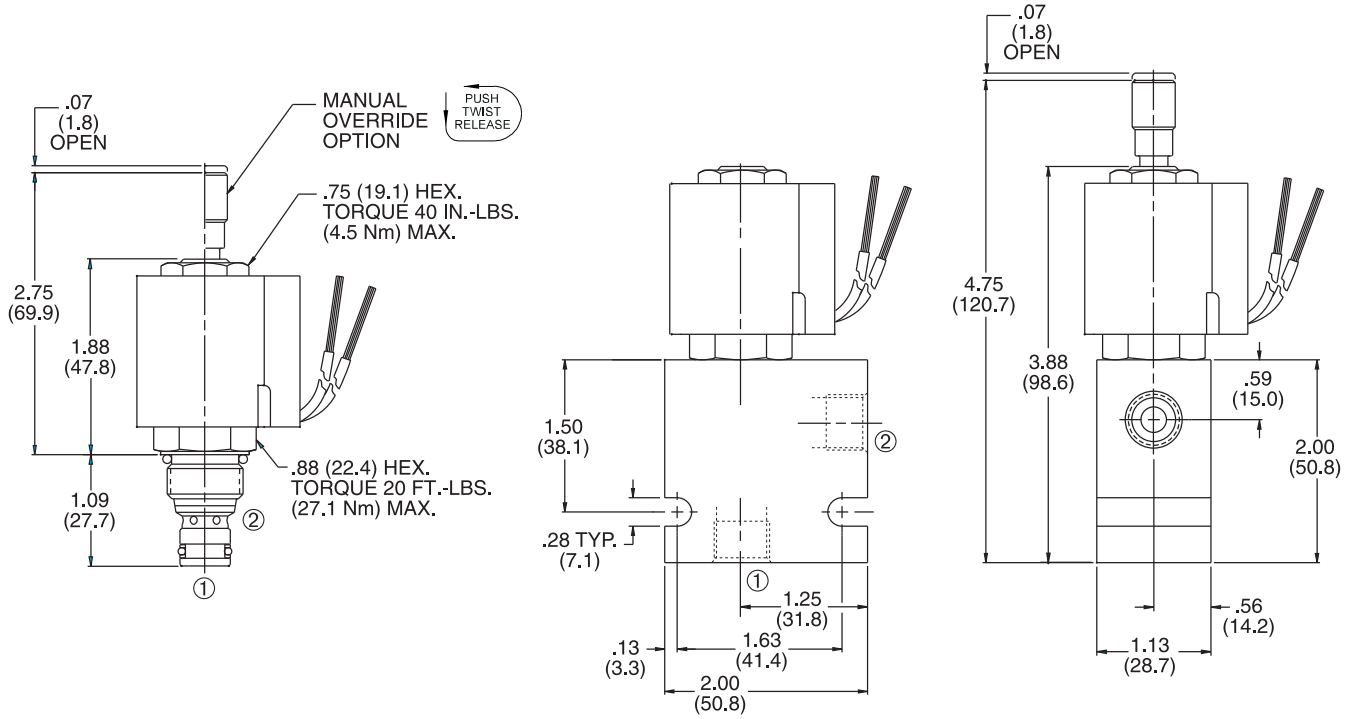
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 85 m. sec. **Drop-Out:** 12 VDC 95 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-080-2NCS

Normally-Closed, Two-Way, Two-Position, Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 080 - 2 NC S - * - * - * * * * - **

- DSV2 — SOLENOID VALVE
- 080 — CAVITY/SEAL
- 2 — FLOW PATH
- NC — NORMALLY CLOSED
- S — SPOOL
- * — SEALS
  - N = Buna N
  - V = Viton
- * — M = Manual Override (Omit for standard)
- * — D = DC, A = AC
- * * * * — VOLTAGE

1	= 12 Volt	6	= 240 Volt
2	= 24 Volt	9	= 20 Volt
5	= 120 Volt	10	= 10 Volt

- ** — PORTING
  - 2N = 1/4 PTF
  - 3N = 3/8 PTF
  - 4T = SAE 4
  - 6T = SAE 6
  - Omit for Cartridge Only
- COIL CONNECTION
  - DE = Double Lead
  - SE = Single Lead
  - HS = Hirschmann®
  - CS = Conduit
  - BE = Double Spade
  - EE = Single Stud
  - UE = Deutsch

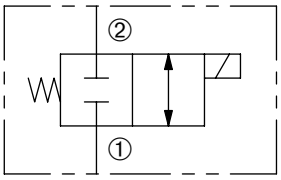
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

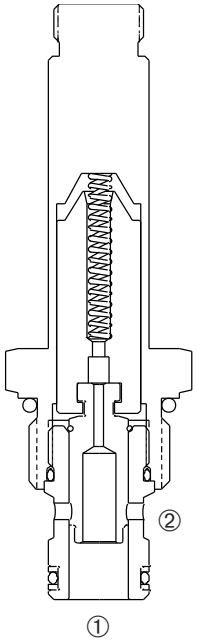
DSV2-100-2NCS

Normally-Closed, Two-Way, Two-Position,
Spool-Type Solenoid Valve

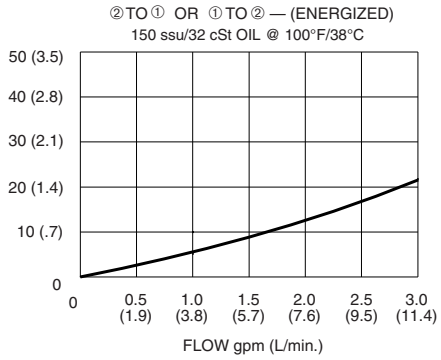
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10

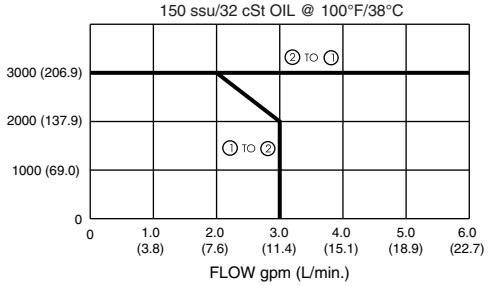




PRESSURE DROP VS. FLOW



PERFORMANCE CHARACTERISTIC



DESCRIPTION

A cartridge valve designed to operate as a bi-directional blocking valve.

OPERATION

When de-energized, the DSV2-100-2NCS blocks flow in both directions.

When energized, the cartridge's spool shifts to allow flow in either direction.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain open in a detented condition.

To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Both ports may be fully pressurized.
- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

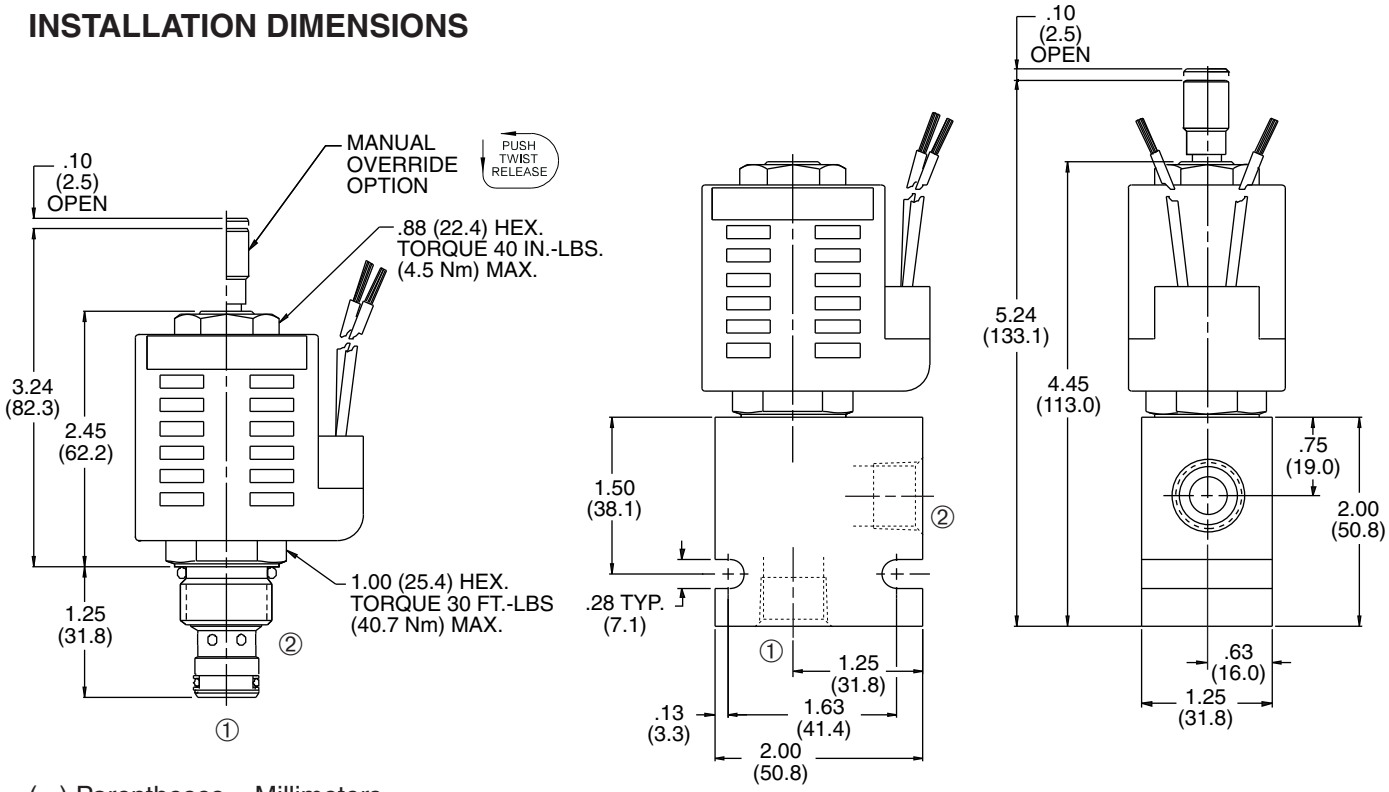
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PERFORMANCE CHARACTERISTIC graph.
Internal Leakage: 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-100-2NCS

Normally-Closed, Two-Way, Two-Position,
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 100 - 2 NC S - * - * - * * * - **

- SOLENOID VALVE
- CAVITY/SEAL
- FLOW PATH
- NORMALLY CLOSED
- SPOOL
- SEALS
  - N = Buna N
  - V = Viton
- M = Manual Override (Omit for standard)
- D = DC, A = AC
- VOLTAGE
  - 1 = 12 Volt
  - 2 = 24 Volt
  - 5 = 120 Volt
  - 6 = 240 Volt
  - 9 = 20 Volt
  - 10 = 10 Volt
- COIL CONNECTION
  - D = Double Lead
  - S = Single Lead
  - H = Hirschmann®
  - C = Conduit
  - B = Double Spade
  - E = Single Stud
- PORTING
  - 2N = 1/4 PTF
  - 3N = 3/8 PTF
  - 6T = SAE 6
  - 8T = SAE 8
  - Omit for Cartridge Only

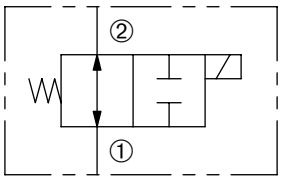
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

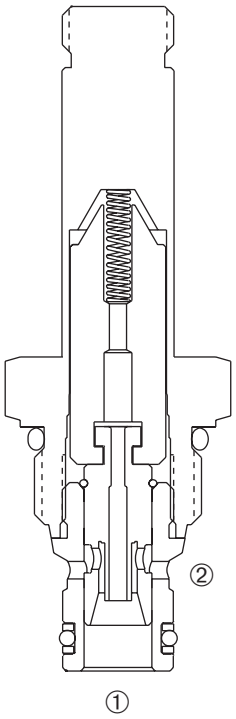
DSV2-080-2NOS

Normally-Open, Two-Way, Two-Position,
Spool-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed to operate as a bi-directional blocking valve.

OPERATION

When de-energized, the DSV2-080-2NOS allows flow in both directions.

When energized, the cartridge's spool shifts to block flow in either direction.

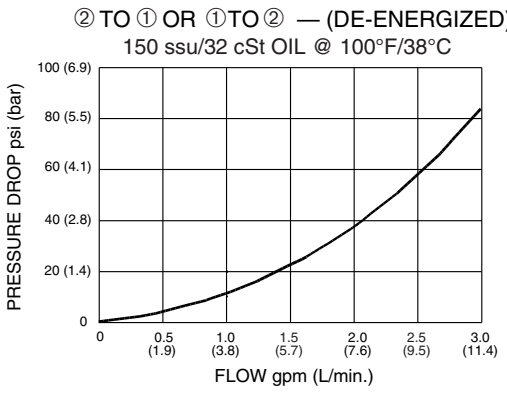
Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain closed in a detented condition.

To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Both ports may be fully pressurized.
- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



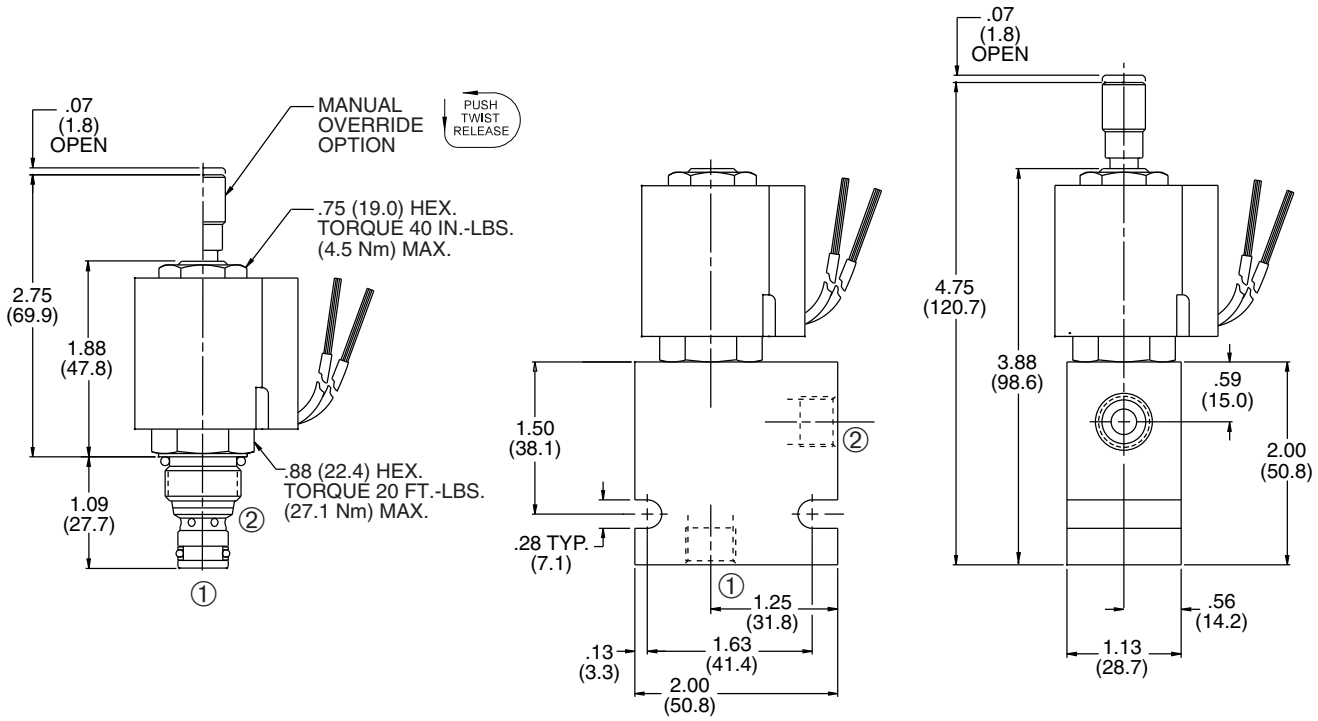
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 in.³/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 85 m. sec. **Drop-Out:** 12 VDC 95m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-080-2NOS

Normally-Open, Two-Way, Two-Position, Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 080 - 2 NO S - * - * - * * * * - **

- DSV2 — SOLENOID VALVE
- 080 — CAVITY/SEAL
- 2 — FLOW PATH
- NO — NORMALLY OPEN
- S — SPOOL
- * — SEALS
  - N = Buna N
  - V = Viton
- * — M = Manual Override (Omit for standard)
- * — D = DC, A = AC
- * * * * — VOLTAGE
  - 1 = 12 Volt
  - 2 = 24 Volt
  - 5 = 120 Volt
  - 6 = 240 Volt
  - 9 = 20 Volt
  - 10 = 10 Volt
- * * — COIL CONNECTION
  - DE = Double Lead
  - SE = Single Lead
  - HS = Hirschmann®
  - CS = Conduit
  - BE = Double Spade
  - EE = Single Stud
  - UE = Deutsch
- ** — PORTING
  - 2N = 1/4 PTF
  - 3N = 3/8 PTF
  - 4T = SAE 4
  - 6T = SAE 6
  - Omit for Cartridge Only

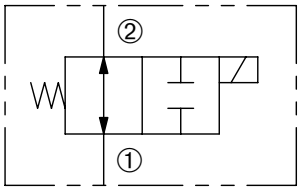
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

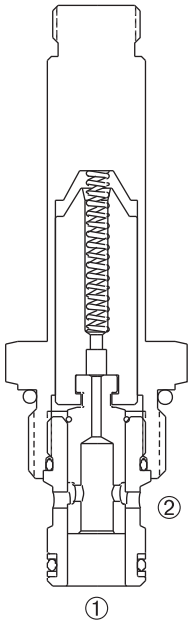
DSV2-100-2NOS

Normally-Open, Two-Way, Two-Position,
Spool-Type Solenoid Valve

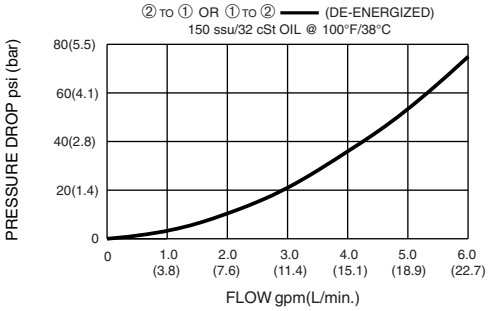
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10

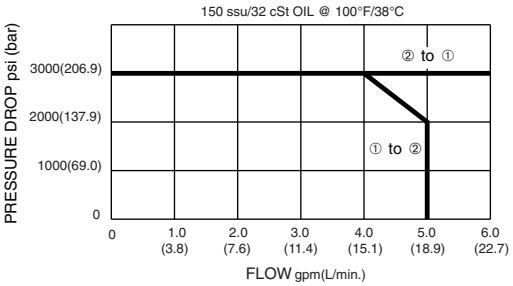




PRESSURE DROP VS. FLOW



PERFORMANCE CHARACTERISTIC



DESCRIPTION

A cartridge valve designed to operate as a bi-directional blocking valve.

OPERATION

When de-energized, the DSV2-100-2NOS allows flow in both directions.

When energized, the cartridge's spool shifts to block flow in either direction.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain closed in a detented condition.

To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Both ports may be fully pressurized.
- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

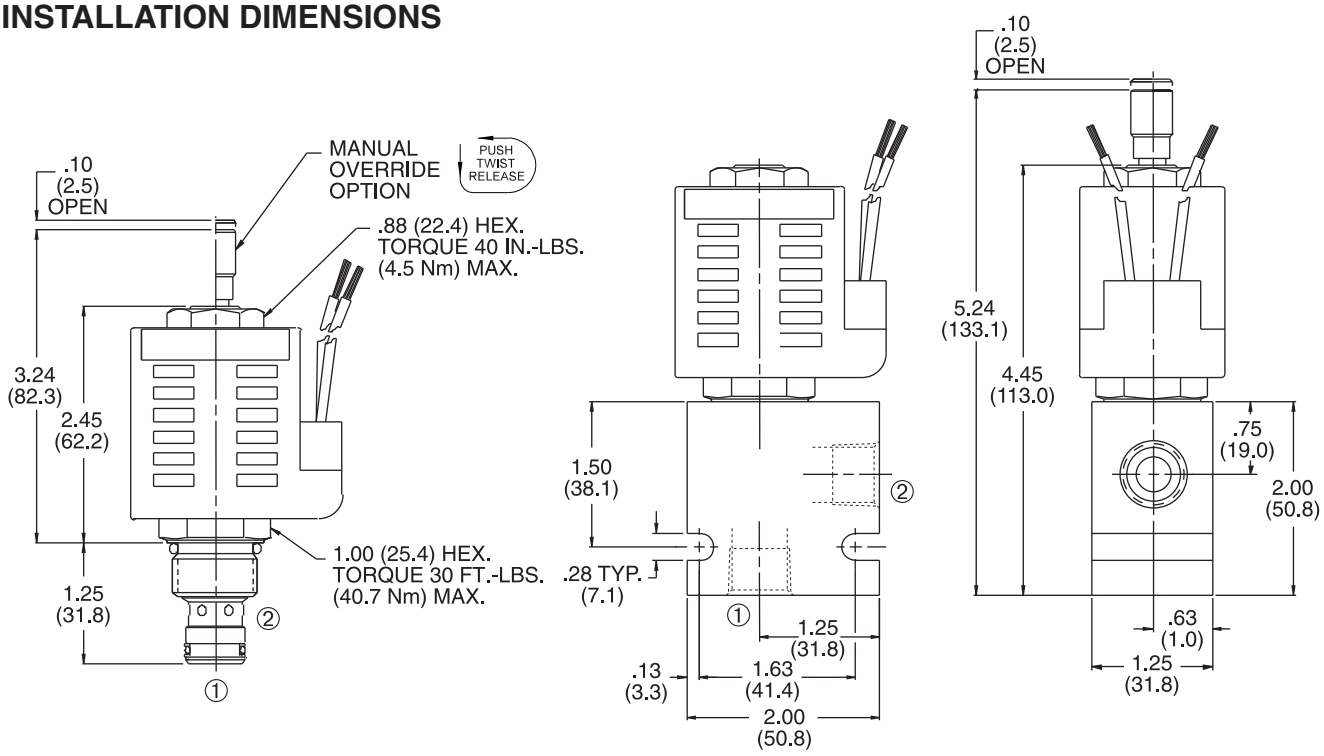
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PERFORMANCE CHARACTERISTIC graph.
Internal Leakage: 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-100-2NOS

Normally-Open, Two-Way, Two-Position, Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 100 - 2 NO S - * - * - * * * - **

- DSV2 — SOLENOID VALVE
- 100 — CAVITY/SEAL
- 2 — FLOW PATH
- NO — NORMALLY OPEN
- S — SPOOL
- * — SEALS
  - N = Buna N
  - V = Viton
- * — M = Manual Override (Omit for standard)
- * — D = DC, A = AC
- * * — VOLTAGE
  - 1 = 12 Volt
  - 2 = 24 Volt
  - 5 = 120 Volt
  - 6 = 240 Volt
  - 9 = 20 Volt
  - 10 = 10 Volt
- * — COIL CONNECTION
  - D = Double Lead
  - S = Single Lead
  - H = Hirschmann®
  - C = Conduit
  - B = Double Spade
  - E = Single Stud
- ** — PORTING
  - 2N = 1/4 PTF
  - 3N = 3/8 PTF
  - 6T = SAE 6
  - 8T = SAE 8
  - Omit for Cartridge Only

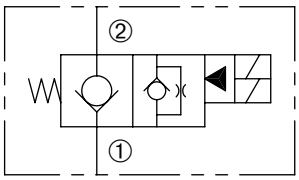
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

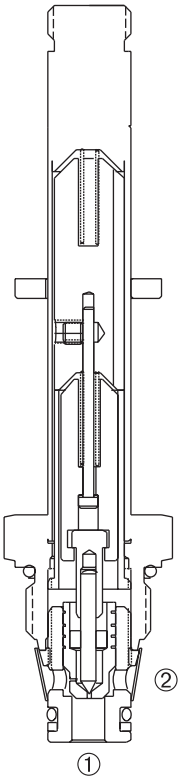
DDSV-080-2NCP

Normally-Closed, Two-Way, Two-Position,
Dual-Coil, Pilot-Operated Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed with positive shut off, low leakage, to be used in load holding applications where system requires redundant methods of operation.

OPERATION

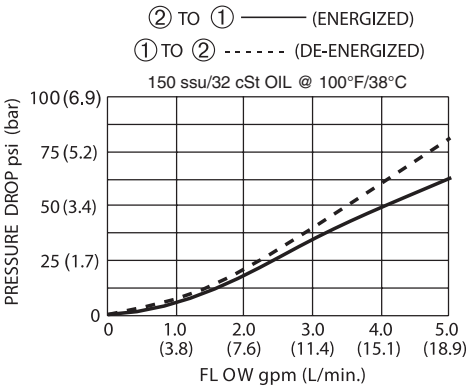
When de-energized, the DDSV-080-2NCP acts as a check valve, allowing flow from ① to ②, while blocking flow from ② to ①.

When either the top primary or bottom redundant coil is energized, the poppet lifts to open the ② to ① flow path.

FEATURES and BENEFITS

- 4000 PSI rating (276 Bar).
- Continuous-duty solenoid.
- Efficient wet-armature construction.
- Hardened poppet and seat for long life.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Filter screen standard.
- Low leak valve available.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



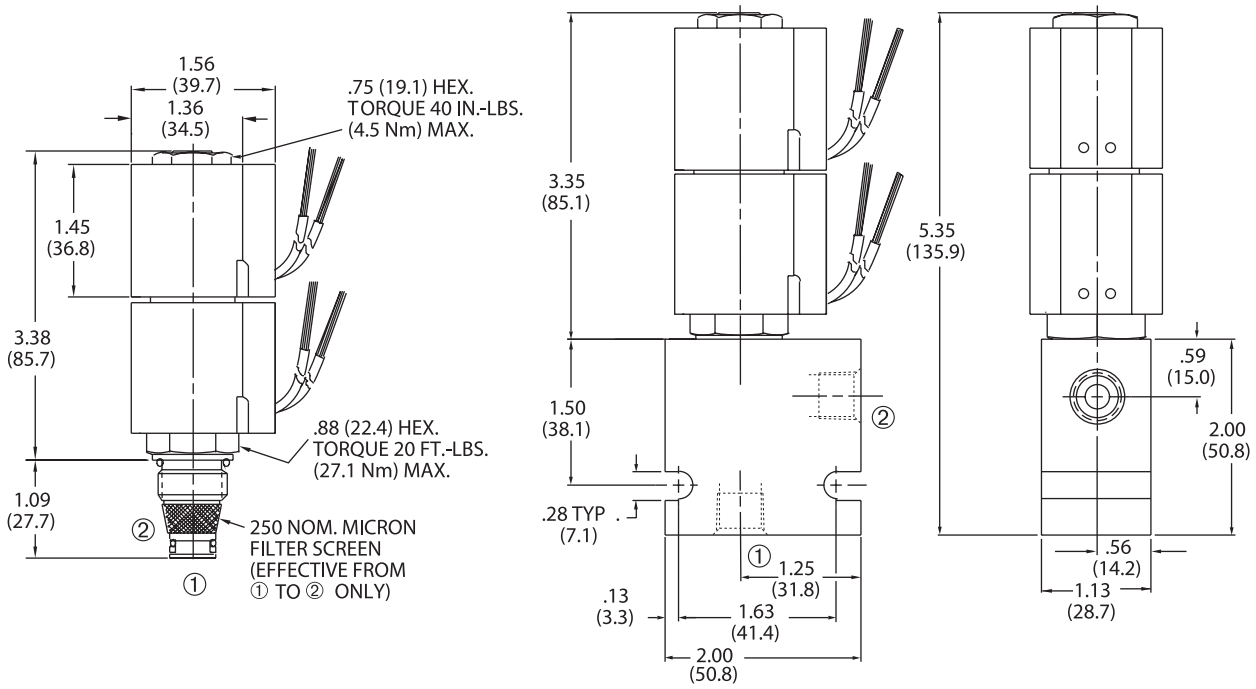
SPECIFICATIONS

Operating Pressure: 4000 PSI (276 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 4000 PSI (276 Bar)
Low leakage available-
Less than 2 drops/min. max. at 4000 PSI (276 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 4000 PSI (276 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 16 m. sec. **Drop-Out:** 12 VDC 18 m. sec.
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DDSV-080-2NCP

Normally-Closed, Two-Way, Two-Position,
Dual-Coil, Pilot Operated Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DDSV - 080 - 2 NC P - * - ** - ** - **

- DDSV — SOLENOID VALVE
- 080 — CAVITY/SEAL
- 2 — FLOW PATH
- NC — NORMALLY CLOSED
- P — POPPET
- * — SEALS
  - N = Buna N
  - V = Viton
- ** — M = Manual Override (Omit for standard)
  - L = Low Leak Option (Omit for standard)
  - D = DC
  - A = AC
- **** — VOLTAGE
  - 1 = 12 Volt
  - 2 = 24 Volt
  - 5 = 120 Volt
  - 6 = 240 Volt
  - 9 = 20 Volt
  - 10 = 10 Volt
- ** — COIL CONNECTION
  - DE = Double Lead
  - SE = Single Lead
  - HS = Hirschmann®
  - CS = Conduit
  - BE = Double Spade
  - EE = Single Stud
  - UE = Deutsch
- PORTING
  - 2N = 1/4 PTF
  - 3N = 3/8 PTF
  - 6T = SAE 6
  - 8T = SAE 8
  - Omit for Cartridge Only

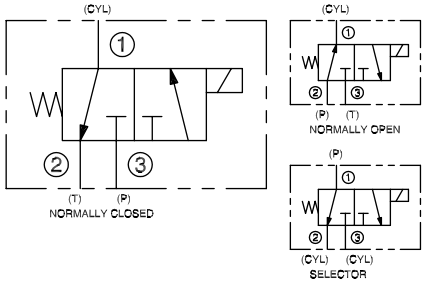
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

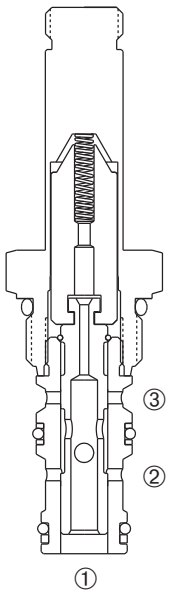
DSV2-080-3

Three-Way, Two-Position,
Spool-Type Solenoid Valve

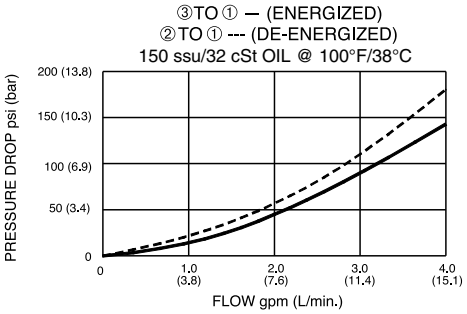
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8

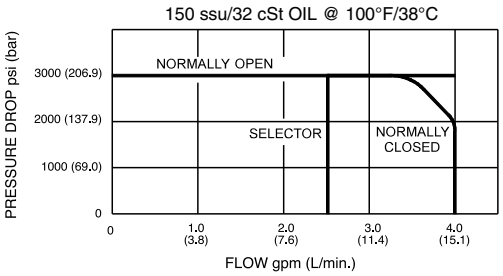




PRESSURE DROP VS. FLOW



PERFORMANCE CHARACTERISTIC



DESCRIPTION

A cartridge valve designed as a three-way, spool-type, directional control valve.

OPERATION

When de-energized, the DSV2-080-3 allows flow between ② and ①, while blocking flow at ③.
When energized, the cartridge's spool shifts to allow flow between ① and ③ while blocking flow at ②.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain detented in the shifted condition.
To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

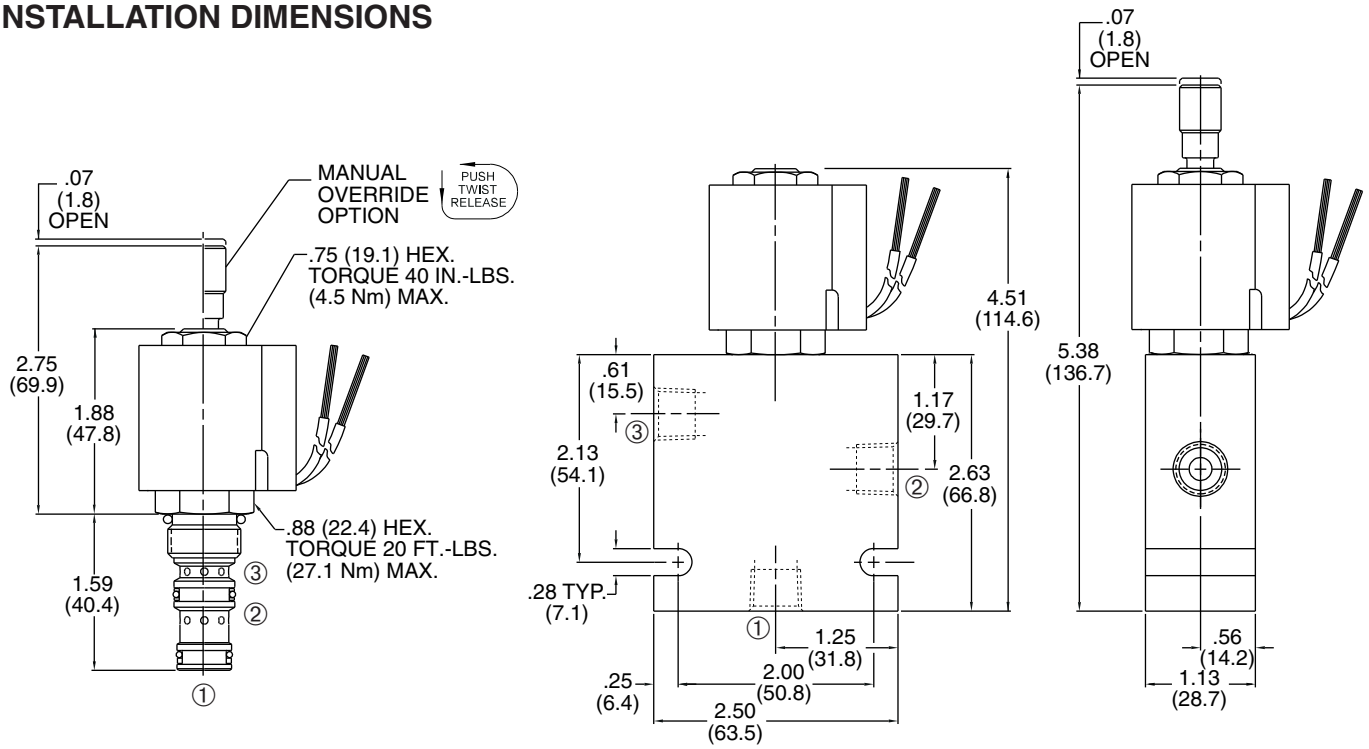
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PERFORMANCE CHARACTERISTIC graph.
Internal Leakage: (Per land) 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 40 m. sec. **Drop-Out:** 12 VDC 8 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 080-3, see page 11.08.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-080-3

Three-Way, Two-Position,
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 080 - 3 - * - * - * * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

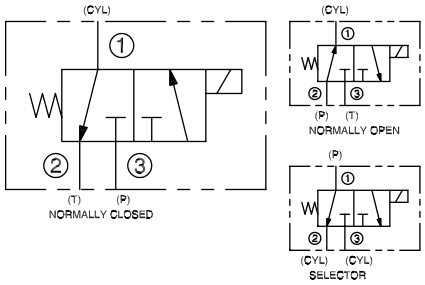
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

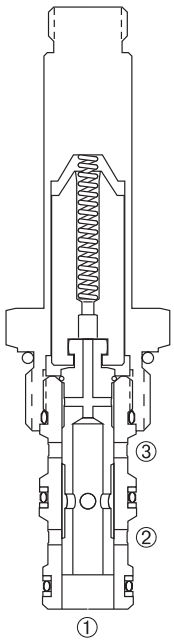
DSV2-100-3

Three-Way, Two-Position,
Spool-Type Solenoid Valve

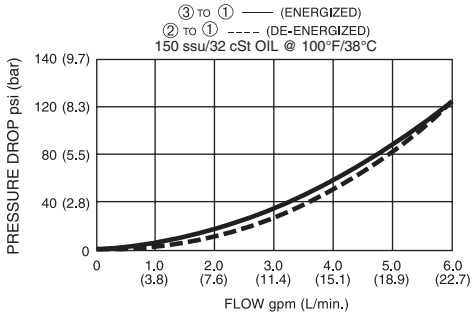
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10

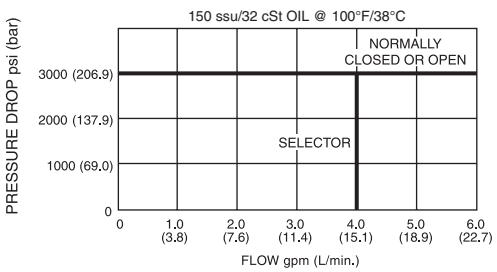




PRESSURE DROP VS. FLOW



PERFORMANCE CHARACTERISTIC



DESCRIPTION

A cartridge valve designed as a three-way, spool-type, directional control valve.

OPERATION

When de-energized, the DSV2-100-3 allows flow between ② and ①, while blocking flow at ③.
When energized, the cartridge's spool shifts to allow flow between ① and ③ while blocking flow at ②.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain detented in the shifted condition.
To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

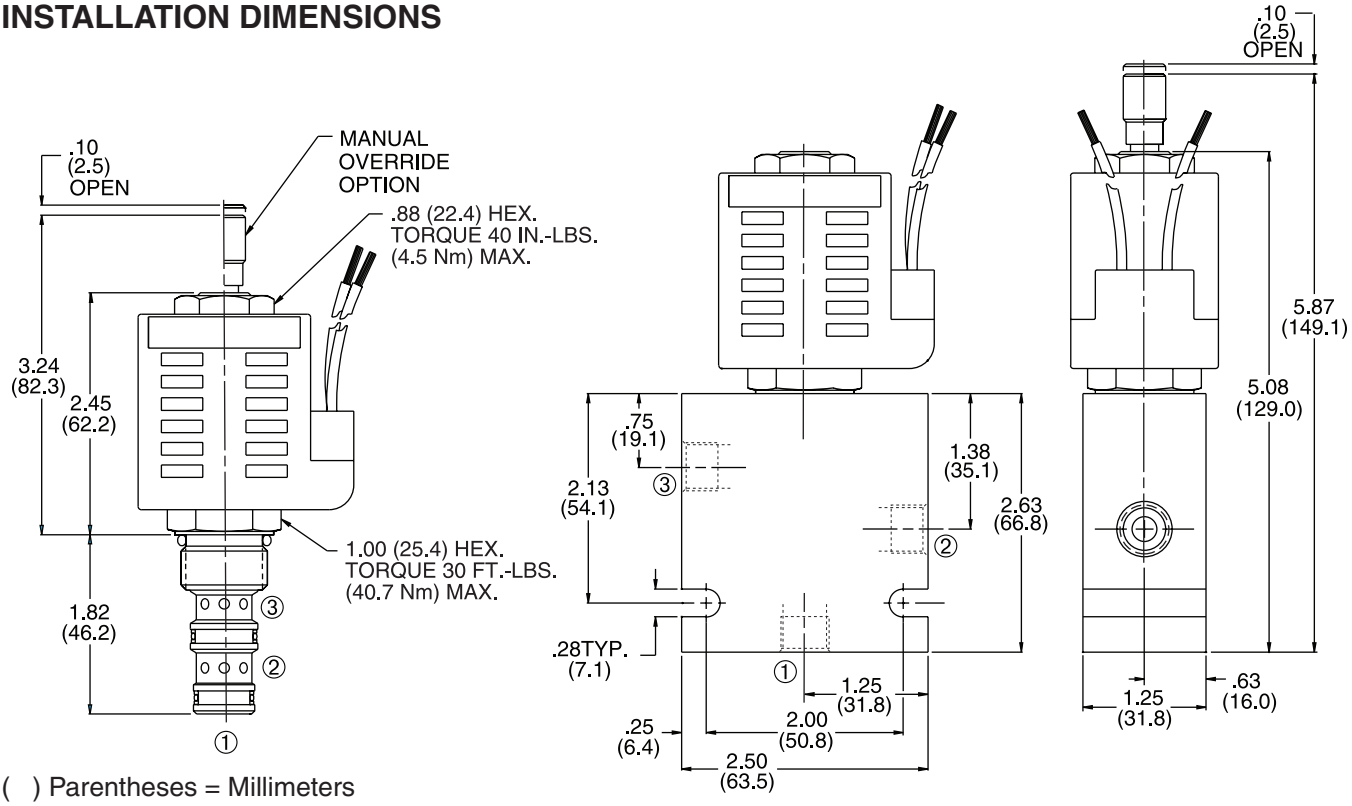
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PERFORMANCE CHARACTERISTIC graph.
Internal Leakage: (Per land) 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 80% of nominal flow rating.
Pull-In: 12 VDC 95 m. sec. **Drop-Out:** 12 VDC 80 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-100-3

Three-Way, Two-Position,
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 100 - 3 - * - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE

1	= 12 Volt	6	= 240 Volt
2	= 24 Volt	9	= 20 Volt
5	= 120 Volt	10	= 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only

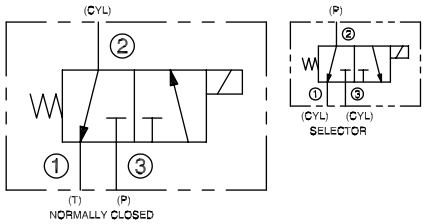
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

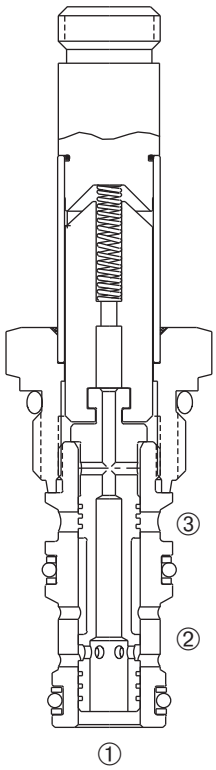
DSV2-080-3B

Three-Way, Two-Position,
Spool-Type Solenoid Valve

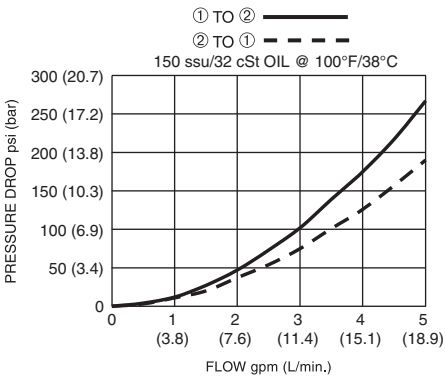
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed as a three-way, spool-type, directional control valve.

OPERATION

When de-energized, the DSV-080-3B allows flow from ② to ①, while blocking flow at ③.

When energized, the cartridge's spool shifts to allow flow between ② and ③ while blocking flow at ①.

Operation of Manual Override Option: To override, push button in to activate. To return to normal valve function, release button.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

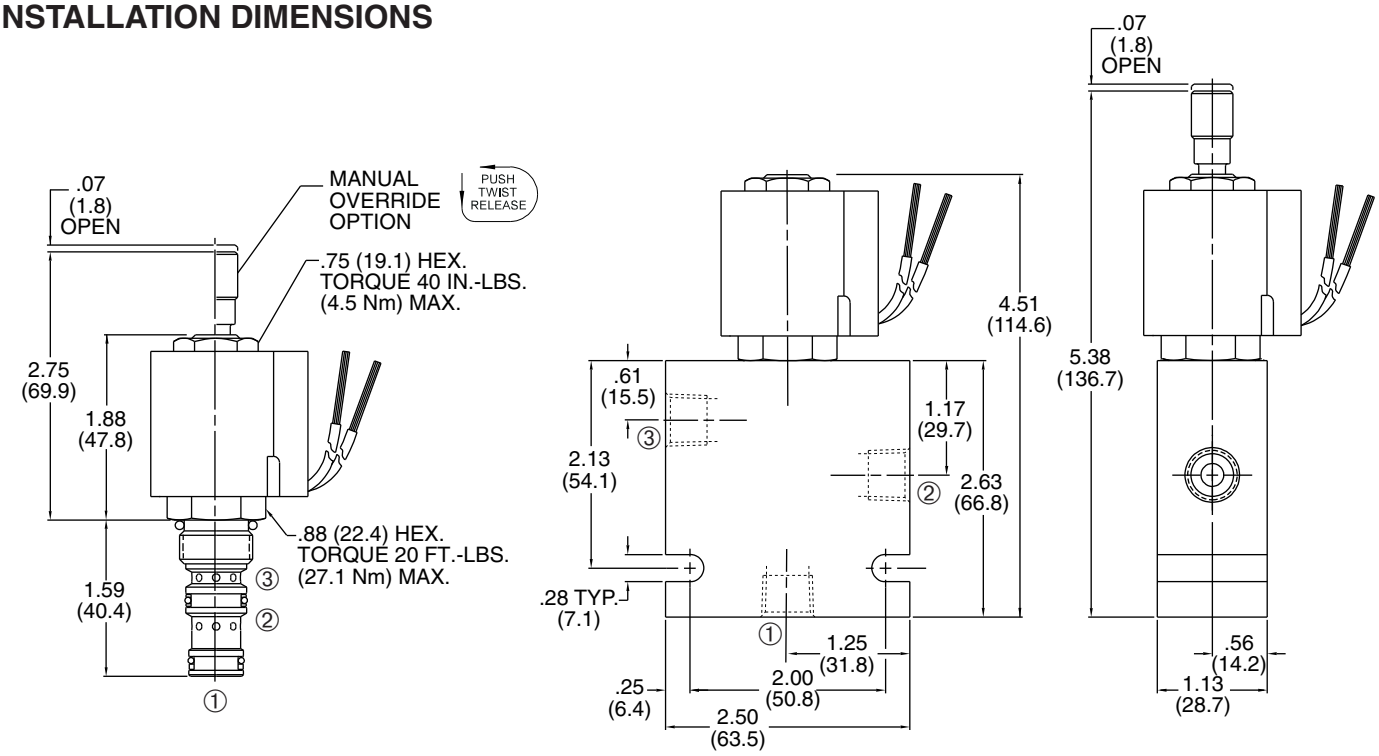
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PERFORMANCE CHARACTERISTIC graph.
Internal Leakage: (Per land) 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 45 m. sec. **Drop-Out:** 12 VDC 57 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-3, see page 11.08.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-080-3B

Three-Way, Two-Position,
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 080 - 3B - * - * - * * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE

1	= 12 Volt	6	= 240 Volt
2	= 24 Volt	9	= 20 Volt
5	= 120 Volt	10	= 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

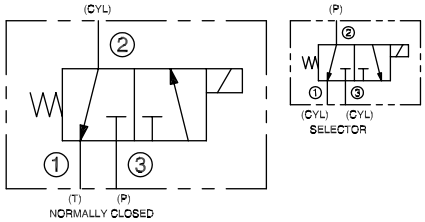
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

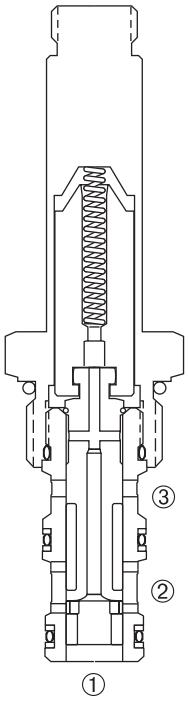
DSV2-100-3B

Three-Way, Two-Position,
Spool-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed as a three-way, spool-type, directional control valve.

OPERATION

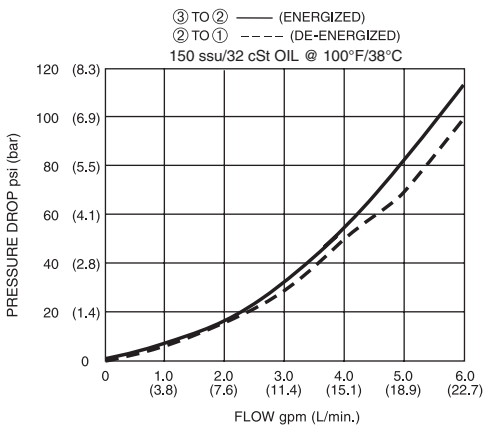
When de-energized, the DSV2-100-3B allows flow from ② to ①, while blocking flow at ③.
When energized, the cartridge's spool shifts to allow flow between ② and ③ while blocking flow at ①.

Operation of Manual Override Option: To override, push button in to activate. To return to normal valve function, release button. To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PERFORMANCE CHARACTERISTIC graph.
Internal Leakage: (Per land) 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 95 m. sec. **Drop-Out:** 12 VDC 85 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

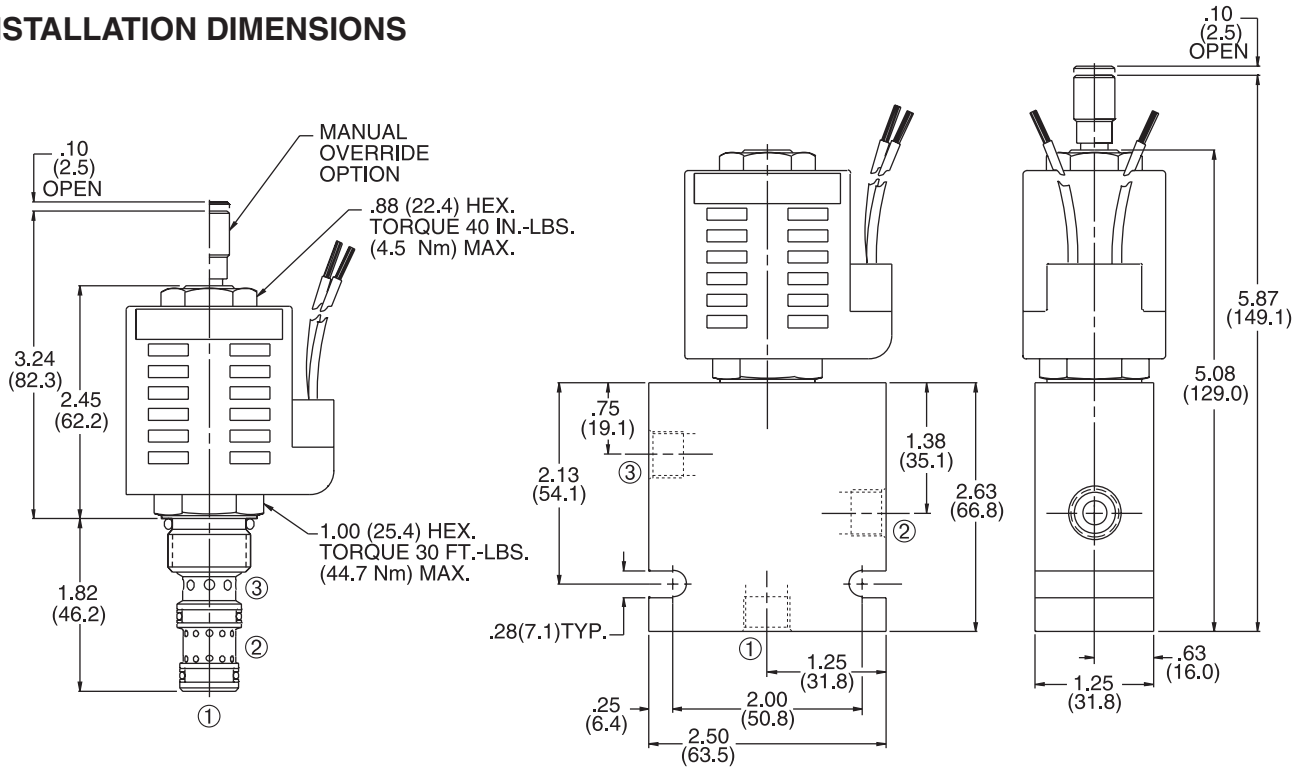
DELTROL fluid products
DIVISION OF DELTROL CORP

DSV2-100-3B

Three-Way, Two-Position,
Spool-Type Solenoid Valve

SERIES 10

INSTALLATION DIMENSIONS



( ) Parentheses = Millimetersrs

HOW TO ORDER

**DSV2 - 100 - 3B - * - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

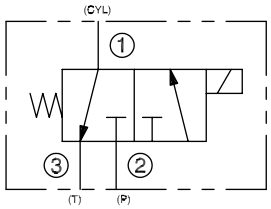
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

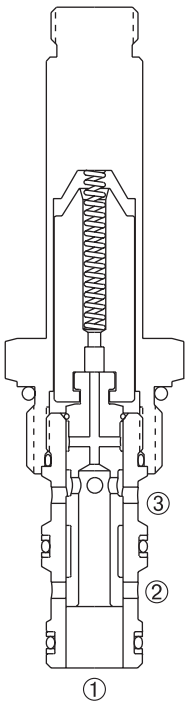
DSV2-100-3D

Three-Way, Two-Position,
Spool-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed as a three-way, spool-type, directional control valve.

OPERATION

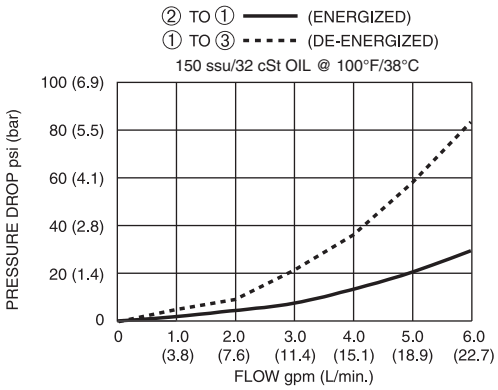
When de-energized, the DSV2-100-3D allows flow from ① to ③, while blocking flow at ②.
When energized, the cartridge's spool shifts to allow flow from ② and ① while blocking flow at ③.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain detented in the shifted condition.
To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



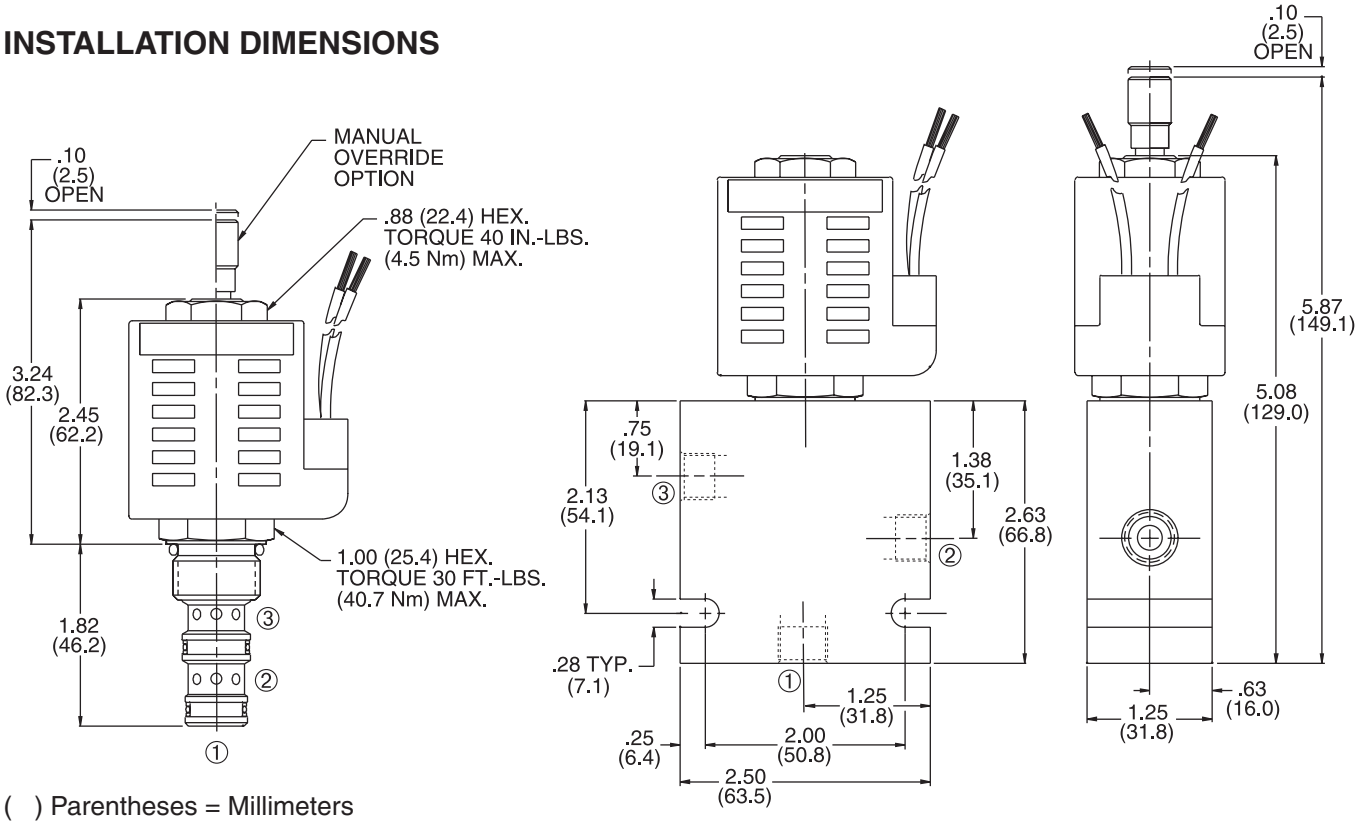
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PERFORMANCE CHARACTERISTIC graph.
Internal Leakage: (Per land) 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 100 m. sec. **Drop-Out:** 12 VDC 85 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-100-3D

Three-Way, Two-Position,
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 100 - 3D - * - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.

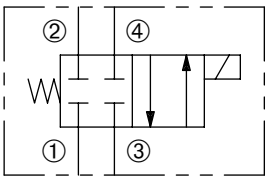
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

DSV2-080-4NC

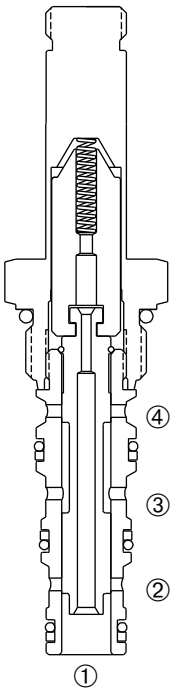
Four-Way, Two-Position,
Spool-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8



PRESSURIZE ONLY ③
TANK IS ①



DESCRIPTION

A cartridge valve designed as a four-way, spool-type, directional control valve with all ports normally-closed. This valve is commonly used in a circuit to allow flow to and from a double-acting cylinder or motor.

OPERATION

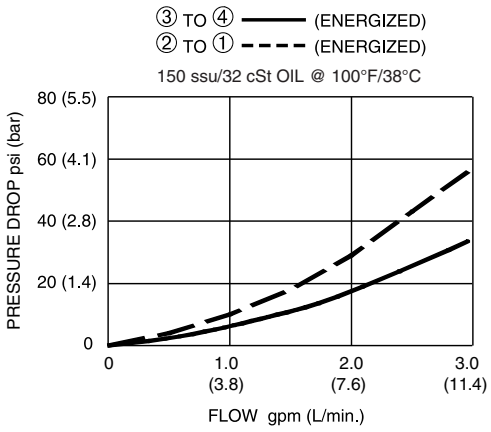
When de-energized, the DSV2-080-4NC flow paths are blocked. When energized, the cartridge's spool shifts and allows flow from ③ to ④ and from ② to ①.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain detented in the shifted condition.
To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



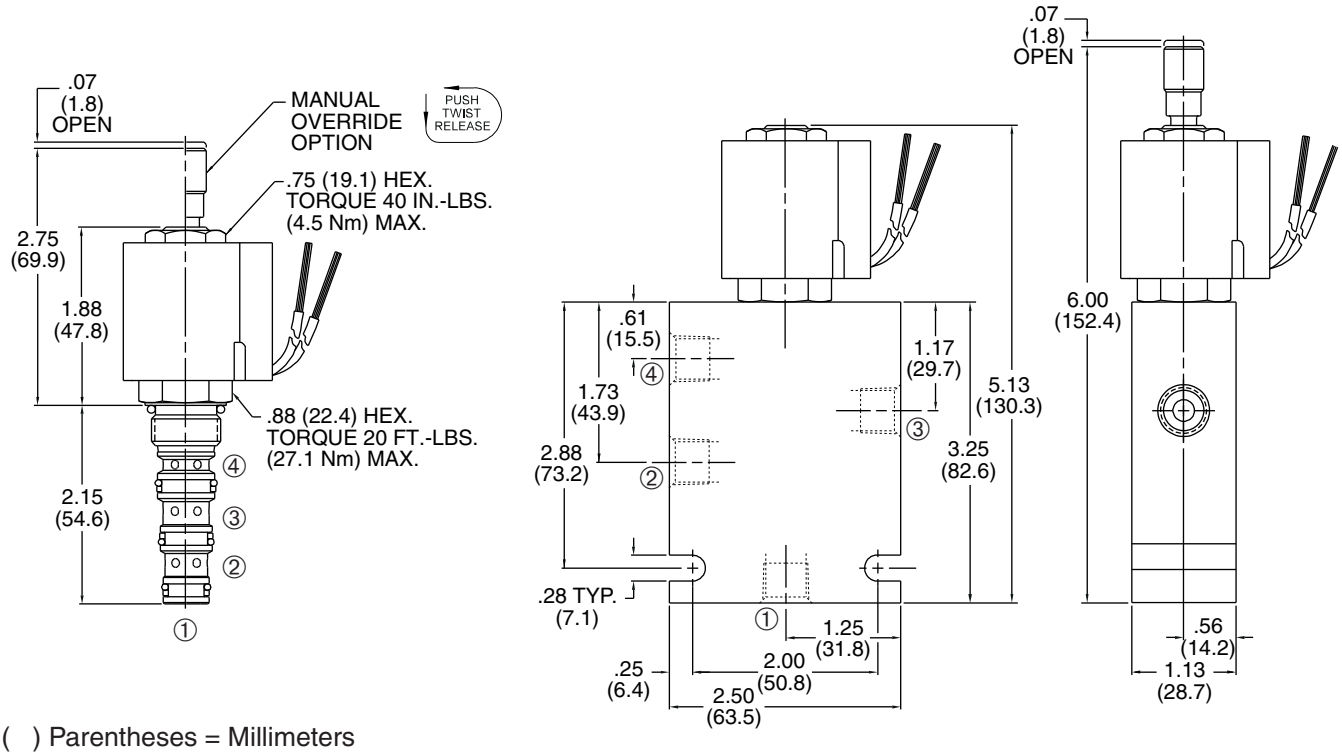
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: (Per land) 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 35 m. sec. **Drop-Out:** 12 VDC 20 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-4, see page 11.08.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-080-4NC

Four-Way, Two-Position,
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 080 - 4 NC - * - * - * * ** - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

NORMALLY CLOSED

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

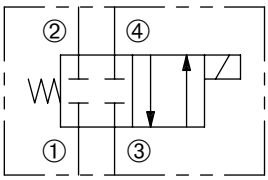
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

DSV2-100-4NC

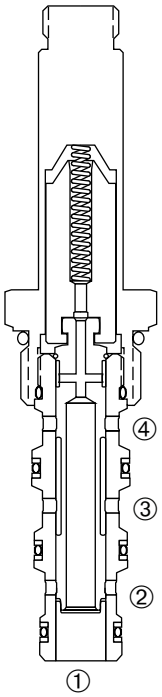
Four-Way, Two-Position,
Spool-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10



PRESSURIZE ONLY ③
TANK IS ①



DESCRIPTION

A cartridge valve designed as a four-way, spool-type, directional control valve with all ports normally-closed. This valve is commonly used in a circuit to allow flow to and from a double-acting cylinder or motor.

OPERATION

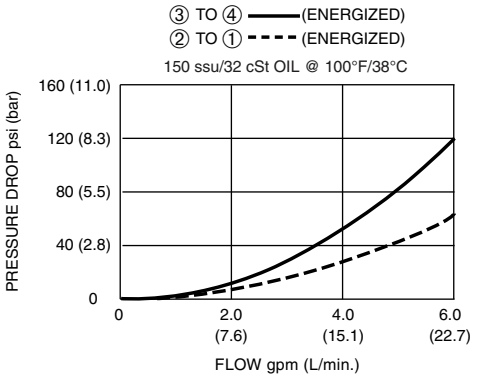
When de-energized, the DSV2-100-4NC flow paths are blocked. When energized, the cartridge's spool shifts and allows flow from ③ to ④ and from ② to ①.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain detented in the shifted condition.
To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



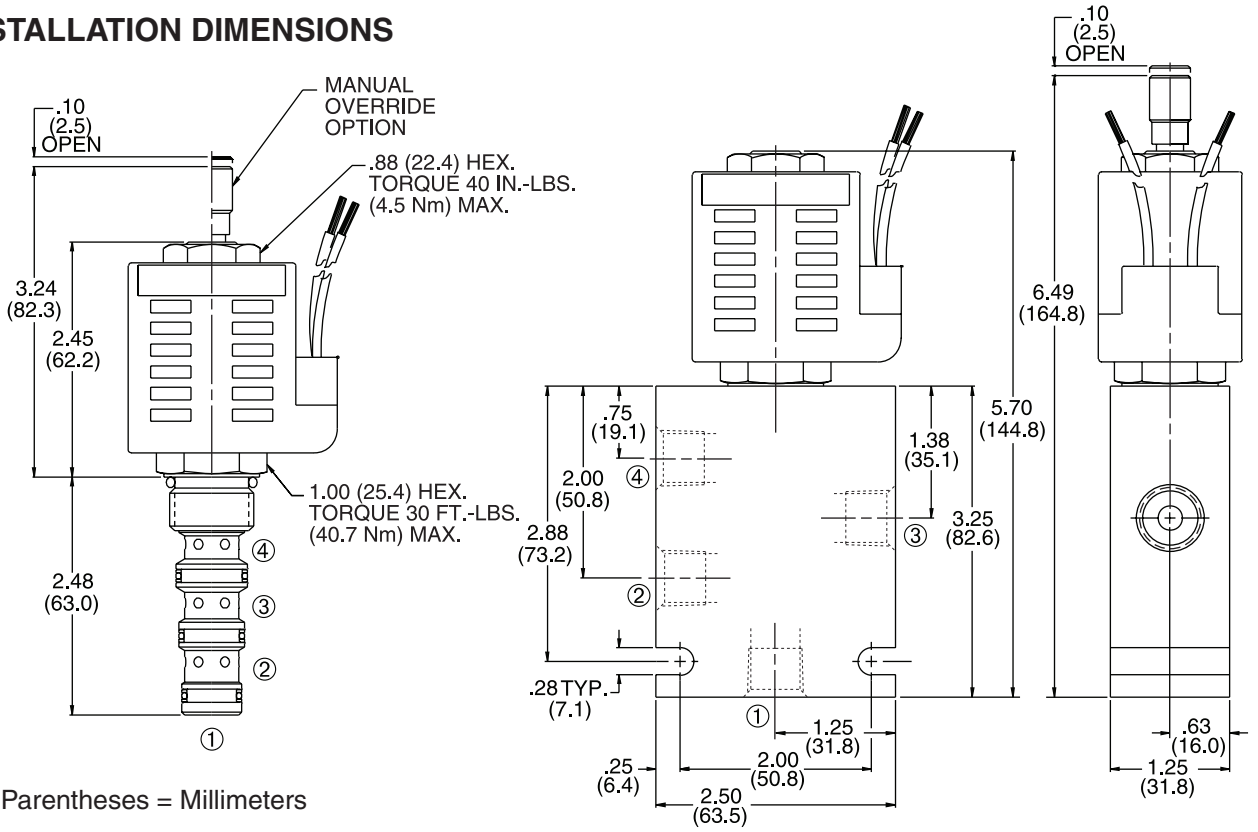
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: (Per land) 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 100 m. sec. **Drop-Out:** 12 VDC 85 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-4, see page 11.10.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-100-4NC

Four-Way, Two-Position,
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 100 - 4 NC - * - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

NORMALLY CLOSED

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.

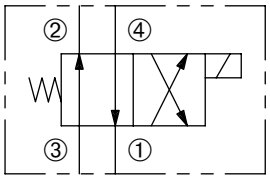
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

DSV2-080-4CO

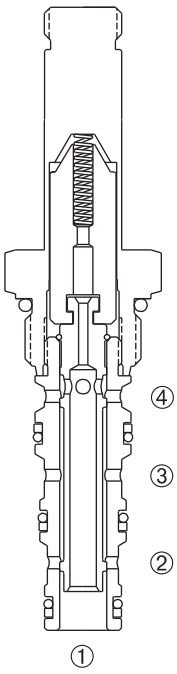
Four-Way, Two-Position,
Spool-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8



PRESSURIZE ONLY ③
TANK IS ①



DESCRIPTION

A cartridge valve designed as a four-way, spool-type, directional control valve with all ports normally-open. This valve is commonly used in a circuit to allow flow to and from a double-acting cylinder or motor.

OPERATION

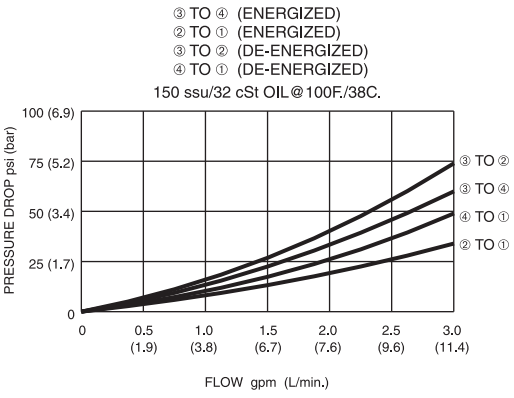
When de-energized, the DSV2-080-4CO allows flow from ③ to ② and from ④ to ①.
When energized, the cartridge's spool shifts and allows flow from ③ to ④ and from ② to ①.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain detented in the shifted condition.
To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



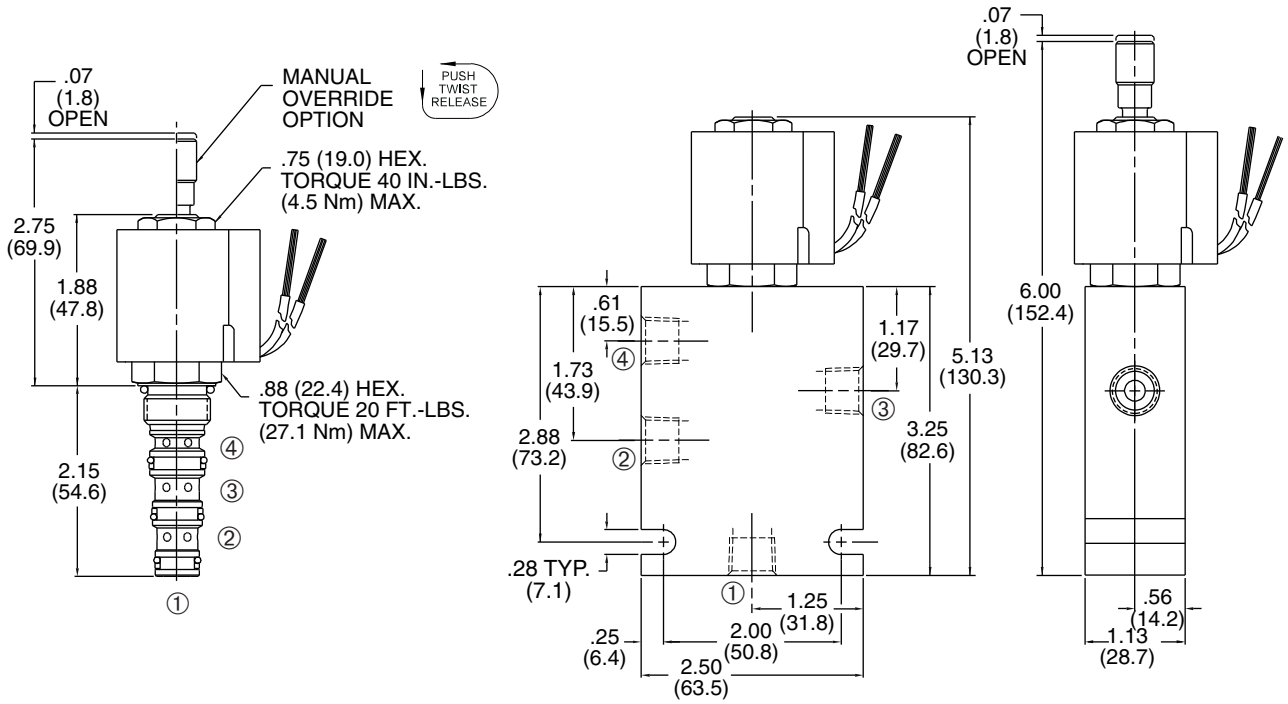
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: (Per land)5 in.^{3}/min. (82 cc/min.) max.at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 12 m. sec. **Drop-Out:** 12 VDC 7 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-4, see page 11.08.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-080-4CO

Four-Way, Two-Position,
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 080 - 4 CO - * - * - * * ** - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

CROSSOVER

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

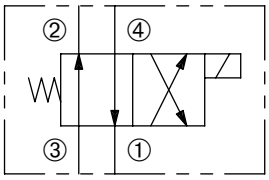
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

DSV2-100-4CO

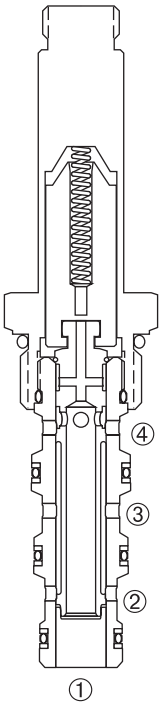
Four-Way, Two-Position,
Spool-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10



PRESSURIZE ONLY ③
TANK IS ①



DESCRIPTION

A cartridge valve designed as a four-way, spool-type, directional control valve with all ports normally-open. This valve is commonly used in a circuit to allow flow to and from a double-acting cylinder or motor.

OPERATION

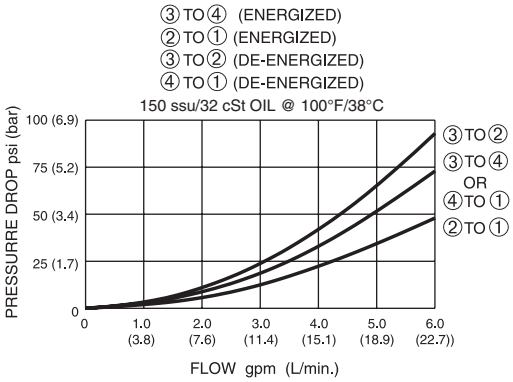
When de-energized, the DSV2-100-4CO allows flow from ③ to ② and from ④ to ①.
When energized, the cartridge's spool shifts and allows flow from ③ to ④ and from ② to ①.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain detented in the shifted condition.
To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



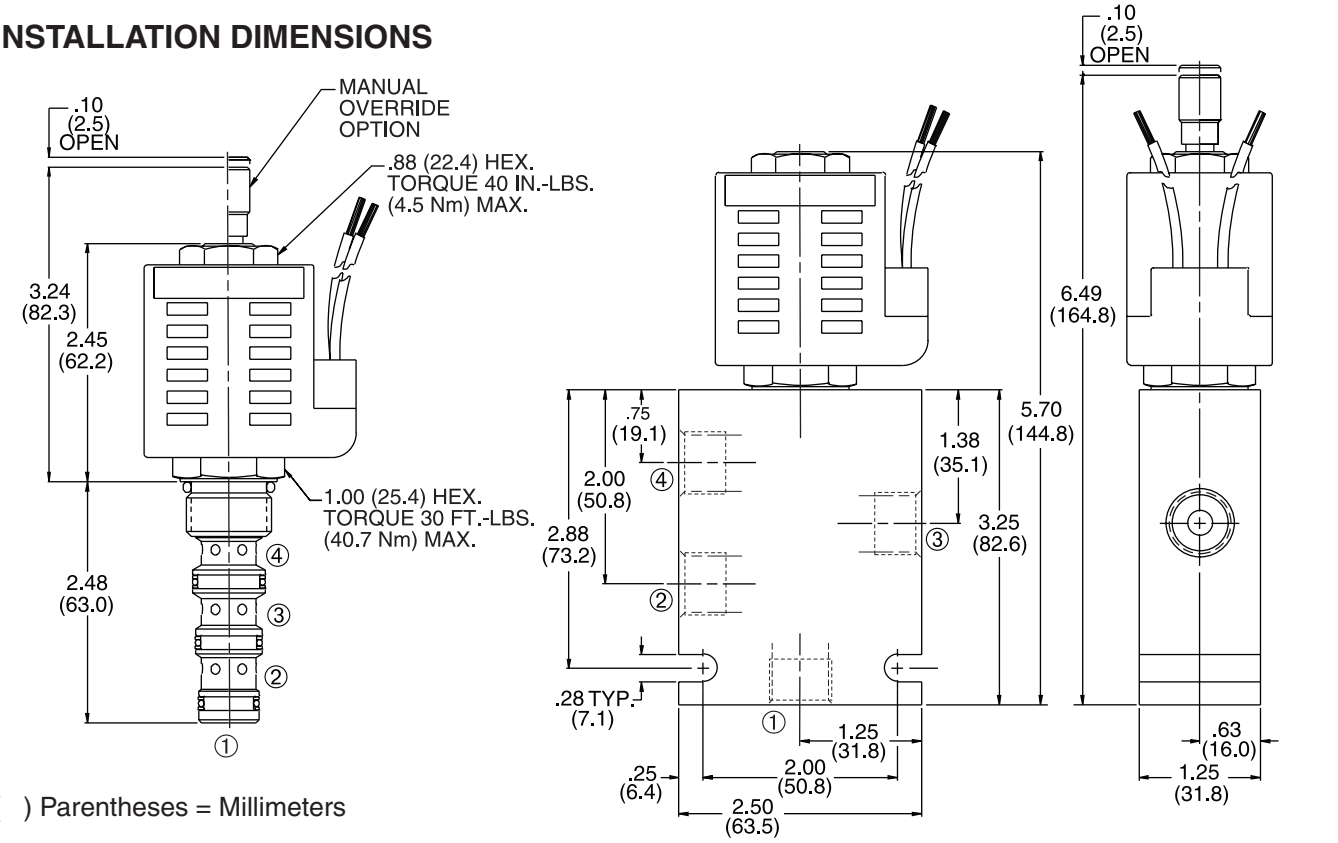
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: (Per land)5 in.^{3}/min. (82 cc/min.) max.at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 30 m. sec. **Drop-Out:** 12 VDC 120 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-4, see page 11.10.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-100-4CO

Four-Way, Two-Position,
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 100 - 4 CO - * - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

CROSSOVER

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.

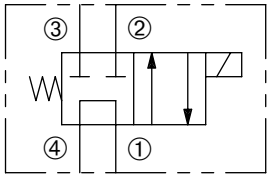
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

DSV2-080-4TC

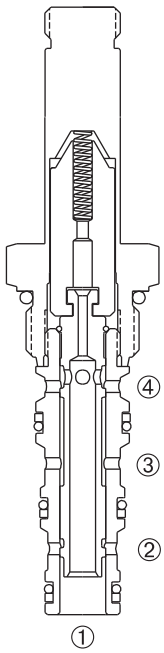
Four-Way, Two-Position,
Spool-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8



PRESSURIZE ④ ONLY
TANK IS ①



DESCRIPTION

A cartridge valve designed as a four-way, spool-type, directional control valve, with two ports normally-closed and two ports normally-open. This valve is commonly used in a series circuit to allow flow to and from a double-acting cylinder or motor.

OPERATION

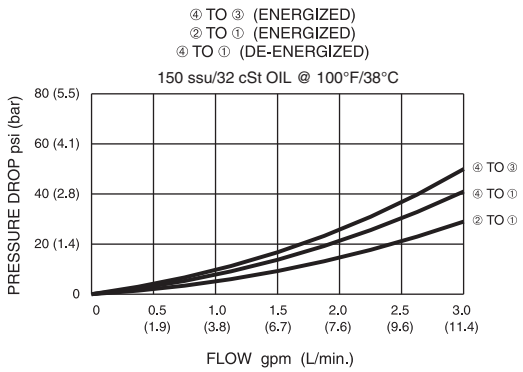
When de-energized, the DSV2-080-4TC allows flow from ④ to ① and is blocked at ② and ③.
When energized, the cartridge's spool shifts and allows flow from ④ to ③ and from ② to ①.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain detented in the shifted condition.
To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



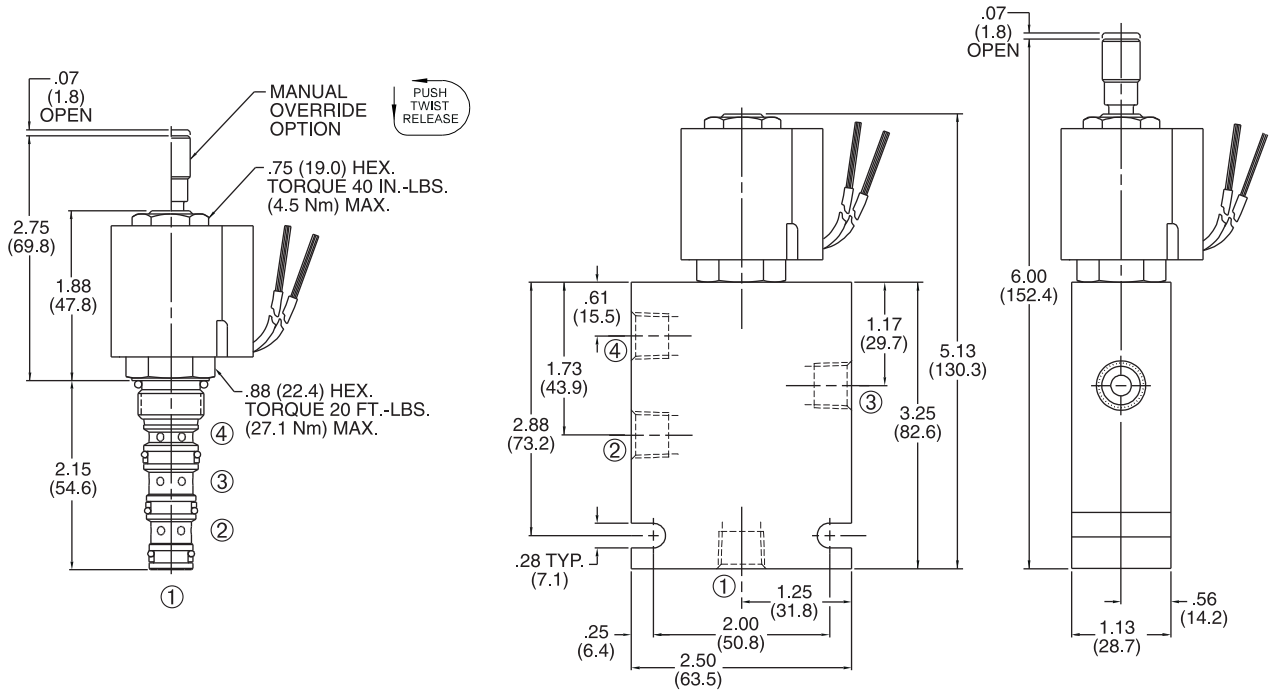
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: (Per land) 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 45 m. sec. **Drop-Out:** 12 VDC 11 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-4, see page 11.08.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-080-4TC

Four-Way, Two-Position,
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 080 - 4 TC - * - * - * * ** - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

TANDEM CENTER

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

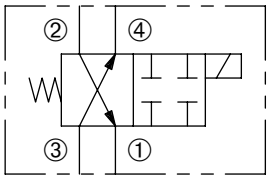
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

DSV2-080-4NO

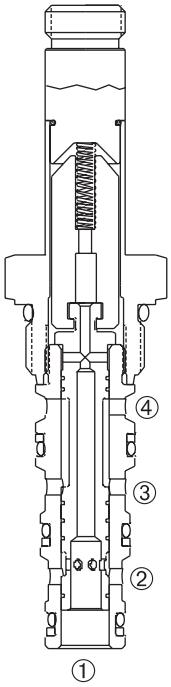
Four-Way, Two-Position,
Spool-Type Solenoid Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8



PRESSURIZE ONLY ③
TANK IS ①



DESCRIPTION

A cartridge valve designed as a four-way, spool-type, directional control valve with all ports normally-open. This valve is commonly used in a circuit to allow flow to and from a double-acting cylinder or motor.

OPERATION

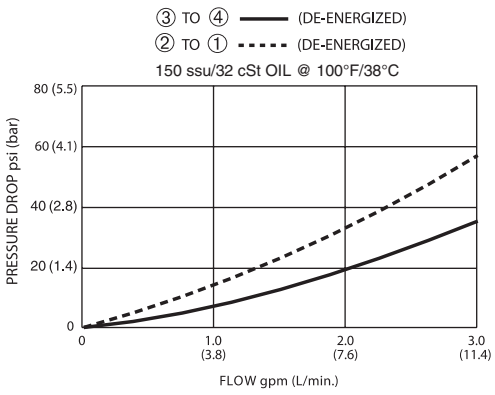
When energized, the spool shifts and all flow paths are blocked. When de-energized, the cartridge's spool allows flow from ③ to ④ and from ② and ①.

Operation of Manual Override Option: To override, push button in, twist counterclockwise and release. In this position, valve will remain detented in the shifted condition.
To return to normal operation, push button in, twist clockwise and release. Override will be detented in this position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Manual override option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



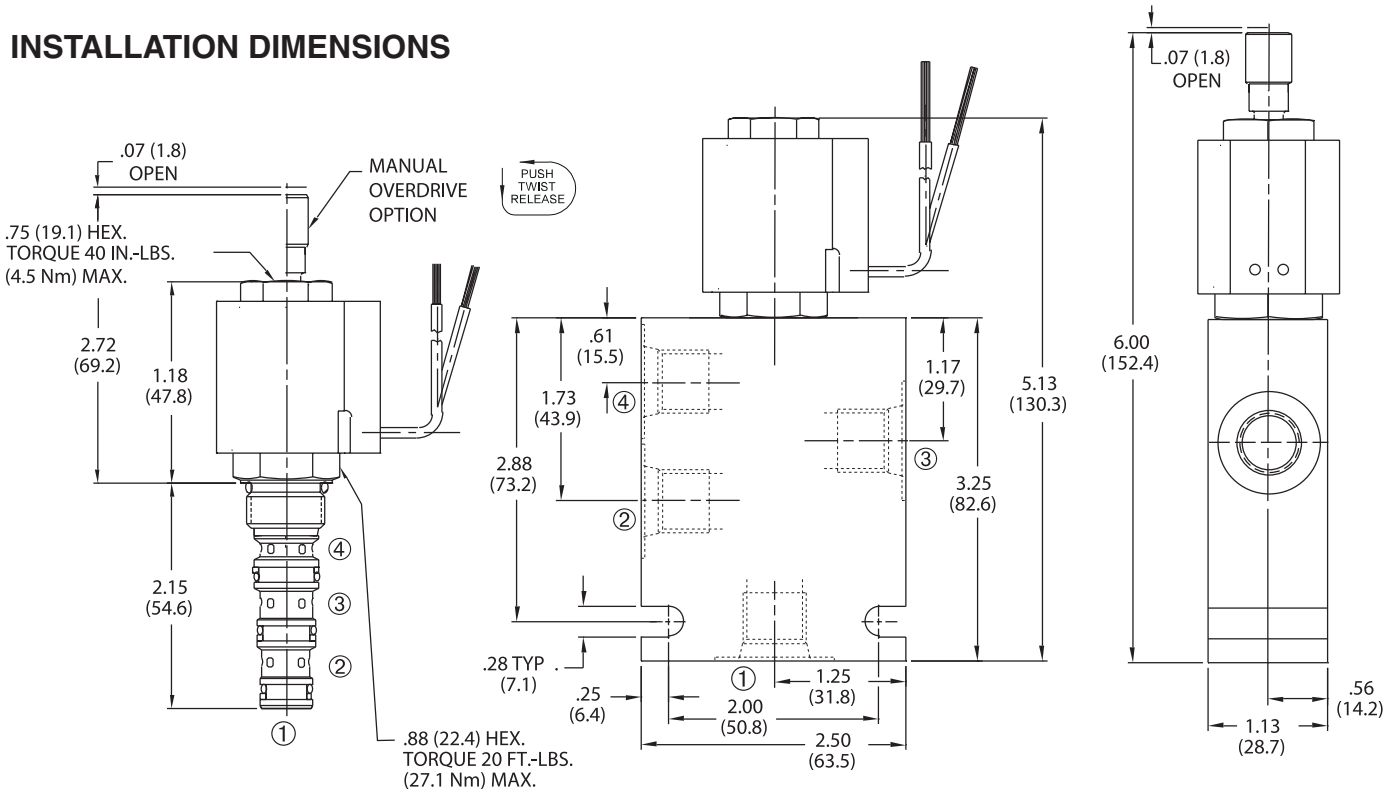
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: (Per land) 5 in.³/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 35 m. sec. **Drop-Out:** 12 VDC 20 m. sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-4, see page 11.08.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV2-080-4NO

Four-Way, Two-Position,
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV2 - 080 - 4 NO - * - * - * * ** - **

SOLENOID VALVE

CAVITY/SEAL

FLOW PATH

NORMALLY OPEN

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.

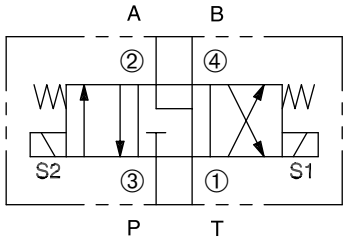
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

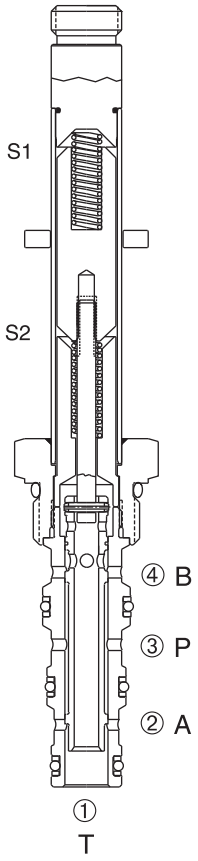
DSV-080-34M

Four-Way, Three-Position, Motor Center
Spool-Type Solenoid Valve

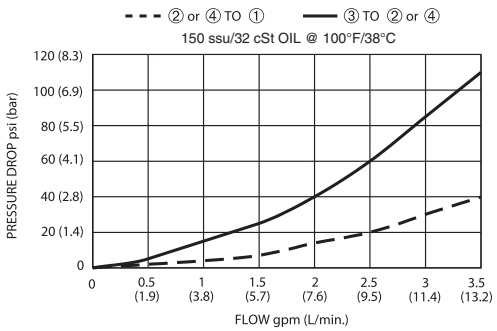
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed as a three position, four-way solenoid valve.

OPERATION

When de-energized, the valve allows flow between the ①, ②, and ④ ports with the ③ port blocked. When the upper solenoid (S1) is energized, the valve allows flow between ② and ① ports and the ③ and ④ ports. When the lower solenoid (S2) is energized, the valve allows flow between the ④ and ① ports and the ③ and ② ports.

Operation of Manual Override Option: To override, pull the knurled knob to activate the coil "S1" function, or push the knurled knob to activate the coil "S2" function. Release the knurled knob to return the center position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Industry common cavity.
- Compact size.

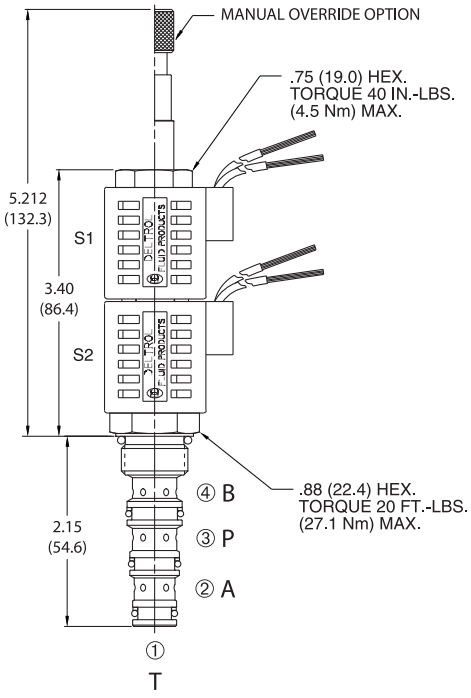
SPECIFICATIONS

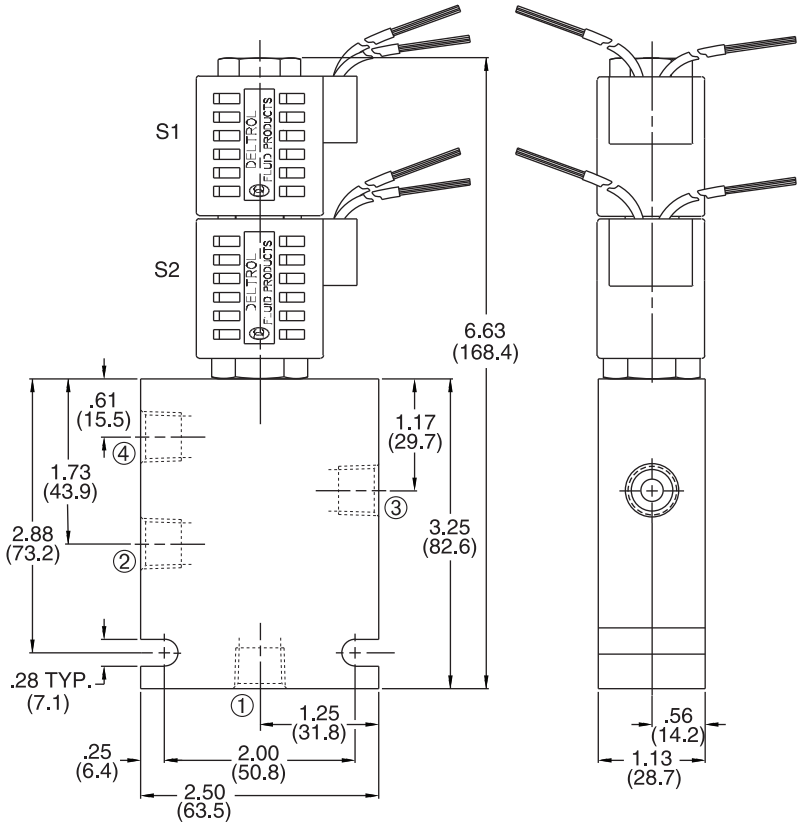
Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW CURVE.
Nominal flow 3 gpm (11.4 L/min.)
Internal Leakage: (Per land) 10 cu. in./min. max. (164 cc/min.)
at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-4, see page 11.08.4
In-Line Body Material: Anodized 6061T6 aluminum
alloy rated at 3000 PSI (207 Bar)

DSV-080-34M

Four-Way, Three-Position, Motor Center
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS





( ) Parentheses = Millimeters

HOW TO ORDER

**DSV - 080 - 34 M - * - * - * * ** - **

SOLENOID VALVE

CAVITY/SEAL

POSITION/FLOW PATH

MOTOR CENTER

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

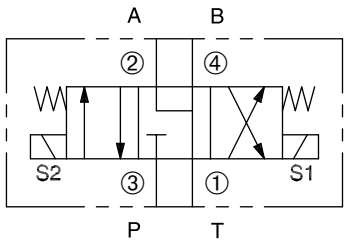
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

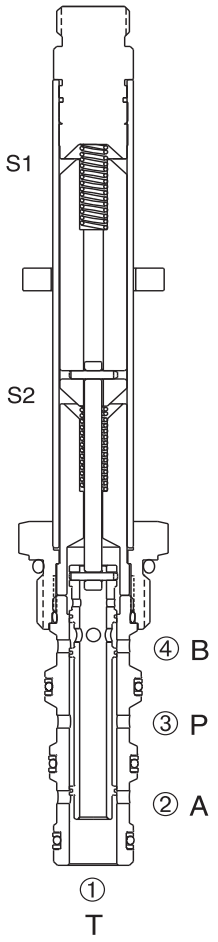
DSV-100-34M

Four-Way, Three-Position, Motor Center
Spool-Type Solenoid Valve

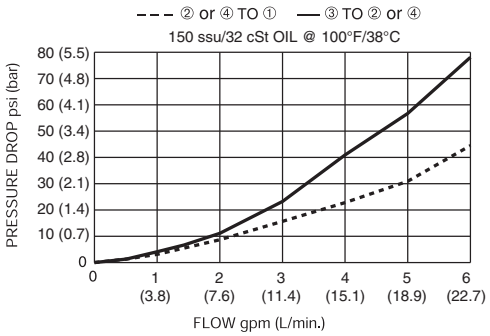
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed as a three position, four-way solenoid valve.

OPERATION

When de-energized, the valve allows flow between the ①, ②, and ④ ports with the ③ port blocked. When the upper solenoid (S1) is energized, the valve allows flow between ② and ① ports and the ③ and ④ ports. When the lower solenoid (S2) is energized, the valve allows flow between the ④ and ① ports and the ③ and ② ports.

Operation of Manual Override Option: To override, pull the knurled knob to activate the coil "S1" function, or push the knurled knob to activate the coil "S2" function. Release the knurled knob to return the center position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW CURVE.
Nominal flow 6 gpm (22.7 L/min.)
Internal Leakage: (Per land) 10 cu in./min. max. (164 cc/min.) at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-4, see page 11.10.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar)

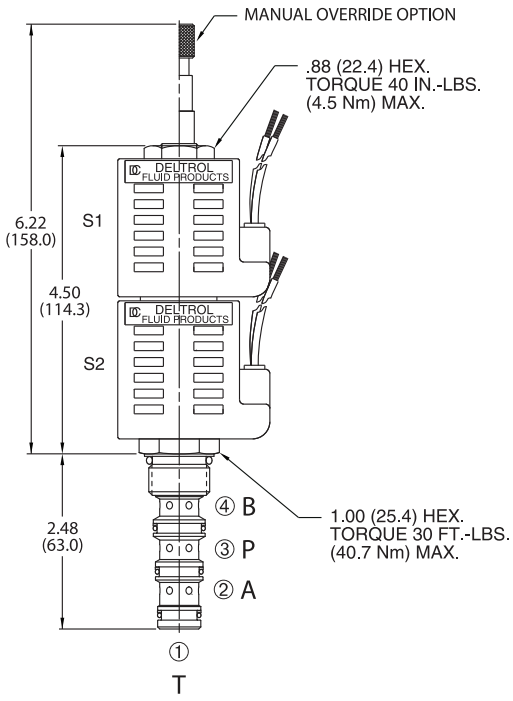
DELTROL fluid products
DIVISION OF DELTROL CORP

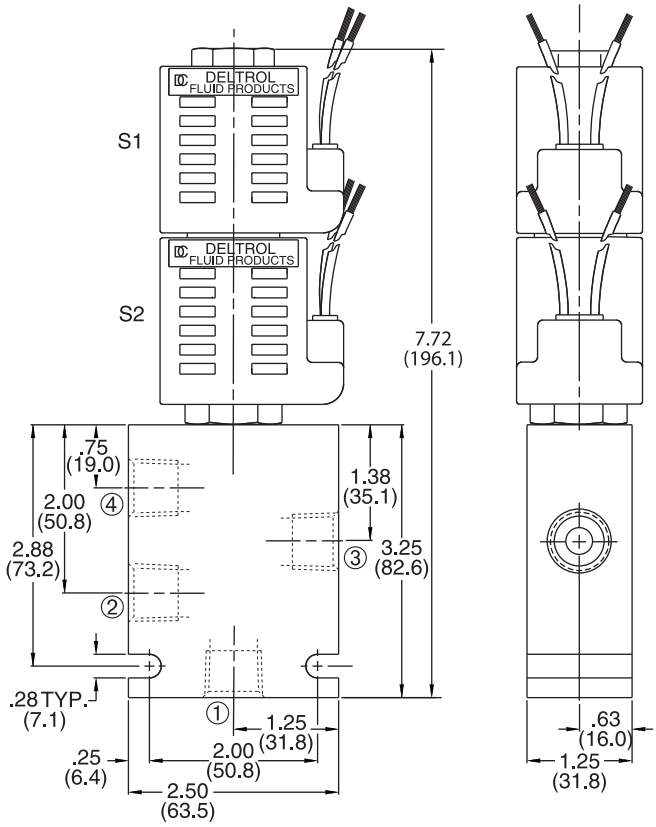
DSV-100-34M

Four-Way, Three-Position, Motor Center
Spool-Type Solenoid Valve

SERIES 10

INSTALLATION DIMENSIONS





( ) Parentheses = Millimeters

HOW TO ORDER

**DSV - 100 - 34 M - * - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

POSITION/FLOW PATH

MOTOR CENTER

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only

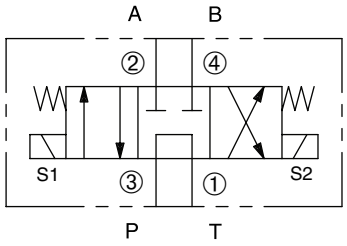
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

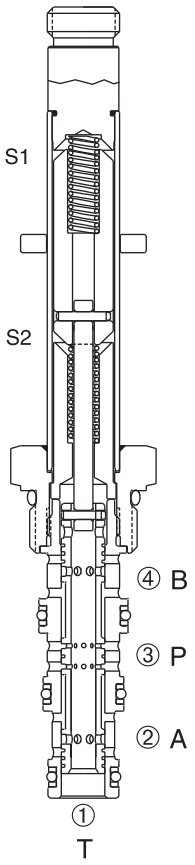
DSV-080-34T

Four-Way, Three-Position, Tandem Center
Spool-Type Solenoid Valve

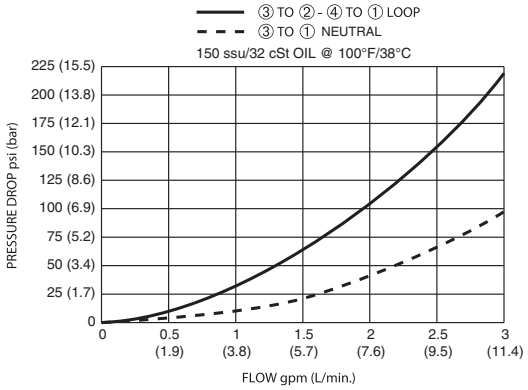
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed as a three position, four-way solenoid valve.

OPERATION

When de-energized, the valve allows flow between the ③ and ① ports with ports ② and ④ blocked. When the lower solenoid (S2) is energized, the valve allows flow between the ① and ② ports and the ③ and ④ ports. When the upper (S1) solenoid is energized, the valve allows flow between the ① and ④ ports and the ② and ③ ports.

Operation of Manual Override Option: To override, pull the knurled knob to activate the coil "S1" function, or push the knurled knob to activate the coil "S2" function. Release the knurled knob to return the center position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW CURVE.
Nominal flow 3 gpm (11.4 L/min.)
Internal Leakage: (Per land) 10 cu in./min. max. (164 cc/min.) at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-4, see page 11.08.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar)

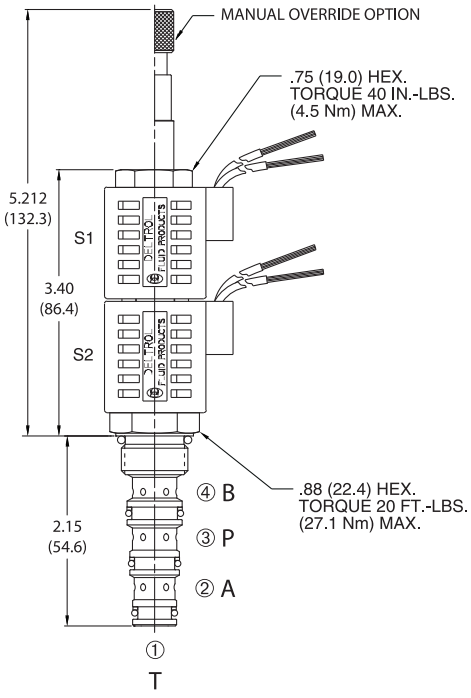
DELTROL fluid products
DIVISION OF DELTROL CORP

DSV-080-34T

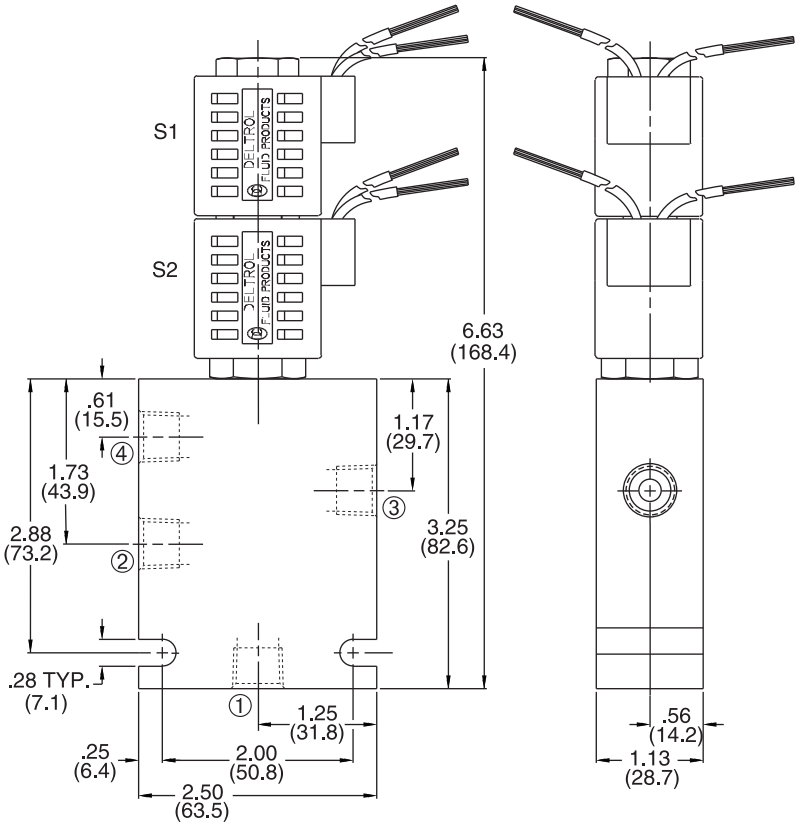
Four-Way, Three-Position, Tandem Center
Spool-Type Solenoid Valve

SERIES 8

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters



HOW TO ORDER

**DSV - 080 - 34T - * - * - * * ** - **

SOLENOID VALVE

CAVITY/SEAL

POSITION/FLOW PATH

TANDEM CENTER

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

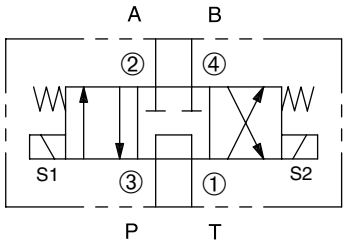
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

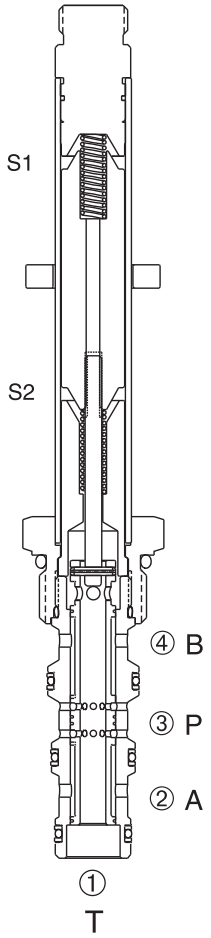
DSV-100-34T

Four-Way, Three-Position, Tandem Center
Spool-Type Solenoid Valve

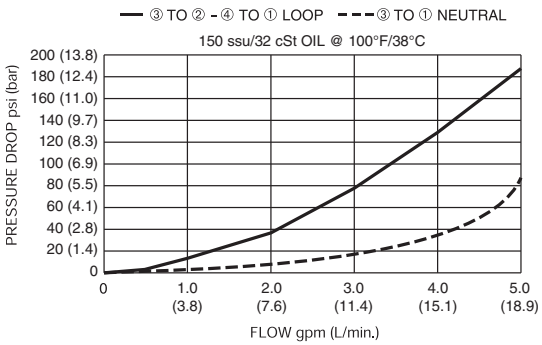
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed as a three position, four-way solenoid valve.

OPERATION

When de-energized, the valve allows flow between the ③ and ① ports with the ② and ④ ports blocked. When the lower solenoid (S2) is energized, the valve allows flow between ② and ① ports and the ③ and ④ ports. When the upper solenoid (S1) is energized, the valve allows flow between the ④ and ① ports and the ③ and ② ports.

Operation of Manual Override Option: To override, pull the knurled knob to activate the coil "S1" function, or push the knurled knob to activate the coil "S2" function. Release the knurled knob to return the center position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Industry common cavity.
- Compact size.

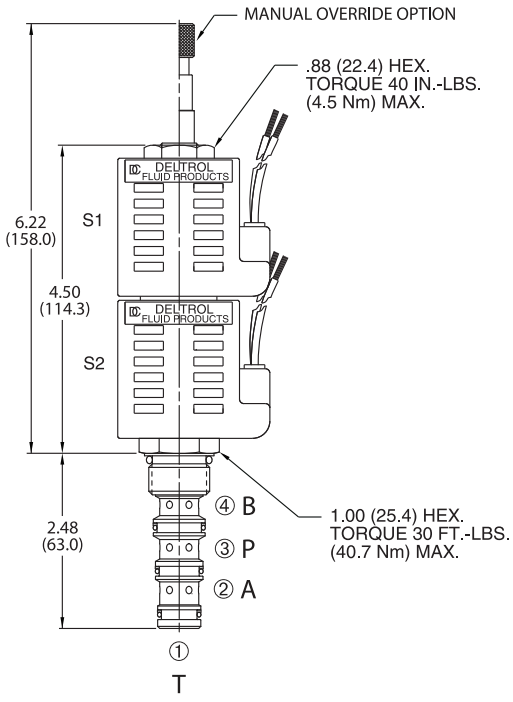
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW CURVE.
Nominal flow 4 gpm (15.1 L/min.)
Internal Leakage: (Per land) 10 cu in./min. max. (164 cc/min.)
at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-4, see page 11.10.4
In-Line Body Material: Anodized 6061T6 aluminum
alloy rated at 3000 PSI (207 Bar)

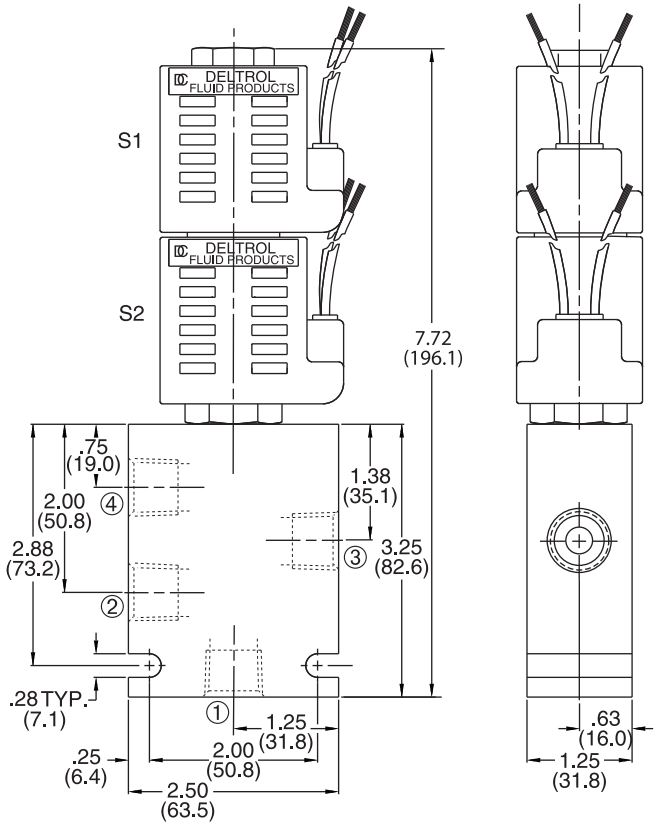
DSV-100-34T

Four-Way, Three-Position, Tandem Center
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters



HOW TO ORDER

**DSV - 100 - 34T - * - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

POSITION/FLOW PATH

TANDEM CENTER

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only

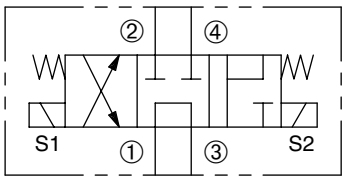
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

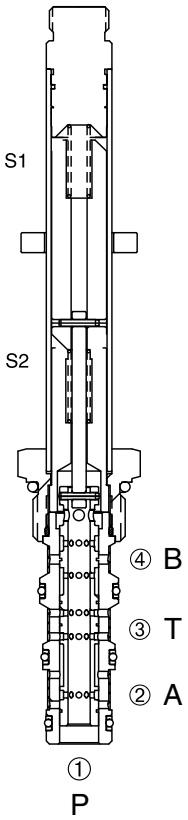
DSV-100-34TR

Four-Way, Three-Position, Regen
Spool-Type Solenoid Valve

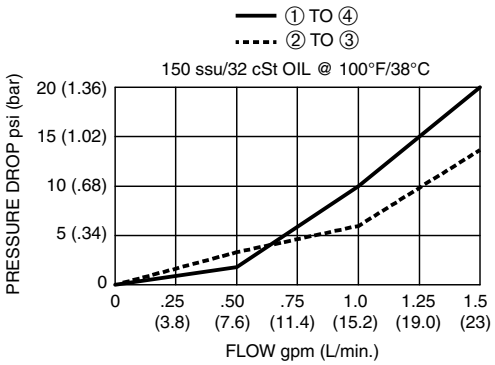
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed as a three position, four-way solenoid valve with regen function.

OPERATION

When de-energized, the valve allows flow between the ① and ③ ports with ports ② and ④ blocked. When the upper solenoid (S1) is energized, the valve allows flow between the ① and ④ ports and the ② and ③ ports. When the lower solenoid (S2) is energized, the valve allows flow between the ① and ② and ④ ports with the ③ port blocked.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges and voltage interchangeable.
- Optional coil voltages and termination.
- Industry common cavity.
- Compact size.

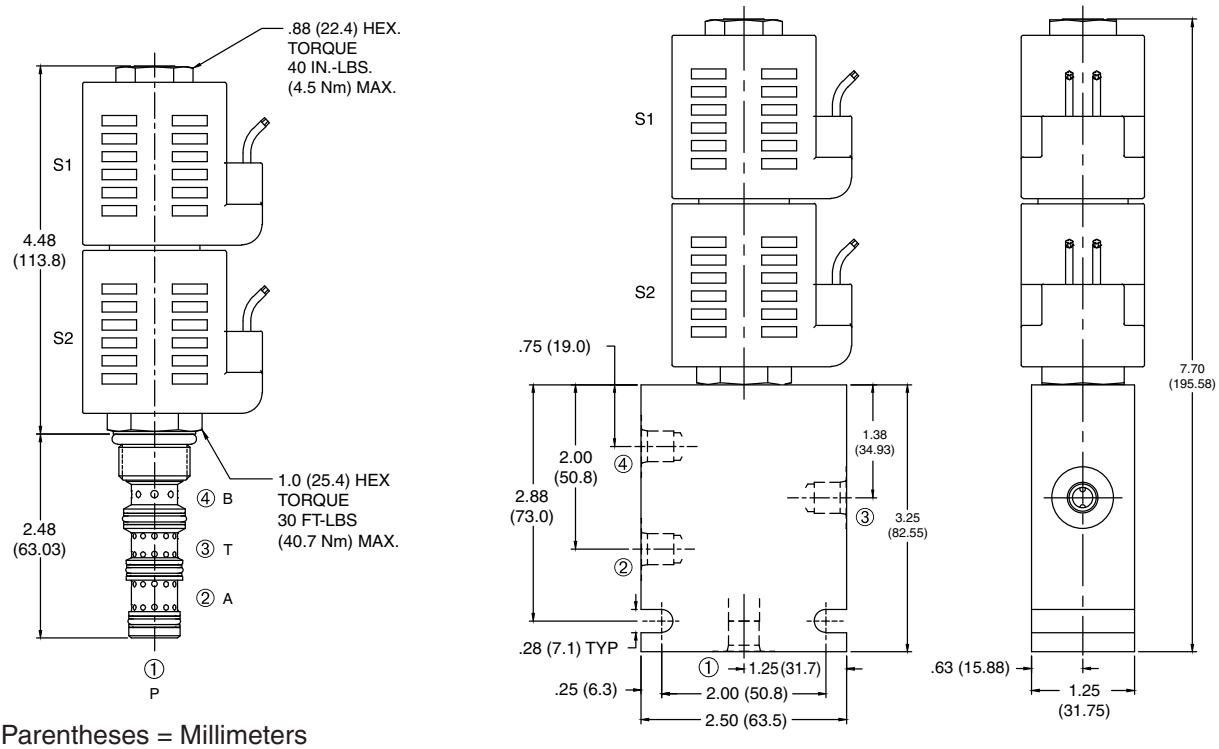
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Max. Flow: 1.5 GPM (5.75 l/min)
Internal Leakage: 5 in^3/min (82 cc/min) at 3000 PSI (207 Bar)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps
Temperature: -30°F to +250°F (-35°C to +120°C).
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar).
Response Time: 80% of final change of state with 100% voltage supplied at 100% of nominal flow rating.
Pull-In: 12 VDC 35 m.sec. **Drop-Out:** 12 VDC 20 m.sec.
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
Cavity/Cavity Tool: 100-4, see page 11.08.3
Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DSV-100-34TR

Four-Way, Three-Position, Regen
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DSV - 100 - 34TR - * - * * * - **

- SOLENOID VALVE
- CAVITY/SEAL
- FLOW PATH
- TANDEM CENTER
  With Regen Function
- SEALS
  N = Buna-N
  V = Viton
- D = DC
  A = AC
- VOLTAGE
  1 = 12 Volt
  2 = 24 Volt
  5 = 120 Volt
  6 = 240 Volt
  9 = 20 Volt
  10 = 10 Volt
- COIL CONNECTION
  D = Double Lead
  S = Single Lead
  H = Hirschmann®
  C = Conduit
  B = Double Spade
  E = Single Stud
  U = Deutsch
- PORTING
  2N = 1/4
  3N = 3/8
  4T = SAE 4
  6T = SAE 6
  Omit for Cartridge Only

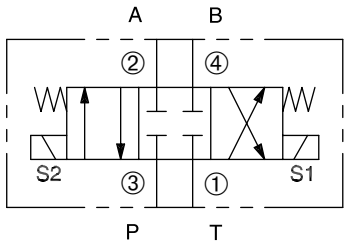
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

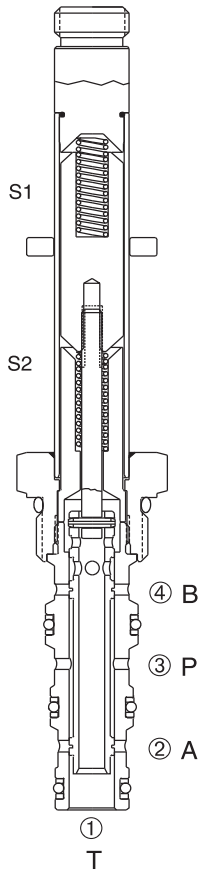
DSV-080-34C

Four-Way, Three-Position, Closed Center
Spool-Type Solenoid Valve

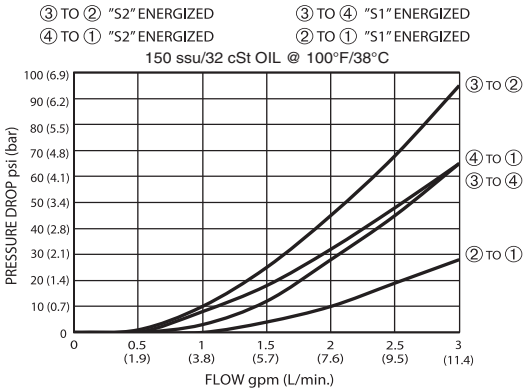
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed as a three position, four-way solenoid valve.

OPERATION

When de-energized, the valve prevents flow at all ports. When the upper solenoid (S1) is energized, the valve allows flow between the ② and ① ports and the ③ and ④ ports. When the lower solenoid (S2) is energized, the valve allows flow between the ④ and ① ports and the ③ and ② ports.

Operation of Manual Override Option: To override, pull the knurled knob to activate the coil "S1" function, or push the knurled knob to activate the coil "S2" function. Release the knurled knob to return the center position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Industry common cavity.
- Compact size.

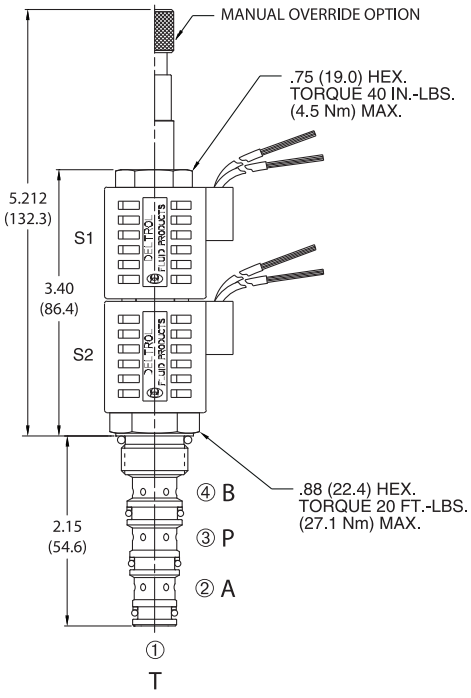
SPECIFICATIONS

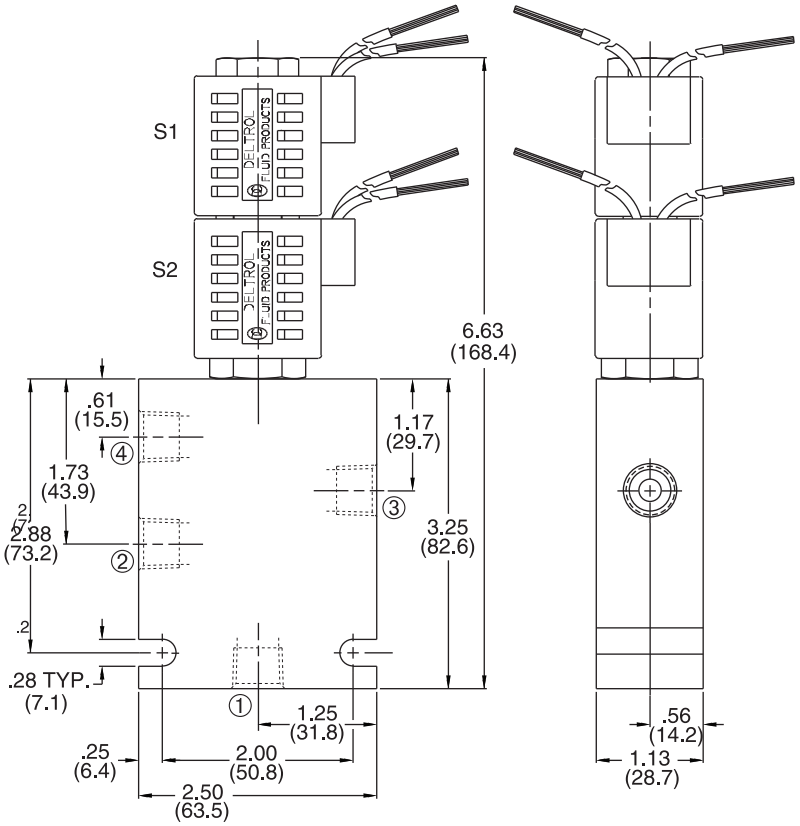
Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW CURVE.
Nominal flow 3 gpm (11.4 L/min.)
Internal Leakage: (Per land) 10 cu in./min. max. (164 cc/min.)
at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-4, see page 11.08.4
In-Line Body Material: Anodized 6061T6 aluminum
alloy rated at 3000 PSI (207 Bar)

DSV-080-34C

Four-Way, Three-Position, Closed Center
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS





( ) Parentheses = Millimeters

HOW TO ORDER

**DSV - 080 - 34 C - * - * - * * ** - **

SOLENOID VALVE

CAVITY/SEAL

POSITION/FLOW PATH

CLOSED CENTER

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

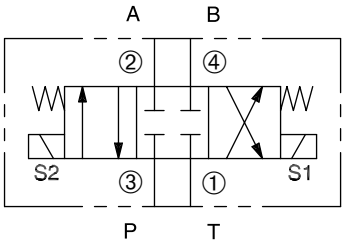
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

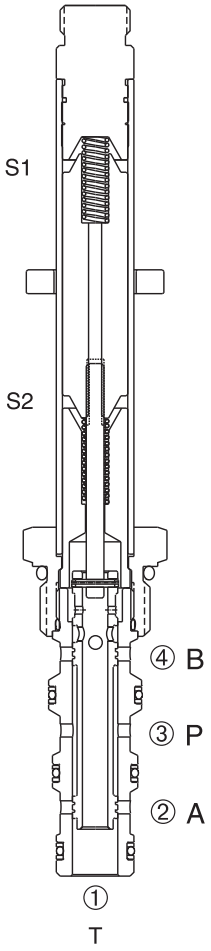
DSV-100-34C

Four-Way, Three-Position, Closed Center
Spool-Type Solenoid Valve

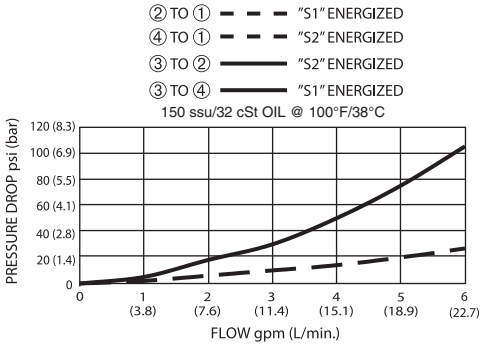
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed as a three position, four-way solenoid valve.

OPERATION

When de-energized, the valve prevents flow at all ports. When the upper solenoid (S1) is energized, the valve allows flow between ② and ① ports and the ③ and ④ ports. When the lower solenoid (S2) is energized, the valve allows flow between the ④ and ① ports and the ③ and ② ports.

Operation of Manual Override Option: To override, pull the knurled knob to activate the coil "S1" function, or push the knurled knob to activate the coil "S2" function. Release the knurled knob to return the center position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Industry common cavity.
- Compact size.

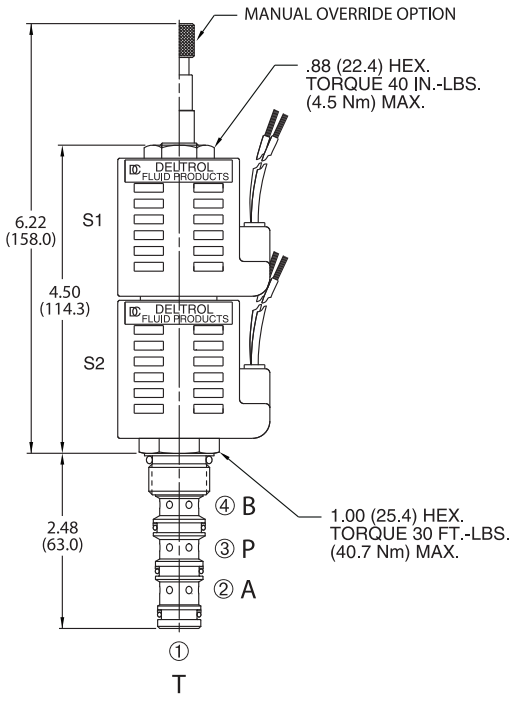
SPECIFICATIONS

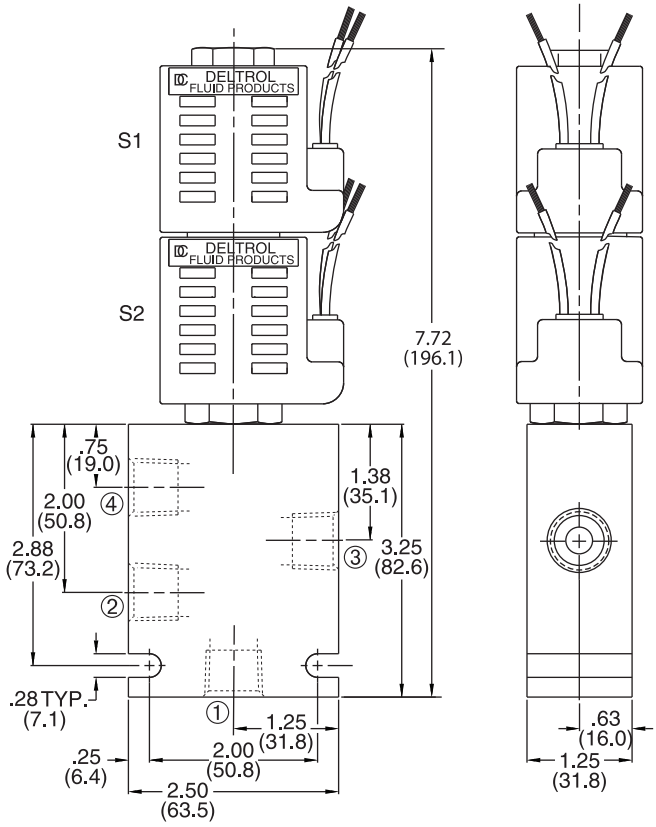
Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW CURVE.
Nominal flow 6 gpm (22.7 L/min.)
Internal Leakage: (Per land) 10 cu in./min. max. (164 cc/min.)
at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-4, see page 11.10.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar)

DSV-100-34C

Four-Way, Three-Position, Closed Center
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS





( ) Parentheses = Millimeters

HOW TO ORDER

**DSV - 100 - 34 C - * - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

POSITION/FLOW PATH

CLOSED CENTER

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only

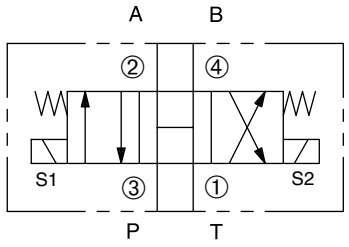
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

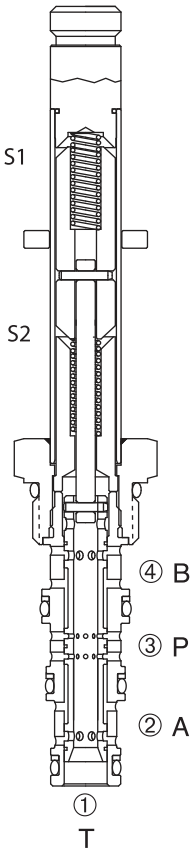
DSV-080-34O

Four-Way, Three-Position, Open Center
Spool-Type Solenoid Valve

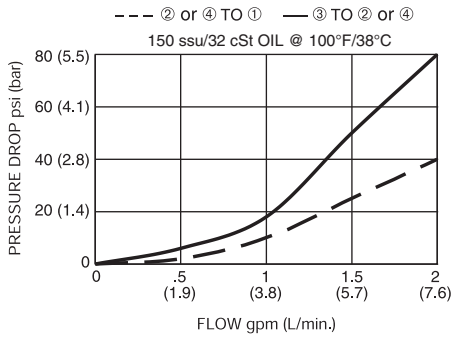
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed as a three position, four-way solenoid valve.

OPERATION

When de-energized, the valve allows flow at all ports. When the upper solenoid (S1) is energized, the valve allows flow between the ③ and ② ports and the ④ and ① ports. When the lower solenoid (S2) is energized, the valve allows flow between the ③ and ④ ports and the ② and ① ports.

Operation of Manual Override Option: To override, pull the knurled knob to activate the coil "S1" function, or push the knurled knob to activate the coil "S2" function. Release the knurled knob to return the center position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW CURVE.
Nominal flow 1.5 gpm (5.7 L/min.)
Internal Leakage: (Per land) 10 cu in./min. max. (164 cc/min.)
at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.3 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-4, see page 11.08.4
In-Line Body Material: Anodized 6061T6 aluminum
alloy rated at 3000 PSI (207 Bar)

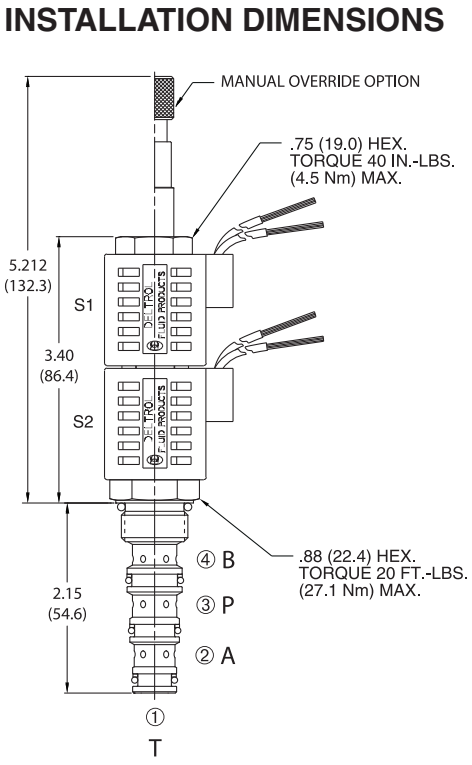
DELTROL fluid products
DIVISION OF DELTROL CORP

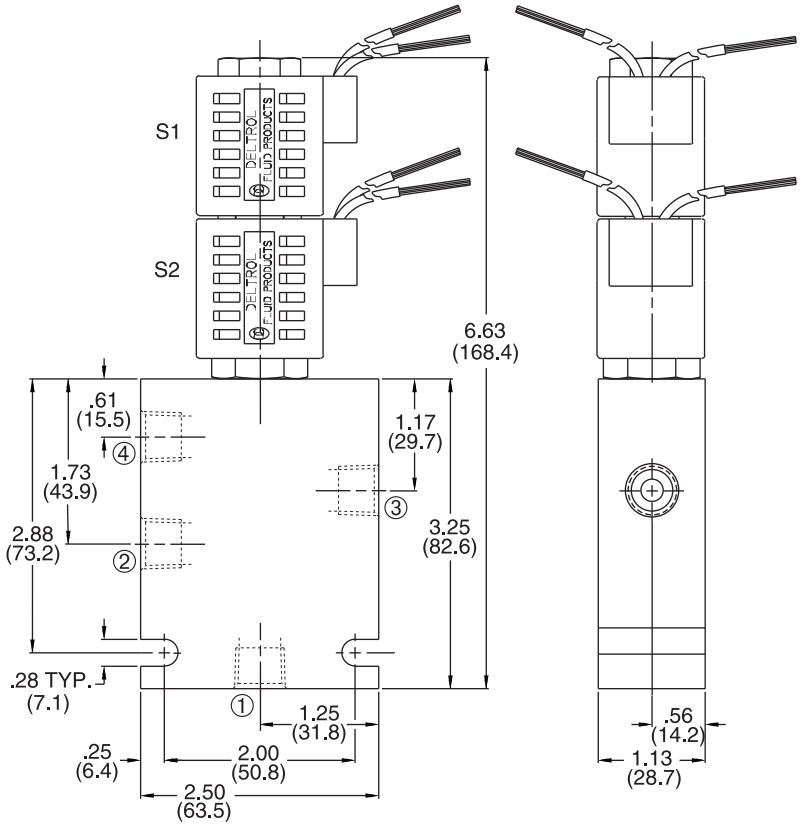
DSV-080-34O

Four-Way, Three-Position, Open Center
Spool-Type Solenoid Valve

SERIES 8

INSTALLATION DIMENSIONS





( ) Parentheses = Millimeters

HOW TO ORDER

**DSV - 080 - 34 O - * - * - * * ** - **

SOLENOID VALVE

CAVITY/SEAL

POSITION/FLOW PATH

OPEN CENTER

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
DE = Double Lead
SE = Single Lead
HS = Hirschmann®
CS = Conduit
BE = Double Spade
EE = Single Stud
UE = Deutsch

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

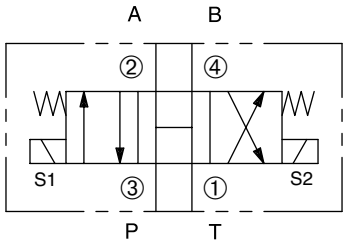
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

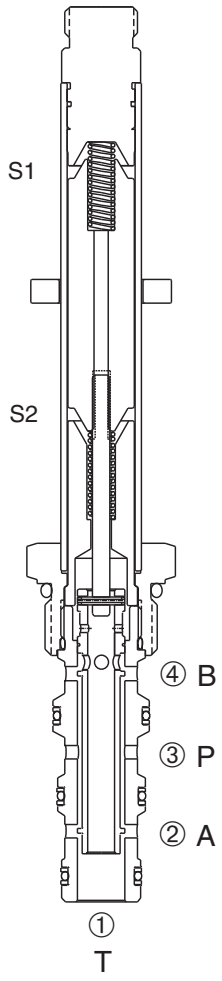
DSV-100-34O

Four-Way, Three-Position, Open Center
Spool-Type Solenoid Valve

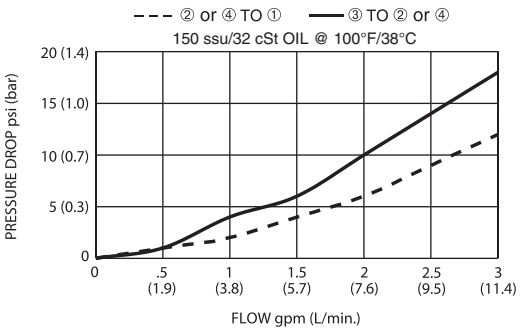
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed as a three position, four-way solenoid valve.

OPERATION

When de-energized, the valve allows flow at all ports. When the upper solenoid (S1) is energized, the valve allows flow between the ② and ① ports and the ③ and ④ ports. When the lower solenoid (S2) is energized, the valve allows flow between the ④ and ① ports and the ③ and ② ports.

Operation of Manual Override Option: To override, pull the knurled knob to activate the coil "S1" function, or push the knurled knob to activate the coil "S2" function. Release the knurled knob to return the center position.

FEATURES and BENEFITS

- Continuous-duty solenoid.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Industry common cavity.
- Compact size.

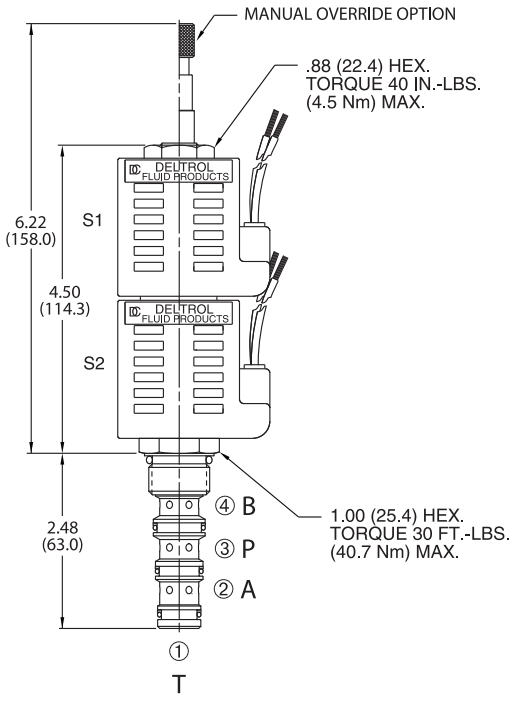
SPECIFICATIONS

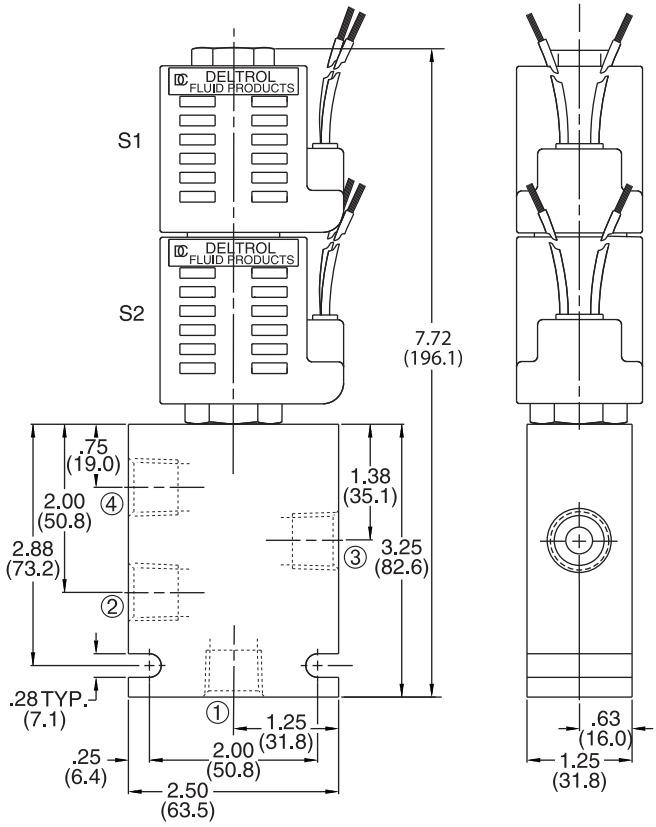
Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW CURVE.
Nominal flow 3 gpm (11.4L/min.)
Internal Leakage: (Per land) 10 cu in./min. max. (164 cc/min.) at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Current Draw: 12 VDC is 1.8 amps.
Minimum Pull-In Voltage: 85% of rated voltage at 3000 PSI (207 Bar)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-4, see page 11.10.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar)

DSV-100-34O

Four-Way, Three-Position, Open Center
Spool-Type Solenoid Valve

INSTALLATION DIMENSIONS





( ) Parentheses = Millimeters

HOW TO ORDER

**DSV - 100 - 34 O - * - * - * * * - **

SOLENOID VALVE

CAVITY/SEAL

POSITION/FLOW PATH

OPEN CENTER

SEALS
N = Buna N
V = Viton

M = Manual Override
(Omit for standard)

D = DC
A = AC

VOLTAGE
1 = 12 Volt
2 = 24 Volt
5 = 120 Volt
6 = 240 Volt
9 = 20 Volt
10 = 10 Volt

COIL CONNECTION
D = Double Lead
S = Single Lead
H = Hirschmann®
C = Conduit
B = Double Spade
E = Single Stud

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only

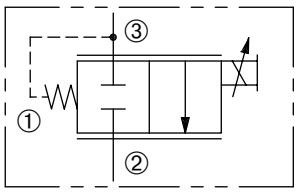
Omit coil for cartridge only with nut.
Other porting and coil options available – consult factory.

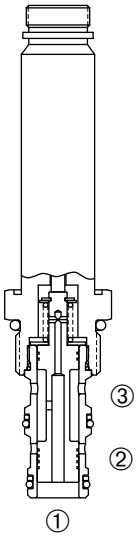
DPV-100-2NC

Normally-Closed,
Proportional, Flow Control Valve

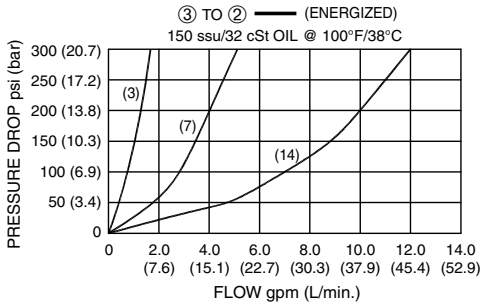
DELTROL fluid products
DIVISION OF DELTROL CORP

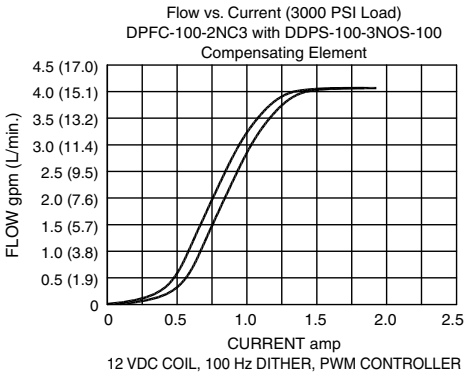
SERIES 10





PRESSURE DROP VS. FLOW





DESCRIPTION

A cartridge valve designed as a normally closed, spool-type, proportional valve for use with a compensating element to provide an electrically variable pressure-compensated flow control.

OPERATION

As electrical current is applied to the coil, the spool will gradually shift from closed to open as current increases to 2 amps maximum. Flow will pass from port ③ to port ② up to 300 psi differential.

Port ① is plugged.

The valve can also function as a differential control for load sense applications.

The valve functions with industry-common controllers which provide PWM current input to 2 amps @ 12 VDC.

OPERATION OF MANUAL OVERRIDE:
To override, push button in to activate.
To return to normal function, release button.

FEATURES and BENEFITS

- Valve controllers along with portable controller programming devices to vary PWM Duty Cycle, Ramp Time, Current Limit, Dither Frequency and Amplitude, can be provided by consulting the factory.
- Hardened precision spool and sleeve for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional coil voltages and terminations.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Coil Specifications:

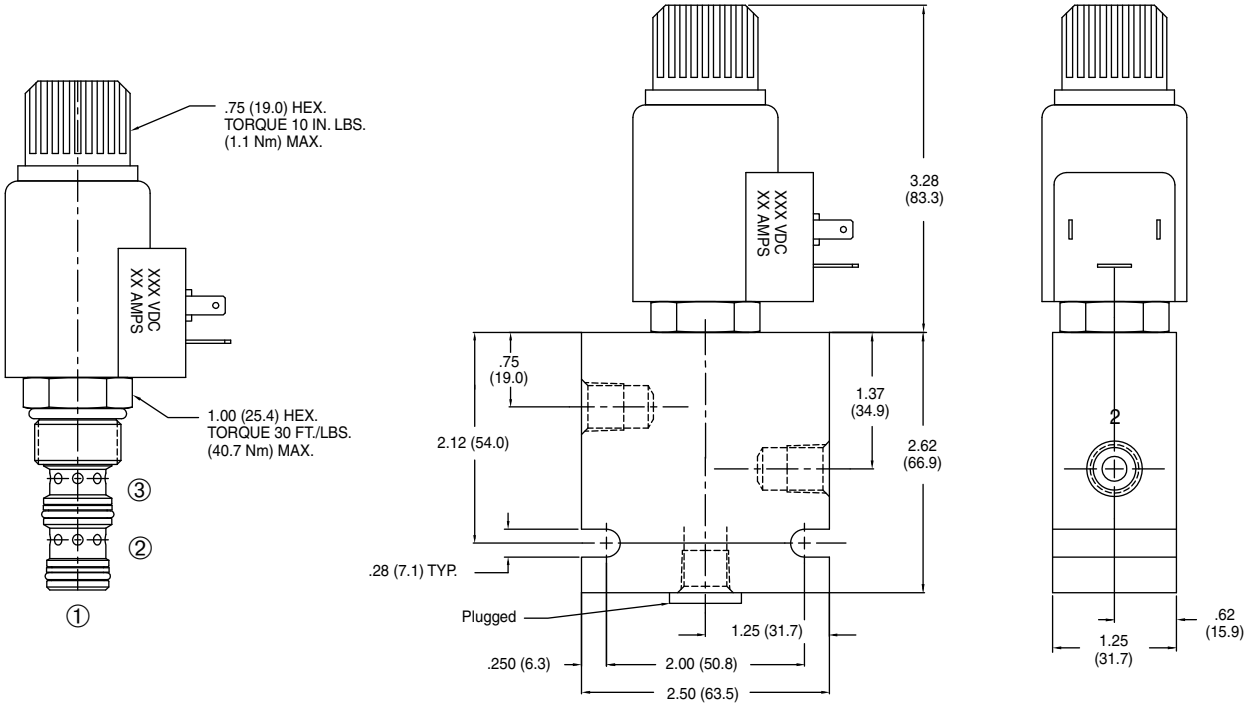
12 Volt System	24 Volt System
Resistance 4.0 ohms @ 20°C	Resistance 16.0 ohms @ 20°C
Threshold Current 300 ± 70mA	Threshold Current 150 ± 35mA
Max. Control Current 1500 ± 200mA	Max. Control Current 750 ± 100mA

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PERFORMANCE DROP VS. FLOW graph.
Internal Leakage: (per land) 10 in³/min. (164 cc/min) at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Coil Rating: Continuous from 85% to 110% of rated voltage.
Recommended Filtration: ISO 16/12
Fluids: Mineral-based fluids.
Cavity/Cavity Tool: 100-3, see page 11.10.3

DPV-100-2NC

Normally-Closed,
Proportional, Flow Control Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

**DPV - 100 - 2 NC * - * - * * * - **

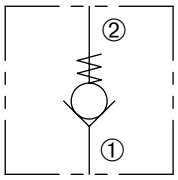
- PROPORTIONAL FLOW CONTROL VALVE
- CAVITY/SEAL
- FLOW PATH
- NORMALLY CLOSED
- FLOW RANGE GPM Max
  - 3 = 3 GPM (11.4 L/min)
  - 7 = 7 GPM (26.5 L/min)
  - 14 = 14 GPM (53.0 L/min)
- SEALS
  - N = Buna N
  - V = Viton
- D = DC
  A = AC
- VOLTAGE
  - 1 = 12 Volt
  - 2 = 24 Volt
- COIL CONNECTION
  - H = Hirschmann®
  - B = Double Spade
- BODY PORTING
  - 6T = SAE 6
  - 8T = SAE 8
  - Omit for cartridge only.

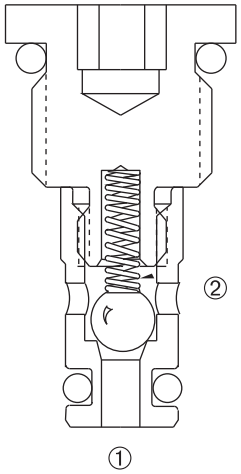
ZCO-42

Direct-Acting, Ball-Type
Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE





DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ① overcomes the spring-bias ball and allows free flow to ②. Flow in the opposite direction, from ② to ①, is blocked by the ball.

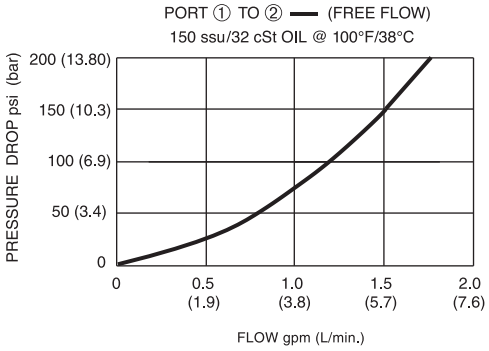
FEATURES and BENEFITS

- Chrome alloy ball for long life.
- Low leak.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3500 PSI (241 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 2 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 5 PSI (0.3 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: ZP42, see page 11.04.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

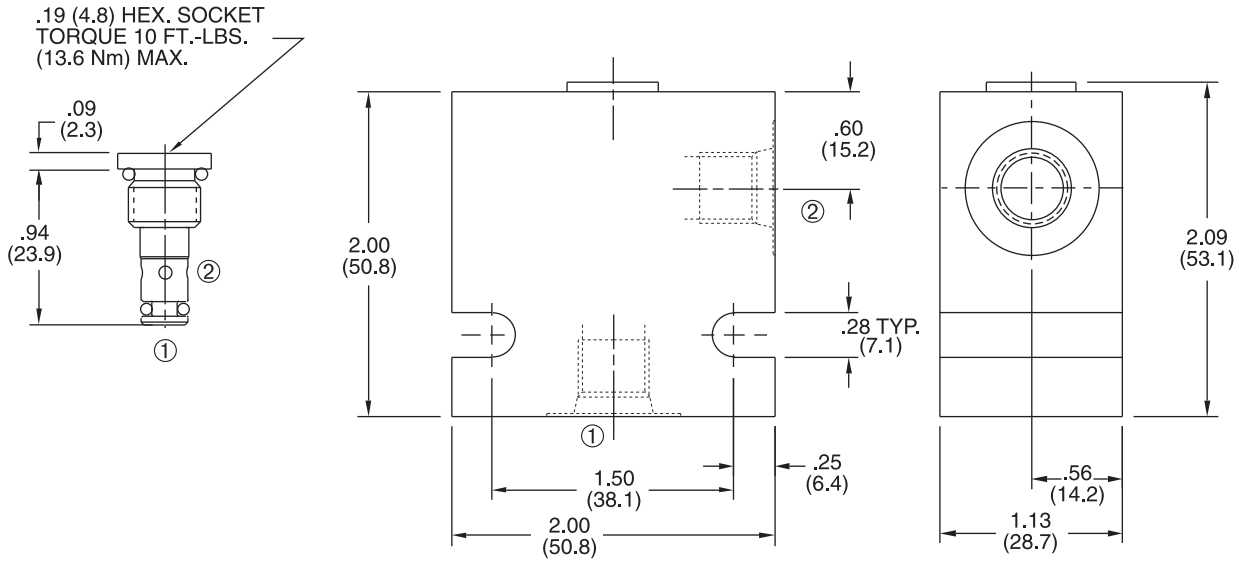
PRESSURE DROP VS. FLOW



ZCO-42

Direct-Acting, Ball-Type
Check Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZCO - 42 - U - **

CHECK VALVE

CAVITY

SEALS
U = Urethane

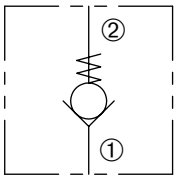
PORTING
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

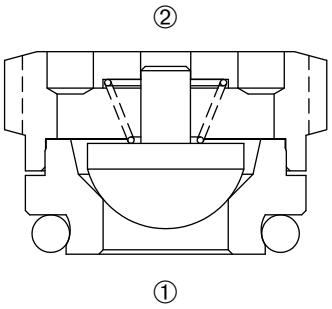
ZCP6

Direct-Acting, Poppet-Type
Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE





DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ① overcomes the spring-bias poppet and allows free flow to ②. Flow in the opposite direction, from ② to ①, is blocked by the poppet.

FEATURES and BENEFITS

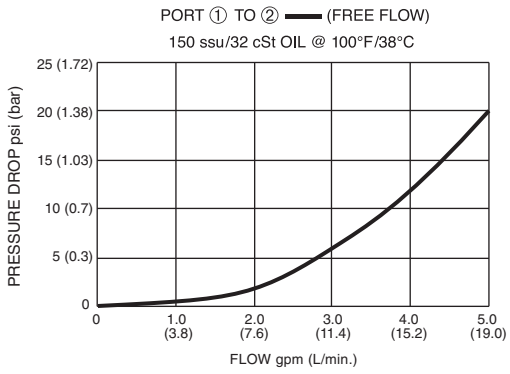
- Hardened poppet and seat for long life.
- Low leak.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3500 PSI (241 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 5 gpm (18.9 L/min).
Internal Leakage: 2 drops/min. max. at 3000 PSI (207 Bar)

Crack Pressure: 5 PSI (0.5 Bar)
10 PSI (0.7 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity: ZCP6, see page 2.03.2
Installation/Removal Tool: Consult factory

PRESSURE DROP VS. FLOW

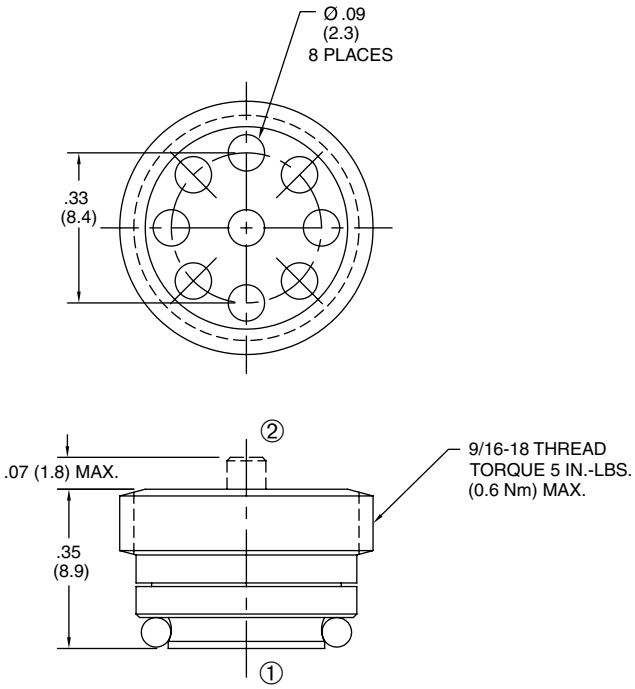


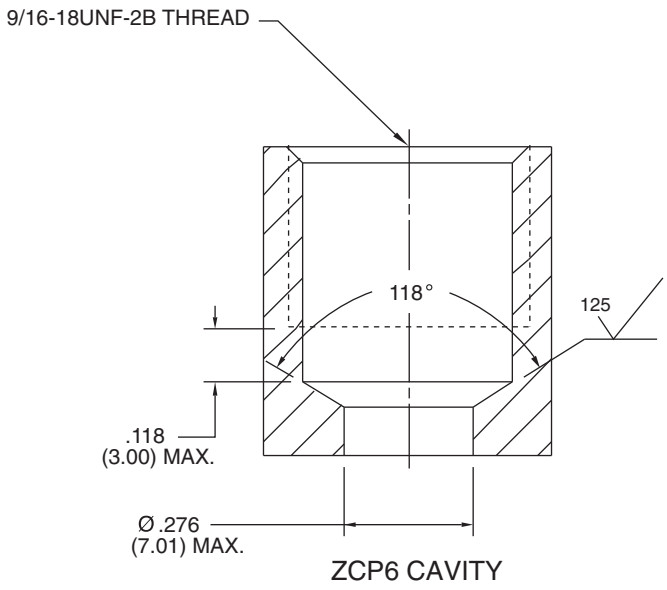
ZCP6

Direct-Acting, Poppet-Type
Check Valve

ZERO PROFILE

INSTALLATION DIMENSIONS





ZCP6 CAVITY

( ) Parentheses = Millimeters

HOW TO ORDER

ZCP6 - * - **

CHECK VALVE/CAVITY

SEALS
N = Buna
V = Viton

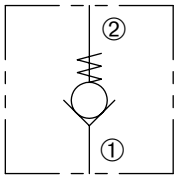
CRACK PRESSURE
5 = 5 PSI (0.3 Bar)
10 = 10 PSI (0.7 Bar)

ZC-62

Direct-Acting, Ball-Type
Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE

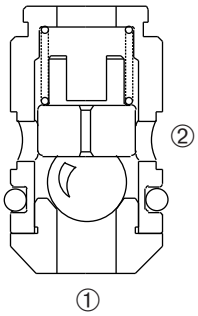


DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ① overcomes the spring-bias ball and allows free flow to ②. Flow in the opposite direction, from ② to ①, is blocked by the ball.



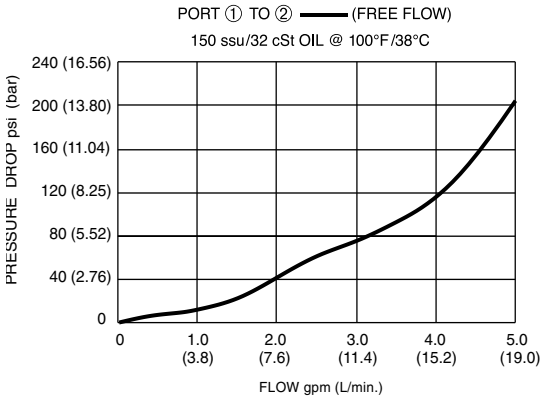
FEATURES and BENEFITS

- Slip in style.
- Torlon® ball for positive shut-off.
- Low leak.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 4 GPM (15.1 L/min).
Internal Leakage: 2 drops/min. max. at 3000PSI (207 Bar)
Crack Pressure: 5 PSI (0.3 Bar)
30 PSI (2.1 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: ZP62, see page 11.06.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW

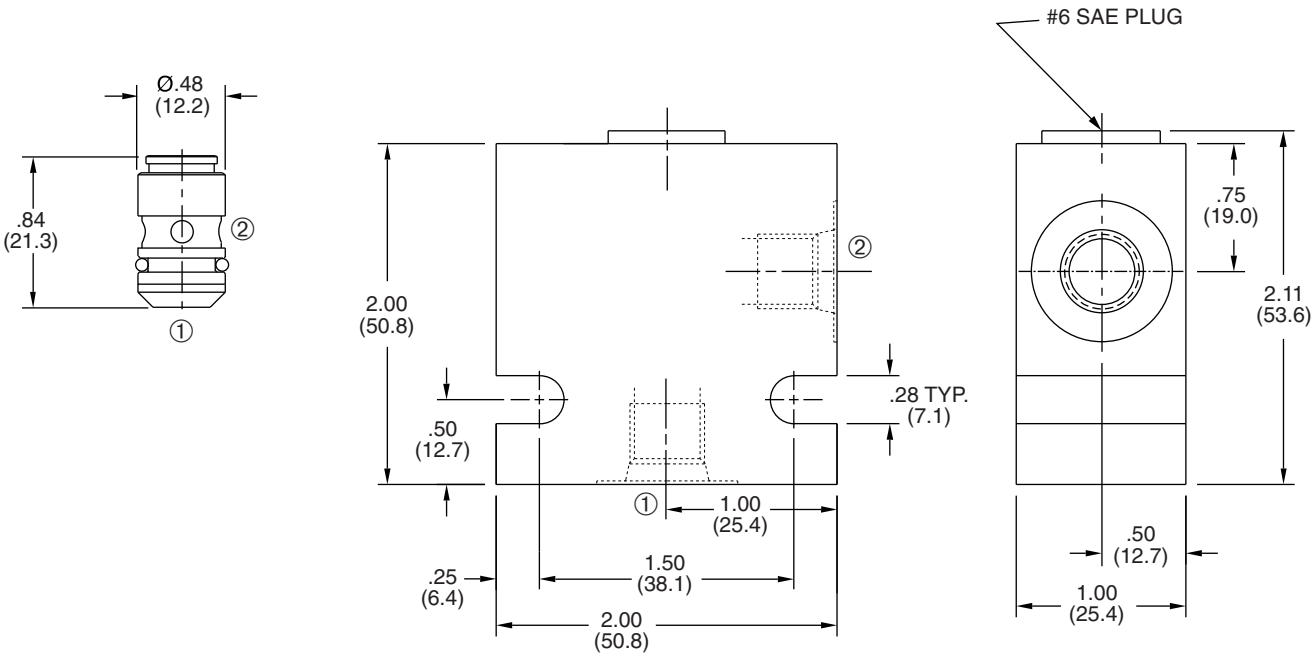


ZC-62

Direct-Acting, Ball-Type
Check Valve

ZERO PROFILE

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZC - 62 - U - ** - **

CHECK VALVE

CAVITY

SEALS
U = Urethane

CRACK PRESSURE
5 = 5 PSI (0.3 Bar)
30 = 30 PSI (2.1 Bar)
(Other Options Available – Consult Factory)

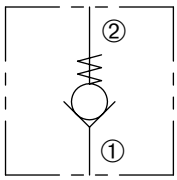
PORTING
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

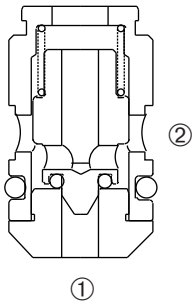
ZCO-62

Zero Leak, Direct-Acting,
Poppet-Type Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE





DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ① overcomes the spring-bias poppet and allows free flow to ②. Flow in the opposite direction, from ② to ①, is blocked by the poppet.

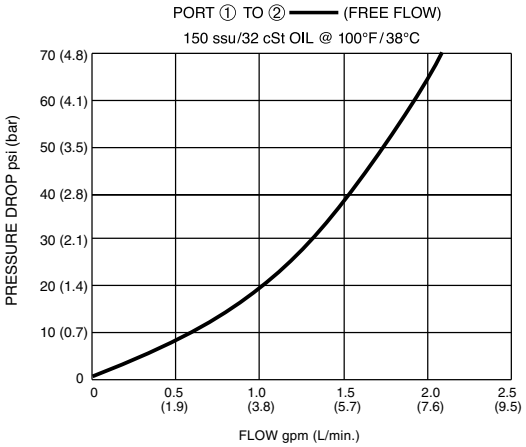
FEATURES and BENEFITS

- Slip in style.
- Zero leak.
- Compact size.

SPECIFICATIONS

Operating Pressure: 1500 PSI (103 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 2 GPM (7.6 L/min).
Internal Leakage: 0 drops/min. max. at 1500PSI (103 Bar)
Crack Pressure: 1 - 2 PSI (0.67-0.14 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: ZP62, see page 11.06.2
Installation/Removal Tool: Consult factory
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW

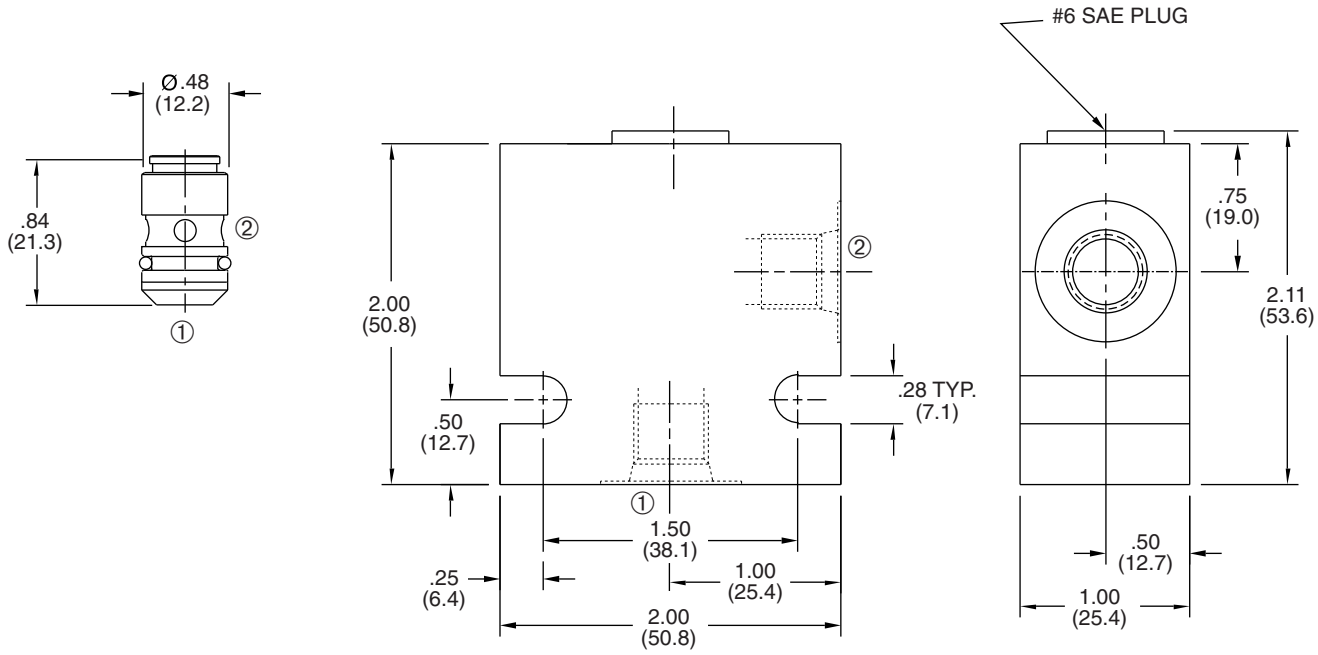


ZCO-62

Zero Leak, Direct-Acting,
Poppet-Type Check Valve

ZERO PROFILE

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZCO - 62 - U - ** - **

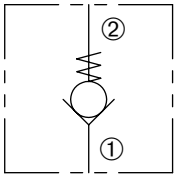
- ZCO — CHECK VALVE
- 62 — CAVITY
- U — SEALS
  U = Urethane
- ** — CRACK PRESSURE
  1 = 1 - 2 PSI (0.67 - 0.14 Bar)
- ** — PORTING
  4T = SAE 4
  6T = SAE 6
  Omit for Cartridge Only.

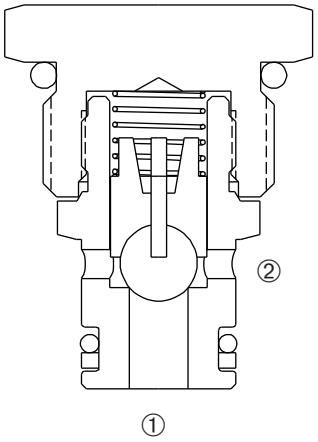
DCV-080-B

Direct-Acting, Ball-Type
Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ① overcomes the spring-bias ball and allows free flow to ②. Flow in the opposite direction, from ② to ①, is blocked by the ball.

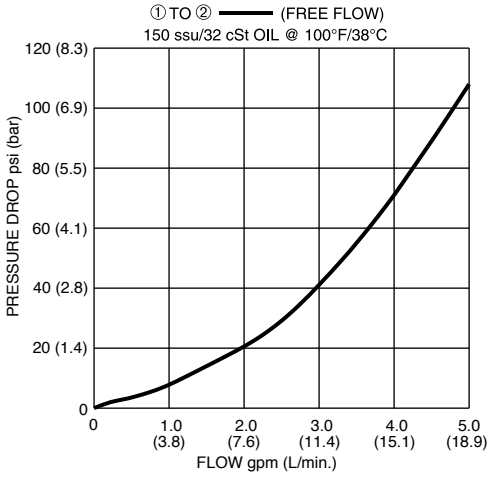
FEATURES and BENEFITS

- Guide ball assembly.
- Chrome alloy ball for long life.
- Low leak.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 2 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 2 PSI (0.1 Bar)
5 PSI (0.3 Bar)
10 PSI (1.0 Bar)
25 PSI (1.7 Bar)
Temperature: -30°F to +220°F (-35°C to +104°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

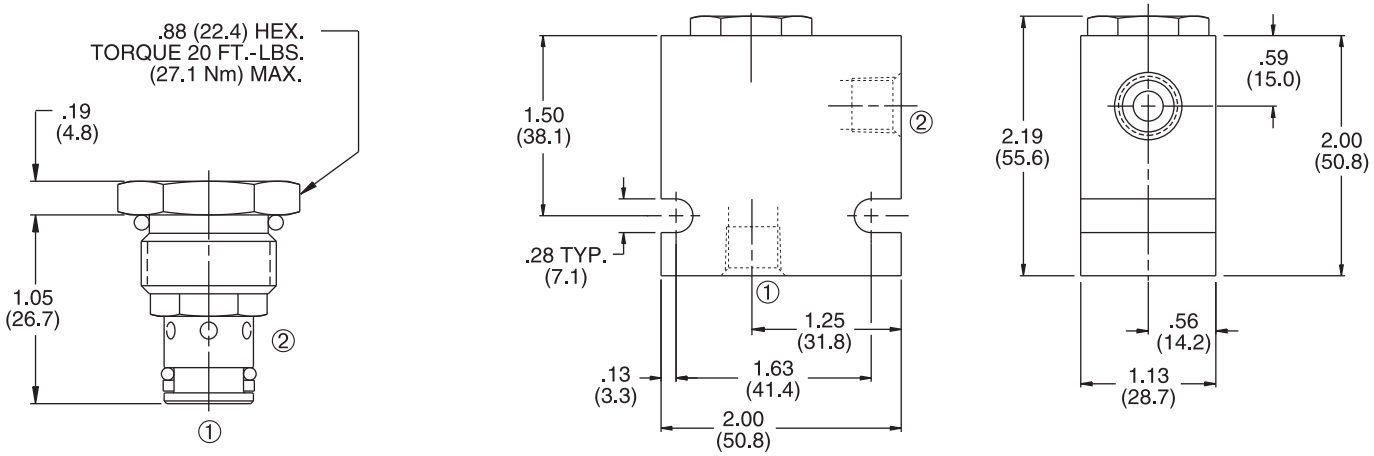
PRESSURE DROP VS. FLOW



DCV-080-B

Direct-Acting, Ball-Type
Check Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DCV - 080 - B - * - ** - **

CHECK VALVE

CAVITY/SEAL

B = Ball

SEAL
N = Buna N
V = Viton

CRACK PRESSURE
2 = 2 PSI (0.1 Bar)
5 = 5 PSI (0.3 Bar)
10 = 10 PSI (1.0 Bar)
25 = 25 PSI (1.7 Bar)

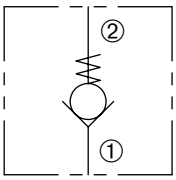
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting options available – consult factory.)

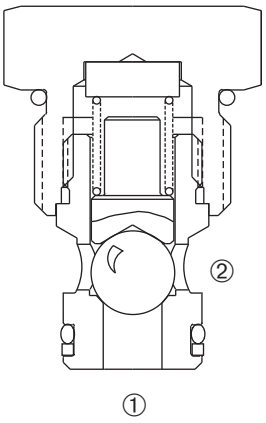
DCV-100-B

Direct-Acting, Ball-Type
Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ① overcomes the spring-bias ball and allows free flow to ②. Flow in the opposite direction, from ② to ①, is blocked by the ball.

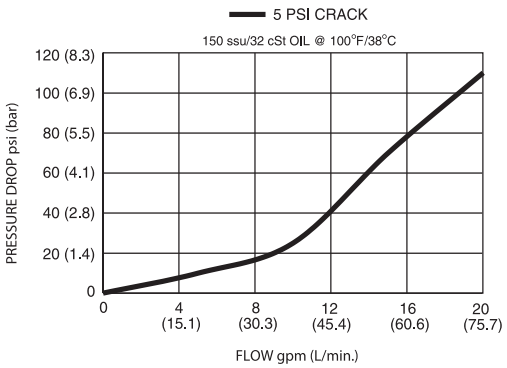
FEATURES and BENEFITS

- Chrome alloy ball for long life.
- Low leak.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 20 GPM (75.7 L/min).
Internal Leakage: 2 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 5 PSI (0.3 Bar)
15 PSI (1.0 Bar)
30 PSI (2.1 Bar)
65 PSI (4.5 Bar)
100 PSI (6.9 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

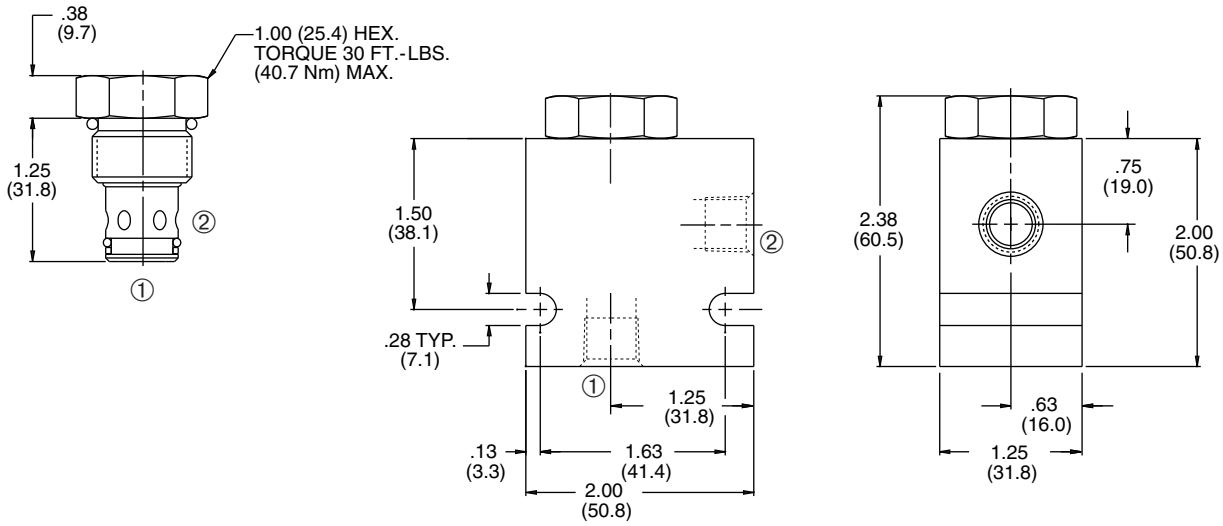
PRESSURE DROP VS. FLOW



DCV-100-B

Direct-Acting, Ball-Type
Check Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DCV - 100 - B - * - * - ****

CHECK VALVE

CAVITY/SEAL

BALL

SEAL
N = Buna N
V = Viton

CRACK PRESSURE
5 = 5 PSI (0.3 Bar)
15 = 15 PSI (1.0 Bar)
30 = 30 PSI (2.1 Bar)
65 = 65 PSI (4.5 Bar)
100 = 100 PSI (6.9 Bar)

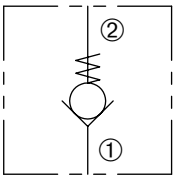
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

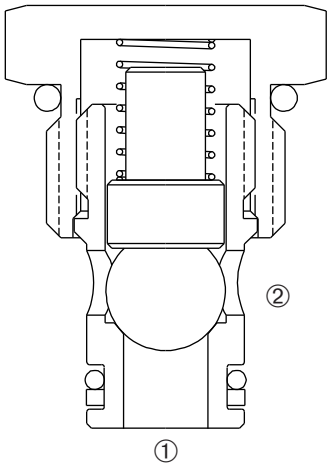
DCV-080-PB

Direct-Acting, Ball-Type
Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ① overcomes the spring-bias ball and allows free flow to ②. Flow in the opposite direction, from ② to ①, is blocked by the ball.

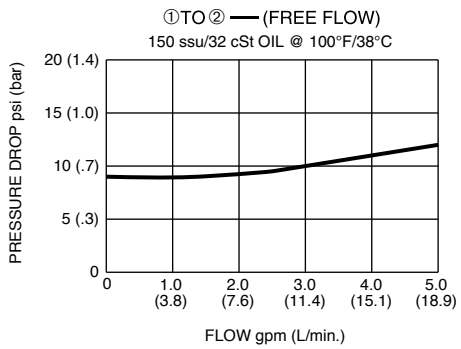
FEATURES and BENEFITS

- Guide ball assembly
- Torlon® ball for positive shut-off.
- Low leak.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 5 GPM (18.9 L/min).
Internal Leakage: Less than 2 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 5 PSI (0.3 Bar)
10 PSI (0.7 Bar)
30 PSI (2.1 Bar)
60 PSI (4.1 Bar)
100 PSI (6.9 Bar)
Temperature: -30°F to +220°F (-35°C to +104°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

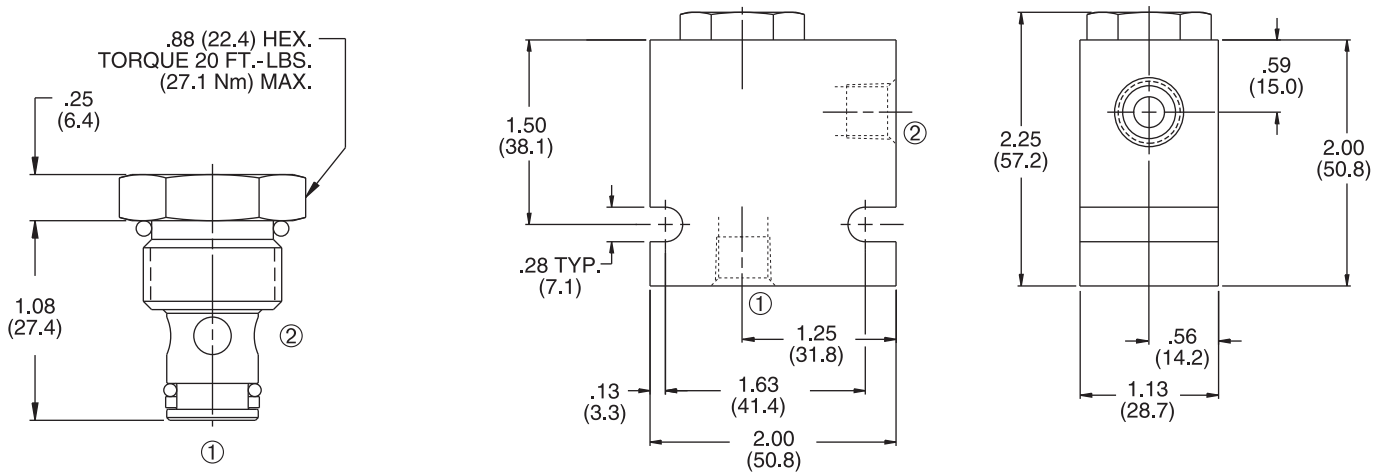
PRESSURE DROP VS. FLOW



DCV-080-PB

Direct-Acting, Ball-Type
Check Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DCV - 080 - PB - * - * - ****

CHECK VALVE

CAVITY/SEAL

BALL

SEAL
N = Buna N
V = Viton

CRACK PRESSURE
5 = 5 PSI (0.3 Bar)
10 = 10 PSI (1.0 Bar)
30 = 30 PSI (2.1 Bar)
60 = 60 PSI (4.5 Bar)
100 = 100 PSI (6.9 Bar)

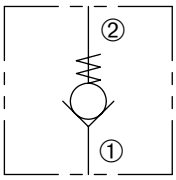
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

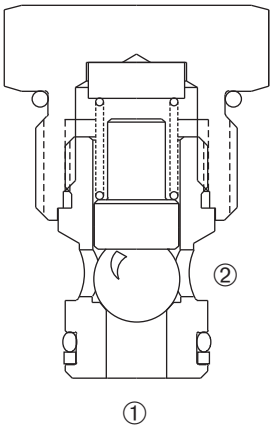
DCV-100-PB

Direct-Acting, Ball-Type
Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ① overcomes the spring-bias ball and allows free flow to ②. Flow in the opposite direction, from ② to ①, is blocked by the ball.

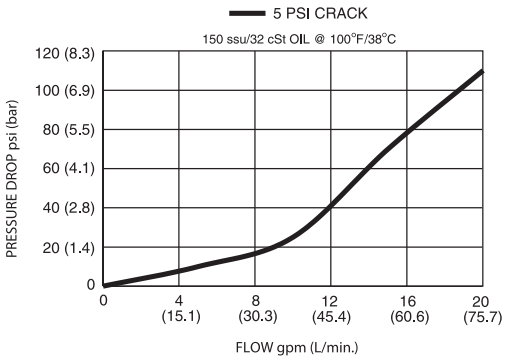
FEATURES and BENEFITS

- Guide ball assembly
- Torlon® ball for positive shut-off.
- Low leak.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal flow 20 GPM (75.7 L/min).
Internal Leakage: Less than 2 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 5 PSI (0.3 Bar)
10 PSI (0.7 Bar)
30 PSI (2.1 Bar)
60 PSI (4.1 Bar)
100 PSI (6.9 Bar)
Temperature: -30°F to +220°F (-35°C to +104°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

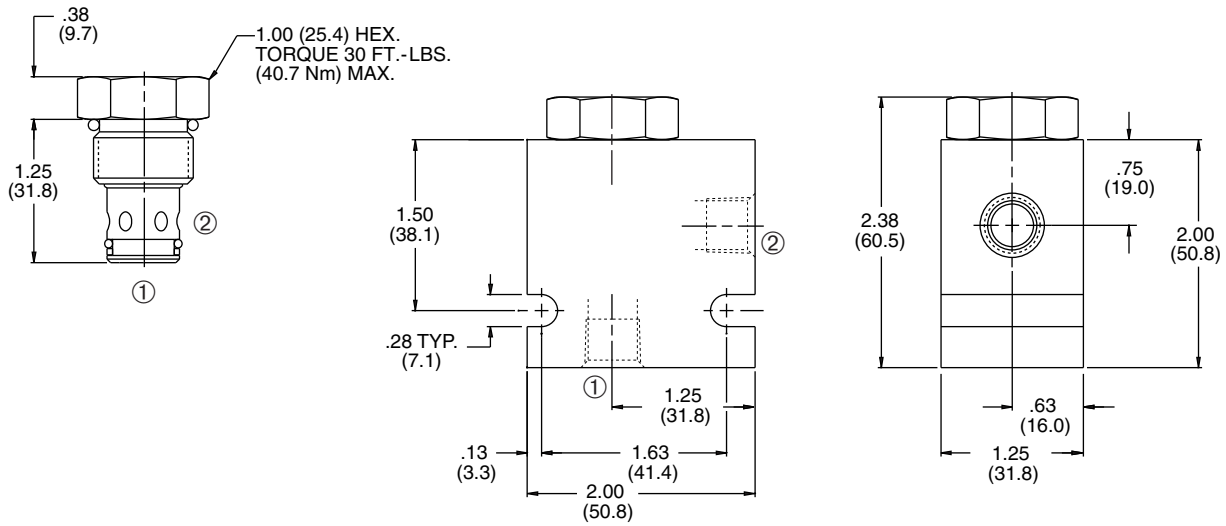
PRESSURE DROP VS. FLOW



DCV-100-PB

Direct-Acting, Ball-Type
Check Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DCV - 100 - PB - * - * - ****

CHECK VALVE

CAVITY/SEAL

BALL

SEALS
N = Buna N
V = Viton

CRACK PRESSURE
5 = 5 PSI (0.3 Bar)
10 = 10 PSI (0.7 Bar)
30 = 30 PSI (2.1 Bar)
60 = 60 PSI (4.1 Bar)
100 = 100 PSI (6.9 Bar)

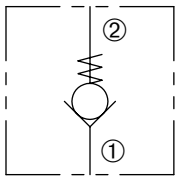
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

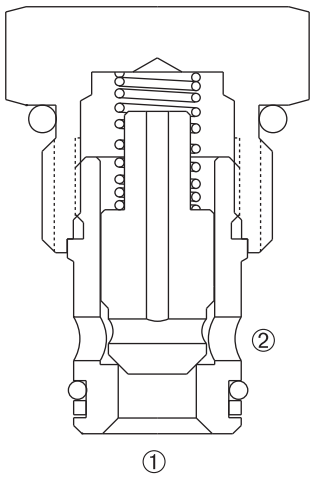
DCV-100-P

Direct-Acting, Poppet-Type
Cartridge Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ① overcomes the spring-bias poppet and allows free flow to ②. Flow in the opposite direction, from ② to ①, is blocked by the poppet.

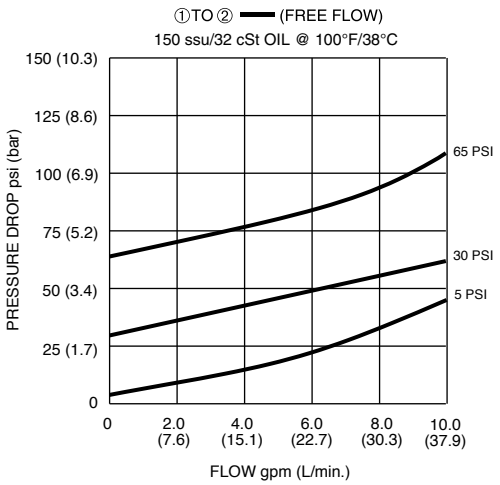
FEATURES and BENEFITS

- Hardened poppet and seat for long life.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 5 PSI (0.3 Bar)
15 PSI (1.0 Bar)
30 PSI (2.1 Bar)
65 PSI (4.5 Bar)
100 PSI (6.9 Bar)
300 PSI (20.7 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

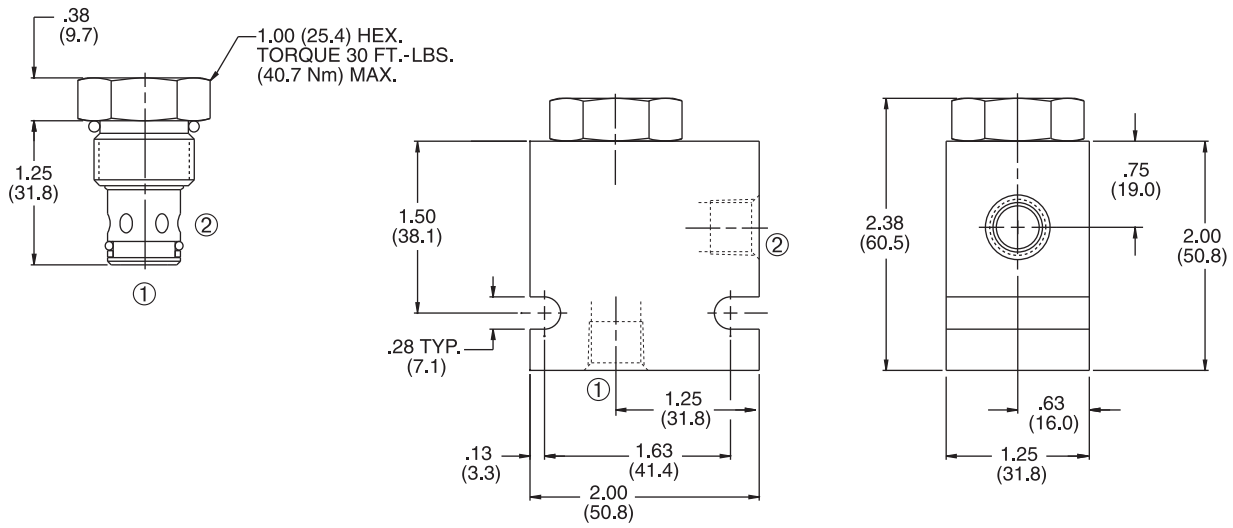
PRESSURE DROP VS. FLOW



DCV-100-P

Direct-Acting, Poppet-Type
Cartridge Check Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DCV - 100 - P - * - * - ****

CHECK VALVE

CAVITY/SEAL

POPPET

SEAL
N = Buna N
V = Viton

CRACK PRESSURE
5 = 5 PSI (0.3 Bar)
15 = 15 PSI (1.0 Bar)
30 = 30 PSI (2.1 Bar)
65 = 65 PSI (4.5 Bar)
100 = 100 PSI (6.9 Bar)
300 = 300 PSI (20-7 Bar)

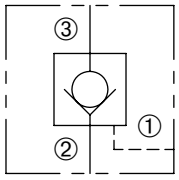
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

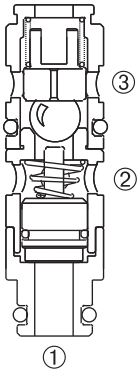
ZPC-63

Pilot To Open, Ball-Type
Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE





DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. Reverse flow can be achieved by reaching the required pilot pressure. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ② overcomes the spring-bias ball and allows free flow to ③. Flow in the opposite direction, from ③ to ②, is blocked by the ball. When the required pilot pressure is achieved at ①, the ball unseats and allows flow between ③ and ②. The pilot piston area to poppet seat area ratio is 3 to 1.

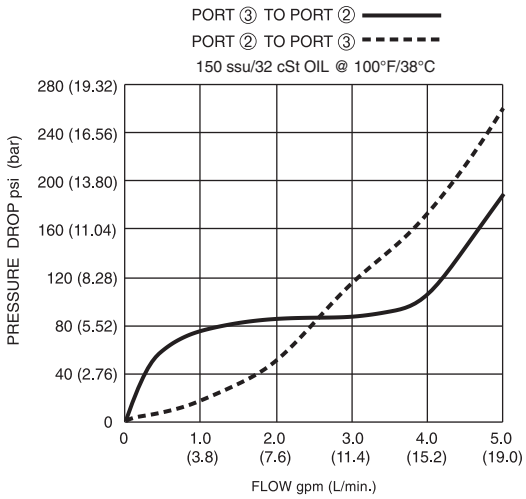
FEATURES and BENEFITS

- Slip in style.
- Torlon® ball for positive shut-off.
- Low leak.
- Compact size.
- Sealed pilot piston.

SPECIFICATIONS

Operating Pressure: 1500 PSI (103 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 3 GPM (11.4 L/min).
Internal Leakage: 2 drops/min. max. at 1500 PSI (103 Bar)
Crack Pressure: 30 PSI (2.1 Bar)
Pilot Ratio: 3 to 1
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: ZP63, see page 11.06.3
Installation/Removal Tool: Consult factory
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW

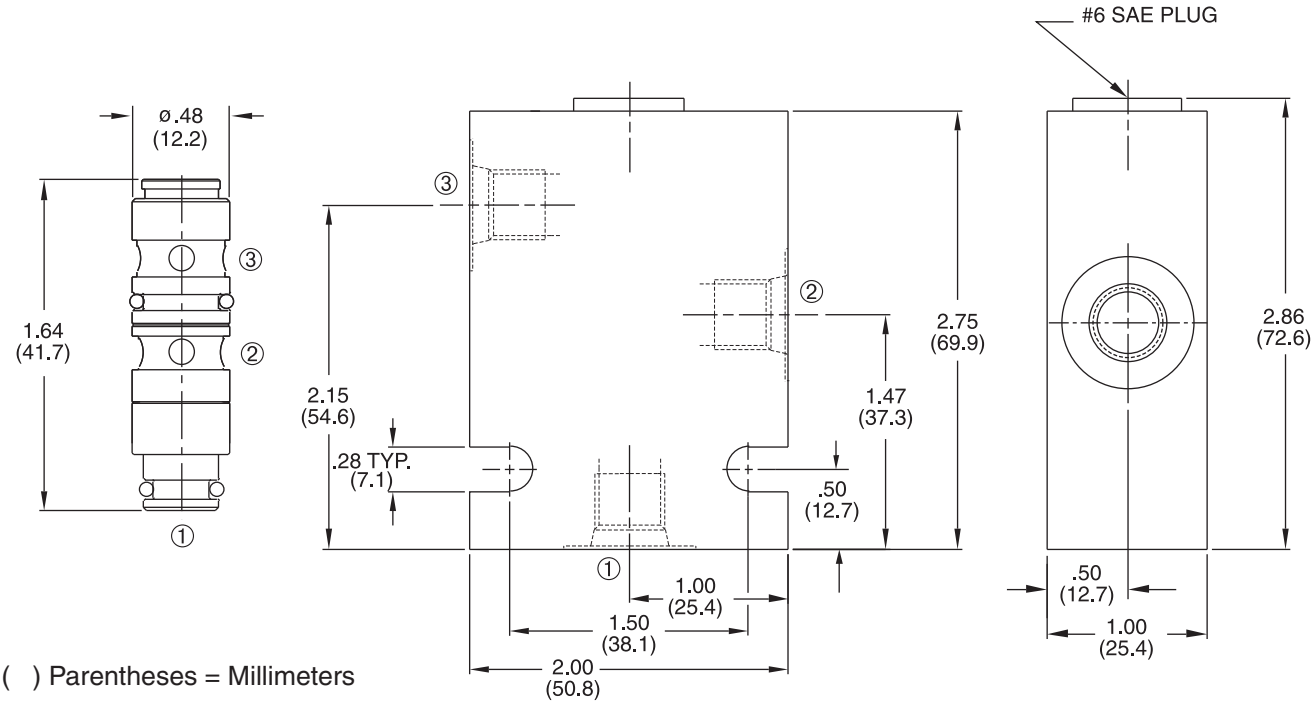


ZPC-63

Pilot To Open, Ball-Type
Check Valve

ZERO PROFILE

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZPC - 63 - U - ** - **

PILOT-OPERATED
CHECK VALVE

CAVITY

SEALS
U = Urethane

CRACK PRESSURE
30 = 30 PSI (2.1 Bar)

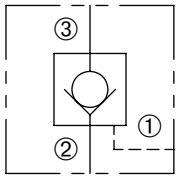
PORTING
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

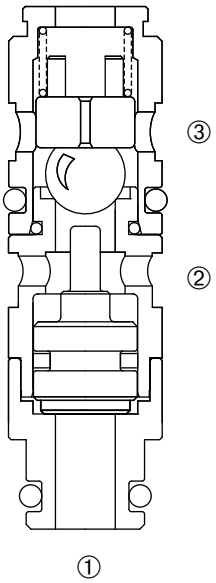
ZPC2-63

Pilot To Open, Ball-Type
Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE





DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. Reverse flow can be achieved by reaching the required pilot pressure. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ② overcomes the spring-bias ball and allows free flow to ③. Flow in the opposite direction, from ③ to ②, is blocked by the ball. When the required pilot pressure is achieved at ①, the ball unseats and allows flow between ③ and ②. The pilot piston area to poppet seat area ratio is 3 to 1.

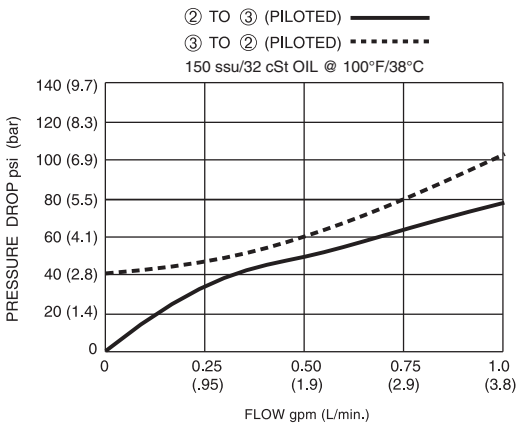
FEATURES and BENEFITS

- Slip in style
- Compact size.

SPECIFICATIONS

Operating Pressure: 4000 PSI (276 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 3 GPM (11.4 L/min).
Internal Leakage: 5 drops/min. max.
Crack Pressure: 30 PSI (2.1 Bar)
Pilot Ratio: 3 to 1
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: ZP63, see page 11.06.3
Installation/Removal Tool: Consult factory
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW

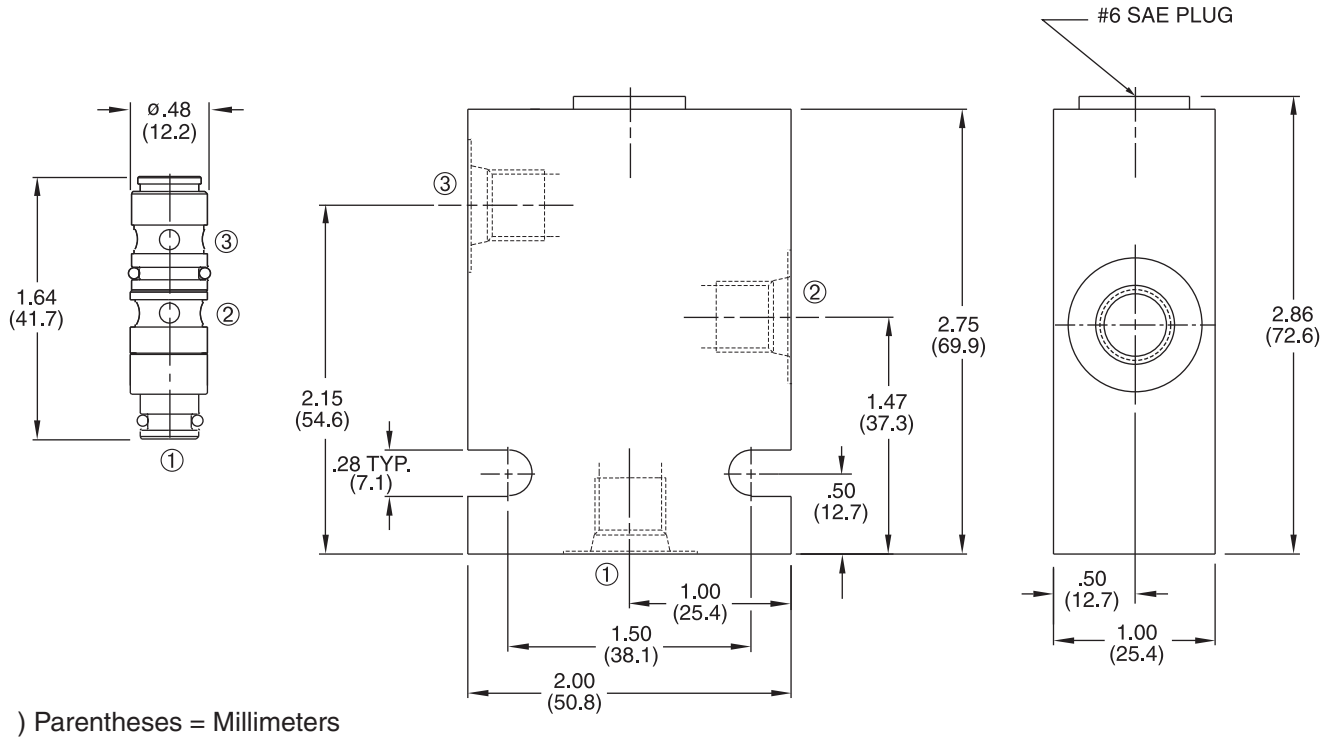


ZPC2-63

Pilot To Open, Ball-Type
Check Valve

ZERO PROFILE

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZPC2 - 63 - U - ** - **

PILOT-OPERATED
CHECK VALVE

CAVITY

SEALS
U = Urethane

CRACK PRESSURE
30 = 30 PSI (2.1 Bar)

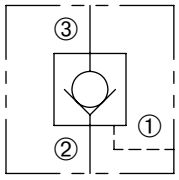
PORTING
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

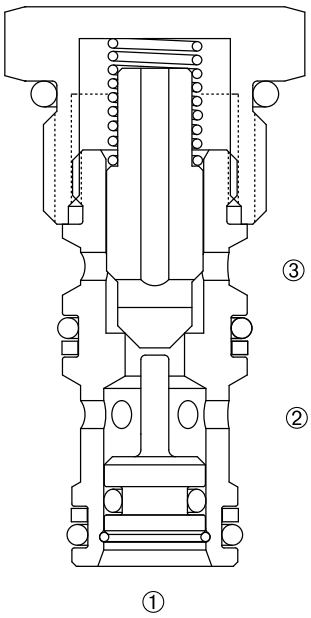
DPC-080-P

Pilot To Open, Poppet-Type
Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed to allow free flow in one direction while preventing flow in the opposite direction. Reverse flow can be achieved by reaching the required pilot pressure. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ② overcomes the spring-bias poppet and allows free flow to ③. Flow in the opposite direction, from ③ to ②, is blocked by the poppet. When the required pilot pressure is achieved at ①, the poppet unseats and allows flow between ③ and ②. The pilot piston area to poppet seat area ratio is 3.0 to 1.

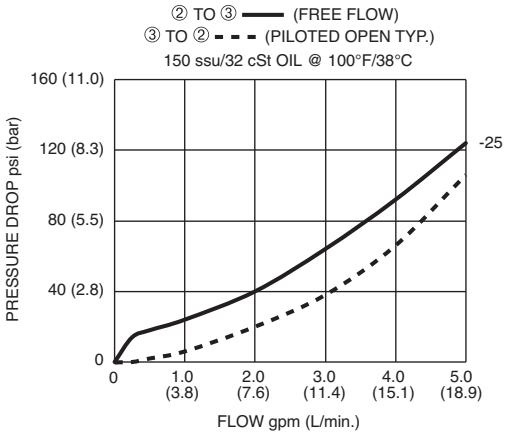
FEATURES and BENEFITS

- Hardened poppet and seat for long life.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal flow 5 gpm (18.9 L/min.)
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 25 PSI (1.7 Bar)
50 PSI (3.4 Bar)
100 PSI (6.9 Bar)
Pilot Ratio: 3.0 to 1
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-3, see page 11.08.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

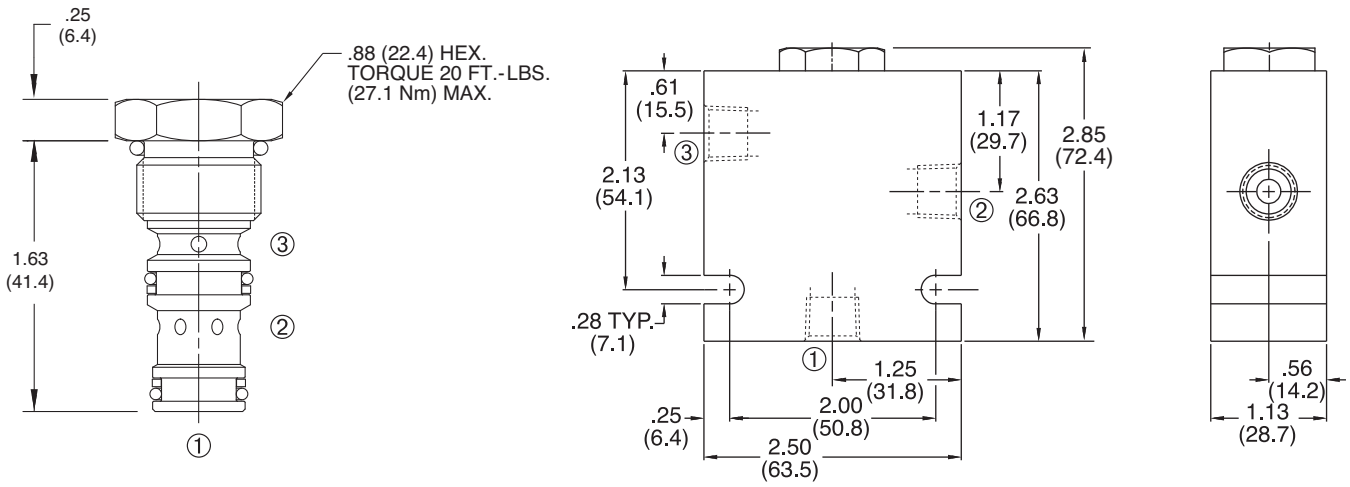
PRESSURE DROP VS. FLOW



DPC-080-P

Pilot To Open, Poppet-Type
Check Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPC - 080 - P - * - * - ****

PILOT-OPERATED
CHECK VALVE

CAVITY/SEAL

P = Poppet

SEALS
N = Buna N
V = Viton

CRACK PRESSURE
25 = 25 PSI (1.7 Bar)
50 = 50 PSI (3.4 Bar)
100 = 100 PSI (6.9 Bar)

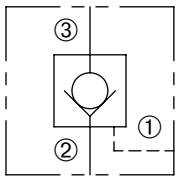
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting options available – consult factory.)

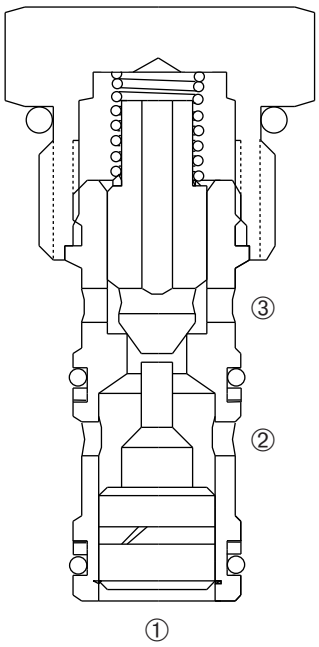
DPC-100-P

Pilot To Open, Poppet-Type Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed to allow free flow in one direction while preventing flow in the opposite direction. Reverse flow can be achieved by reaching the required pilot pressure. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ② overcomes the spring-bias poppet and allows free flow to ③. Flow in the opposite direction, from ③ to ②, is blocked by the poppet. When the required pilot pressure is achieved at ①, the poppet unseats and allows flow between ③ and ②. The pilot piston area to poppet seat area ratio is 3.5 to 1.

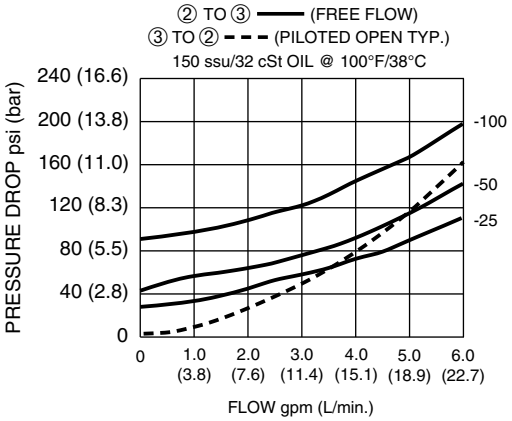
FEATURES and BENEFITS

- Hardened poppet and seat for long life.
- Industry common cavity.
- Compact size.

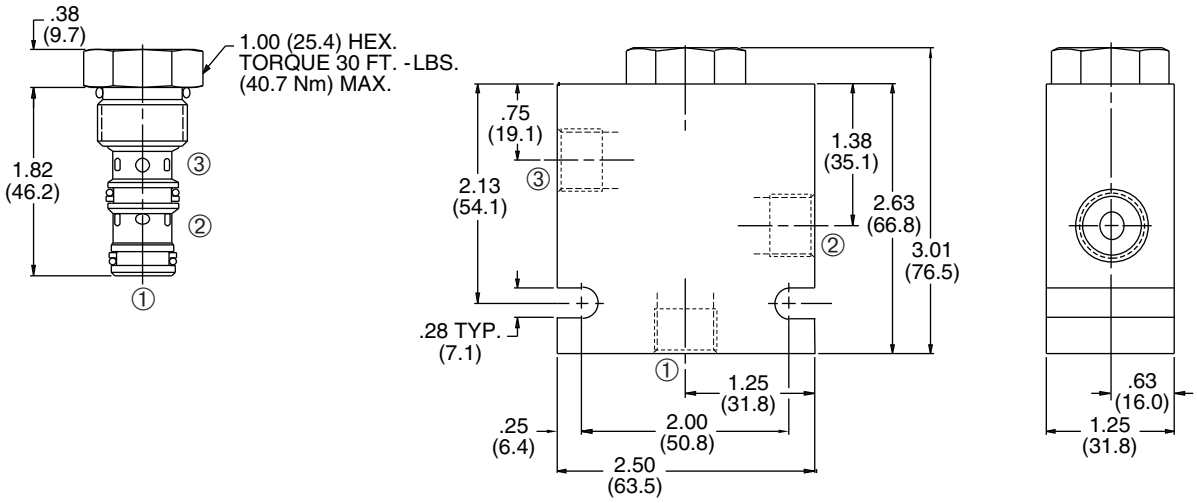
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 25 PSI (1.7 Bar)
50 PSI (3.4 Bar)
100 PSI (6.9 Bar)
Pilot Ratio: 3.5 to 1
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPC - 100 - P - * - * - ****

PILOT-OPERATED CHECK VALVE

CAVITY/SEAL

P = Poppet

SEALS
N = Buna N
V = Viton

CRACK PRESSURE
25 = 25 PSI (1.7 Bar)
50 = 50 PSI (3.4 Bar)
100 = 100 PSI (6.9 Bar)

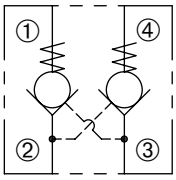
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

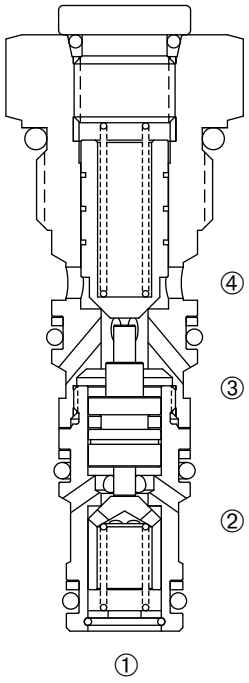
DDPC-080-P

Dual Pilot To Open, Poppet-Type Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed to allow free flow in one direction while preventing flow in the opposite direction. Reverse flow can be achieved by reaching the required pilot pressure. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ② or ③ overcomes the spring-bias poppet and allows free flow to ① or ④ respectively. Flow in the opposite direction, from ① to ② or ④ to ③, is blocked by the poppet. When the required pilot pressure is achieved at ②, the poppet unseats and allows flow between ④ and ③. When the required pilot pressure is achieved at ③, the poppet unseats and allows flow between ① and ②. The pilot piston area to poppet seat area ratio is 2.4 to 1.

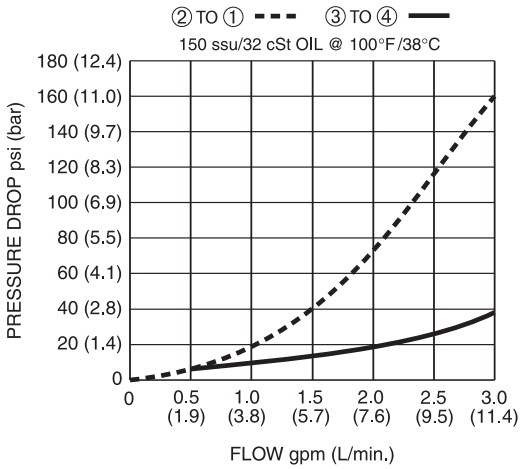
FEATURES and BENEFITS

- Hardened poppet and seat for long life.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal flow 2 gpm (7.6 L/min.)
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 25 PSI (1.7 Bar)
Pilot Ratio: 2.4 to 1
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-4, see page 11.08.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

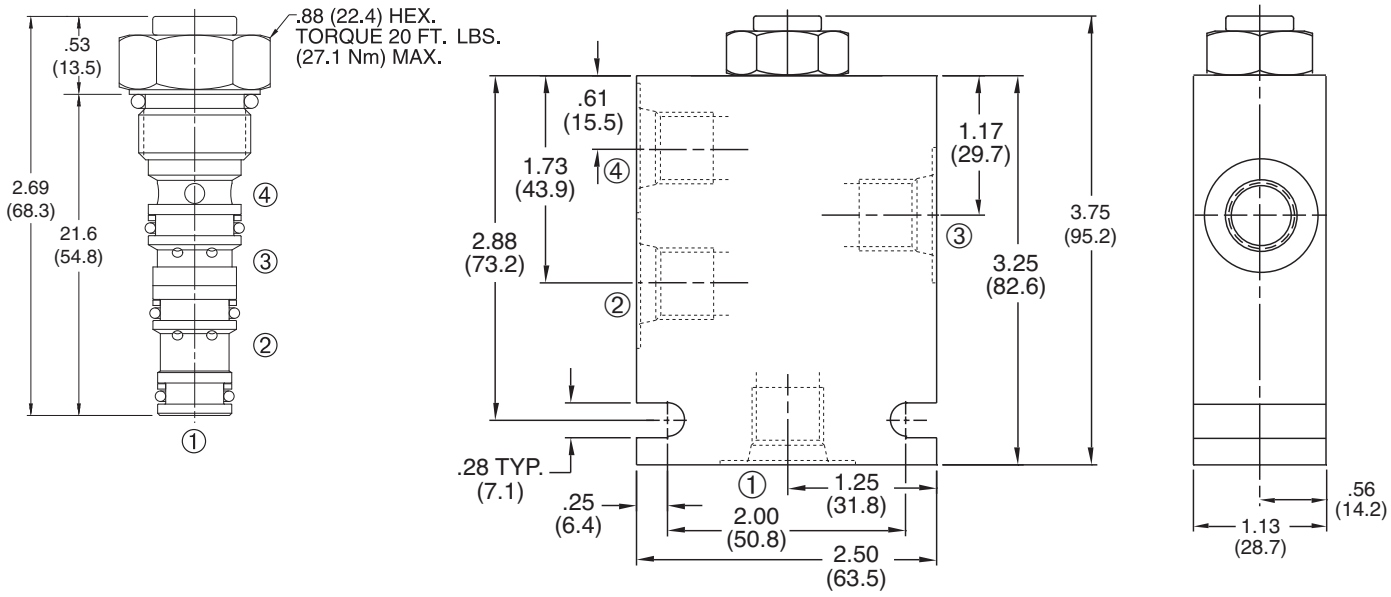
PRESSURE DROP VS. FLOW



DDPC-080-P

Dual Pilot To Open, Poppet-Type Check Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DDPC - 080 - P - * - * - ****

DUAL PILOT-OPERATED CHECK VALVE

CAVITY/SEAL

P = Poppet

SEALS
U = Urethane

CRACK PRESSURE
25 = 25 PSI (1.7 Bar)

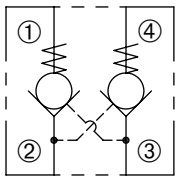
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting options available – consult factory.)

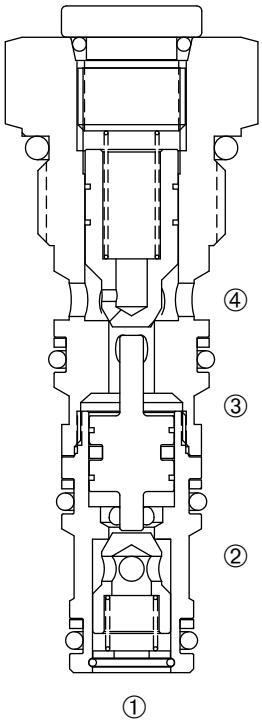
DDPC-100-P

Dual Pilot To Open, Poppet-Type Check Valve

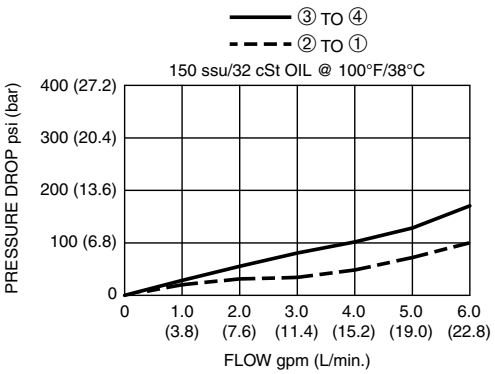
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





PRESSURE DROP VS. FLOW



DESCRIPTION

A cartridge valve designed to allow free flow in one direction while preventing flow in the opposite direction. Reverse flow can be achieved by reaching the required pilot pressure. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ② or ③ overcomes the spring-bias poppet and allows free flow to ① or ④ respectively. Flow in the opposite direction, from ① to ② or ④ to ③, is blocked by the poppet. When the required pilot pressure is achieved at ②, the poppet unseats and allows flow between ④ and ③. When the required pilot pressure is achieved at ③, the poppet unseats and allows flow between ① and ②. The pilot piston area to poppet seat area is ④ to ①.

FEATURES and BENEFITS

- Hardened seat for long life and low leakage.
- Industry common cavity.
- Compact size.

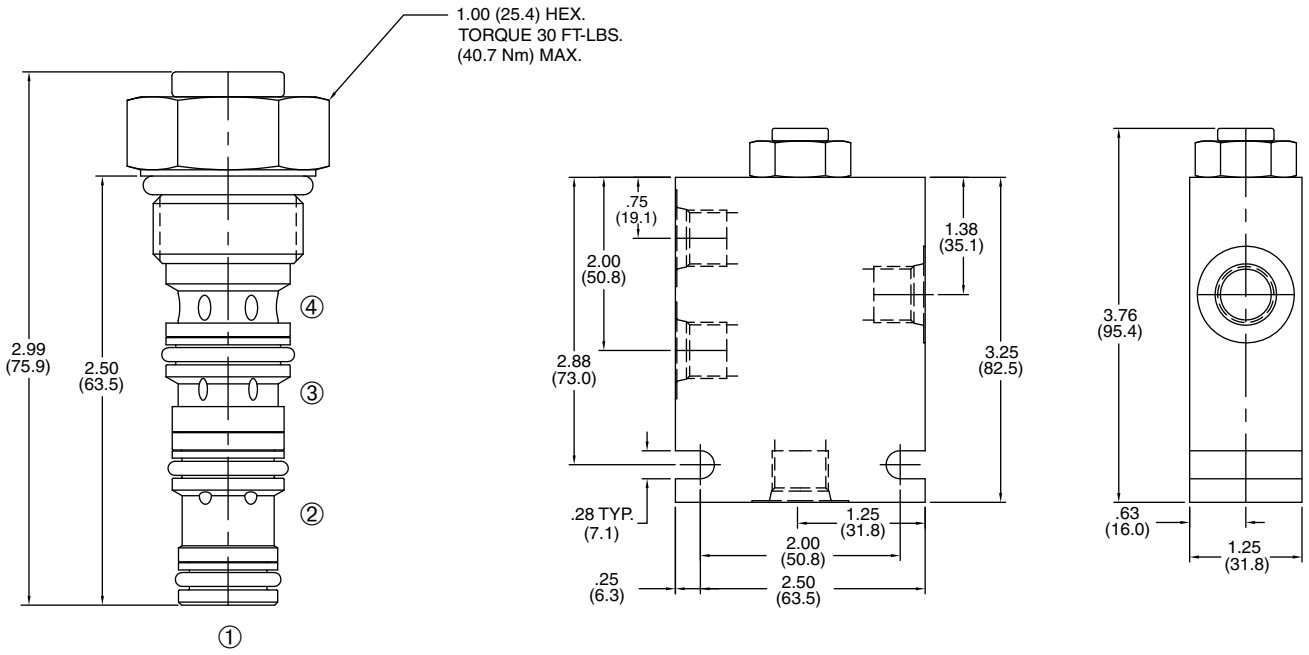
SPECIFICATIONS

Operating Pressure: 4000 PSI (276 Bar)
Flow: Nominal Flow 6 gpm (22.8 l/min)
Internal Leakage: 5 drops/min (0.25 cc/min) aty 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C).
Crack Pressure: 25 PSI (1.7 Bar)
Pilot Ratio: 4 to 1
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
Cavity/Cavity Tool: 100-4, see page 11.10.4
In-Line Body Material: Anodized 6061T6 aluminum allow rated at 3000 PSI (207 Bar).

DDPC-100-P

Dual Pilot To Open, Poppet-Type
Check Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DDPC - 100 - P - * - ** - **

DUAL PILOT-OPERATED
CHECK VALVE

CAVITY/SEAL

POPPET

SEALS
N = Buna N
V = Viton
U = Urethane

CRACK PRESSURE
25 = 25 PSI (1.7 Bar)

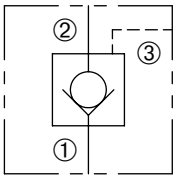
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

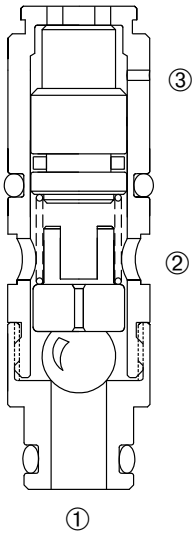
ZPTC-63

Pilot to Close
Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFIILE





DESCRIPTION

A cartridge valve designed to allow free flow in one direction, while preventing flow in the opposite direction. Reverse flow can be achieved by reaching the required pilot pressure. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ② overcomes the spring-bias ball and allows free flow to ③. Flow in the opposite direction, from ③ to ②, is blocked by the ball. When the required pilot pressure is achieved at ①, the ball unseats and allows flow between ③ and ②. The pilot piston area to poppet seat area ratio is 3:1.

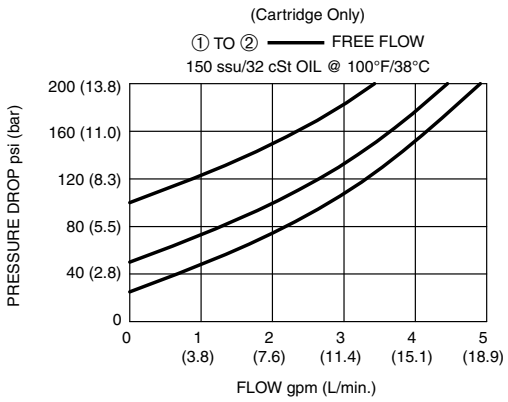
FEATURES and BENEFITS

- Slip-in style.
- Compact size.

SPECIFICATIONS

Operating Pressure: 4000 PSI (276 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min max.
Crack Pressure: 30 PSI (2.1 Bar)
Pilot Ratio: 3:1
Temperature: -30°F to +250°F (-35°C to +120°C).
Recommended Filtration: Critical Application — ISO 17/15/13
Non-critical Application — ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: ZP63, see page 11.06.3
Installation/Removal Tool: Consult factory.
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW

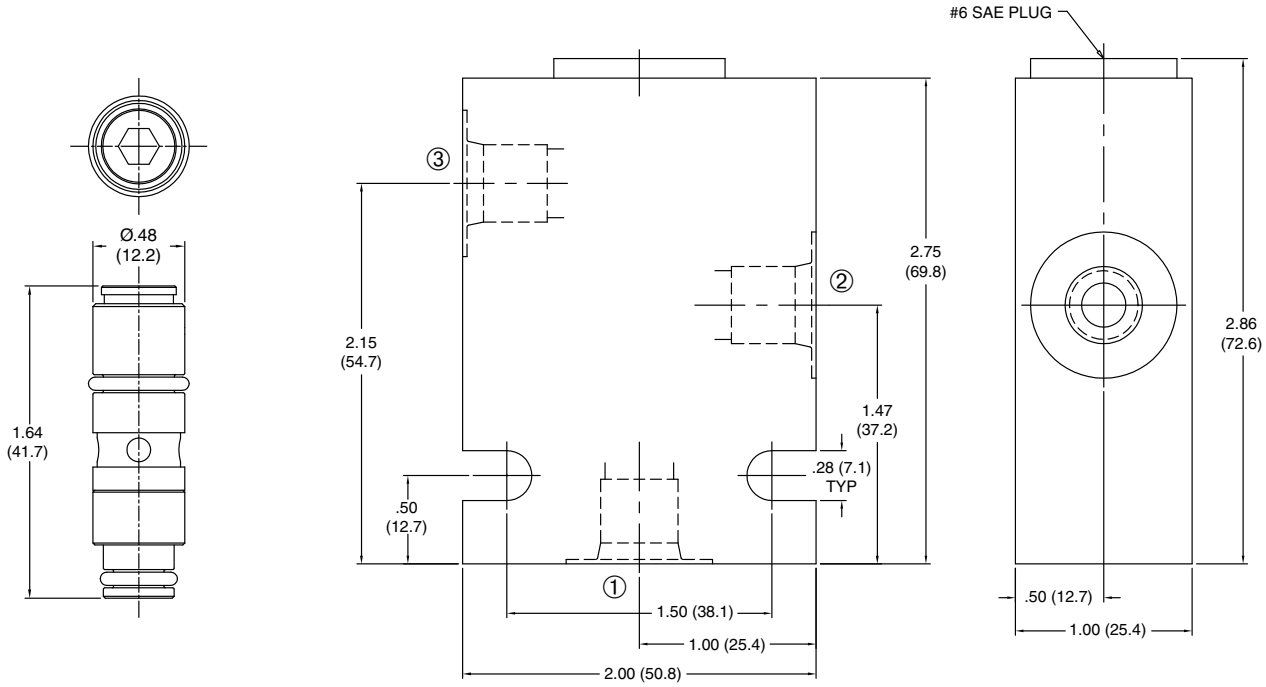


ZPTC-63

Pilot to Close
Check Valve

ZERO PROFILE

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZPTC - 63 - U - ** - **

PILOT TO CLOSE
CHECK VALVE

CAVITY

SEALS
V = Viton
U = Urethane

CRACK PRESSURE
30 = 30 PSI (2.1 Bar)

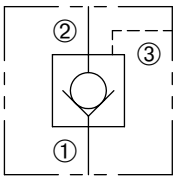
PORTING
4T = SAE 4
6T = SAE 6
Omit for cartridge only.

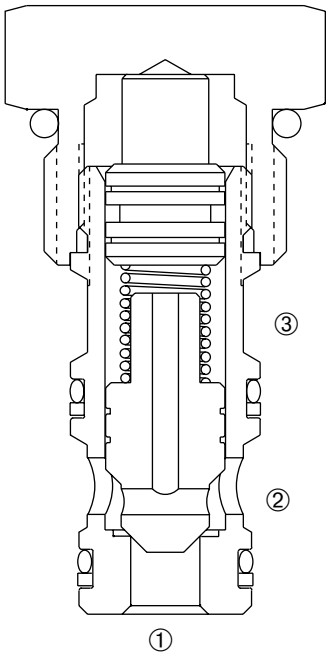
DPTC-100-P (Formerly DPC2-100-P)

Pilot To Close, Poppet-Type Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed to allow free flow in one direction while preventing flow in the opposite direction. Free flow can be blocked by reaching the required pilot pressure. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ① overcomes the spring-bias poppet and allows free flow to ②. Flow in the opposite direction, from ② to ①, is blocked by the poppet. When the required pilot pressure is achieved at ③, the poppet is held closed to block flow between ① and ②. The pilot piston area to poppet seat area ratio is 3 to 1.

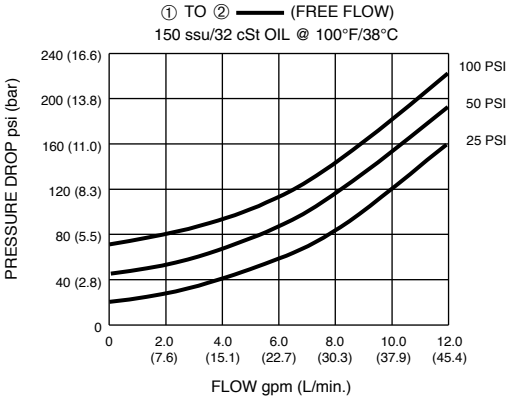
FEATURES and BENEFITS

- Hardened poppet and seat for long life.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 25 PSI (1.7 Bar)
50 PSI (3.4 Bar)
100 PSI (6.9 Bar)
Pilot Ratio: 3 to 1
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW

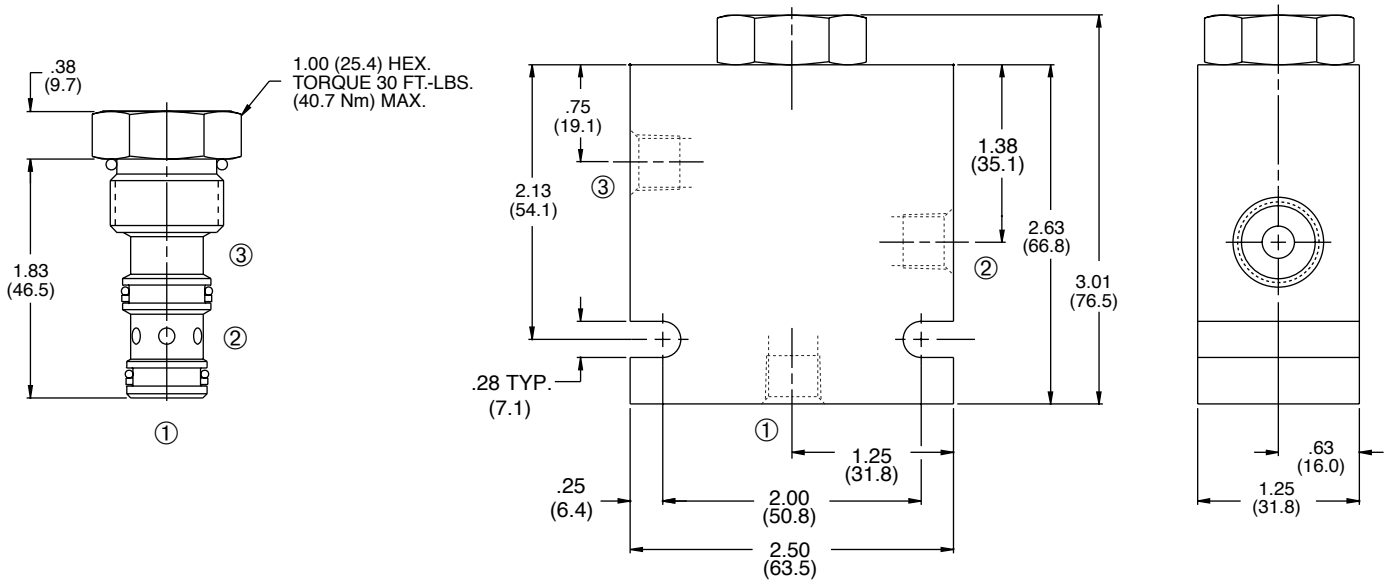


DPTC-100-P (Formerly DPC2-100-P)

Pilot To Close, Poppet-Type Check Valve

SERIES 10

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPTC - 100 - P - * - * - ****

PILOT-OPERATED CHECK VALVE

CAVITY/SEAL

P = Poppet

SEALS
N = Buna N
V = Viton

CRACK PRESSURE
25 = 25 PSI (1.7 Bar)
50 = 50 PSI (3.4 Bar)
100 = 100 PSI (6.9 Bar)

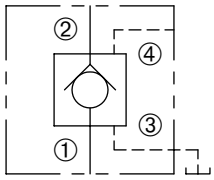
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

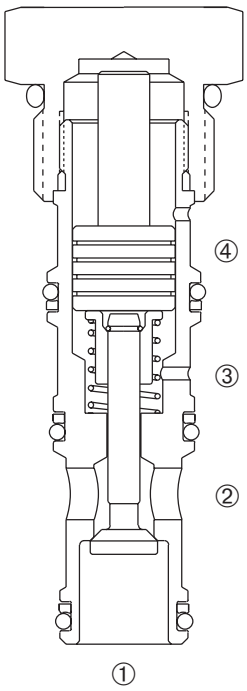
DPCV-100-P

Vented, Pilot To Open, Poppet-Type Check Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed to allow free flow in one direction while preventing flow in the opposite direction. Reverse flow can be achieved by reaching the required pilot pressure. This valve is commonly used as a load-holding or blocking valve.

OPERATION

Pressure at ② overcomes the spring-bias poppet and allows free flow to ①. Flow in the opposite direction, from ① to ②, is blocked by the poppet. When the required pilot pressure is achieved at ④, the poppet unseats and allows flow between ① and ②. Port ③ is vented to tank to keep one side of the pilot piston low pressure and isolated from back pressure at port ②. The pilot piston area to poppet seat area ratio is 3 to 1.

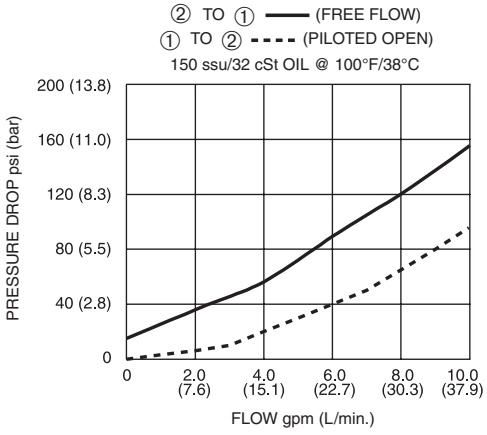
FEATURES and BENEFITS

- Vented pilot design.
- Hardened poppet and seat for long life.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 15 PSI (1.0 Bar)
Pilot Ratio: 3 to 1
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-4L, see page 11.10.4L

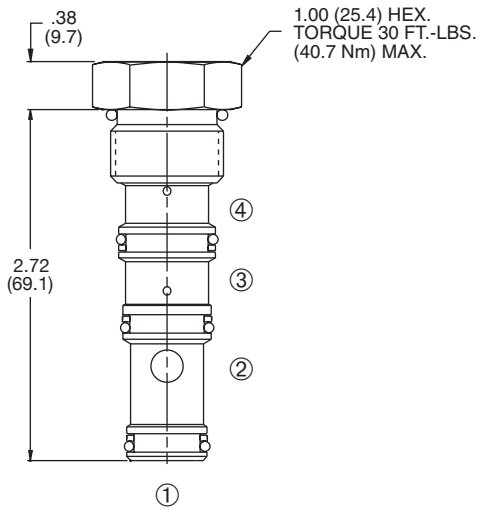
PRESSURE DROP VS. FLOW



DPCV-100-P

Vented, Pilot To Open, Poppet-Type Check Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPCV - 100 - P - * - 15

VENTED PILOT-OPERATED CHECK VALVE

CAVITY/SEAL

P = Poppet

SEALS
N = Buna N
V = Viton

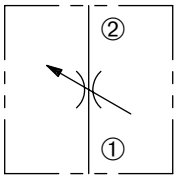
CRACK PRESSURE
15 = 15 PSI (1.0 Bar)

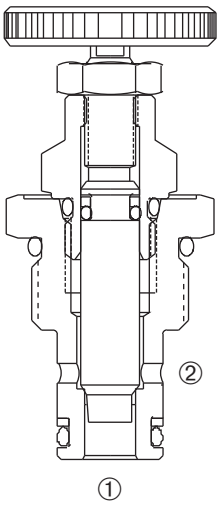
DNV-080

Adjustable,
Needle Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed to provide a variable flow restriction with positive shut-off.

OPERATION

The DNV-080 varies flow restriction by adjusting needle in or out and will shut off when fully closed. This valve will meter flow in either direction.

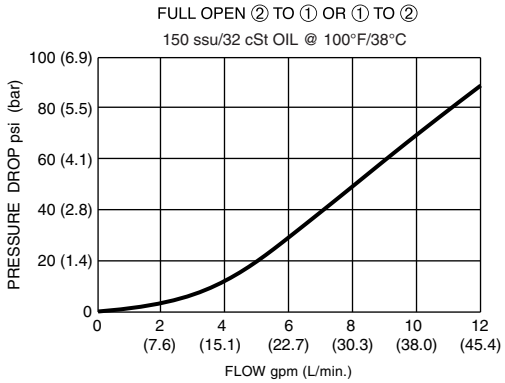
FEATURES and BENEFITS

- Zero leakage at shut-off.
- Aluminum knob.
- Full range of adjustments.
- Industry common cavity.
- Compact size.

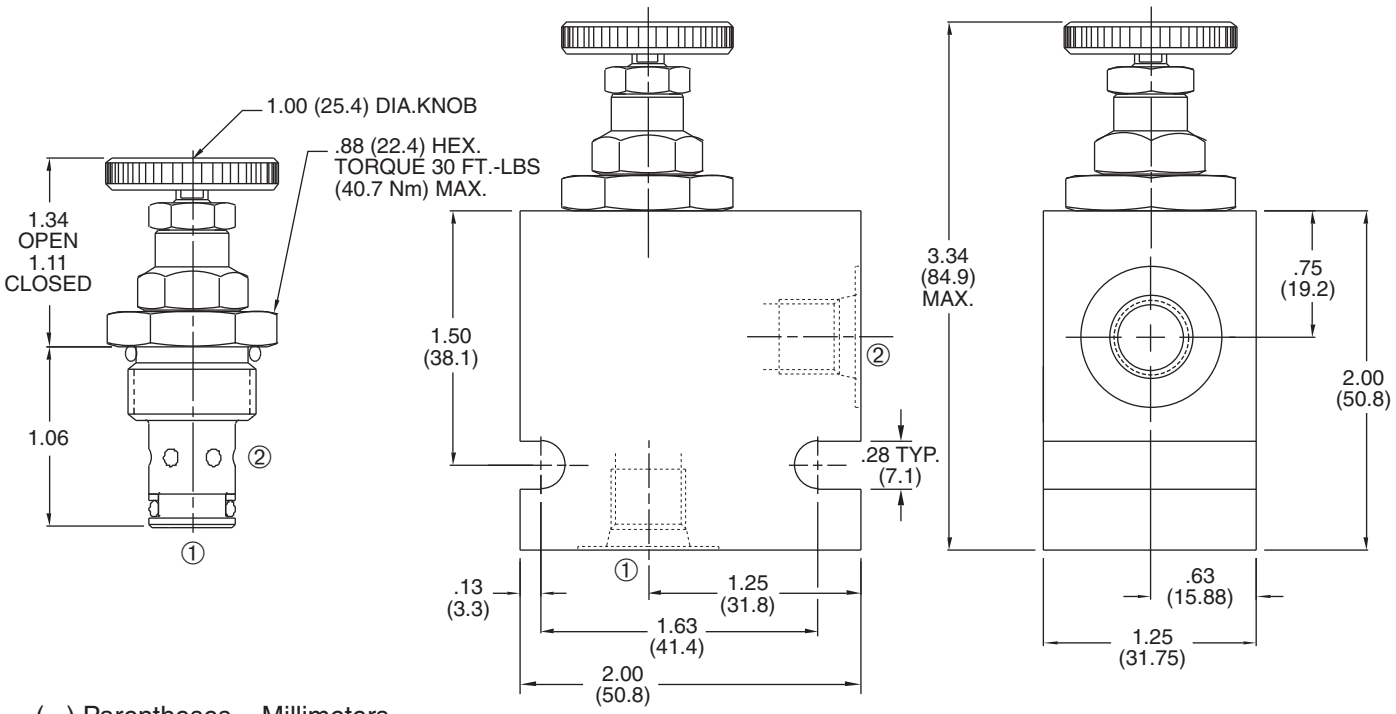
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal flow 11 GPM (41.6 L/min).
Cv Flow Factor: (Full Open) .47
Internal Leakage: 0 drops/min. at shut-off.
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application-ISO 17/15/13
Non-Critical Application-ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DNV - 080 - * - K - **

NEEDLE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

K = Knob

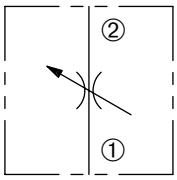
PORTING
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

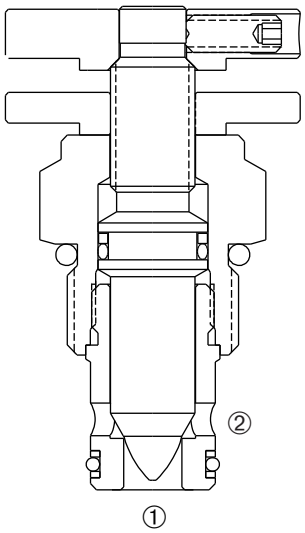
DNV-100

Adjustable,
Needle Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed to provide a variable flow restriction with positive shut-off.

OPERATION

The DNV-100 varies flow restriction by adjusting needle in or out and will shut off when fully closed. This valve will meter flow in either direction.

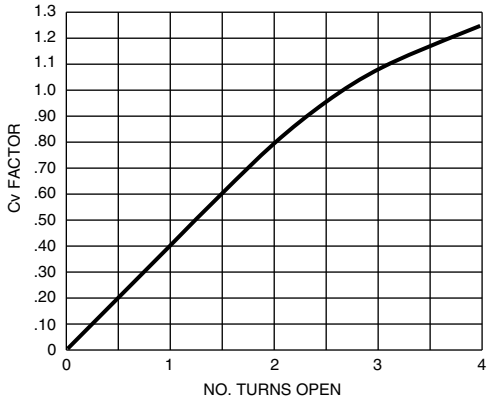
FEATURES and BENEFITS

- Hardened seat for long life.
- Low leakage at shut-off.
- Aluminum knob and disc nut.
- Full range of adjustments.
- Adjustment may be locked in place.
- Positive shut-off.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: 12 gpm (45.4 L/min.) Max. recommended input.
Internal Leakage: 2 drops/min. max. at 3000 PSI (207 Bar) at shut-off.
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

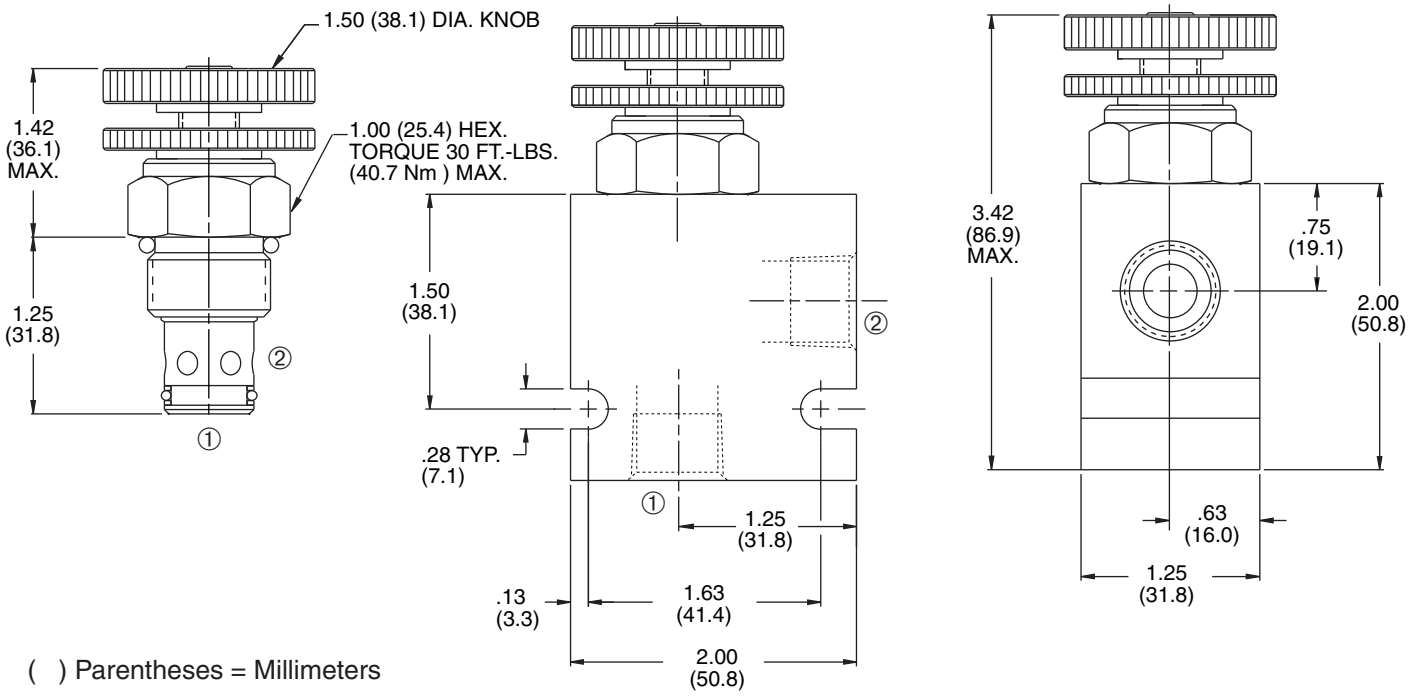
CV FACTOR VS. TURNS OPEN



$$\text{FLOW IN GPM} = \frac{C_V \sqrt{P_1 - P_2}}{\sqrt{G_f}}$$

C_V = Flow Coefficient
P_1 = Inlet Pressure (psi)
P_2 = Outlet Pressure (psi)
G_f = specific gravity of medium at operating temperature in °F.

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DNV - 100 - * - K - **

NEEDLE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

K = Knob

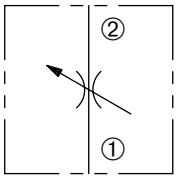
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

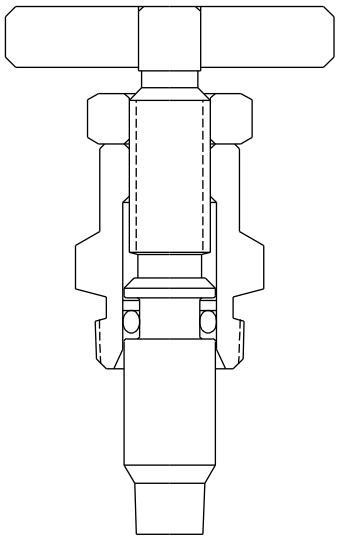
NC-**-S

Adjustable,
Needle Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES NC





DESCRIPTION

A non-self-contained cartridge valve designed to provide a variable flow restriction with positive shut-off. Valve sizes range from 1/8" to 3/4".

OPERATION

The NC series of valves vary flow restriction by adjusting needle in or out and will shut off when fully closed. These valves will meter flow in either direction.

FEATURES and BENEFITS

- Aluminum knob.
- Full range of adjustments.
- Adjustment may be locked in place.
- Positive shut-off.
- Viton seals.
- Compact size.

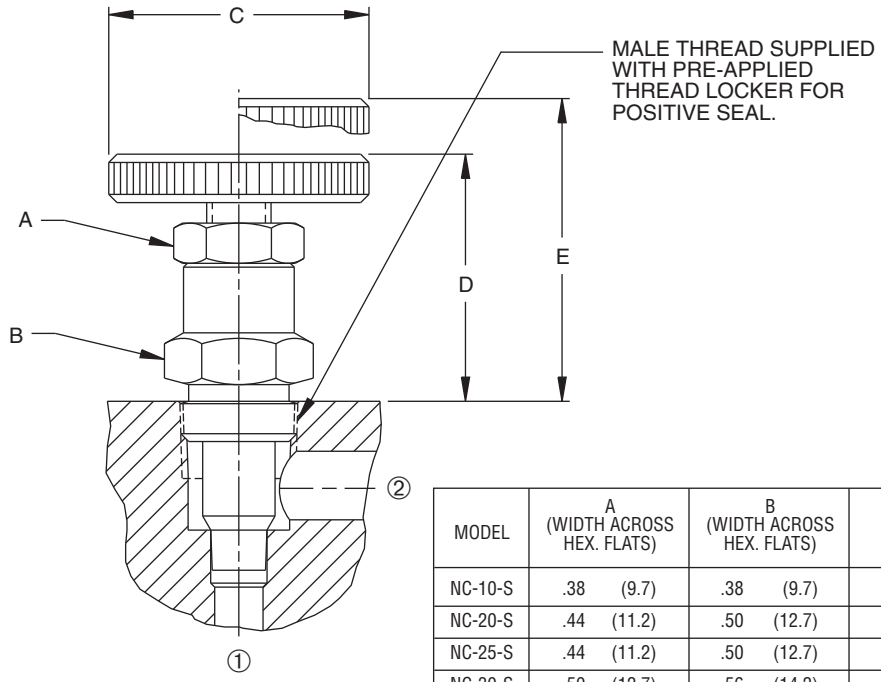
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See FLOW CHARACTERISTICS chart.
Temperature: -15°F to +400°F (-26°C to +204°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavities/Cavity Tools: NC**, see page 11.21.1

FLOW CHARACTERISTICS

MODEL	FLOW MAX. RECOMMENDED GPM (L/min.)		CV FLOW FACTOR (FULL OPEN)
NC-10-S	3.2	(12.1)	.19
NC-20-S	7.0	(26.5)	.43
NC-25-S	13.5	(51.1)	.78
NC-30-S	22.5	(85.2)	1.24
NC-35-S	34.0	(128.7)	1.78

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

MODEL	A (WIDTH ACROSS HEX. FLATS)	B (WIDTH ACROSS HEX. FLATS)	C (DIA.)	D (CLOSED)	E (FULL OPEN)
NC-10-S	.38 (9.7)	.38 (9.7)	.78 (19.8)	.75 (19.1)	.88 (22.4)
NC-20-S	.44 (11.2)	.50 (12.7)	.78 (19.8)	.86 (21.8)	1.00 (25.4)
NC-25-S	.44 (11.2)	.50 (12.7)	1.03 (26.2)	.97 (24.6)	1.19 (30.2)
NC-30-S	.50 (12.7)	.56 (14.2)	1.03 (26.2)	1.19 (30.2)	1.44 (36.6)
NC-35-S	.69 (17.5)	.75 (19.1)	1.03 (26.2)	1.31 (33.3)	1.63 (41.4)

HOW TO ORDER

NC - ** - S

NEEDLE VALVE

S = Carbon Steel

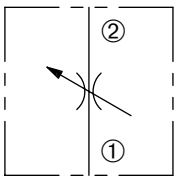
SIZE
10 = 1/8"
20 = 1/4"
25 = 3/8"
30 = 1/2"
35 = 3/4"

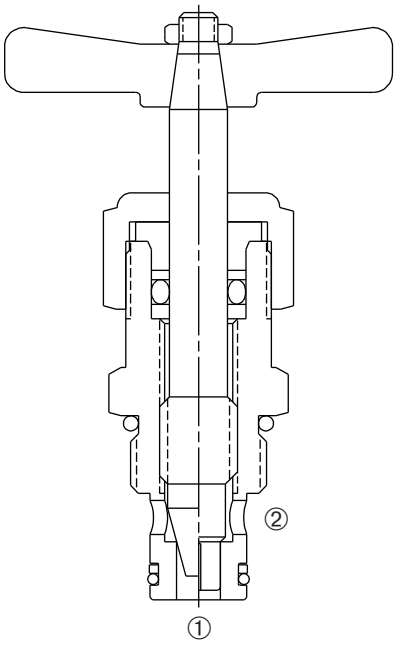
S-210, S-310 and S-410

Adjustable, High Pressure,
Needle Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES S





DESCRIPTION

A cartridge valve designed as a shut-off. The optional SM needle provides fine metering characteristics.

OPERATION

The S-210, S-310, and S-410 series of valves will allow flow in either direction.

FEATURES and BENEFITS

- High pressure range.
- High flow capabilities.
- Fine metering option.
- Positive shut-off.
- Compact size.

SPECIFICATIONS

***Operating Pressure:** 5000 PSI (345 Bar)
Flow: See FLOW CHARACTERISTICS chart.
Temperature: -30°F to +250°F (-34°C to +121°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavities /Cavity Tools: NC**, see page 11.22.1

**Installed in body of adequate size and strength.*

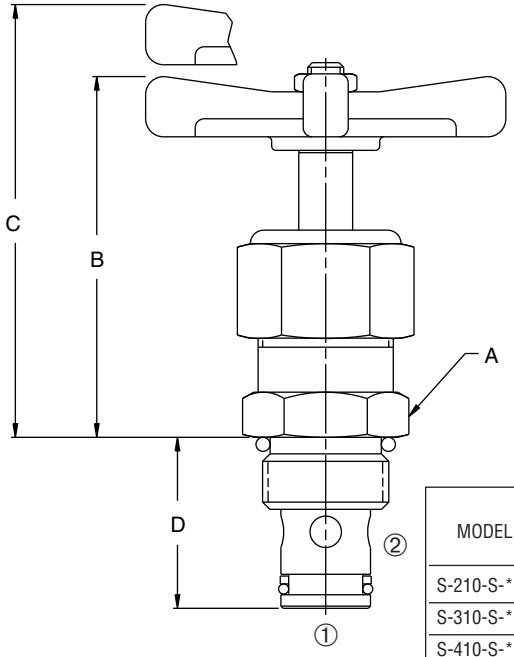
FLOW CHARACTERISTICS

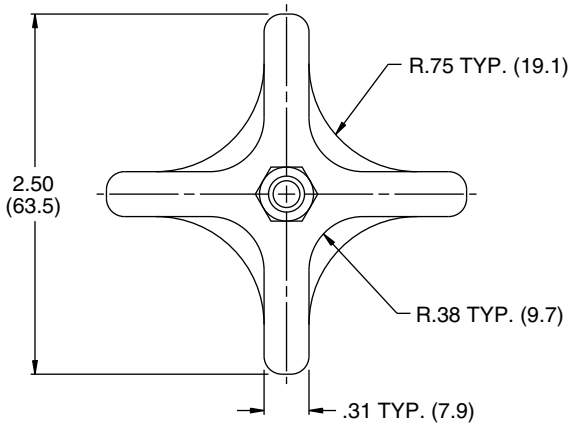
MODEL	FLOW MAX. RECOMENDED GPM (L/min.)		CV FLOW FACTOR (FULL OPEN)
S-210-S-*	13.5	(51.1)	.85
S-310-S-*	25.0	(94.6)	1.67
S-410-S-*	40.0	(151.4)	1.89
SM-210-S-*	13.5	(51.1)	.85
SM-310-S-*	25.0	(94.6)	1.67
SM-410-S-*	40.0	(151.4)	1.89

S-210, S-310 and S-410

Adjustable, High Pressure, Needle Valve

INSTALLATION DIMENSIONS





HANDLE TOP VIEW

( ) Parentheses = Millimeters

MODEL	A		B	C	D
	WIDTH ACROSS HEX. FLATS	MAX. TORQUE FT.-LBS. (Nm)	(CLOSED)	(FULL OPEN)	
S-210-S-*	.88 (22.4)	20 (27.1)	2.25 (57.2)	2.69 (68.3)	1.00 (25.4)
S-310-S-*	1.00 (25.4)	30 (40.7)	2.75 (69.9)	3.25 (82.6)	1.19 (30.2)
S-410-S-*	1.25 (31.8)	40 (54.2)	2.38 (60.5)	2.88 (73.2)	1.56 (39.6)
SM-210-S-*	.88 (22.4)	20 (27.1)	2.25 (57.2)	2.69 (68.3)	1.00 (25.4)
SM-310-S-*	1.00 (25.4)	30 (40.7)	2.75 (69.9)	3.25 (82.6)	1.19 (30.2)
SM-410-S-*	1.25 (31.8)	40 (54.2)	2.38 (60.5)	2.88 (73.2)	1.56 (39.6)

HOW TO ORDER

S * - * - S - ***

SHUT-OFF VALVE

M = Fine Metering Needle Valve (Omit for standard)

SIZE
210 = 1/4"
310 = 3/8"
410 = 1/2"

S = Carbon Steel

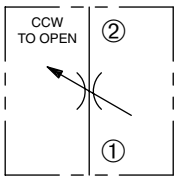
SEALS
3 = Urethane

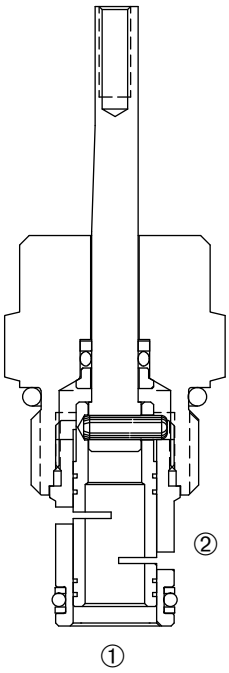
DRNV-100

Rotary,
Flow Control

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed to provide variable flow restriction in both directions.

OPERATION

The DRNV-100 varies flow restriction by adjusting spool open or closed. Flow is metered from ① to ② and ② to ①.

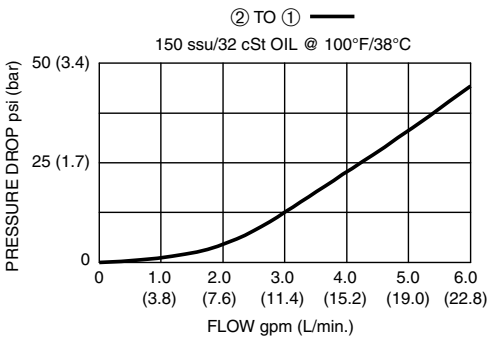
FEATURES and BENEFITS

- Hardened spool and sleeve for long life.
- Industry common cavity.
- Compact size.

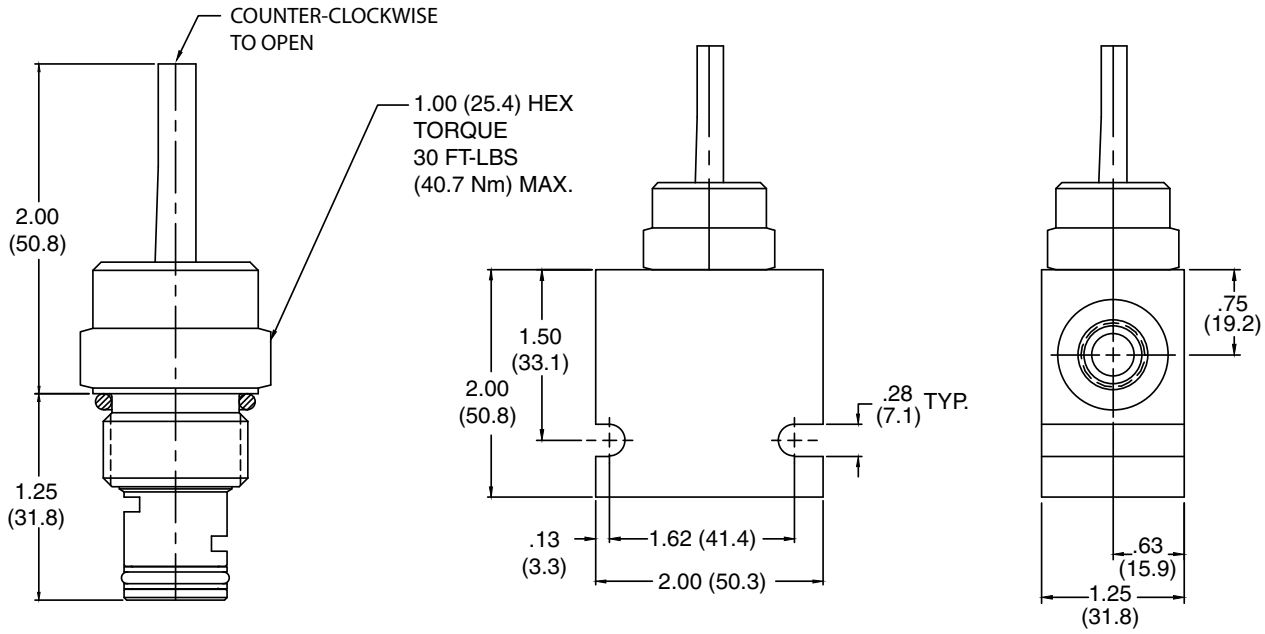
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Max. Flow: 6 gpm (23 l/min)
9 gpm (34 l/min)
12 gpm (45 l/min)
Internal Leakage: 82 cc/min at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C).
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DRNV - 100 - * - ** - **

ROTARY NEEDLE VALVE

CAVITY/SEAL

SEALS
N = Buna-N
V = Viton

FLOW RATE
6 = 6 GPM (23 L/min)
9 = 9 GPM (34 L/min)
12 = 12 GPM (45 L/min)

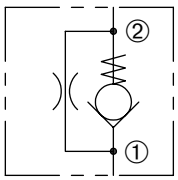
PORTING
4T = SAE 4
6T = SAE 6
Omit for cartridge only

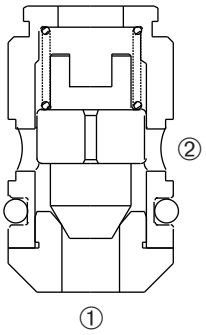
ZFC-62

Flow Control, Check Valve
With Fixed Orifice

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE





DESCRIPTION

A cartridge valve designed to allow restricted flow in one direction with free flow in the opposit direction.

OPERATION

Pressure at ① overcomes the spring-bias poppet and allows free flow to ②. Flow in the opposite direction, from ② to ①, is metered by an orifice.

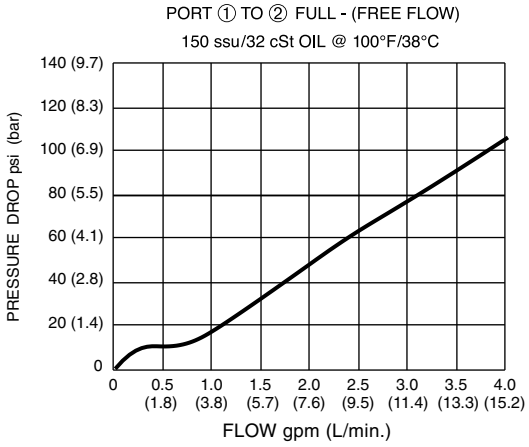
FEATURES and BENEFITS

- Slip in style.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Bias-Spring: 5 PSI (0.3 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Installation/Removal Tool: Consult factory.
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW

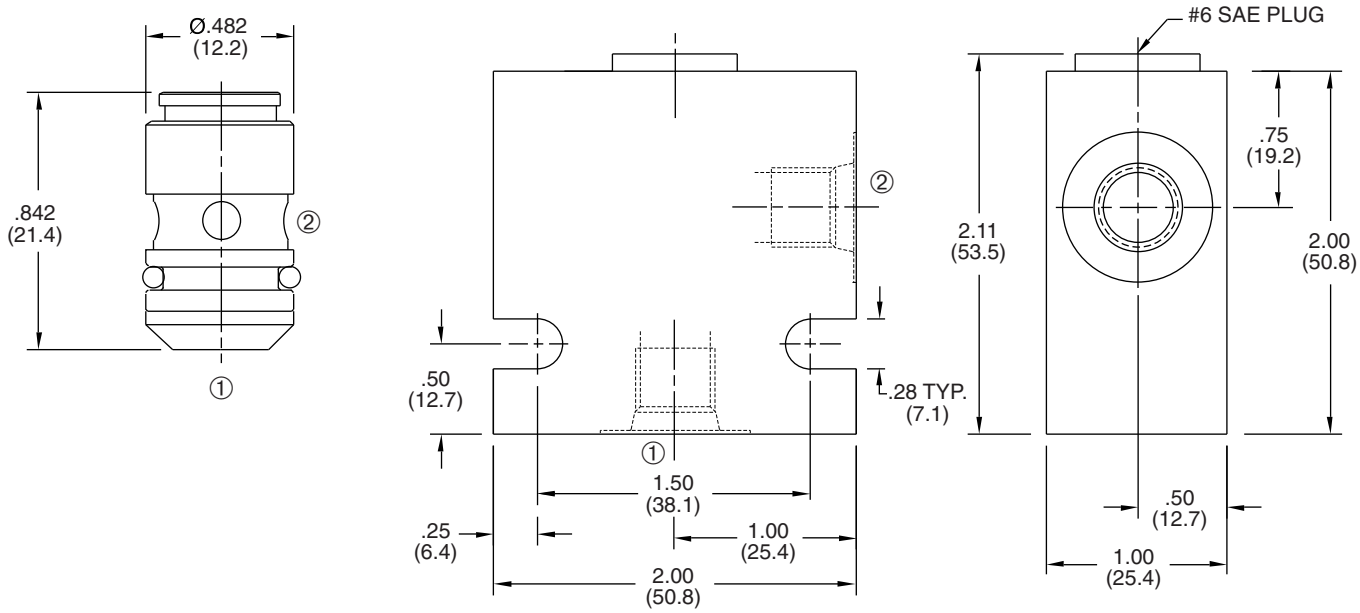


ZFC-62

Flow Control, Check Valve
With Fixed Orifice

ZERO PROFILE

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZFC - 62 - U - * - ****

FLOW CONTROL VALVE

CAVITY

SEALS
U = URETHANE

ORIFICE DIAMETER
015 = .015 (.38)
031 = .031 (.79)
062 = .062 (1.57)
094 = .094 (2.39)
MAX .109 = .109 (2.77)
(Other options available consult factory.)

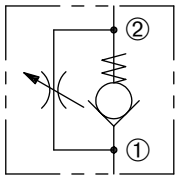
PORTING
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

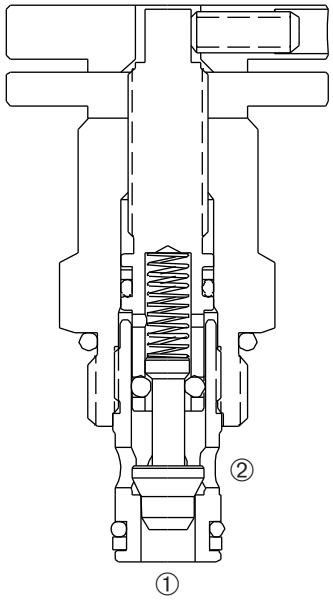
DFC-080

Adjustable,
Flow Control Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A cartridge valve designed to provide variable flow restriction in one direction with free flow in the opposite direction.

OPERATION

The DFC-080 varies flow restriction by adjusting needle in or out. Flow is metered from ② to ①. Free reverse flow is from ① to ②.

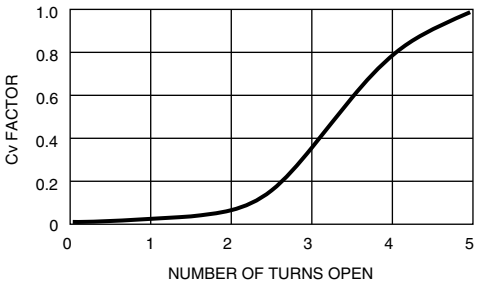
FEATURES and BENEFITS

- Hardened poppet and seat for long life.
- Aluminum knob and disc nut.
- Full range of adjustments.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: 10 gpm (37.9 L/min.) max recommended input.
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

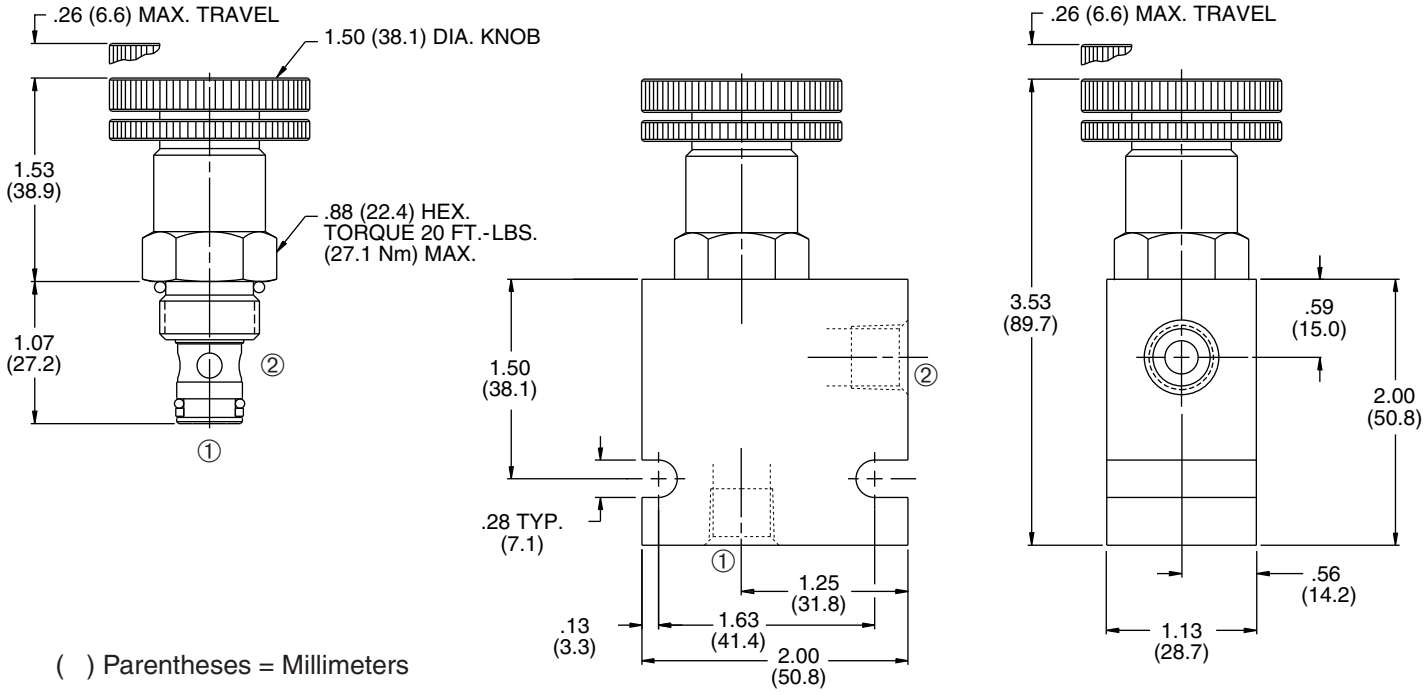
CV FACTOR VS. TURNS OPEN



FLOW IN GPM = $\dfrac{C_V \sqrt{P_1 - P_2}}{\sqrt{G_f}}$

C_V = Flow Coefficient
P_1 = Inlet Pressure (psi)
P_2 = Outlet Pressure (psi)
G_f = specific gravity of medium at operating temperature in °F.

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DFC - 080 - * - K - **

NEEDLE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

K = Knob

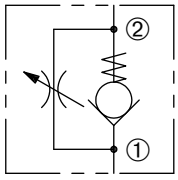
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

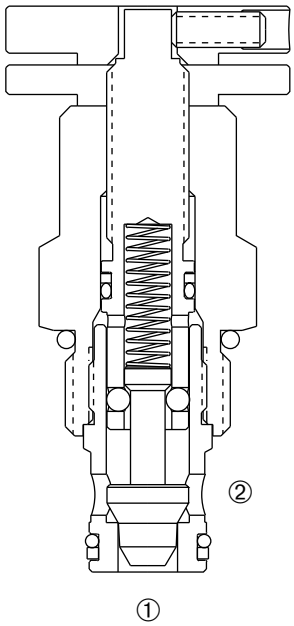
DFC-100

Adjustable, Flow Control Valve

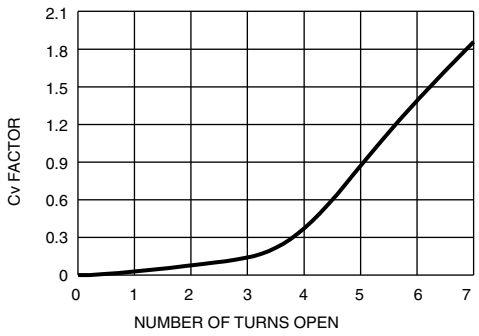
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





CV FACTOR VS. TURNS



FLOW IN GPM = $C_V \sqrt{P_1 - P_2} \over \sqrt{G_f}$

C_V = Flow Coefficient
P_1 = Inlet Pressure (psi)
P_2 = Outlet Pressure (psi)
G_f = specific gravity of medium at operating temperature in °F.

DESCRIPTION

A cartridge valve designed to provide variable flow restriction in one direction with free flow in the opposite direction.

OPERATION

The DFC-100 varies flow restriction by adjusting needle in or out. Flow is metered from ② to ①. Free reverse flow is from ① to ②.

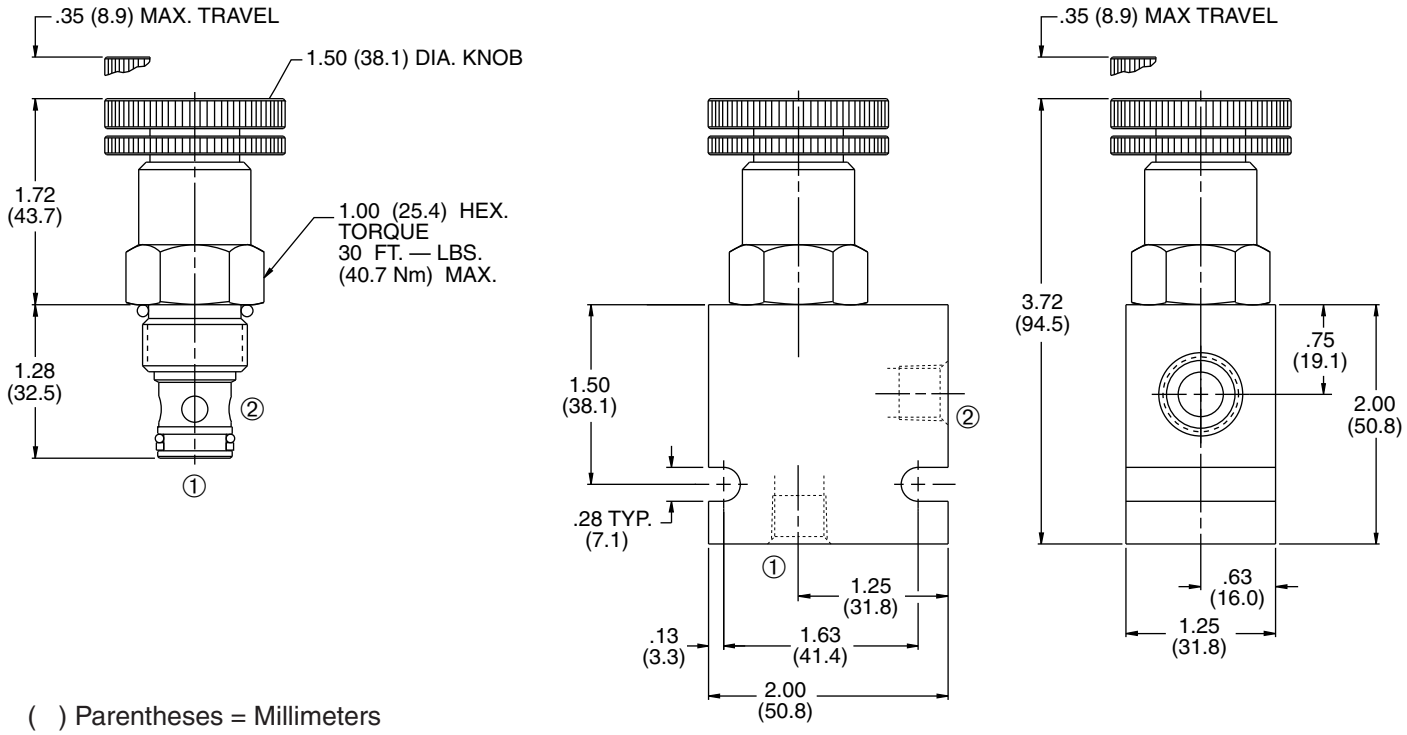
FEATURES and BENEFITS

- Hardened poppet and seat for long life.
- Aluminum knob and disc nut.
- Full range of adjustments.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: 20 gpm (75.7 L/min.) Max. recommended input.
Temperature: -30° F to +250° F (-35°C to +120° C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids.
For other fluid compatibility consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DFC - 100 - * - K - **

FLOW CONTROL VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

K = Knob

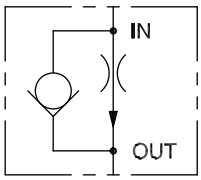
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only
(Other porting options available - consult factory).

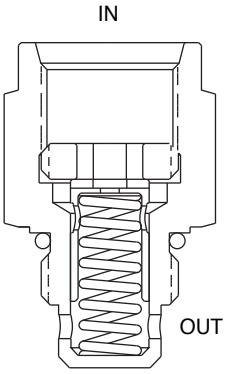
PCM 88

Fixed, Free Reverse, Externally Ported
Pressure-Compensated Flow Regulator Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

IN-LINE





DESCRIPTION

A fixed cartridge valve designed to regulate flow regardless of load pressure. This valve is a restrictive-type flow regulator designed for a wide variety of flow applications.

The male outlet port allows for quick installlation into existing manifolds for meter-in control with free flow in the opposite direction.

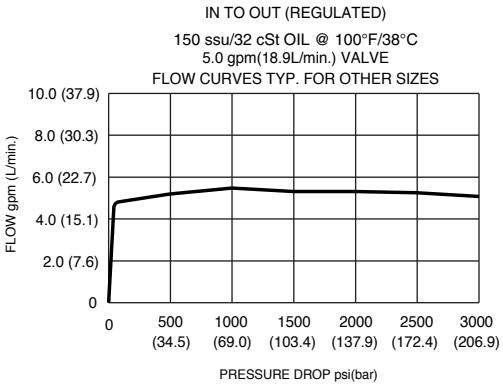
OPERATION

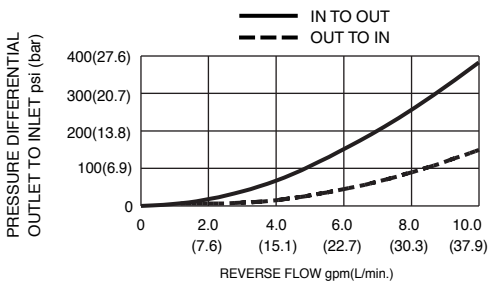
The PCM 88 maintains a constant flow within specified accuracies from inlet to outlet regardless of downstream load pressure. When flow produces a minimum predetermined pressure differential across the compensator spool control orifice, the spool shifts against the spring force to throttle the flow and maintain the flow setting. In the reverse direction the spool shifts to permit free flow.

FEATURES and BENEFITS

- Pressure-compensated.
- Quiet response.
- Free-reverse.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW





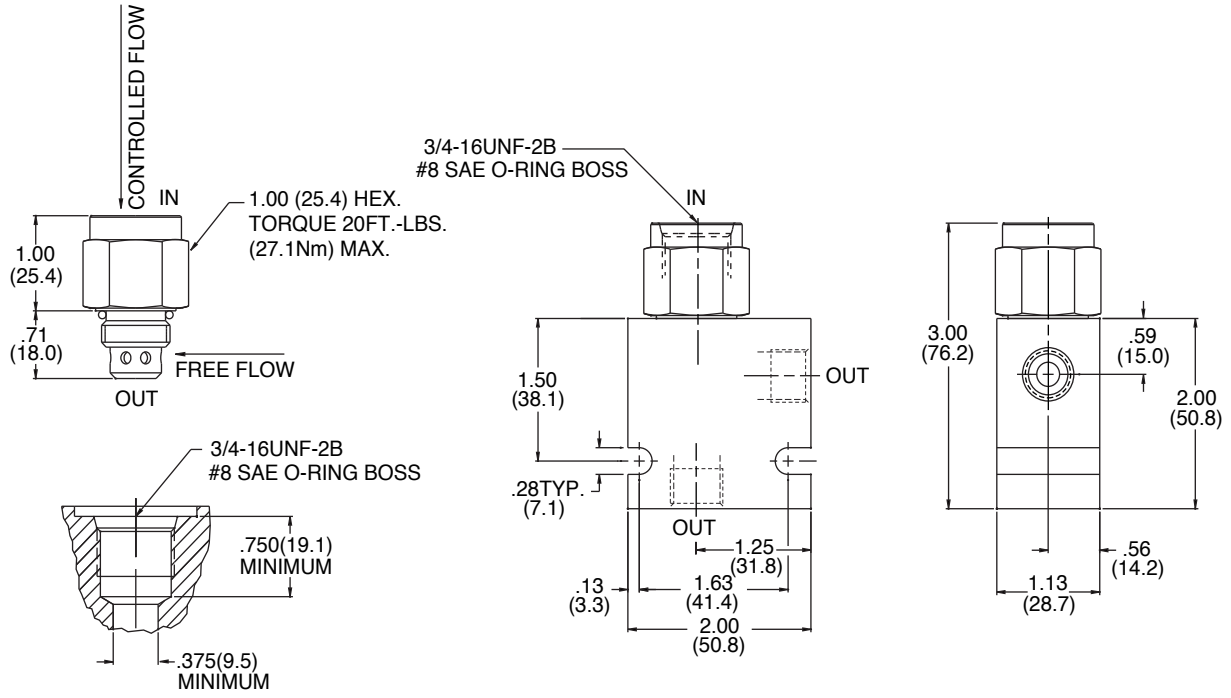
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: Ranges from 1 gpm to10 gpm (3.8 to 37.9 L/min.)
(See ordering table)
Flow Tolerances: Flows up to and including
1.5 gpm (5.7 L/min.) ±15%
Flows over 1.5 gpm (5.7 L/min.) ±10%
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity: #8 SAE, see page 4.13.2
Optional Cavity/Cavity Tool: 080-2, see page 11.08.02
In-Line Body Material: Anodized 6061 T6 aluminum alloy rated at 3000 PSI (207 Bar).

PCM 88

Fixed, Free Reverse, Externally Ported
Pressure-Compensated Flow Regulator Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

PCM 88 - * - ** - **

FLOW REGULATOR VALVE

SEALS
N = Buna N
V = Viton

NOMINAL FLOW SETTING

100	=	1.00 GPM (3.78 L/min.)
200	=	2.00 GPM (7.57 L/min.)
300	=	3.00 GPM (11.36 L/min.)
400	=	4.00 GPM (15.14 L/min.)
500	=	5.00 GPM (18.93 L/min.)
600	=	6.00 GPM (22.71 L/min.)
700	=	7.00 GPM (26.50 L/min.)
800	=	8.00 GPM (30.28 L/min.)
900	=	9.00 GPM (34.07 L/min.)
1000	=	10.00 GPM (37.85 L/min.)

(Other flow settings available-consult factory.)

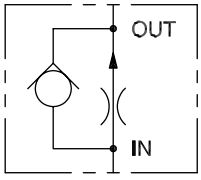
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting options available – consult factory.)

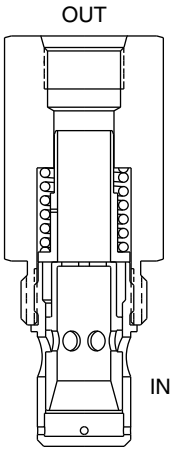
LLPC

Fixed, Free Reverse, Externally Ported Pressure-Compensated Flow Regulator Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

IN-LINE





DESCRIPTION

A fixed cartridge valve designed to regulate flow regardless of load pressure. This valve is a restrictive-type flow regulator designed for low flow applications.

The male outlet port allows for quick installlation into existing manifolds for meter-in control with free flow in the opposite direction.

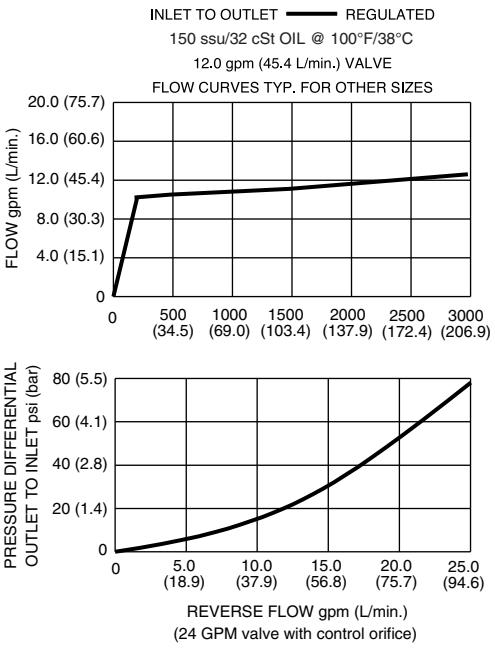
OPERATION

The LLPC maintains a constant flow within specified accuracies from inlet to outlet regardless of downstream load pressure. When flow produces a minimum predetermined pressure differential across the compensator spool control orifice, the spool shifts against the spring force to throttle the flow and maintain the flow setting. In the reverse direction the spool shifts to permit free flow.

FEATURES and BENEFITS

- Pressure-compensated.
- Quiet response.
- Free-reverse.
- Compact size.

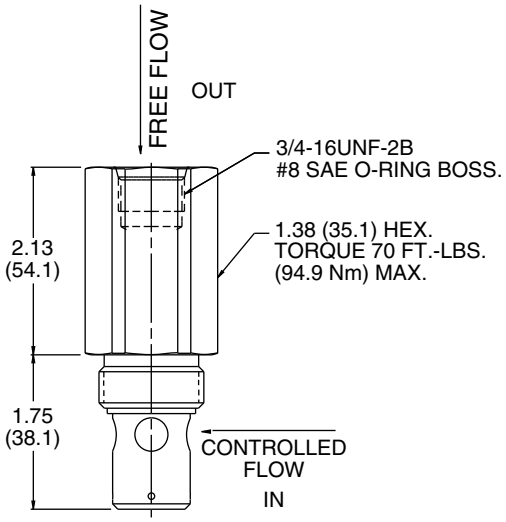
PRESSURE DROP VS. FLOW

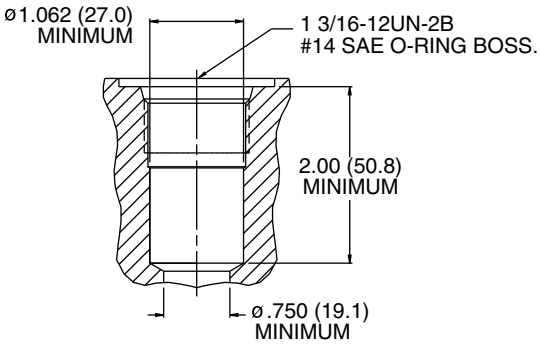


SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Available Flow: 8 gpm (30.3 L/min.)
12 gpm (45.4 L/min.)
17 gpm (64.3 L/min.)
24 gpm (90.8 L/min.)
Flow Tolerances: All valves +5%-15%
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity: See page 4.14.2

INSTALLATION DIMENSIONS





RECOMMENDED CAVITY

( ) Parentheses = Millimeters

HOW TO ORDER

LLPC - * - **

LOAD LOWERING
FLOW REGULATOR VALVE

SEALS
N = Buna N
V = Viton

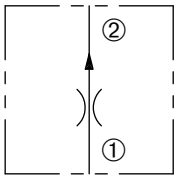
NOMINAL FLOW SETTING
8 = 8.00 GPM (30.3 L/min.)
12 = 12.00 GPM (45.4 L/min.)
17 = 17.00 GPM (64.3 L/min.)
24 = 24.00 GPM (90.8 L/min.)

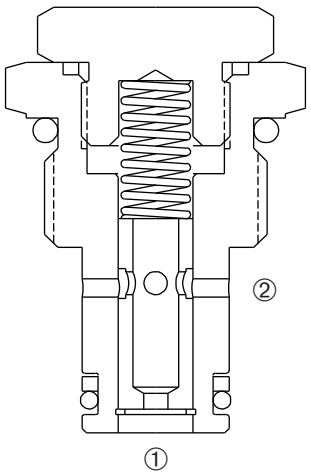
DFR-080-2

Fixed, Pressure-Compensated
Flow Regulator Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A fixed cartridge valve designed to regulate flow regardless of load pressure. This valve is a restrictive-type flow regulator designed for low flow applications.

OPERATION

The DFR-080-2 maintains constant flow within specified accuracies from ① to ② regardless of downstream load pressure. When flow produces a minimum predetermined pressure differential across the compensator spool control orifice, the spool shifts against the spring force to throttle the flow and maintain the flow setting. Reverse flow is not regulated.

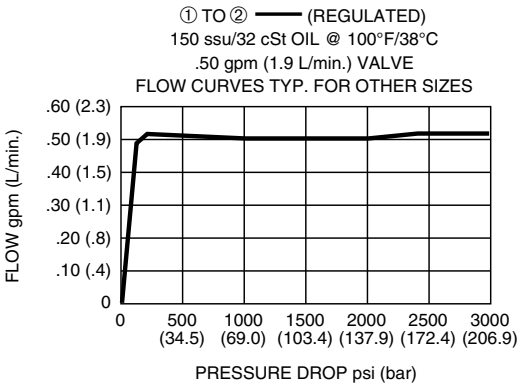
FEATURES and BENEFITS

- Pressure-compensated.
- Quiet response.
- Low flow capabilities.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar) A minimum pressure differential of 75 PSID is required to operate valve.
Flow: Ranges from 0.1 gpm to 2.0 gpm (0.4 to 7.6 L/min.) (See ordering table)
Flow Tolerances: Flows 0.1 gpm to 1.5 gpm (0.4 to 5.7 L/min.) ±15% Flows over 1.5 gpm (5.7 L/min.) ±10%
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



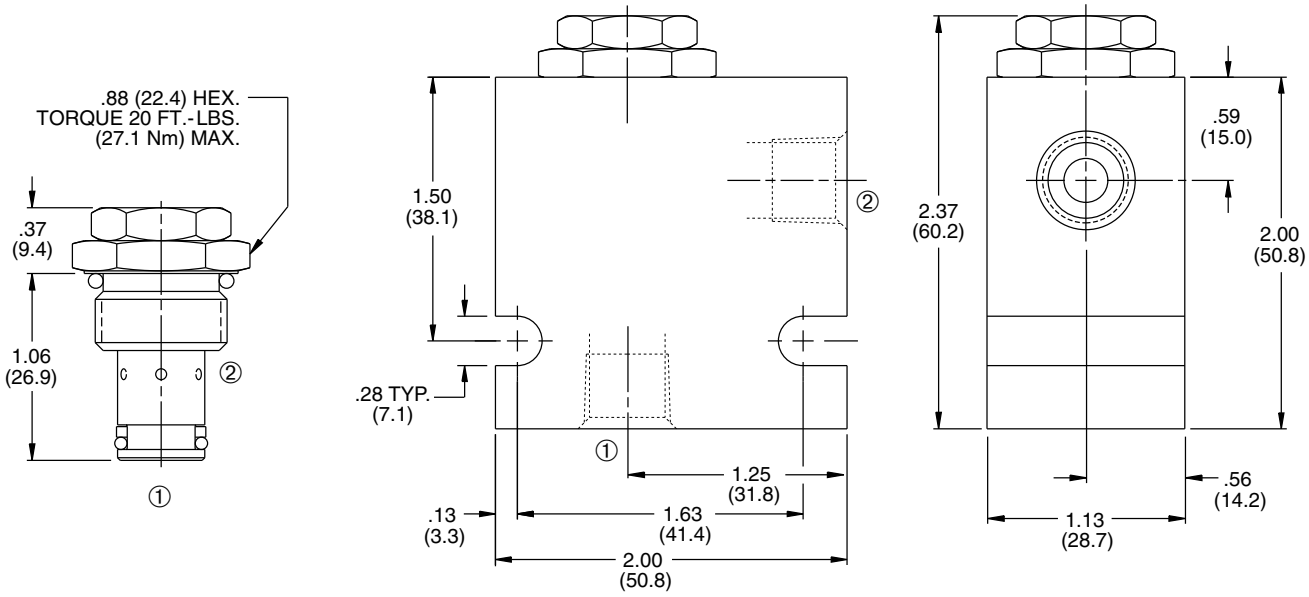
DELTROL fluid products
DIVISION OF DELTROL CORP

DFR-080-2

Fixed, Pressure-Compensated
Flow Regulator Valve

SERIES 8

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DFR - 080 - 2 - * - * - ****

FLOW REGULATOR VALVE
(FIXED)

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

NOMINAL FLOW SETTING
010 = .10 GPM (.38 L/min.)
015 = .15 GPM (.57 L/min.)
020 = .20 GPM (.76 L/min.)
025 = .25 GPM (.95 L/min.)
030 = .30 GPM (1.14 L/min.)
040 = .40 GPM (1.51 L/min.)
050 = .50 GPM (1.89 L/min.)
060 = .60 GPM (2.27 L/min.)
075 = .75 GPM (2.84 L/min.)
100 = 1.00 GPM (3.79 L/min.)
125 = 1.25 GPM (4.73 L/min.)
150 = 1.50 GPM (5.68 L/min.)
200 = 2.00 GPM (7.57 L/min.)

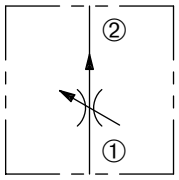
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting options available – consult factory.)

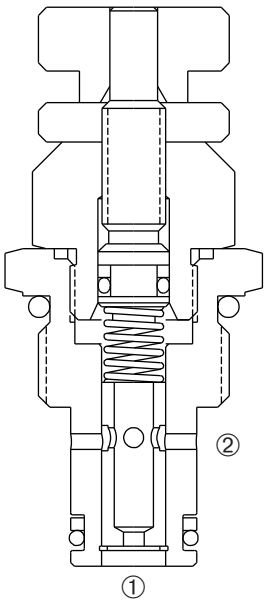
DFRA-080-2

Adjustable, Pressure-Compensated
Flow Regulator Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

An adjustable cartridge valve designed to regulate flow regardless of load pressure. This valve is a restrictive-type flow regulator designed for low flow applications.

OPERATION

The DFRA-080-2 maintains a constant flow within specified accuracies from ① to ② regardless of downstream load pressure. When flow produces a minimum predetermined pressure differential across the compensator spool control orifice, the spool shifts against the spring force to throttle the flow and maintain the flow setting. The cartridge's flow may be adjusted -50% of maximum setting. Reverse flow is not regulated.

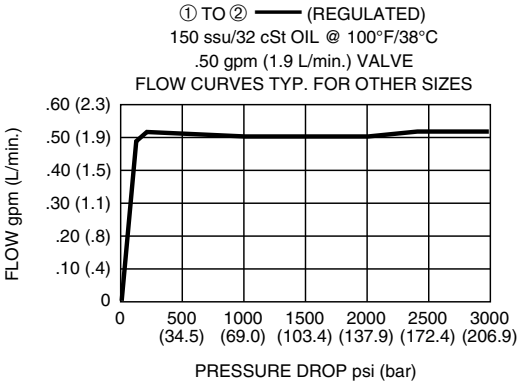
FEATURES and BENEFITS

- Pressure-compensated.
- Quiet response.
- Low flow capabilities.
- Aluminum knob and disc nut.
- Adjustable flow -50% of maximum setting.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

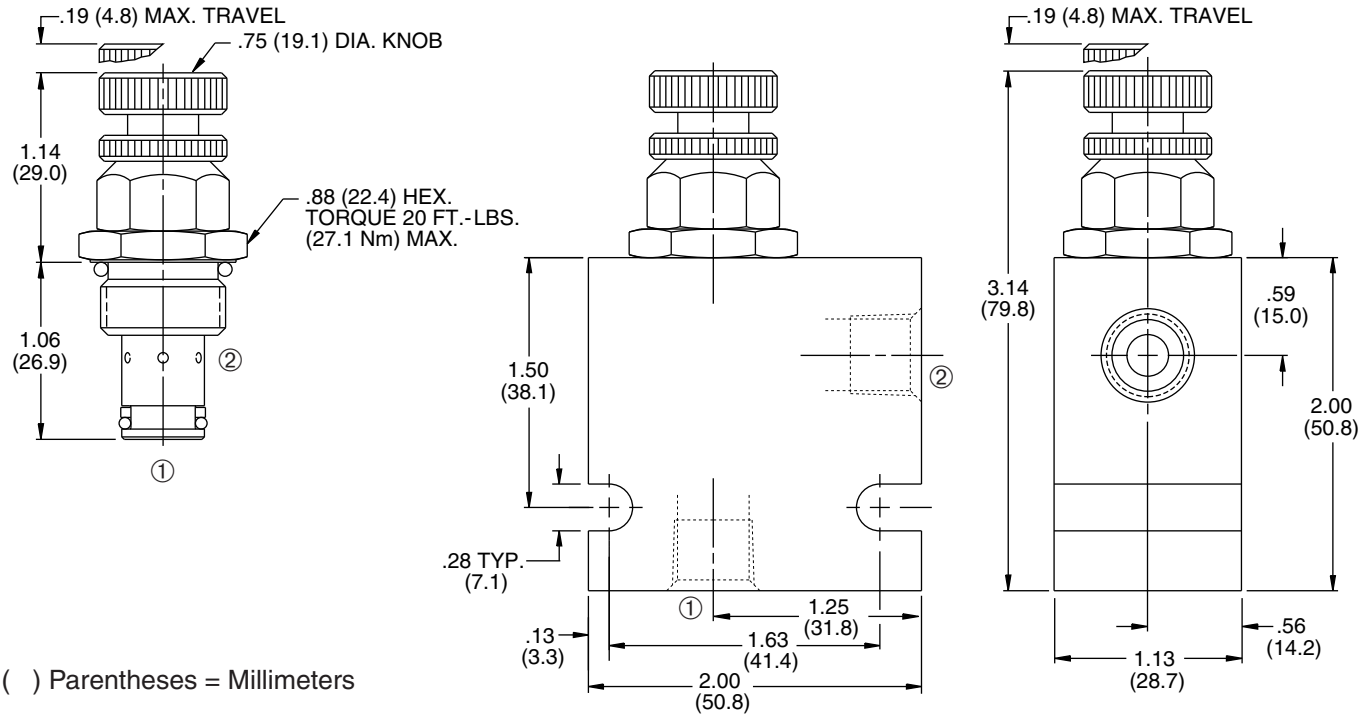
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: Ranges from .15 to 2 gpm (0.6 to 7.6 L/min.) A minimum pressure differential of 75 PSID is required to operate valve. (See ordering table)
Flow may be adjusted -50% of maximum setting.
Flow Tolerances: Flows .15 gpm to 1.5 gpm (0.6 to 5.7 L/min.) ±15%
Flows over 1.5 gpm (5.7 L/min.) ±10%
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DFRA - 080 - 2 - * - * - ****

FLOW REGULATOR VALVE (ADJUSTABLE)

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

MAXIMUM FLOW SETTING
015 = .15 GPM (.57 L/min.)
020 = .20 GPM (.76 L/min.)
045 = .45 GPM (1.70 L/min.)
065 = .65 GPM (2.46 L/min.)
100 = 1.00 GPM (3.79 L/min.)
150 = 1.50 GPM (5.68 L/min.)
200 = 2.00 GPM (7.57 L/min.)

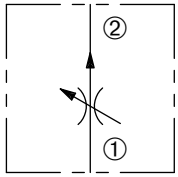
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting options available – consult factory.)

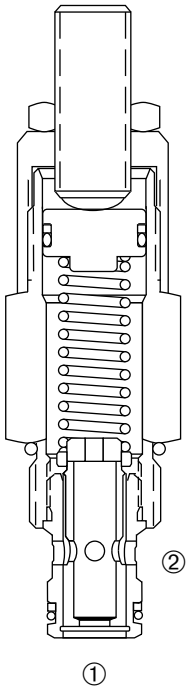
DFRA-100-2

Adjustable, Pressure-Compensated
Flow Regulator Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

An adjustable cartridge valve designed to regulate flow regardless of load pressure. This valve is a restrictive-type flow regulator designed for a wide variety of flow applications.

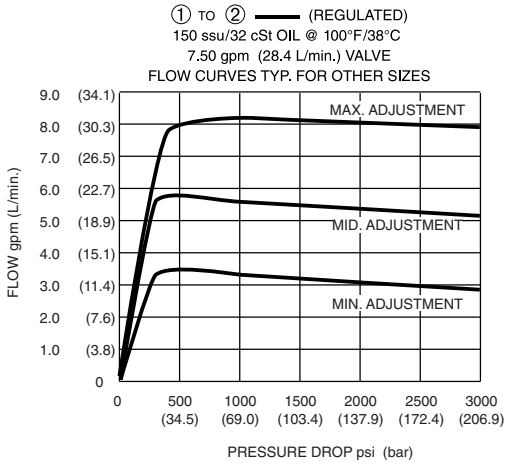
OPERATION

The DFRA-100-2 maintains a constant flow within specified accuracies from ① to ② regardless of downstream load pressure. When flow produces a minimum predetermined pressure differential across the compensator spool control orifice, the spool shifts against the spring force to throttle the flow and maintain the flow setting. The cartridge's flow may be adjusted - 50% of maximum setting. Reverse flow is not regulated.

FEATURES and BENEFITS

- Pressure-compensated.
- Quiet response.
- Hidden adjustment (tamper resistant) option.
- Aluminum knob and disc nut option.
- Adjustable flow - 50% of maximum setting.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

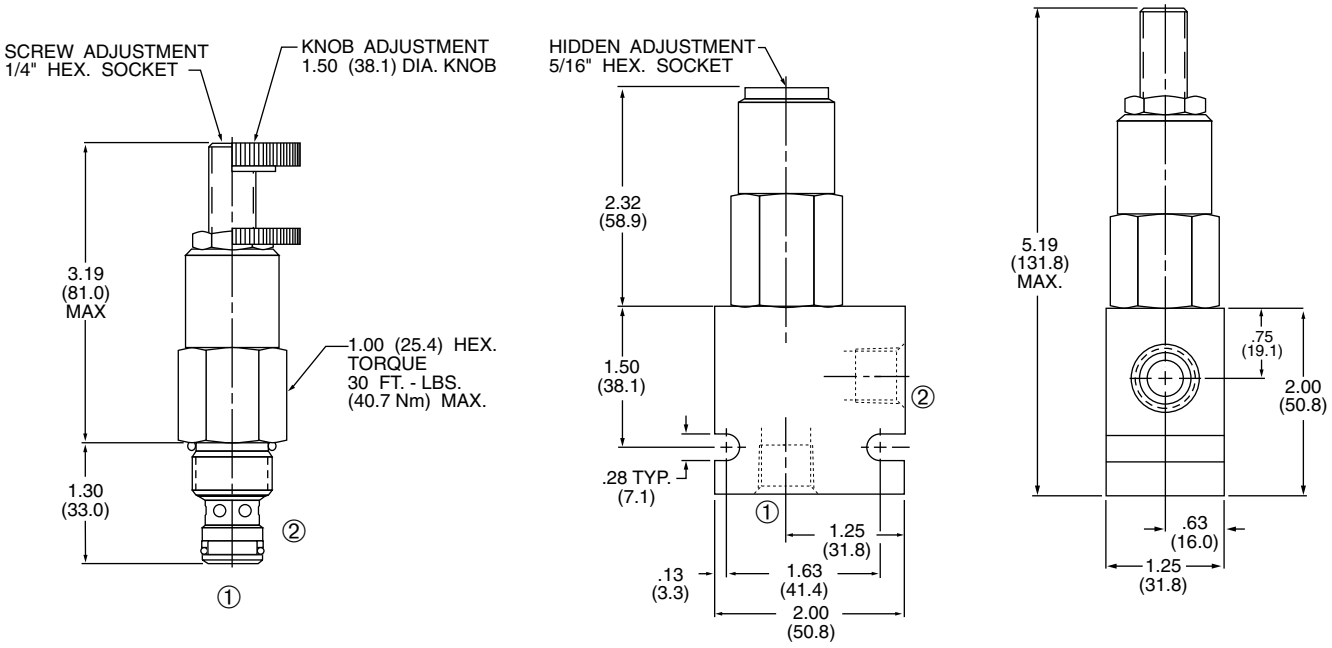
PRESSURE DROP VS. FLOW



SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar).
Flow: Ranges from 1 to 10 gpm (3.8 to 37.9 L/min.)
(See ordering table)
Flow may be adjusted -50% of maximum setting.
Flow Tolerances: Flows up to and including
1.5 gpm (5.7 L/min.) ±15%
Flows over 1.5 gpm (5.7 L/min.) ±10%
Temperature: -30° F to +250° F (-35°C to +120° C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DFRA - 100 - 2 - * - * - * - ** - ****

FLOW REGULATOR VALVE
(ADJUSTABLE)

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
H = Hidden
K = Knob
S = Screw

MAXIMUM FLOW SETTING

100 = 1.00 GPM (3.79 L/min.)
150 = 1.50 GPM (5.68 L/min.)
200 = 2.00 GPM (7.57 L/min.)
300 = 3.00 GPM (11.36 L/min.)
500 = 5.00 GPM (18.93 L/min.)
750 = 7.50 GPM (28.39 L/min.)
1000 = 10.00 GPM (37.85 L/min.)

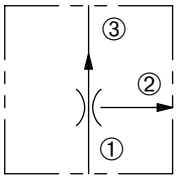
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

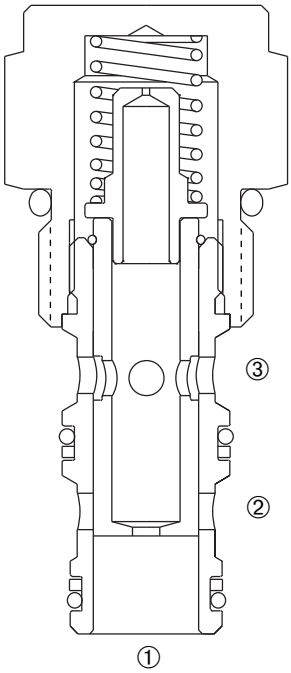
DFR-100-3

Fixed, Bypass-Type, Pressure-Compensated
Flow Regulator Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A fixed bypass-type cartridge valve designed to regulate priority flow while bypassing excess flow regardless of load pressure.

OPERATION

The DFR-100-3 maintains a constant flow within specified accuracies from ① to ③ regardless of downstream load pressure at ③ or bypass leg ②. When flow produces a minimum predetermined pressure differential across the compensator spool control orifice, the spool shifts against the spring force to throttle the flow and maintain the priority flow setting. Reserve flow is not regulated.

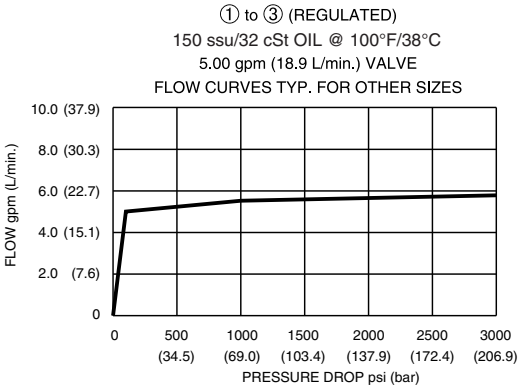
FEATURES and BENEFITS

- Pressure-compensated.
- Quiet response.
- Bypass port ② may be fully pressurized.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar). A minimum pressure differtial of 100 PSID is required to operate valve.
Flow: Ranges from 1 to 6 gpm (3.8 to 22.7 L/min.)
10 gpm (37.9 L/min.) max. input.
(See ordering table)
Flow Tolerances: Flows up to and including 1.5 gpm (5.7 L/min.) ±15%
Flows over 1.5 gpm (5.7 L/min.) ±10%
Temperature: -30° F to +250° F (-35°C to +120° C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

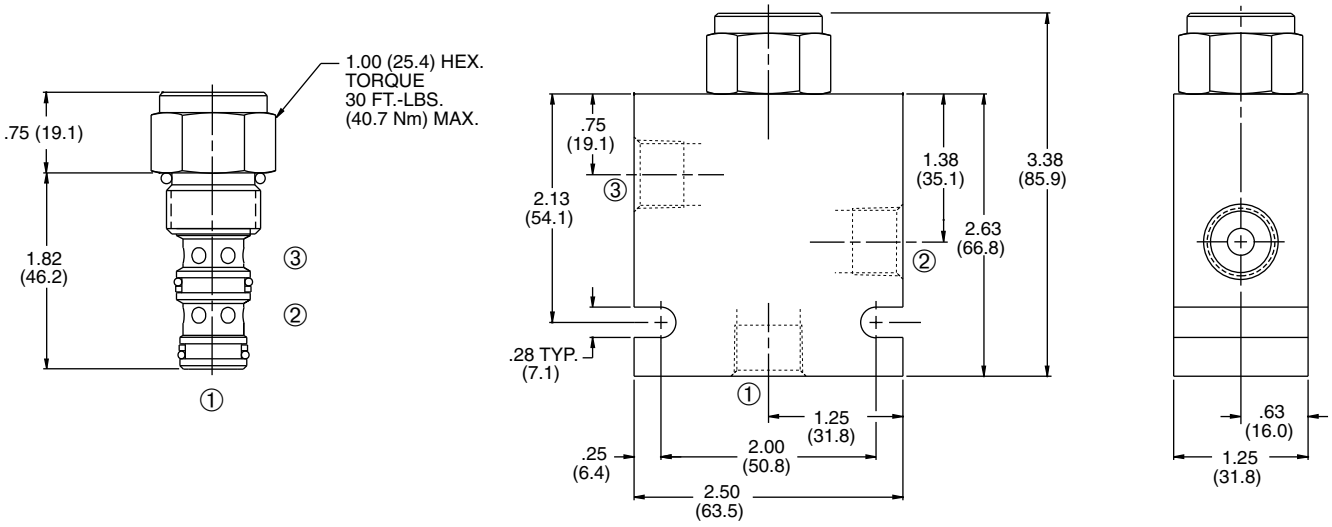
PRESSURE DROP VS. FLOW



DFR-100-3

Fixed, Bypass-Type, Pressure-Compensated
Flow Regulator Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DFR - 100 - 3 - * - ** - ****

FLOW REGULATOR VALVE
(FIXED)

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

NOMINAL FLOW SETTING

100 = 1.00 GPM (3.78 L/min.)
150 = 1.50 GPM (5.68 L/min.)
200 = 2.00 GPM (7.57 L/min.)
250 = 2.50 GPM (9.46 L/min.)
300 = 3.00 GPM (11.36 L/min.)
350 = 3.50 GPM (13.25 L/min.)
400 = 4.00 GPM (15.14 L/min.)
450 = 4.50 GPM (17.03 L/min.)
500 = 5.00 GPM (18.93 L/min.)
600 = 6.00 GPM (22.71 L/min.)

(Other flow settings available–consult factory)

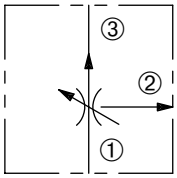
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

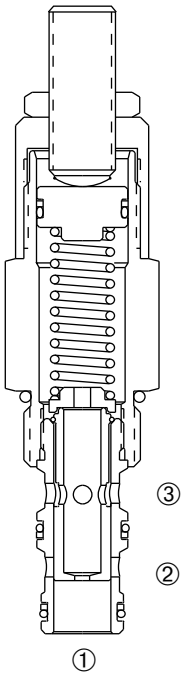
DFRA-100-3

Adjustable, Bypass-Type, Pressure-Compensated Flow Regulator Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

An adjustable bypass-type cartridge valve designed to regulate priority flow while bypassing excess flow regardless of load pressure.

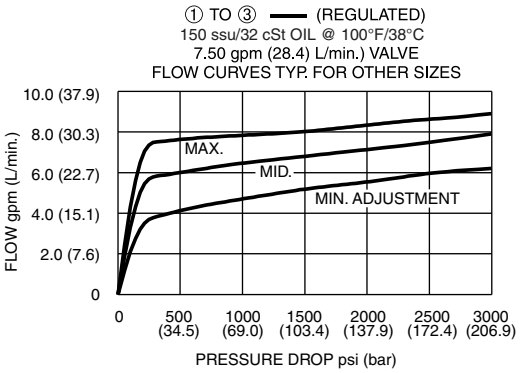
OPERATION

The DFRA-100-3 maintains a constant flow within specified accuracies from ① to ③ regardless of downstream load pressure at ③ or bypass leg ②. When flow produces a minimum predetermined pressure differential across the compensator spool control orifice, the spool shifts against the spring force to throttle the flow and maintain the priority flow setting. The cartridge's flow may be adjusted -40% of maximum setting. Reverse flow is not regulated.

FEATURES and BENEFITS

- Pressure-compensated.
- Quiet response.
- Bypass port ② may be fully pressurized.
- Hidden adjustment (tamper resistant) option.
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



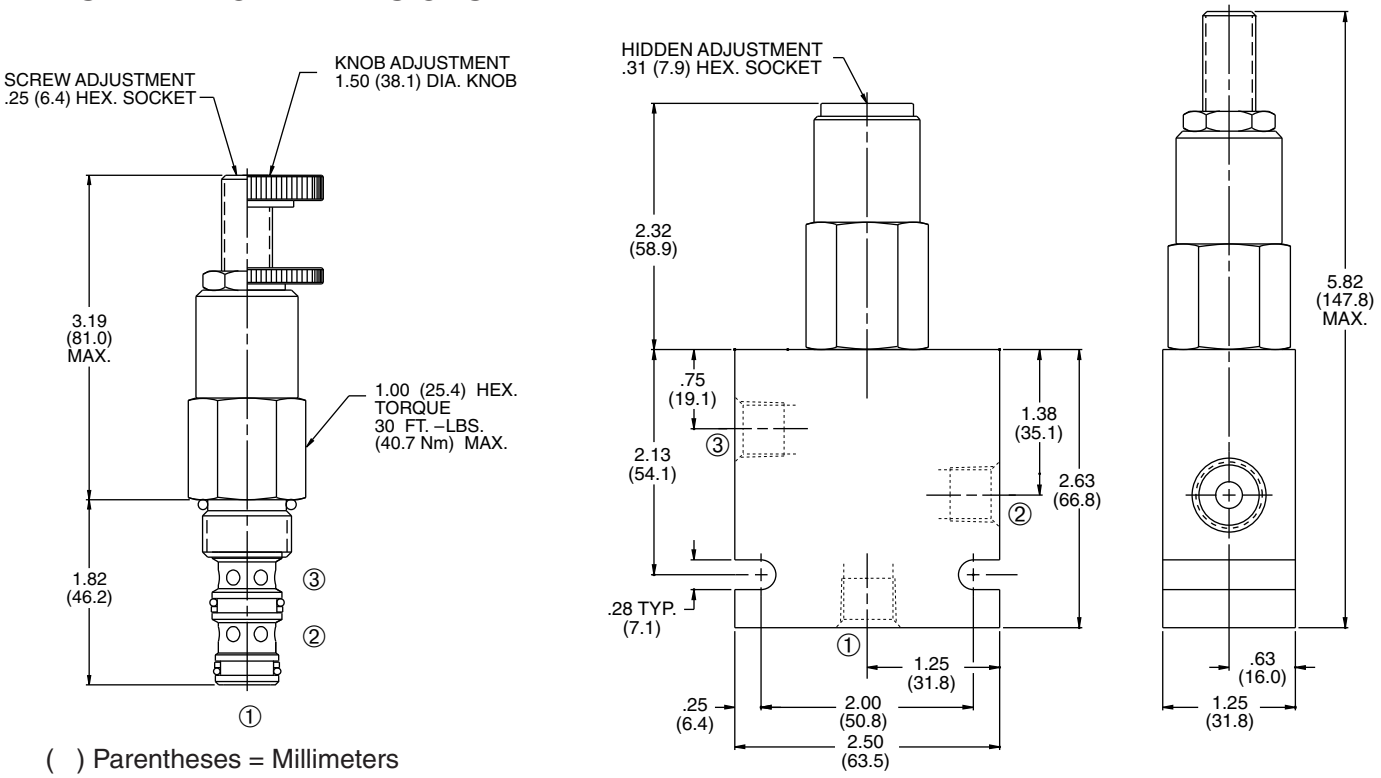
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar).
Flow: Ranges from 1 to 10 gpm (3.8 to 37.9 L/min.)
10 gpm (37.9 L/min.) max. input.
(See ordering table)
Flow may be adusted - 40% of maximum setting.
Flow Tolerances: Flows up to and including 1.5 gpm (5.7 L/min.) ±15%
Flows over 1.5 gpm (5.7 L/min.) ±10%
Temperature: -30° F to +250° F (-35°C to +120° C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DFRA-100-3

Adjustable, Bypass-Type, Pressure-Compensated
Flow Regulator Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DFRA - 100 - 3 - * - * - ** - ****

FLOW REGULATOR VALVE
(ADJUSTABLE)

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
H = Hidden
K = Knob
S = Screw

MAXIMUM FLOW SETTING

100 = 1.00 GPM (3.79 L/min.)
150 = 1.50 GPM (5.68 L/min.)
200 = 2.00 GPM (7.57 L/min.)
300 = 3.00 GPM (11.36 L/min.)
500 = 5.00 GPM (18.93 L/min.)
750 = 7.50 GPM (28.39 L/min.)
1000 = 10.00 GPM (37.85 L/min.)

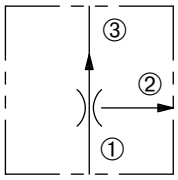
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

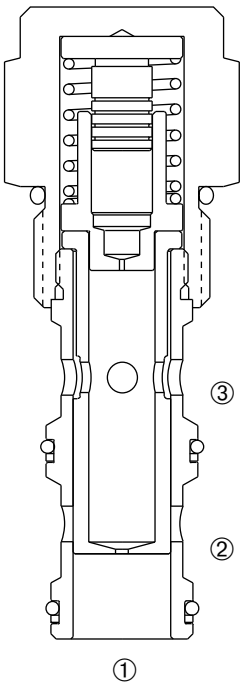
DFR-120-3

Fixed, Bypass-Type, Pressure-Compensated
Flow Regulator Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 12





DESCRIPTION

A fixed bypass-type cartridge valve designed to regulate priority flow while bypassing excess flow regardless of load pressure.

OPERATION

The DFR-120-3 maintains a constant flow within specified accuracies from ① to ③ regardless of downstream load pressure at ③ or bypass leg ②. When flow produces a minimum predetermined pressure differential across the compensator spool control orifice, the spool shifts against the spring force to throttle the flow and maintain the priority flow setting. Reverse flow is not regulated.

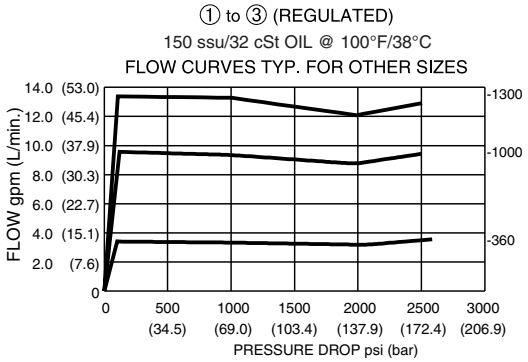
FEATURES and BENEFITS

- Pressure-compensated.
- Quiet response.
- Bypass port ② may be fully pressurized.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: Ranges from 2 to 13 gpm (7.6 to 49.2 L/min.)
25 gpm (94.6 L/min.) max. input.
(See ordering table)
Flow Tolerances: Flows up to and including
3.0 gpm (11.4 L/min.) ±15%
Flows over 3.0 gpm (11.4 L/min.) ±10%
Temperature: -30° F to +250° F (-35°C to +120° C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility consult factory.
Cavity/Cavity Tool: 120-3, see page 11.12.3

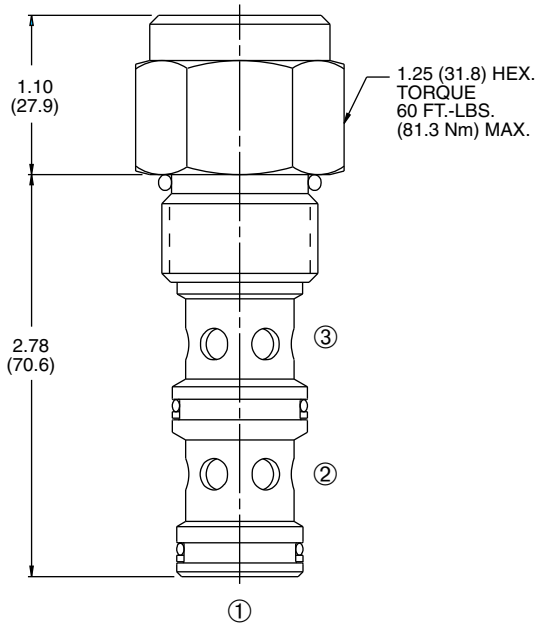
PRESSURE DROP VS. FLOW



DFR-120-3

Fixed, Bypass-Type, Pressure-Compensated
Flow Regulator Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DFR - 120 - 3 - * - **

FLOW REGULATOR VALVE
(FIXED)

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

MAXIMUM FLOW SETTING

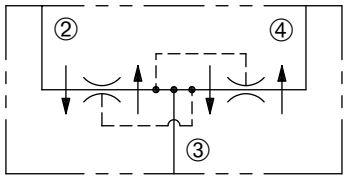
200 = 2.00 GPM (7.57 L/min.)
225 = 2.25 GPM (8.52 L/min.)
250 = 2.50 GPM (9.46 L/min.)
300 = 3.00 GPM (11.36 L/min.)
360 = 3.60 GPM (13.63 L/min.)
400 = 4.00 GPM (15.14 L/min.)
500 = 5.00 GPM (18.93 L/min.)
1000 = 10.00 GPM(37.85 L/min.)
1300 = 13.00 GPM(49.21 L/min.)

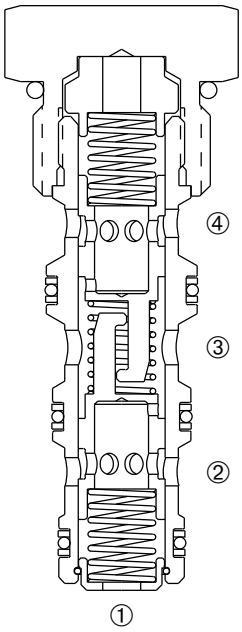
DFD-100

Pressure-Compensated,
Flow Divider/Combiner Valve

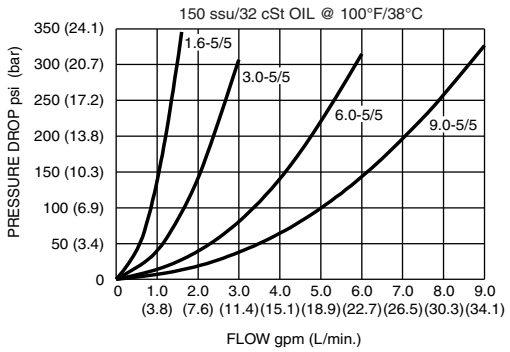
DELTROL fluid products
DIVISION OF DELTROL CORP

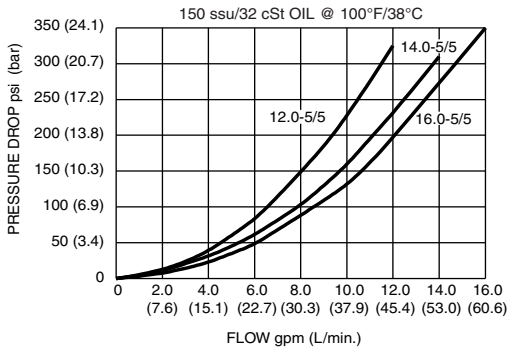
SERIES 10





PRESSURE DROP VS. FLOW





DESCRIPTION

A cartridge valve designed to divide or combine flow at designated ratios regardless of load pressures.

OPERATION

In the dividing mode, the DFD-100 will split the input flow from port ③ to ports ② and ④ per the ratio specified.

The DFD-100 will combine input flows from ports ② and ④ to a common port ③.

This valve has no port ① function.

FEATURES and BENEFITS

- Pressure-compensated.
- Quiet response.
- Optional dividing/combining ratios.
- Industry common cavity.
- Compact size.

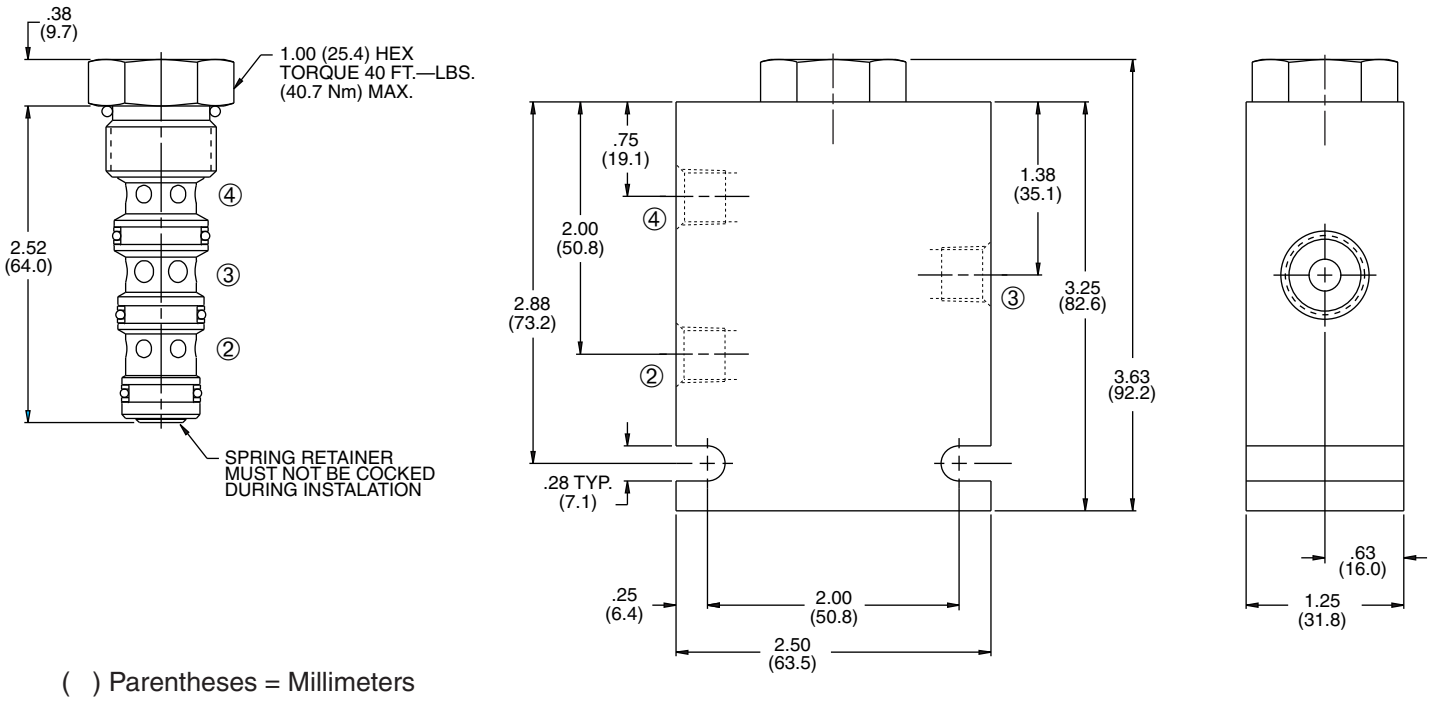
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar) A minimum pressure differential of 40 psid is required to operate valve.
Flow: See max. rated input flow in ordering table.
Flow Tolerances: ±10% from 30-100% of rated flow for all 5/5 models except 16.0-5/5 which is ±10% from 40-100% of rated flow. (Consult factory for all other models.)
Temperature: -30° F to +250° F (-35°C to +120° C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility consult factory.
Cavity/Cavity Tool: 100-4, see page 11.10.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DFD-100

Pressure-Compensated,
Flow Divider/Combiner Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DFD - 100 - * - ** - */* - **

FLOW DIVIDER/
COMBINER VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

MAX RATED - DIVIDING OR COMBINING
INPUT FLOW RATIO(PORT 2 / PORT 4)

1.6 - 5/5 = 1.6 GPM (6.1 L/min.) - 50:50
2.5 - 7/3 = 2.5 GPM (9.5 L/min.) - 67:33
2.5 - 3/7 = 2.5 GPM (9.5 L/min.) - 33:67
3.0 - 5/5 = 3.0 GPM (11.4 L/min.) - 50:50
4.5 - 7/3 = 4.5 GPM (17.0 L/min.) - 67:33
4.5 - 3/7 = 4.5 GPM (17.0 L/min.) - 33:67
6.0 - 5/5 = 6.0 GPM (22.7 L/min.) - 50:50
7.5 - 6/4 = 7.5 GPM (28.4 L/min.) - 60:40
7.5 - 4/6 = 7.5 GPM (28.4 L/min.) - 40:60
9.0 - 5/5 = 9.0 GPM (34.1 L/min.) - 50:50
9.0 - 7/3 = 9.0 GPM (34.1 L/min.) - 67:33
9.0 - 3/7 = 9.0 GPM (34.1 L/min.) - 33:67
12.0 - 5/5 = 12.0 GPM (45.4 L/min.) - 50:50
12.5 - 7/3 = 12.5 GPM (47.3 L/min.) - 67:33
12.5 - 3/7 = 12.5 GPM (47.3 L/min.) - 33:67
14.0 - 5/5 = 14.0 GPM (53.0 L/min.) - 50:50
14.0 - 6/4 = 14.0 GPM (53.0 L/min.) - 60:40
14.0 - 4/6 = 14.0 GPM (53.0 L/min.) - 40:60
16.0 - 5/5 = 16.0 GPM (60.6 L/min.) - 50:50

(Other options available – consult factory)

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(other porting options available – consult factory)

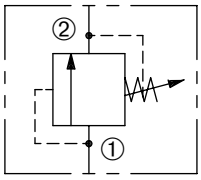
(Use special flow divider bodies with no port ①.)

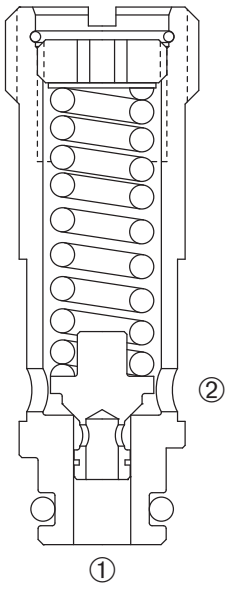
ZRV-63

Adjustable,
Direct-Acting Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE





DESCRIPTION

An adjustable, direct-acting poppet cartridge valve designed to limit pressure in hydraulic circuits.

OPERATION

The ZRV-63 prevents flow from ① to ② until the set crack pressure at ① is achieved. The poppet then unseats allowing flow from ① to ② protecting the circuit from over pressurization.

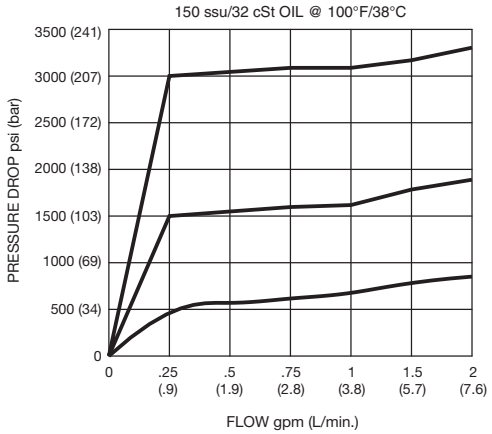
FEATURES and BENEFITS

- Rapid response to pressure surges.
- Hardened poppet and seat for long life.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal flow 2 gpm (11.4 L/min.)
Internal Leakage: 20 drops/min. at 80% set.
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min.)
Reseat Pressure: Nominal 80% of crack pressure.
Spring Range: 100 to 1000 PSI (7 to 69 Bar)
Preset: 500 PSI (34 Bar)
900 to 2000 PSI (62 to 138 Bar)
Preset: 1500 PSI (103 Bar)
1900 to 3000 PSI (131 to 207 Bar)
Preset: 2000 PSI (138 Bar)
Temperature: -30°F to +220°F (-35°C to +104°C).
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: ZP63, see page 11.06.3
Installation/Removal Tool: Consult factory.
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



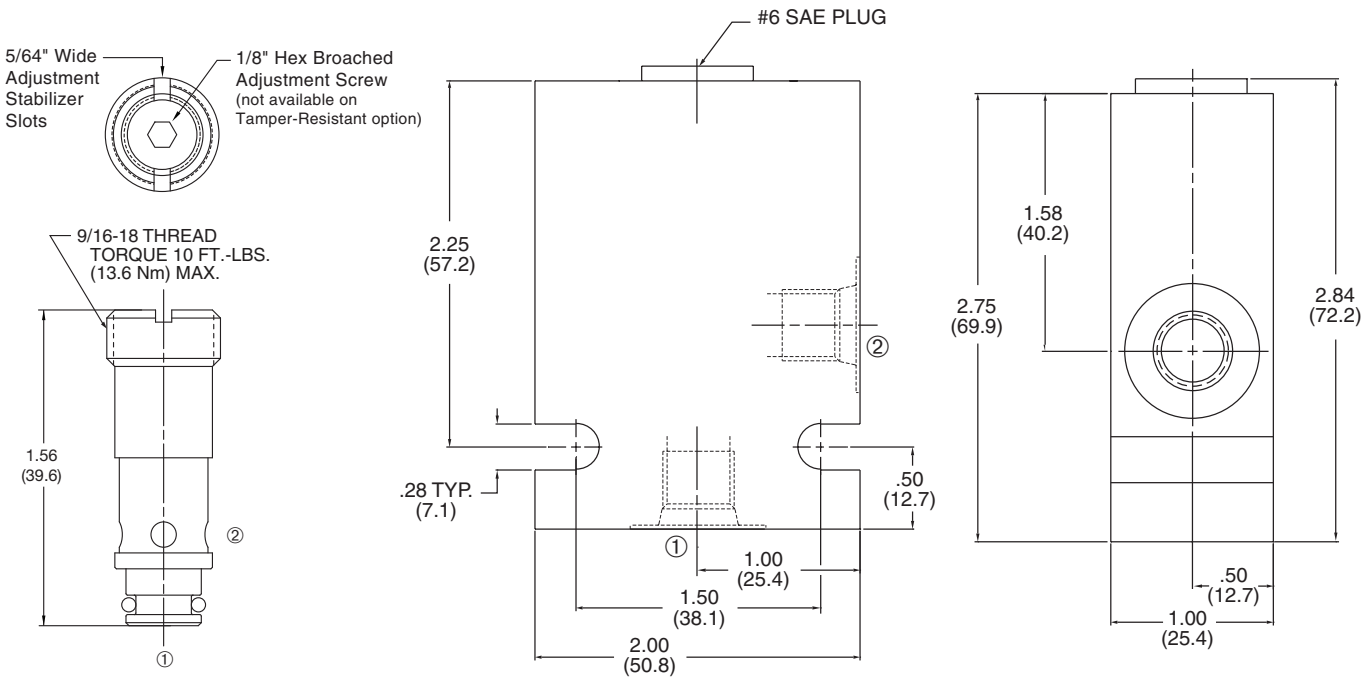
DELTROL fluid products
DIVISION OF DELTROL CORP

ZRV-63

Adjustable,
Direct-Acting Relief Valve

ZERO PROFILE

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZRV - 63 - U - * - ** / ** - ****

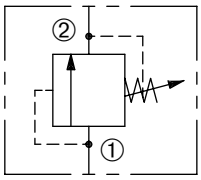
- ZRV — RELIEF VALVE
- 63 — CAVITY
- U — SEALS: U = Urethane
- * — ADJUSTMENT OPTION: (Omit for Standard); H = Tamper-Resistant
- ** — SPRING RANGE:
  - 10 = 100 to 1000 PSI (7 to 69 Bar) Preset: 500 PSI (34 Bar)
  - 20 = 900 to 2000 PSI (62 to 138 Bar) Preset: 1500 PSI (103 Bar)
  - 30 = 1900 to 3000 PSI (131 to 207 Bar) Preset: 2000 PSI (138 Bar)
- **** — FACTORY PRESET PSI (Omit for standard)
- ** — PORTING: 4T = SAE 4; 6T = SAE 6; Omit for Cartridge Only.

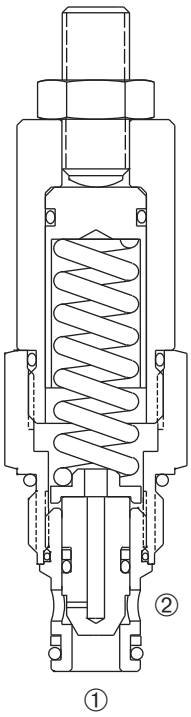
DRV2-080

Adjustable,
Direct-Acting Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

An adjustable, direct-acting poppet cartridge valve designed to limit pressure in hydraulic circuits.

OPERATION

The DRV2-080 prevents flow from ① to ② until the set crack pressure at ① is achieved. The poppet then unseats allowing flow from ① to ② protecting the circuit from over pressurization.

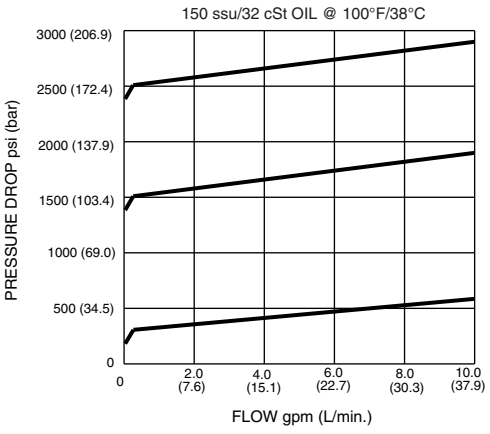
FEATURES and BENEFITS

- Quiet operation.
- Rapid response to pressure surges.
- Hardened poppet and seat for long life.
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Adjustment prevents spring from going solid.
- Industry common cavity.
- Compact size.

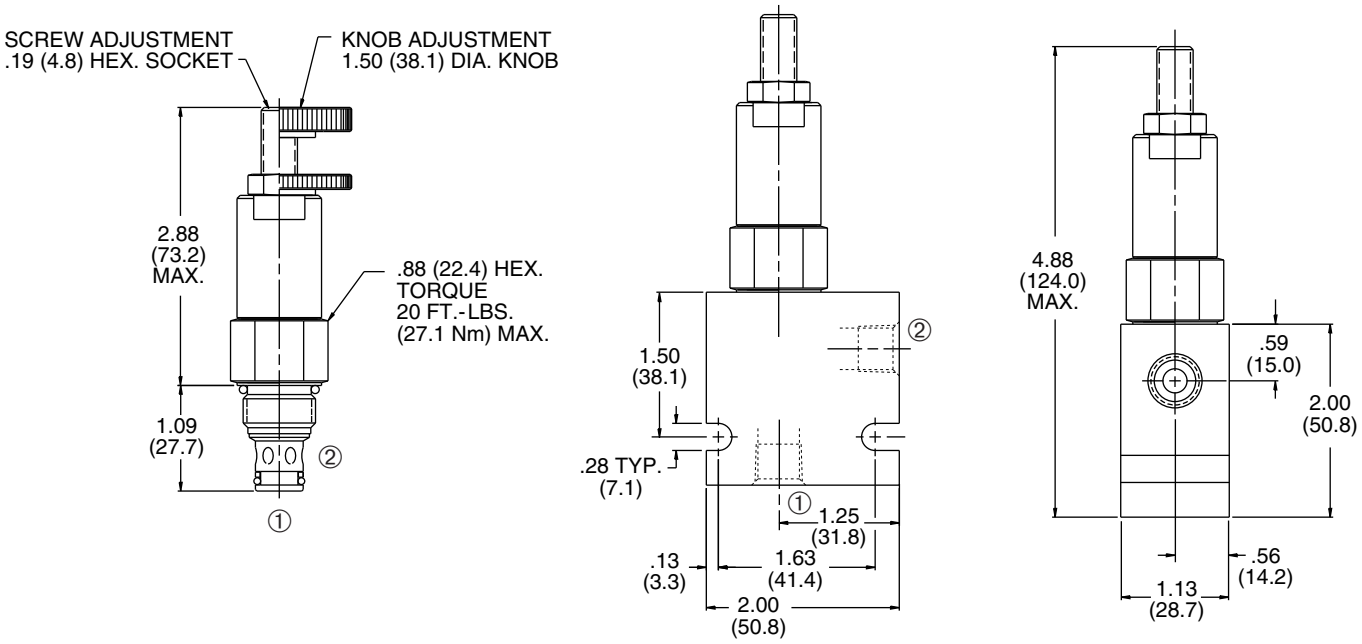
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 10 GPM (37.9 L/min).
Internal Leakage: 20 drops/min. max. at reseat.
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min.)
Reseat Pressure: Nominal 80% of crack pressure.
Spring Range: 100 to 400 PSI (7 to 28 Bar)
Preset: 300 PSI (21 Bar)
300 to 2000 PSI (21 to 138 Bar)
Preset: 1500 PSI (103 Bar)
1500 to 3000 PSI (103 to 207 Bar)
Preset: 2500 PSI (172 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C).
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DRV2 - 080 - * - * - * / **** - ****

RELIEF VALVE

CAVITY/SEAL

SEALS
N = Buna-N
V = Viton

ADJUSTMENT STYLE
K = Knob
S = Screw

SPRING RANGE
4 = 100 to 400 PSI (7 to 28 Bar)
Preset: 300 PSI (21 Bar)
20 = 300 to 2000 PSI (21 to 138 Bar)
Preset: 1500 PSI (103 Bar)
30 = 1500 to 3000 PSI (103 to 207 Bar)
Preset: 2500 PSI (172 Bar)

FACTORY PRESET PSI
(Omit for standard)

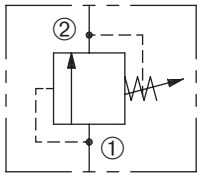
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting options available – consult factory.)

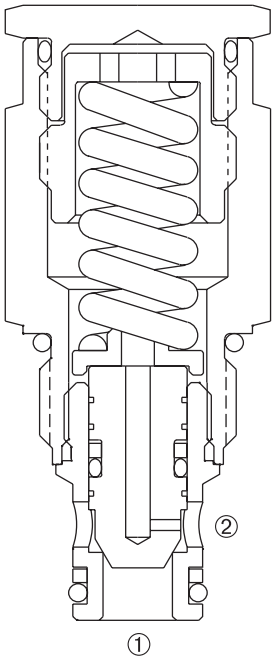
DRV-080-*-H

Tamper-Resistant,
Direct-Acting Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

An adjustable, direct-acting poppet cartridge valve designed to limit pressure in hydraulic circuits.

OPERATION

The DRV-080-*-H prevents flow from ① to ② until the set crack pressure at ① is achieved. The poppet then unseats allowing flow from ① to ② protecting the circuit from over pressurization.

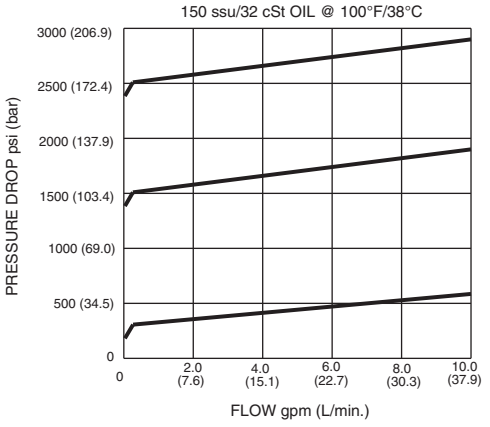
FEATURES and BENEFITS

- Quiet operation.
- Rapid response to pressure surges.
- Hardened poppet and seat for long life.
- Hidden adjustment (tamper resistant).
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 10 GPM (37.9 L/min).
Internal Leakage: 20 drops/min. max. at reseat.
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min.)
Reseat Pressure: Nominal 80% of crack pressure.
Spring Range: 50 to 3000 PSI (3 to 207 Bar)
Preset: 1500 PSI (103 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C).
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

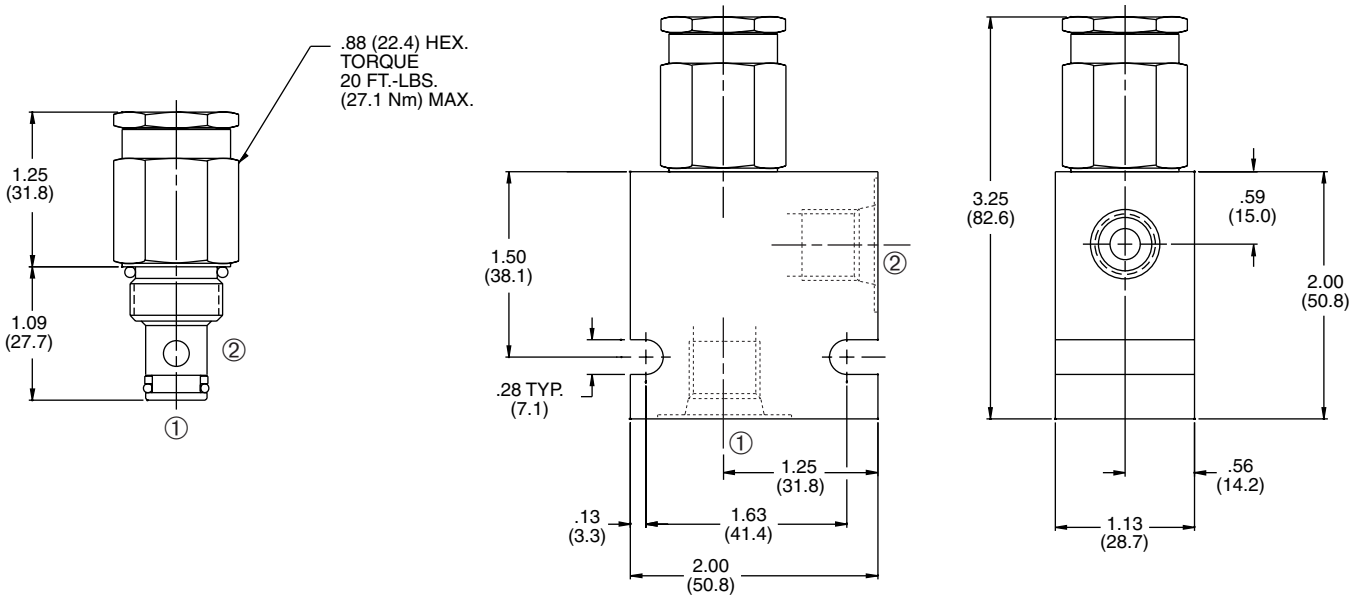
PRESSURE DROP VS. FLOW



DRV-080-*-H

Tamper-Resistant,
Direct-Acting Relief Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DRV - 080 - * - H - 30/ ** - ****

RELIEF VALVE

CAVITY/SEAL

SEALS
N = Buna-N
V = Viton

HIDDEN
ADJUSTMENT STYLE

SPRING RANGE
30 = 50 to 3000 PSI (3 to 207 Bar)
Preset: 1500 PSI (103 Bar)

FACTORY PRESET PSI
50 psi Increments
example: 2550 = 2550 PSI
(Omit for standard)

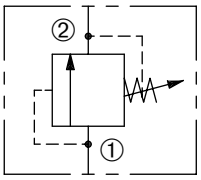
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting
options available –
consult factory.)

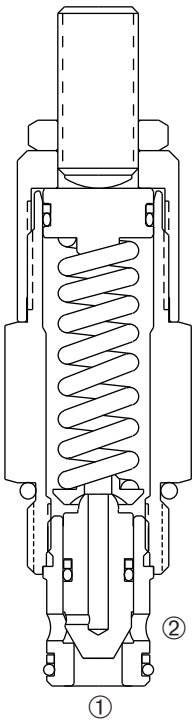
DRV-100

Adjustable,
Direct-Acting Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

An adjustable, direct-acting poppet cartridge valve designed to limit pressure in hydraulic circuits.

OPERATION

The DRV-100 prevents flow from ① to ② until the set crack pressure at ① is achieved. The poppet then unseats allowing flow from ① to ② protecting the circuit from over pressurization.

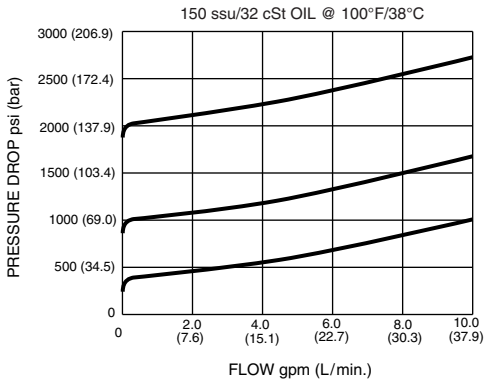
FEATURES and BENEFITS

- Rapid response to pressure surges.
- Hardened poppet and seat for long life.
- Hidden adjustment (tamper resistant) option.
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Adjustment prevents spring from going solid.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 10 GPM (37.9 L/min).
Internal Leakage: 20 drops/min. max. at reseat.
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min.)
Reseat Pressure: Nominal 80% of crack pressure.
Spring Range: 100 to 400 PSI (7 to 28 Bar)
Preset: 300 PSI (21 Bar)
300 to 1000 PSI (21 to 69 Bar)
Preset: 500 PSI (34 Bar)
300 to 2000 PSI (21 to 138 Bar)
Preset: 1500 PSI (103 Bar)
1500 to 3000 PSI (103 to 207 Bar)
Preset: 2000 PSI (138 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C).
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

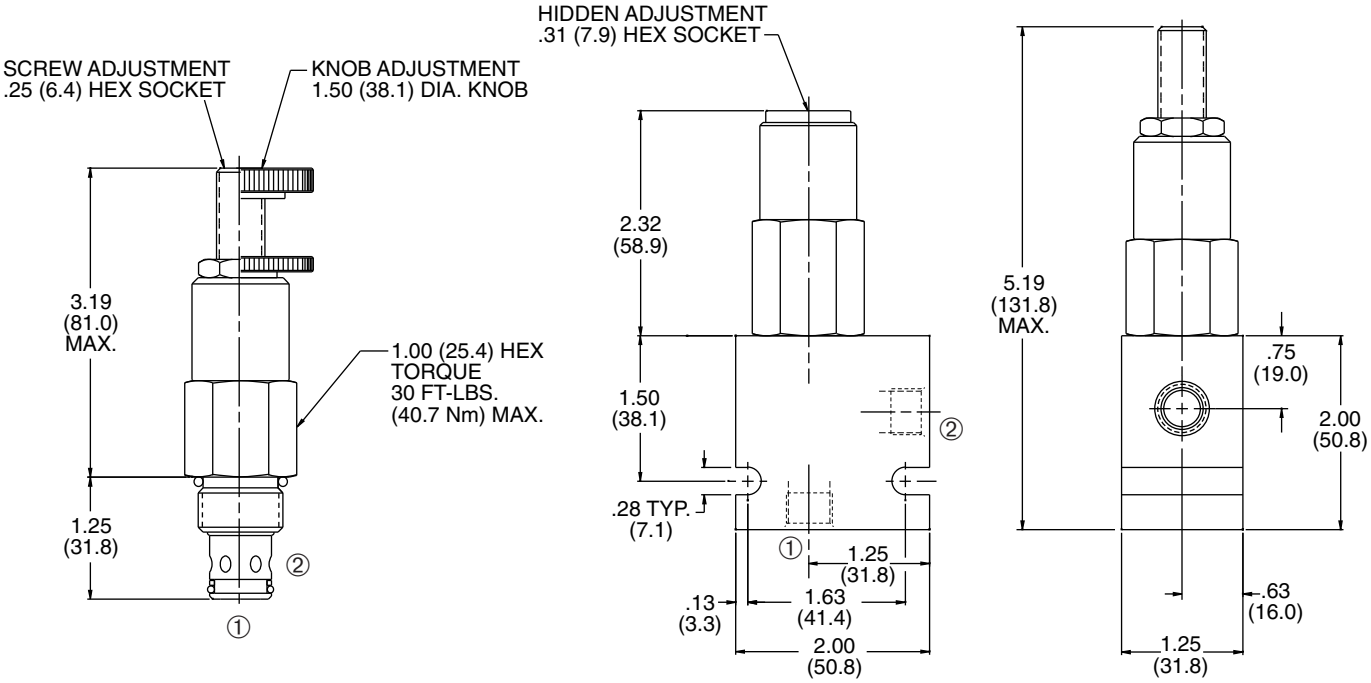
PRESSURE DROP VS. FLOW



DRV-100

Adjustable,
Direct-Acting Relief Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DRV - 100 - * - * - ** / ** - **

RELIEF VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
H = Hidden
K = Knob
S = Screw

SPRING RANGE
4 = 100 to 400 PSI (7 to 28 Bar)
Preset: 300 PSI (21 Bar)
10 = 300 to 1000 PSI (21 to 69 Bar)
Preset: 500 PSI (34 Bar)
20 = 300 to 2000 PSI (21 to 138 Bar)
Preset: 1500 PSI (103 Bar)
30 = 1500 to 3000 PSI (103 to 207 Bar)
Preset: 2000 PSI (138 Bar)

FACTORY PRESET PSI
(Omit for standard)

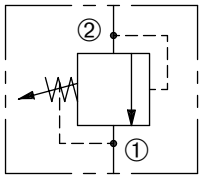
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

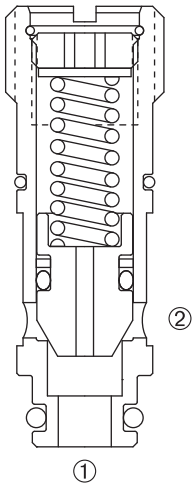
ZDRV-63

Adjustable, Direct-Acting,
Differential Area Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE





DESCRIPTION

An adjustable, direct-acting poppet cartridge valve designed to limit pressure in hydraulic circuits.

OPERATION

The ZDRV-63 prevents flow from ② to ① until the set crack pressure at ② is achieved. The poppet then unseats allowing flow from ② to ① protecting the circuit from over pressurization.

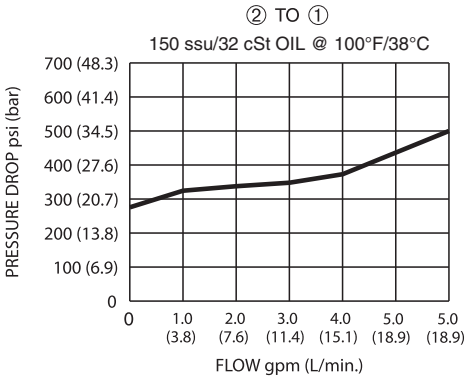
FEATURES and BENEFITS

- Rapid response to pressure surges.
- Hardened poppet and seat for long life.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: Nominal flow 5 gpm (18.9 L/min.)
Internal Leakage: 20 drops/min. at 80% set.
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min.)
Reseat Pressure: Nominal 80% of crack pressure.
Spring Range: 100 to 600 PSI (7 to 41 Bar)
Preset: 300 PSI (21 Bar)
500 to 1000 PSI (34 to 69 Bar)
Preset: 750 PSI (52 Bar)
900 to 2000 PSI (62 to 138 Bar)
Preset: 1500 PSI (103 Bar)
1900 to 3000 PSI (131 to 207 Bar)
Preset: 2000 PSI (138 Bar)
Temperature: -30°F to +220°F (-35°C to +104°C).
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: ZP63, see page 11.06.3
Installation/Removal Tool: Consult factory.
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW

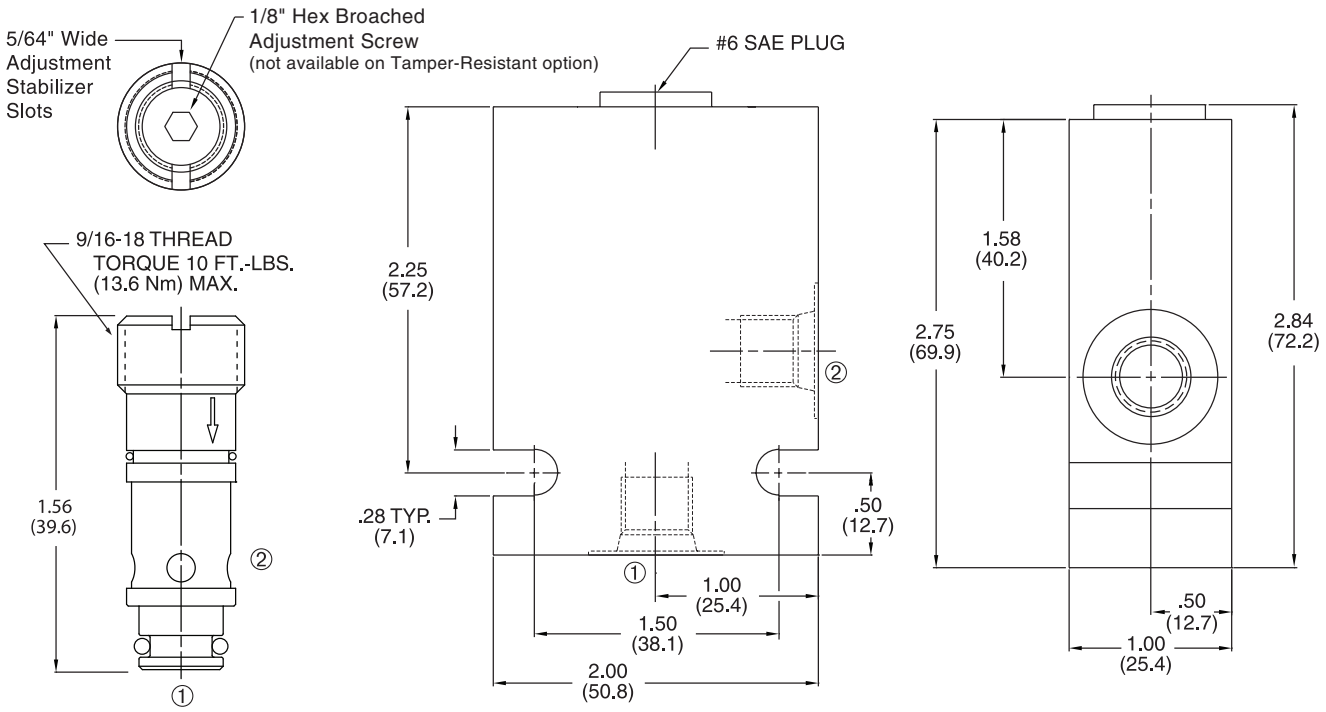


ZDRV-63

Adjustable, Direct-Acting,
Differential Area Relief Valve

ZERO PROFILE

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZDRV - 63 - U - * - ** / ** - ****

RELIEF VALVE

CAVITY

SEALS
U = Urethane

ADJUSTMENT OPTION
(Omit for Standard)
H = Tamper-Resistant

SPRING RANGE
06 = 100 to 600 PSI (7 to 41 Bar)
Preset: 300 PSI (21 Bar)
10 = 500 to 1000 PSI (34 to 69 Bar)
Preset: 750 PSI (52 Bar)
20 = 900 to 2000 PSI (62 to 138 Bar)
Preset: 1500 PSI (103 Bar)
30 = 1900 to 3000 PSI (131 to 207 Bar)
Preset: 2000 PSI (138 Bar)

FACTORY PRESET PSI
(Omit for standard)

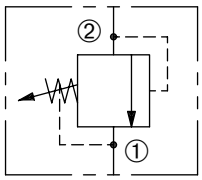
PORTING
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.

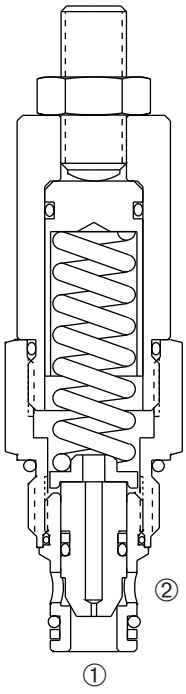
DDRV-080

Adjustable, Direct-Acting,
Differential Area Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

An adjustable, direct-acting poppet cartridge valve designed to limit pressure in hydraulic circuits.

OPERATION

The DDRV-080 prevents flow from ② to ① until the set crack pressure at ② is achieved. The poppet then unseats allowing flow from ② to ① protecting the circuit from over pressurization.

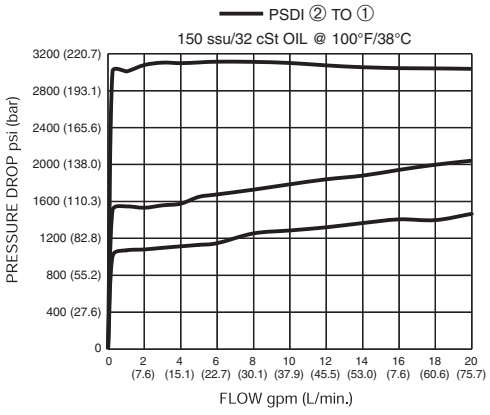
FEATURES and BENEFITS

- Rapid response to pressure surges.
- Low pressure rise.
- Hardened poppet and seat for long life.
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Adjustment prevents spring from going solid.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 10 GPM (37.9 L/min).
Internal Leakage: 10 drops/min. max. at reseat.
Crack Pressure Defined: Determined at .25 gpm (0.9L/min.)
Reseat Pressure: Nominal 80% of crack pressure
Spring Ranges: 100 PSI to 400 PSI (7 to 28 Bar)
Preset: 300 PSI (21 Bar)
300 PSI to 2000 PSI (21 to 138 Bar)
Preset: 1500 PSI (103 Bar)
1500 PSI to 3000 PSI (103 to 207 Bar)
Preset: 2500 PSI (172 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

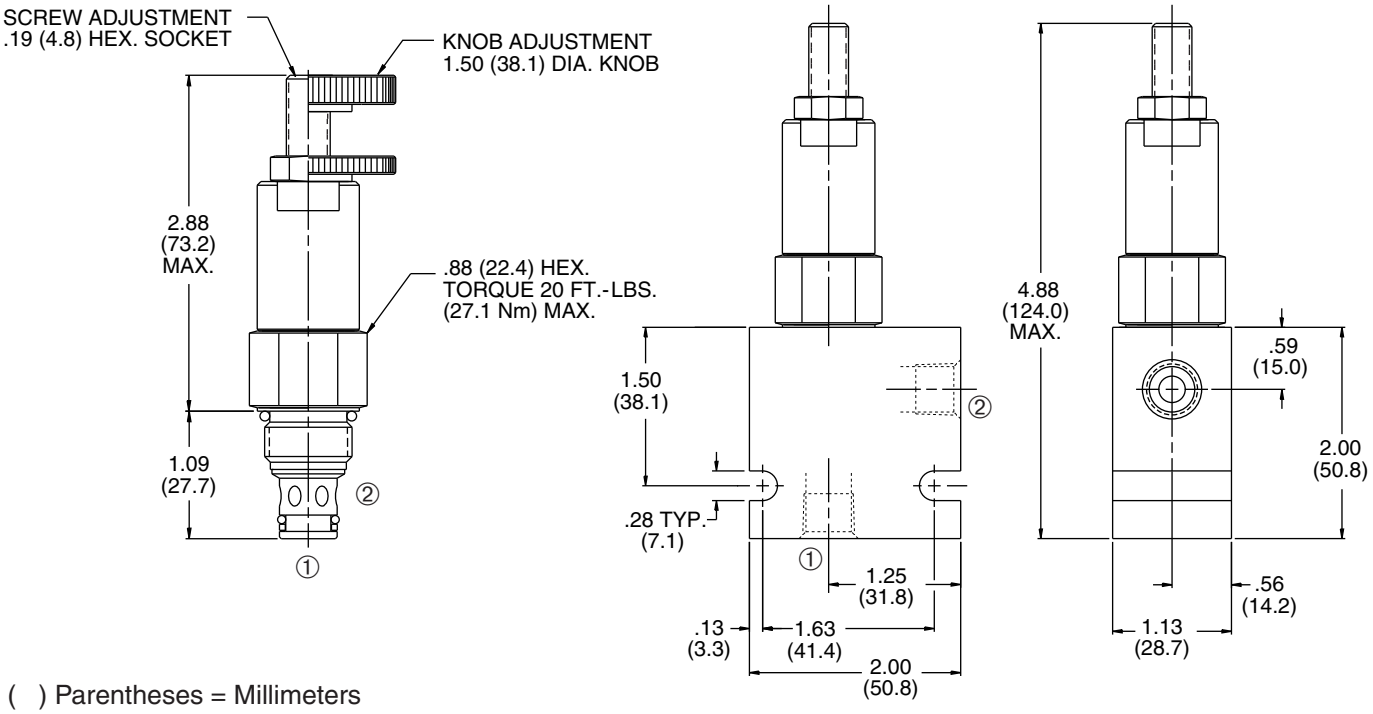
PRESSURE DROP VS. FLOW



DDRV-080

Adjustable, Direct-Acting,
Differential Area Relief Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DDRV - 080 - * - * - * / **** - ****

DIFFERENTIAL
AREA RELIEF VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
K = Knob
S = Screw

SPRING RANGE
4 = 100 to 400 PSI (7 to 28 Bar)
Preset: 300 PSI (21 Bar)
20 = 300 to 2000 PSI (21 to 138 Bar)
Preset: 1500 PSI (103 Bar)
30 = 1500 to 3000 PSI (103 to 207 Bar)
Preset: 2500 PSI (172 Bar)

FACTORY PRESET PSI
(Omit for standard)

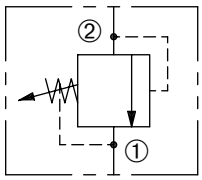
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting
options available –
consult factory.)

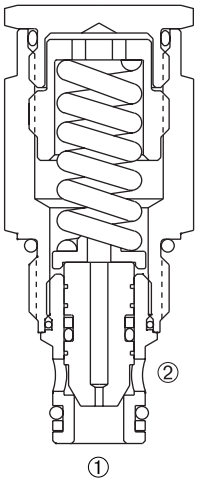
DDRV-080-*-H

Tamper-Resistant, Direct-Acting,
Differential Area Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

An adjustable, direct-acting poppet cartridge valve designed to limit pressure in hydraulic circuits.

OPERATION

The DDRV-080-*-H prevents flow from ② to ① until the set crack pressure at ② is achieved. The poppet then unseats allowing flow from ② to ① protecting the circuit from over pressurization.

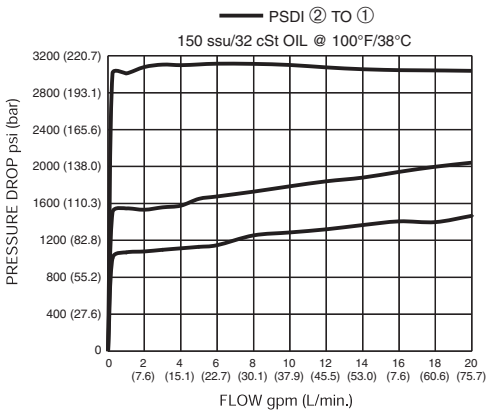
FEATURES and BENEFITS

- Quiet operation.
- Rapid response to pressure surges.
- Low pressure rise.
- Hardened poppet and seat for long life.
- Hidden adjustment (tamper resistant).
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 10 GPM (37.9 L/min).
Internal Leakage: 10 drops/min. max. at reseat.
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min.)
Reseat Pressure: Nominal 80% of crack pressure.
Spring Range: 50 to 3000 PSI (3 to 207 Bar)
Preset: 1500 PSI (103 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C).
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

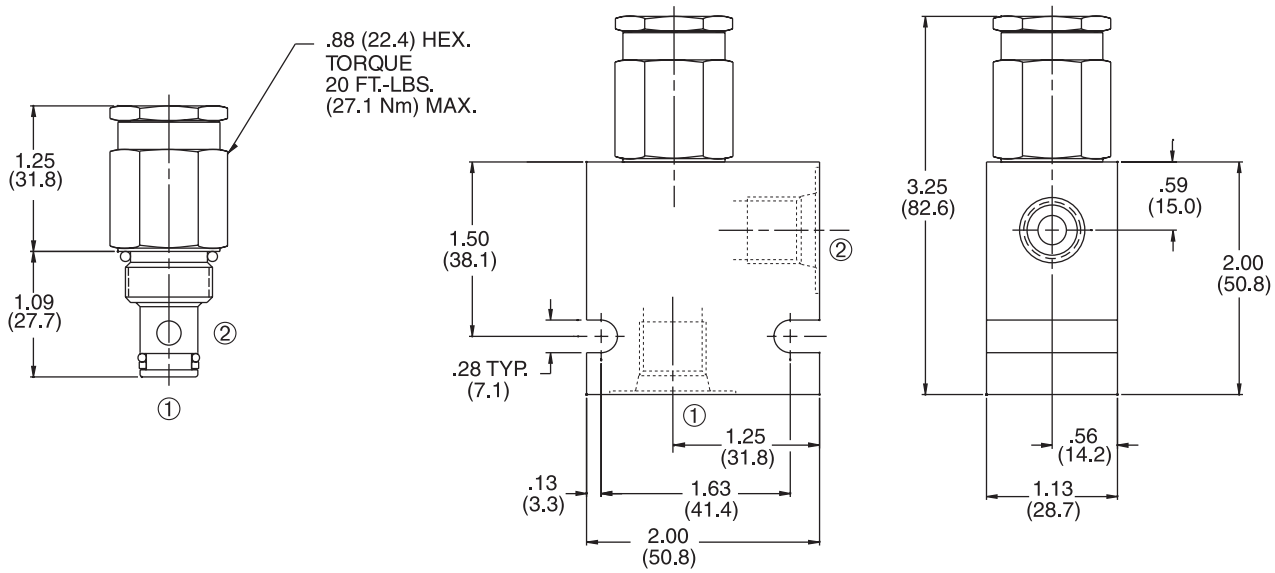
PRESSURE DROP VS. FLOW



DDRV-080-*-H

Tamper-Resistant, Direct-Acting,
Differential Area Relief Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DDRV - 080 - * - H - 30/ ** - ****

DIFFERENTIAL
AREA RELIEF VALVE

CAVITY/SEAL

SEALS
N = Buna-N
V = Viton

HIDDEN
ADJUSTMENT STYLE

SPRING RANGE
30 = 50 to 3000 PSI (3 to 207 Bar)
Preset: 1500 PSI (103 Bar)

FACTORY PRESET PSI
50 PSI Increments (3.4 Bar)
example: 2550 = 2550 PSI (176 Bar)
(Omit for standard)

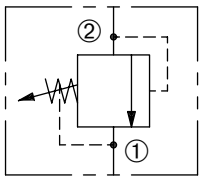
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting
options available –
consult factory.)

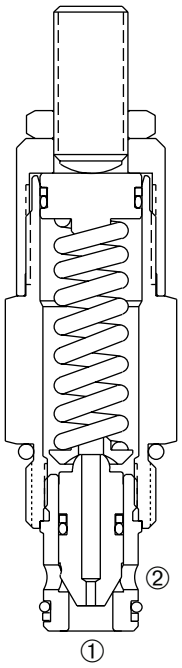
DDRV-100

Adjustable, Direct-Acting,
Differential Area Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

An adjustable, direct-acting poppet cartridge valve designed to limit pressure in hydraulic circuits.

OPERATION

The DDRV-100 prevents flow from ② to ① until the set crack pressure at ② is achieved. The poppet then unseats allowing flow from ② to ① protecting the circuit from over pressurization.

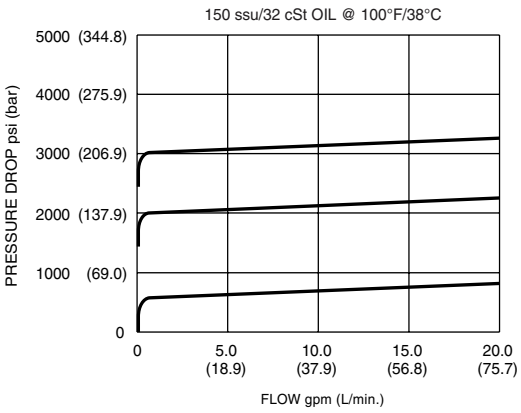
FEATURES and BENEFITS

- Rapid response to pressure surges.
- Low pressure rise.
- Hardened poppet and seat for long life.
- Hidden adjustment (tamper resistant).
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3600 PSI (248 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 20 GPM (75.7 L/min).
Internal Leakage: 20 drops/min. max. at reseat.
Crack Pressure Defined: Determined at .25 gpm (0.9L/min.)
Reseat Pressure: Nominal 80% of crack pressure
Spring Range: 100 to 600 PSI (7 to 41 Bar)
Preset: 300 PSI (21 Bar)
250 to 2000 PSI (17 to 138 Bar)
Preset: 1000 PSI (69 Bar)
600 to 3600 PSI (41 to 248 Bar)
Preset: 2000 PSI (138 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

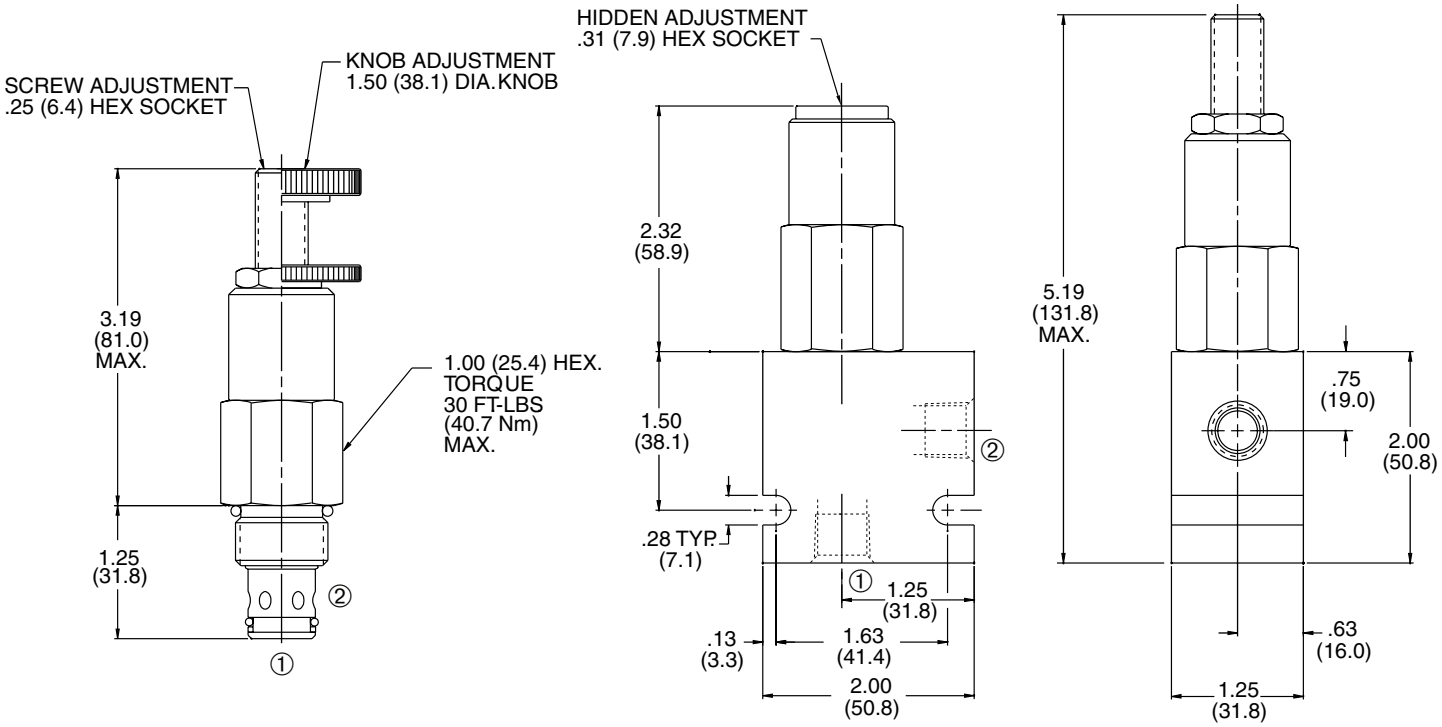
PRESSURE DROP VS. FLOW



DDRV-100

Adjustable, Direct-Acting,
Differential Area Relief Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DDRV - 100 - * - * - **/ ** - ****

DIFFERENTIAL AREA RELIEF VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
K = Knob
S = Screw

SPRING RANGE
6 = 100 to 600 PSI (7 to 41 Bar)
Preset: 300 PSI (21 Bar)
20 = 250 to 2000 PSI (17 to 138 Bar)
Preset: 1000 PSI (69 Bar)
36 = 600 to 3600 PSI (41 to 248 Bar)
Preset: 2000 PSI (138 Bar)

FACTORY PRESET PSI
(Omit for standard)

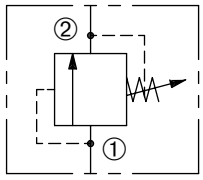
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

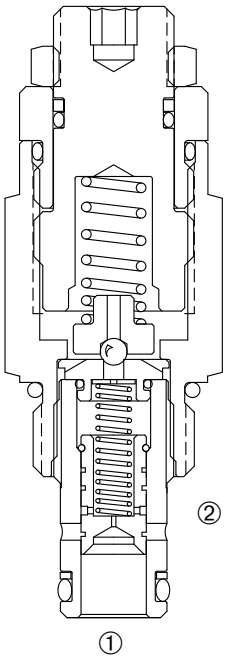
DPOR-080

Adjustable, Pilot-Operated
Relief Valve

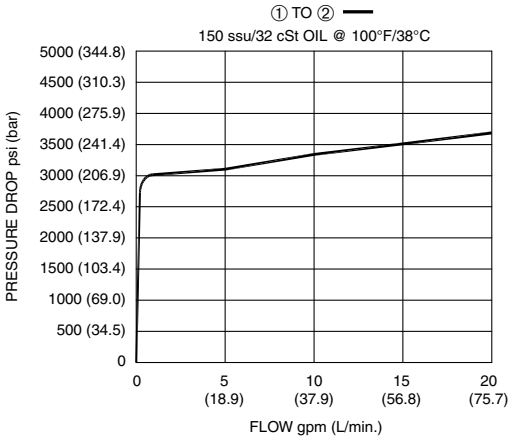
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





PRESSURE DROP VS. FLOW



DESCRIPTION

An adjustable, pilot-operated spool cartridge valve designed to limit flow in hydraulic circuits.

OPERATION

The DPOR-100 prevents flow from ① to ② until pressure at ① exceeds the set crack pressure and opens the pilot section. The pilot flow creates a pressure differential across the spool which causes the valve to open allowing flow from ① to ② and thus protecting the circuit from over pressurization.

FEATURES and BENEFITS

- Rapid response to pressure surges.
- Quiet operation.
- Low pressure rise.
- High accuracy of pilot operated design.
- Hardened parts for long life.
- Adjustment may be locked in place.
- Tamper resistant option.
- Adjustment prevents spring from going solid.
- Industry common cavity.
- Compact size.
- High flow capacity.

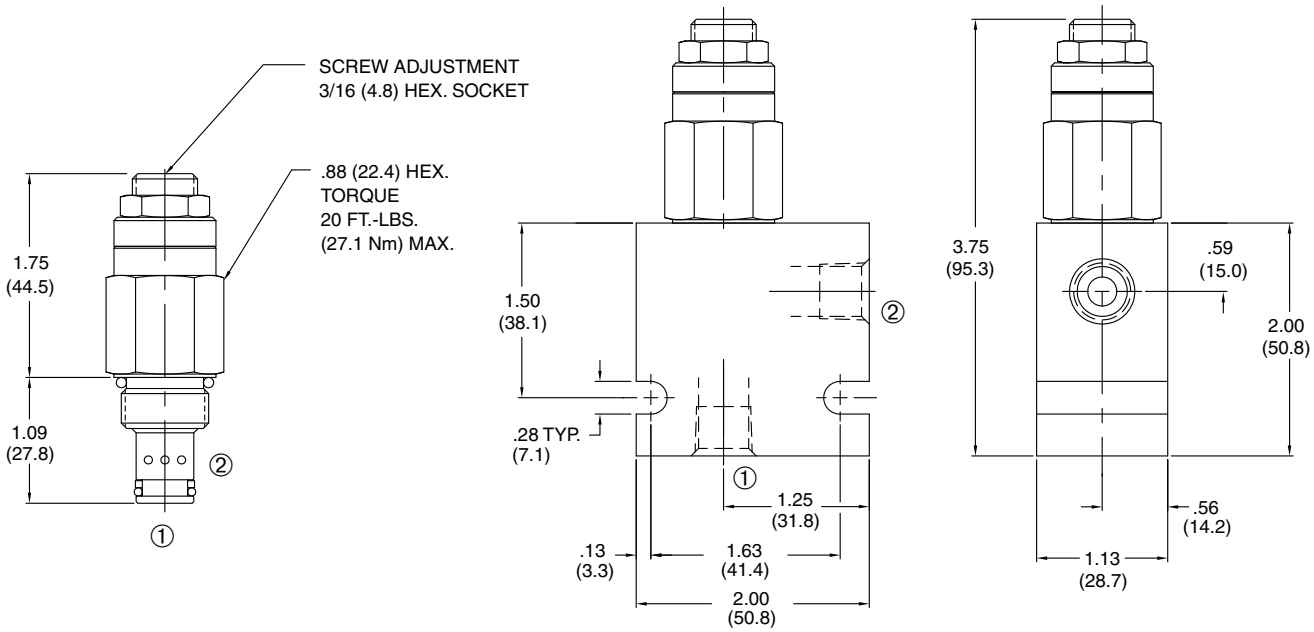
SPECIFICATIONS

Operating Pressure: 5000 PSI (345 Bar)
Flow: See PRESSURE DROP VS. FLOW graph
Internal Leakage: 5 in.^{3}/min (82 cc/min.) max. at 80% of crack pressure
Crack Pressure Defined: Determined at .25 GPM (1.0 L/min.)
Re-Set Pressure: Nominal 80% of crack pressure.
Spring Range: 300 to 5000 PSI (20 to 345 Bar)
Preset (See HOW TO ORDER)
Temperature: -30°F to +250°F (-35°C to +120°C).
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DPOR-080

Adjustable, Pilot-Operated
Relief Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPOR - 080 - * - * - ** / ** - ****

Pilot Operated
Relief Valve

Cavity/Seal

SEALS
N = Buna N
V = Viton
U = Urethane

ADJUSTMENT STYLE
S = SCREW
H = HIDDEN (TAMPER RESISTANT)

SPRING RANGE
20 = 300 to 2000 PSI (20 to 138 Bar)
Preset 1500 PSI (103 Bar)
40 = 1800 to 4000 PSI (124 to 276 Bar)
Preset 3000 PSI (207 Bar)
50 = 2000 to 5000 PSI (138 to 345 Bar)
Preset 4000 PSI (276 Bar)
"U" Urethane option required for
pressures above 3000 PSI (207 Bar)

FACTORY PRESET PSI
50 PSI increments
(Omit for Std.)

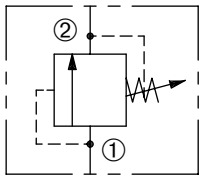
BODY PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for cartridge only.
(Other porting options available –
consult factory.)

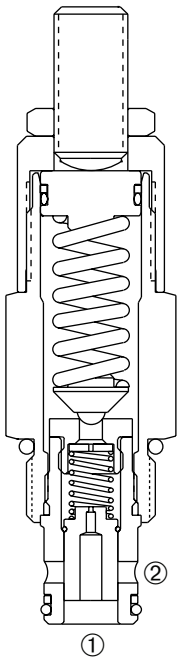
DPOR-100

Adjustable, Pilot-Operated
Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

An adjustable, pilot-operated spool type cartridge valve designed to limit pressure in hydraulic circuits.

OPERATION

The DPOR-100 prevents flow from ① to ② until pressure at ① exceeds the set crack pressure and opens the pilot section. The pilot flow creates a pressure differential across the spool which causes the valve to open allowing flow from ① or ② protecting the circuit from over pressurization.

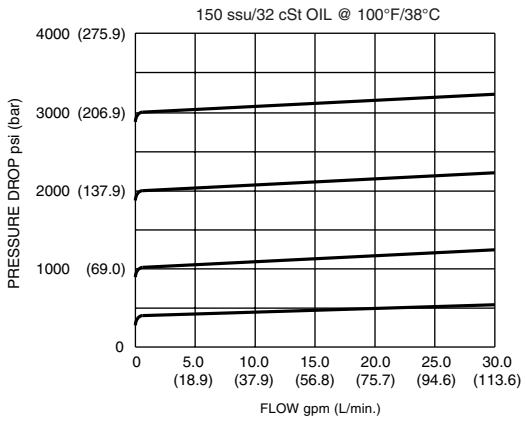
FEATURES and BENEFITS

- Rapid response to pressure surges.
- Low pressure rise.
- Acurate pilot-operated design.
- Hardened poppet and seat for long life.
- Hidden adjustment (tamper resistant) option.
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 30 GPM (113.6 L/min).
Internal Leakage: 5 $in.^3$/min. (82cc/min.) max. at reseat.
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min.)
Reseat Pressure: Nominal 80% of crack pressure.
Spring Range: 100 to 400 PSI (7 to 28 Bar)
Preset: 300 PSI (21 Bar)
300 to 2000 PSI (21 to 138 Bar)
Preset: 1000 PSI (69 Bar)
400 to 3000 PSI (28 to 207 Bar)
Preset: 2000 PSI (138 Bar)
600 to 4000 PSI (41 to 276 Bar)
Preset: 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C).
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

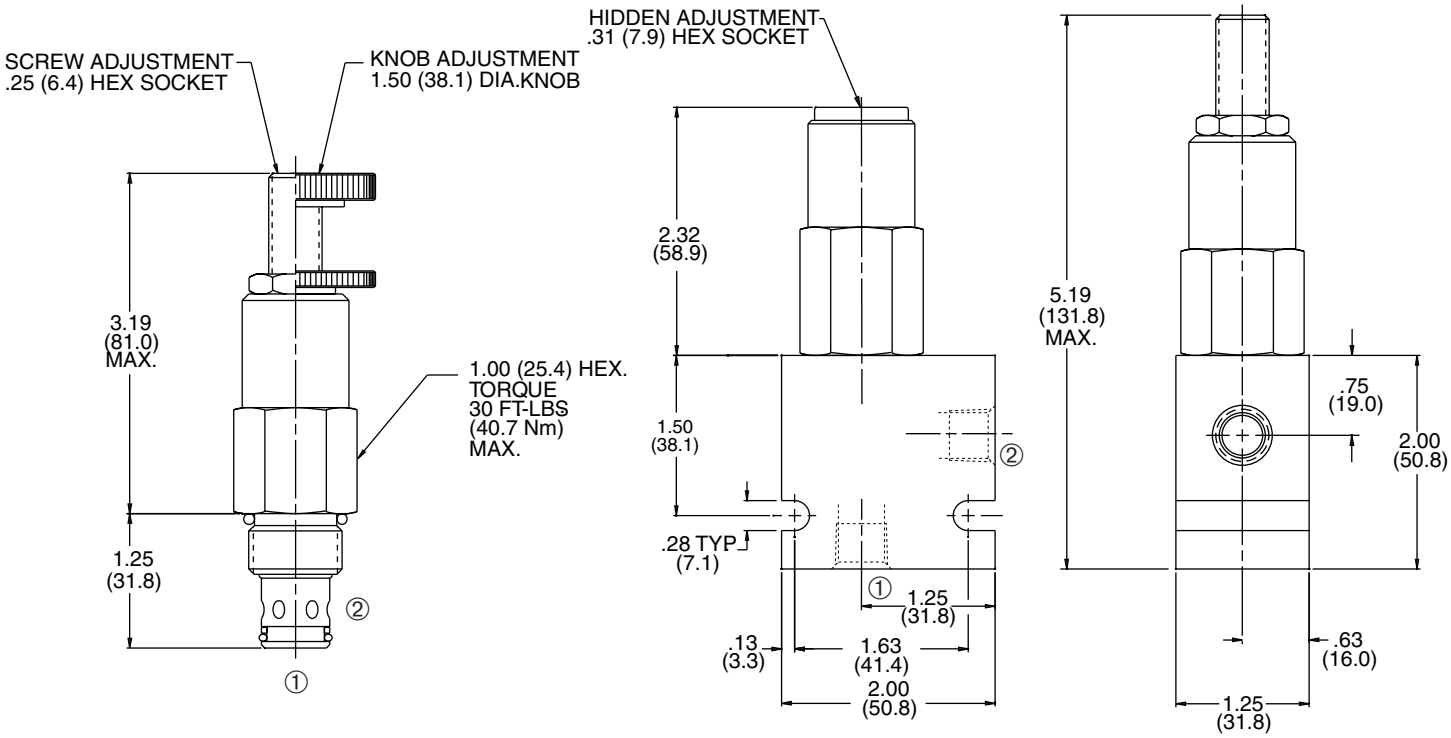
PRESSURE DROP VS. FLOW



DPOR-100

Adjustable, Pilot-Operated
Relief Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPOR - 100 - * - * - ** / ** - **

PILOT-OPERATED
RELIEF VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
H = Hidden
K = Knob
S = Screw

SPRING RANGE
4 = 100 to 400 PSI (7 to 28 Bar)
Preset: 300 PSI (21 Bar)
20 = 300 to 2000 PSI (21 to 138 Bar)
Preset: 1000 PSI (69 Bar)
30 = 400 to 3000 PSI (28 to 207 Bar)
Preset: 2000 PSI (138 Bar)
40 = 600 to 4000 PSI (41 to 276 Bar)
Preset: 3000 PSI (207 Bar)

FACTORY PRESET PSI
(Omit for standard)

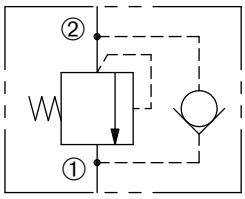
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

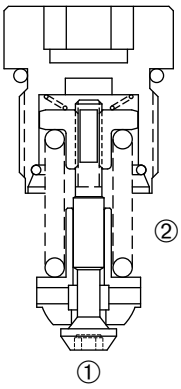
RV-050

Relief Valve,
Anti-Cavitation Check

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 050





DESCRIPTION

A cartridge valve designed to combine a shock relief valve, (direct acting) and anti-cavitation function through the check valve.

OPERATION

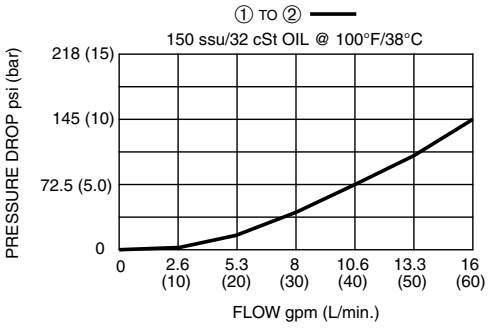
The RV-050 prevents flow from ② to ① until the set crack pressure at ② is achieved. The poppet then unseats, allowing flow from ② to ①, protecting the circuit from over pressurization.

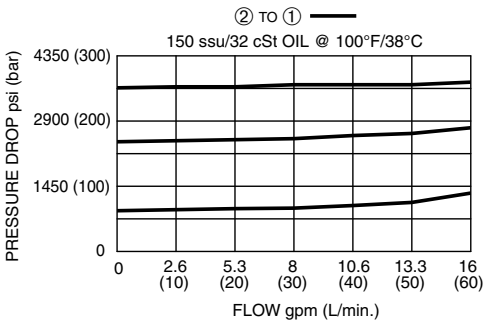
The RV-050 allows free flow from ① to ②. As pressure at ① exceeds pressure at ②, the valve unseats from the cavity, allowing flow from ① to ②. This provides anti-cavitation function through the check valve.

FEATURES and BENEFITS

- Rapid response to pressure surges.
- Anticavitation function through the check valve.
- Hardened precision poppet and seat for long life.
- Fast opening and closing.
- Low hysteresis.
- Compact size.

PRESSURE DROP VS. FLOW

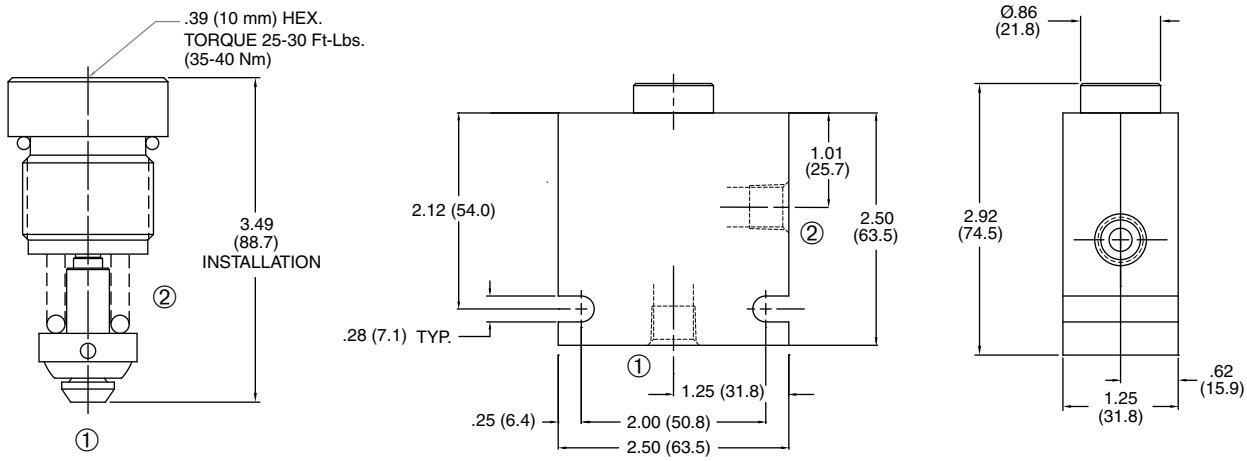




SPECIFICATIONS

Operating Pressure: 5500 PSI (380 Bar)
Max. Flow: 16 gpm (60 l/min)
Internal Leakage: 1.0 cc/min at 80% set
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min)
Reseat Pressure: Nominal 80% of crack pressure
Temperature: -30°F to +220°F (-35°C to +104°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids.
Cavity/Cavity Tool: R05-2, see page 11.25.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

RV - 050 - * - ** / * - **

RELIEF VALVE

CAVITY

SEALS
N = Buna N
V = Viton

SPRING RANGE
10 = 500 to 1700 PSI (35 to 117 Bar)
Preset: 1000 PSI (69 Bar)
20 = 1700 to 3000 PSI (117 to 207 Bar)
Preset: 2500 PSI (172 Bar)
30 = 3000 to 3900 PSI (207 to 269 Bar)
Preset: 3500 PSI (241 Bar)
40 = 4000 to 4200 PSI (276 to 290 Bar)
Preset: 4100 PSI (283 Bar)
50 = 4200 to 5000 PSI (290 to 345 Bar)
Preset: 4500 PSI (310 Bar)

Factory Preset PSI (Omit for Standard)

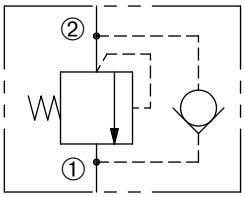
PORTING
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

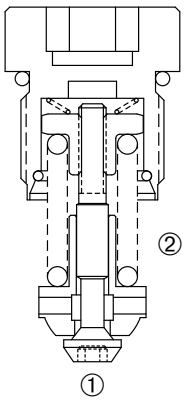
RV-060

Relief Valve,
Anti-Cavitation Check

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 060





DESCRIPTION

A cartridge valve designed to combine a shock relief valve, (direct acting) and anti-cavitation function through the check valve.

OPERATION

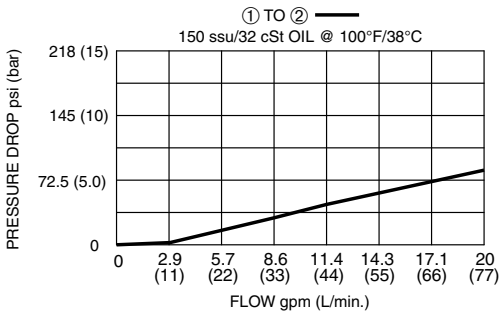
The RV-060 prevents flow from ② to ① until the set crack pressure at ② is achieved. The poppet then unseats allowing flow from ② to ①, protecting the circuit from over pressurization.

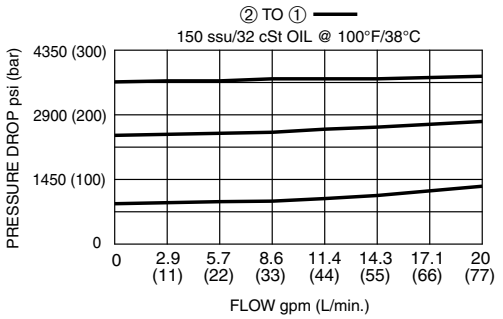
The RV-060 allows free flow from ① to ②. As pressure at ① exceeds pressure at ②, the valve unseats from the cavity allowing flow from ① to ②. This provides anti-cavitation function through the check valve.

FEATURES and BENEFITS

- Rapid response to pressure surges.
- Anticavitation function through the check valve.
- Hardened precision poppet and seat for long life.
- Fast opening and closing.
- Low hysteresis.
- Compact size.

PRESSURE DROP VS. FLOW

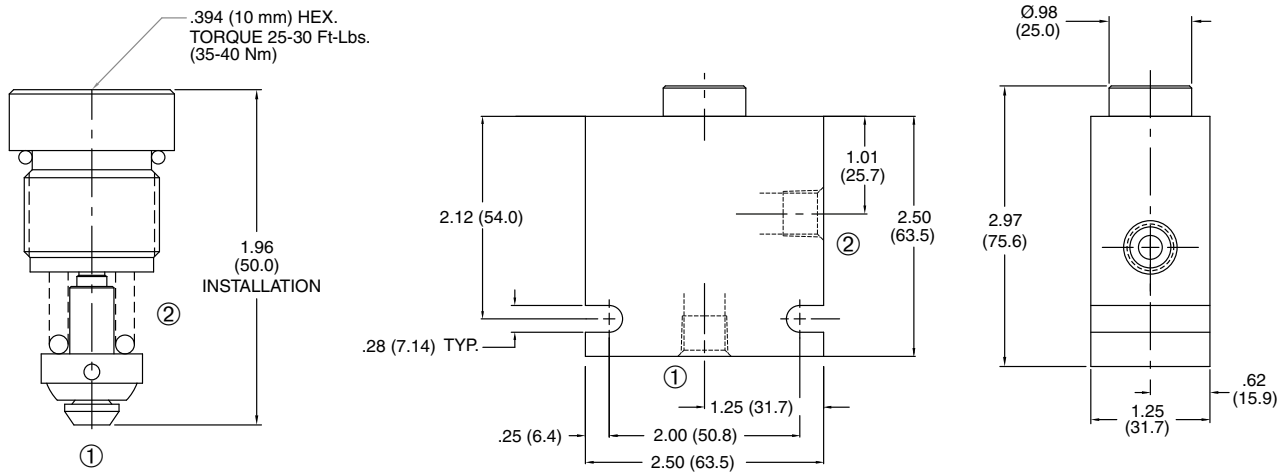




SPECIFICATIONS

Operating Pressure: 5000 PSI (345 Bar)
Max. Flow: 20 gpm (77 l/min)
Internal Leakage: 1.0 cc/min at 80% set
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min)
Reseat Pressure: Nominal 80% of crack pressure
Temperature: -30°F to +220°F (-35°C to +104°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids.
Cavity/Cavity Tool: R06-2, see page 11.26.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

RV - 060 - * - ** / * - ****

RELIEF VALVE

CAVITY

SEALS
N = Buna N
V = Viton

SPRING RANGE
10 = 500 to 1700 PSI (35 to 117 Bar)
Preset: 1000 PSI (69 Bar)
20 = 1700 to 3000 PSI (117 to 207 Bar)
Preset: 2500 PSI (172 Bar)
30 = 3000 to 3900 PSI (207 to 269 Bar)
Preset: 3500 PSI (241 Bar)
40 = 4000 to 4200 PSI (276 to 290 Bar)
Preset: 4100 PSI (283 Bar)
50 = 4200 to 5000 PSI (290 to 345 Bar)
Preset: 4500 PSI (310 Bar)

Factory Preset PSI (Omit for Standard)

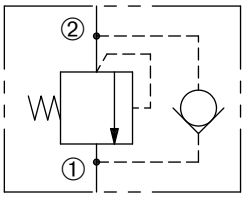
PORTING
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

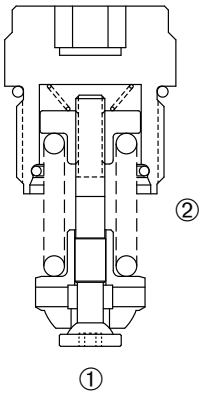
RV-080

Relief Valve,
Anti-Cavitation Check

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 080





DESCRIPTION

A cartridge valve designed to combine a shock relief valve, (direct acting) and anti-cavitation function through the check valve.

OPERATION

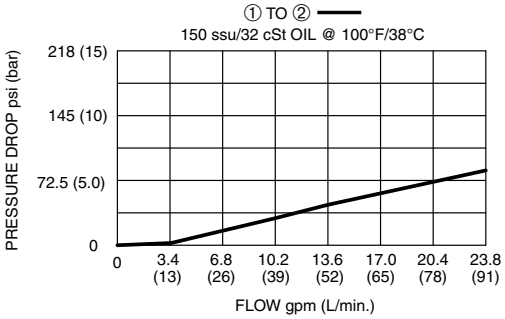
The RV-080 prevents flow from ② to ① until the set crack pressure at ② is achieved. The poppet then unseats allowing flow from ② to ①, protecting the circuit from over pressurization.

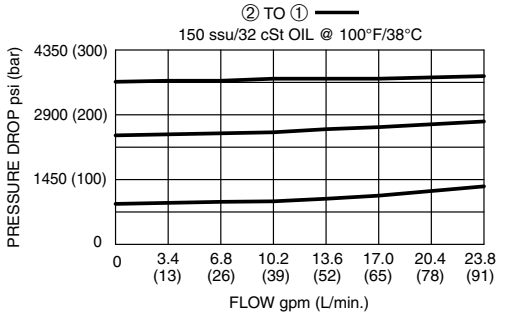
The RV-080 allows free flow from ① to ②. As pressure at ① exceeds pressure at ②, the valve unseats from the cavity allowing flow from ① to ②. This provides anti-cavitation function through the check valve.

FEATURES and BENEFITS

- Rapid response to pressure surges.
- Anticavitation function through the check valve.
- Hardened precision poppet and seat for long life.
- Fast opening and closing.
- Low hysteresis.
- Compact size.

PRESSURE DROP VS. FLOW

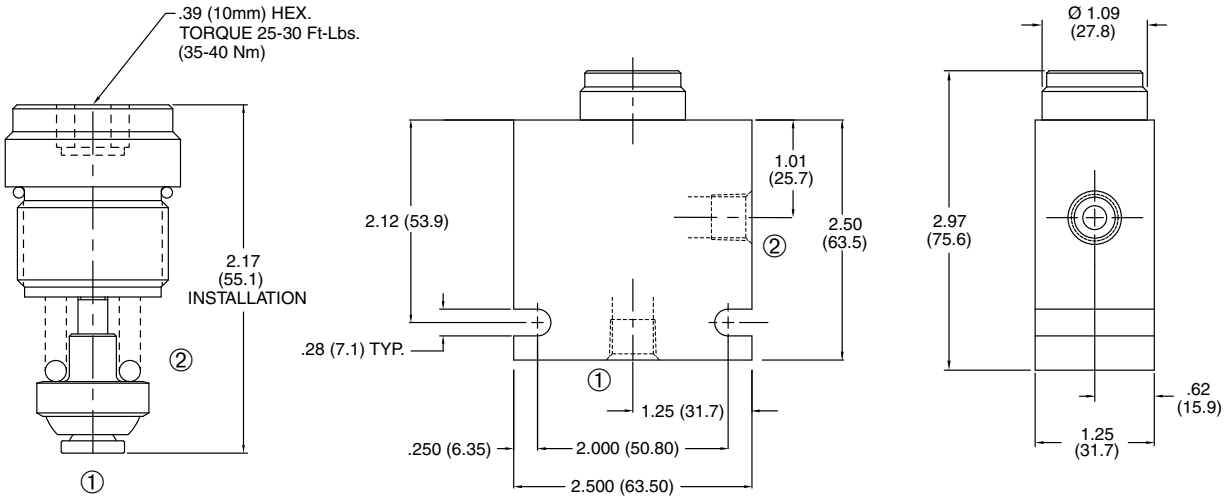




SPECIFICATIONS

Operating Pressure: 5000 PSI (345 Bar)
Max. Flow: 24 gpm (91 l/min)
Internal Leakage: 2.0 cc/min at 80% set
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min)
Reseat Pressure: Nominal 80% of crack pressure
Temperature: -30°F to +220°F (-35°C to +104°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids.
Cavity/Cavity Tool: R08-2, see page 11.28.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

RV - 080 - * - ** / * - ****

RELIEF VALVE

CAVITY

SEALS
N = Buna N
V = Viton

SPRING RANGE
10 = 500 to 1700 PSI (35 to 117 Bar)
Preset: 1000 PSI (69 Bar)
20 = 1700 to 3000 PSI (117 to 207 Bar)
Preset: 2500 PSI (172 Bar)
30 = 3000 to 3900 PSI (207 to 269 Bar)
Preset: 3500 PSI (241 Bar)
40 = 4000 to 4200 PSI (276 to 290 Bar)
Preset: 4100 PSI (283 Bar)
50 = 4200 to 5000 PSI (290 to 345 Bar)
Preset: 4500 PSI (310 Bar)

Factory Preset PSI (Omit for Standard)

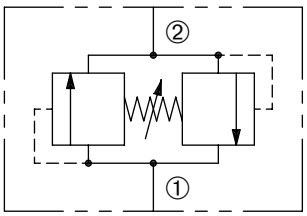
PORTING
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only

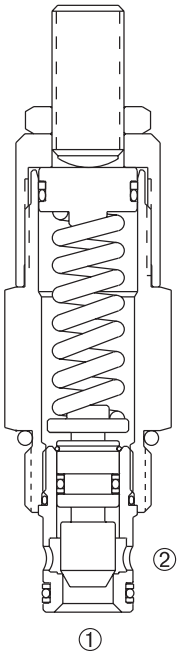
DBRV-100

Adjustable, Bi-Directional
Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

An adjustable, bi-directional poppet type cartridge valve designed to limit pressure in hydraulic circuits.

OPERATION

The DBRV-100 is comprised of two relief valves which prevent flow from ① to ② or ② to ① until the set crack pressure is achieved at either port ① or ②. When the set crack pressure is reached, the poppet unseats allowing flow from ① to ② or ② to ① protecting the circuit from over pressurization.

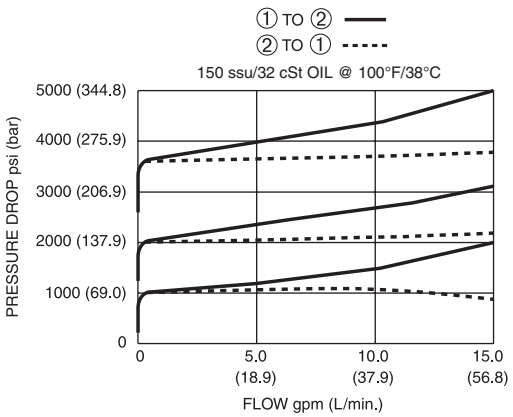
FEATURES and BENEFITS

- Rapid response to pressure surges.
- Low pressure rise.
- Hardened poppet and seat for long life.
- Hidden adjustment (tamper resistant) option.
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3600 PSI (248 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 15 GPM (56.8 L/min).
Internal Leakage: 5 $in.^3$/min. (82cc/min.) max. at reseat.
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min.)
Reseat Pressure: Nominal 80% of crack pressure.
Spring Range: 100 to 600 PSI (7 to 41 Bar)
Preset: 300 PSI (21 Bar)
250 to 2000 PSI (17 to 138 Bar)
Preset: 1000 PSI (69 Bar)
900 to 3600 PSI (62 to 248 Bar)
Preset: 2000 PSI (138 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C).
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

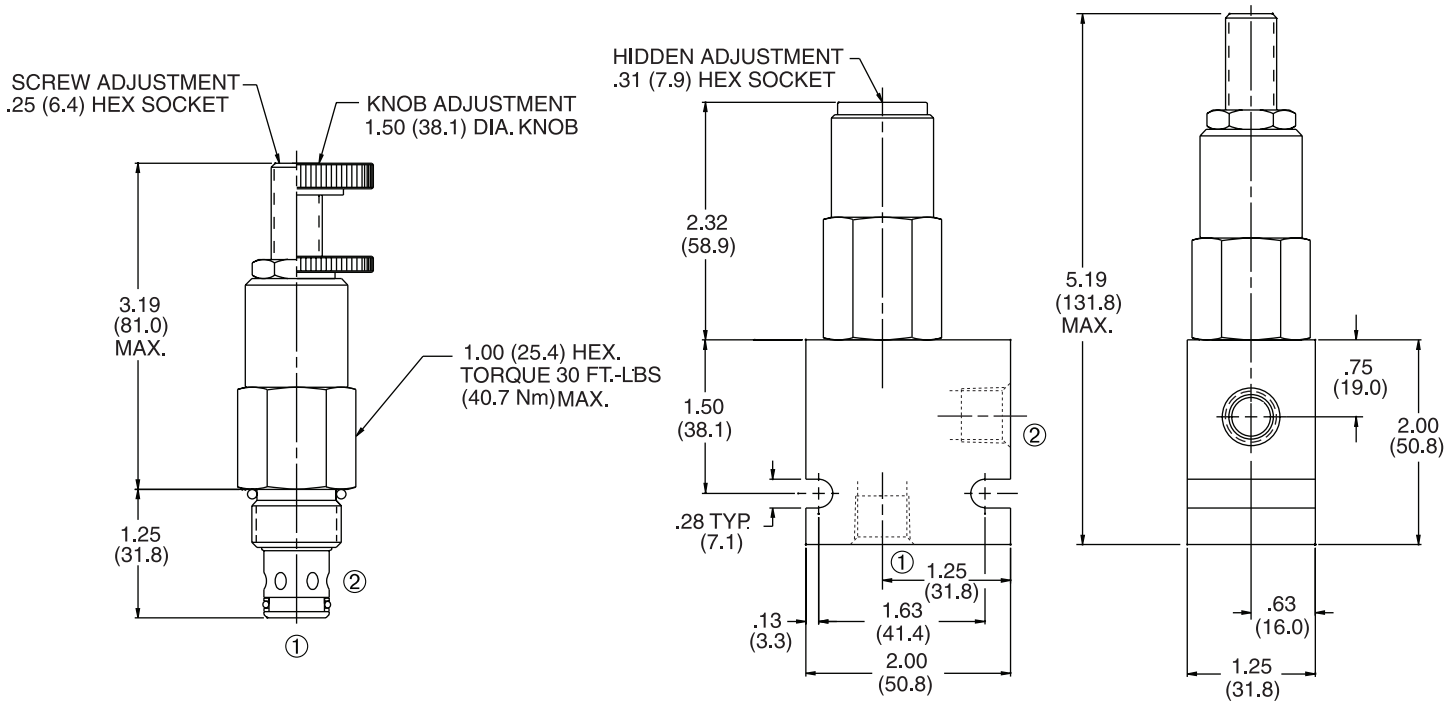
PRESSURE DROP VS. FLOW



DBRV-100

Adjustable, Bi-Directional
Relief Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DBRV - 100 - * - * - ** / ** - **

BI-DIRECTIONAL
RELIEF VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
H = Hidden
K = Knob
S = Screw

SPRING RANGE
6 = 100 to 600 PSI (7 to 41 Bar)
Preset: 300 PSI (21 Bar)
20 = 250 to 2000 PSI (17 to 138 Bar)
Preset: 1000 PSI (69 Bar)
36 = 900 to 3600 PSI (62 to 248 Bar)
Preset: 2000 PSI (138 Bar)

FACTORY PRESET PSI
(Omit for standard)

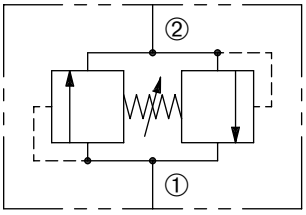
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting
options available –
consult factory.)

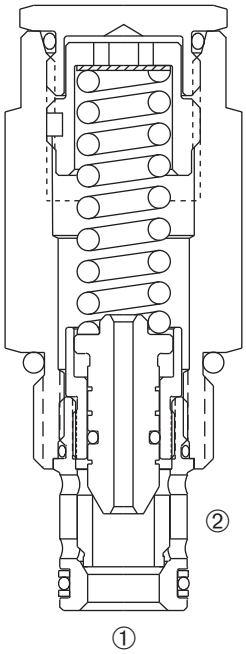
DBRVS-100-*-H

Tamper-Resistant, Direct-Acting,
Bi-Directional Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

An adjustable, bi-directional poppet type cartridge valve designed to limit pressure in hydraulic circuits.

OPERATION

The DBRVS-100-*-H is comprised of two relief valves which prevent flow from ① to ② or ② to ① until the set crack pressure is achieved at either port ① or ②. When the set crack pressure is reached, the poppet unseats allowing flow from ① to ② or ② to ① protecting the circuit from over pressurization.

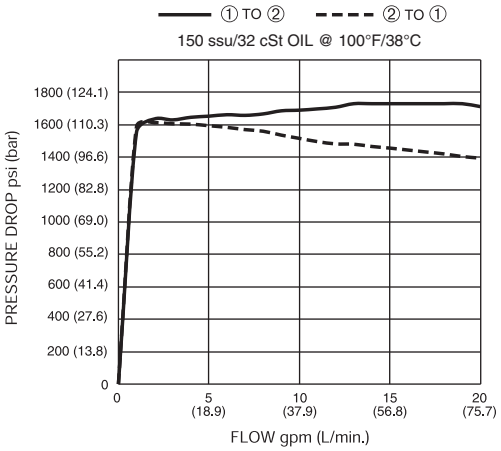
FEATURES and BENEFITS

- Rapid response to pressure surges.
- Low pressure rise.
- Hardened poppet and seat for long life.
- Hidden adjustment (tamper resistant).
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 5000 PSI (345 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 20 GPM (75.7 L/min).
Internal Leakage: 5 in.^{3}/min. (82cc/min.) max. at reseat.
Crack Pressure Defined: Determined at .25 gpm (0.9 L/min.)
Reseat Pressure: Nominal 80% of crack pressure.
Spring Range: 100 to 5000 PSI (7 to 345 Bar)
Preset: 2500 PSI (172 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

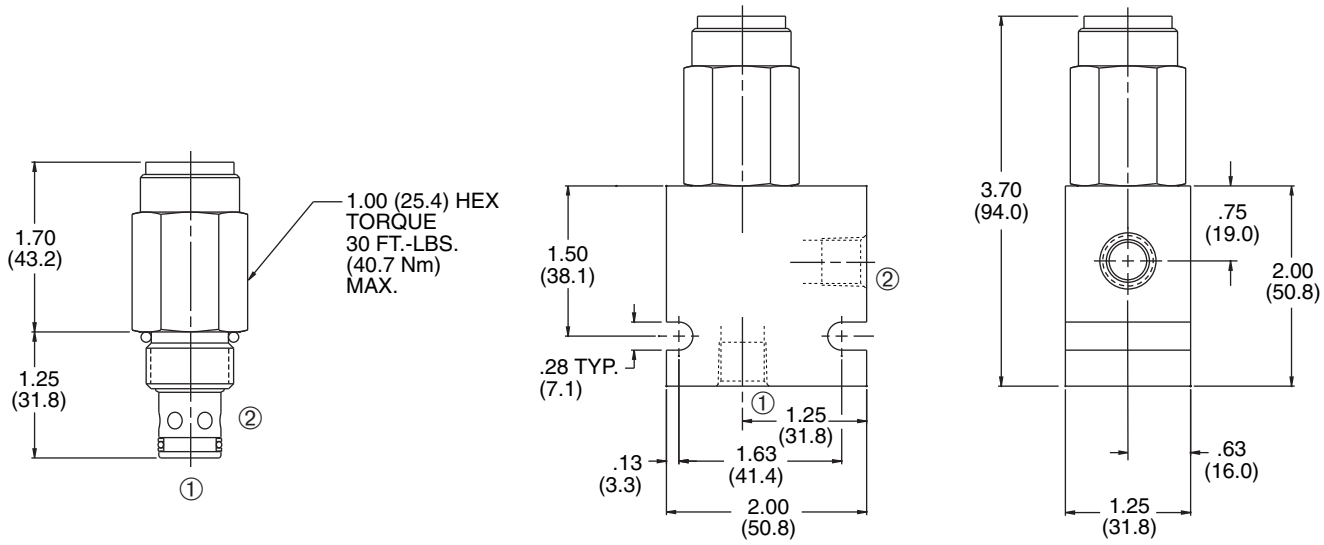
PRESSURE DROP VS. FLOW



DBRVS-100-*-H

Tamper-Resistant, Direct,
Bi-Directional Relief Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DBRVS - 100 - * - H - 50 / ** - ****

BI-DIRECTIONAL
RELIEF VALVE (SHORT)

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

HIDDEN ADJUSTMENT STYLE

SPRING RANGE
50 = 100 to 5000 PSI (7 to 345 Bar)
Preset: 2500 PSI (172 Bar)

FACTORY PRESET PSI
(Omit for standard)

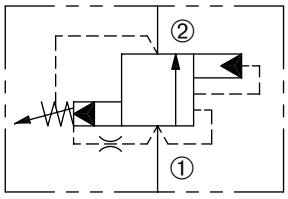
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options
available-consult factory.)

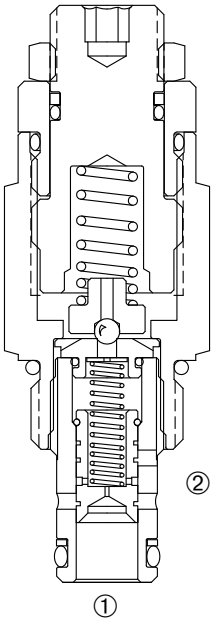
DRVK-080

Adjustable, Pilot-Operated,
Kick-Down Relief Valve

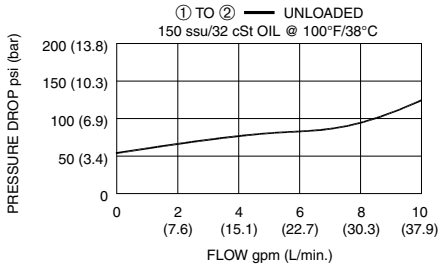
DELTROL fluid products
DIVISION OF DELTROL CORP

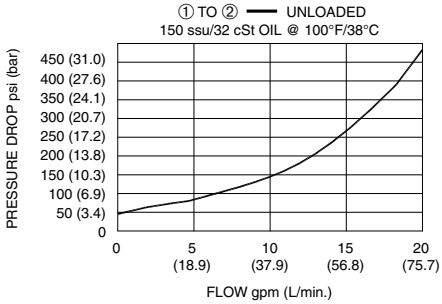
SERIES 8





PRESSURE DROP VS. FLOW





DESCRIPTION

An adjustable, pilot-operated spool cartridge valve designed to allow flow to actuator circuits until a predetermined pressure is attained, then to discharge flow back to tank at a low pressure.

OPERATION

Flow is blocked from ① to ② until system pressure exceeds the valve setting allowing flow through the pilot section to pass out of the vent port. As flow passes through the pilot section, the resulting differential pressure shifts the main spool to unload the system to a predetermined low pressure. When the system pressure is reduced below 50 psi (3.4 bar), the valve will reset itself and again block flow from port ① to ②.

Flow is blocked from port ② to ①.
Pressure at port ② is added to valve setting

FEATURES and BENEFITS

- Quiet operation.
- High accuracy of pilot operated design.
- Hardened parts for long life.
- Adjustment may be locked in place.
- Tamper resistant option.
- Adjustment prevents spring from going solid.
- Industry common cavity.
- Compact size.
- High flow capacity.

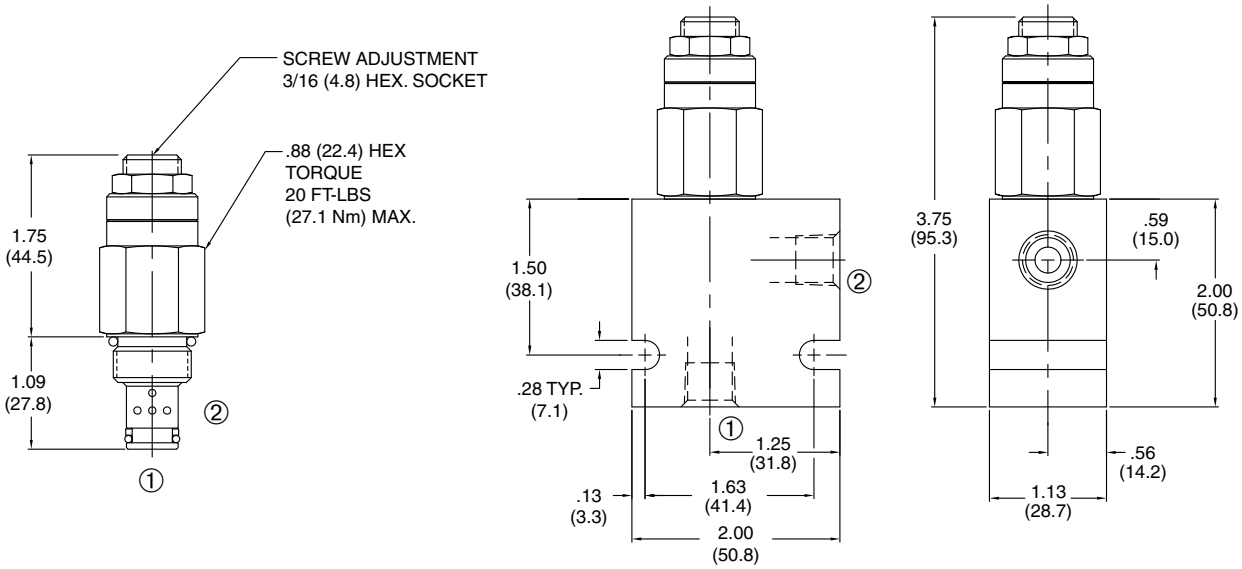
SPECIFICATIONS

Operating Pressure: 4000 PSI (276 Bar)
Flow: See PRESSURE DROP VS. FLOW graph
Internal Leakage: 5 in.³/min (82 cc/min.) max. at 80% of crack pressure
Crack Pressure Defined: Determined at .25 GPM (1.0 L/min.)
Reset Pressure: When port ① pressure is below 50 PSI (3.4 Bar), valve will be reset to original pressure setting.
Spring Range: 300 to 4000 PSI (20 to 276 Bar)
Preset (See HOW TO ORDER)
Temperature: -30°F to +250°F (-35°C to +120°C).
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DRVK-080

Adjustable, Pilot-Operated,
Kick-Down Relief Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DRVK - 080 - * - * - ** / ** - **

Kick-Down
Relief Valve

Cavity/Seal

SEALS
N = Buna N
V = Viton
U = Urethane

ADJUSTMENT STYLE
S = SCREW
H = HIDDEN (TAMPER RESISTANT)

SPRING RANGE
20 = 300-2000 PSI (20 to 138 Bar)
Preset 1500 PSI (103 Bar)
40 = 1800 to 4000 PSI (124 to 276 Bar)
Preset 3000 PSI (207 Bar)
"U" Urethane option required for
pressures above 3000 PSI (207 Bar)

FACTORY PRESET PSI
50 PSI increments
(Omit for Std.)

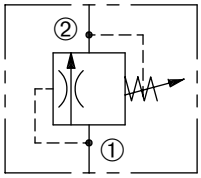
BODY PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for cartridge only.
(Other porting options available –
consult factory.)

ZTRV-62

Thermal,
Relief Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE

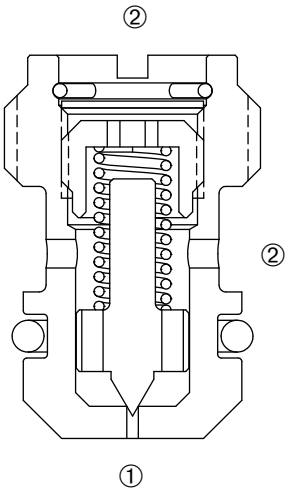


DESCRIPTION

A directing poppet cartridge thermal relief valve designed to limit pressure in hydraulic circuits as a result of temperature induced pressure intensification.

OPERATION

The ZTRV-62 prevents flow from ① to ② until the set crack pressure at ① is achieved. The poppet then unseats, allowing flow from ① to ②, limiting system pressure.



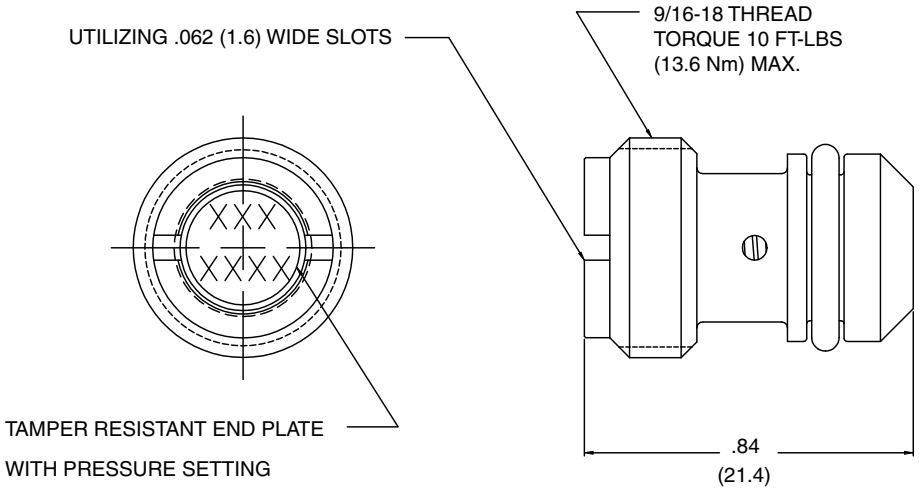
FEATURES and BENEFITS

- Hardened parts for long life.
- Hidden adjustment (tamper resistant).
- Zero profile style cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 5000 PSI (345 Bar)
Internal Leakage: 5 drop/minute @ reseat pressure.
Re-Set Pressure: Nominal 80% of crack pressure.
Spring Range: 2000 to 5000 PSI (138 to 345 bar)
Preset 2000 PSI (138 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C).
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory
Cavity/Cavity Tool: ZP62, see page 11.06.2

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZTRV - 62 - U - **

THERMAL RELIEF VALVE

CAVITY

SEALS
U = Urethane

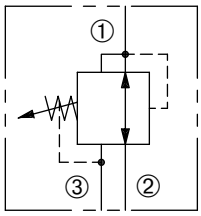
SET PRESSURE 2000 PSI (138 Bar)
RANGE 2000 to 5000 PSI (138 to 345 Bar)

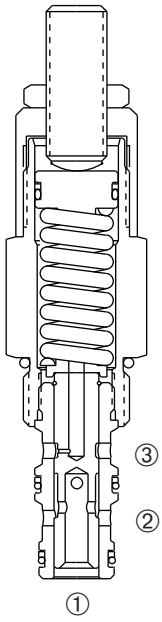
DPR-100

Adjustable, Direct-Acting,
Pressure Reducing/Relieving Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

An adjustable, direct-acting spool cartridge valve designed to regulate pressure in secondary circuits.

OPERATION

The DPR-100 in the steady state will allow bi-directional flow between ① and ② with spring chamber ③ vented. When the preset pressure at ① is achieved, the spool throttles to regulate pressure at ① by restricting flow at ②.

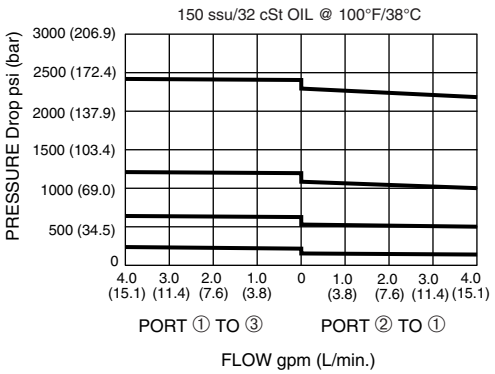
FEATURES and BENEFITS

- Variety of pressure ranges.
- Hardened precision spool and sleeve for long life.
- Hidden adjustment (tamper resistant) option.
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 in.³/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Spring Range :
50 PSI to 200 PSI (3 to 14 Bar)
Preset: 150 PSI (10 Bar)
100 PSI to 900 PSI (7 to 62 Bar)
Preset: 450 PSI (31 Bar)
700 PSI to 2400 PSI (48 to 166 Bar)
Preset: 1800 PSI (124 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3 see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

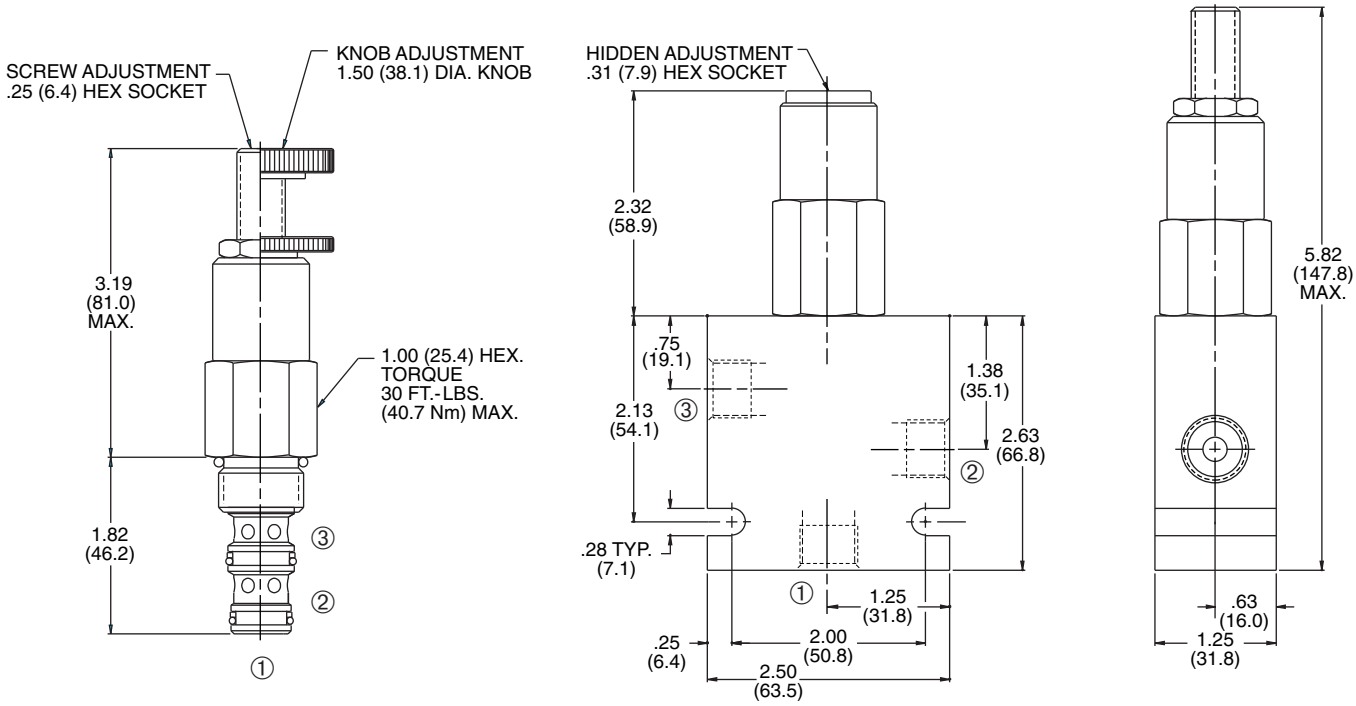
PRESSURE DROP VS. FLOW



DPR-100

Adjustable, Direct-Acting,
Pressure Reducing/Relieving Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPR - 100 - * - * - ** / ** - ****

PRESSURE REDUCING VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
H = Hidden
K = Knob
S = Screw

SPRING RANGE
2 = 50 to 200 PSI (3 to 14 Bar)
Preset: 150 PSI (10 Bar)
9 = 100 to 900 PSI (7 to 62 Bar)
Preset: 450 PSI (31 Bar)
24 = 700 to 2400 PSI (48 to 166 Bar)
Preset: 1800 PSI (124 Bar)

FACTORY PRESET PSI
(Omit for standard)

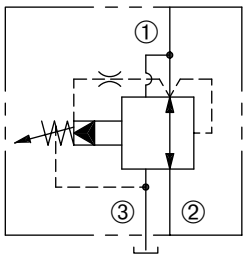
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

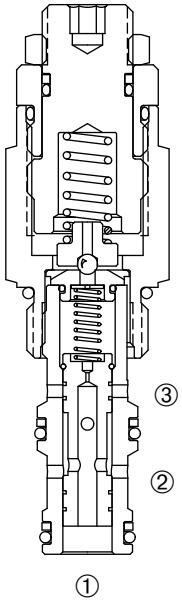
DPRR-080

Adjustable, Pilot-Operated,
Pressure Reducing/Relieving Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

An adjustable, direct-acting spool cartridge valve designed to regulate pressure in secondary circuits.

OPERATION

The DPRR-080 in steady state will allow bi-directional flow between ① and ② with spring chamber ③ vented. When the preset pressure at ① is achieved, the spool throttles to regulate pressure at ① by restricting flow at ②.

The valve will relieve ① to ③.

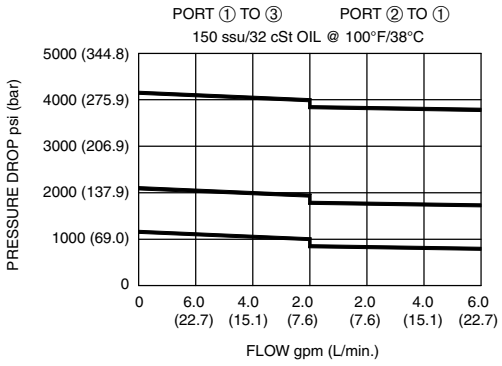
FEATURES and BENEFITS

- Hardened precision spool and sleeve for long life.
- Variety of pressure ranges.
- High accuracy of pilot operated design.
- Adjustment prevents spring from going solid.
- Adjustment may be locked in place.
- Tamper resistant option.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 5000 PSI (345 Bar)
Flow: See PRESSURE DROP VS. FLOW graph
Nominal flow 5 GPM (19.0 l/min)
Internal Leakage: 5 in^3/min (82 cc/min) max. at 3000 PSI (207 Bar)
Spring Range: 300 to 5000 PSI (20 to 345 Bar)
Preset (See HOW TO ORDER)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 19/15
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-3, see page 11.08.3
In-Line Body Material: Anodized 6061T6 aluminum
allow rated at 3000 PSI (207 Bar).

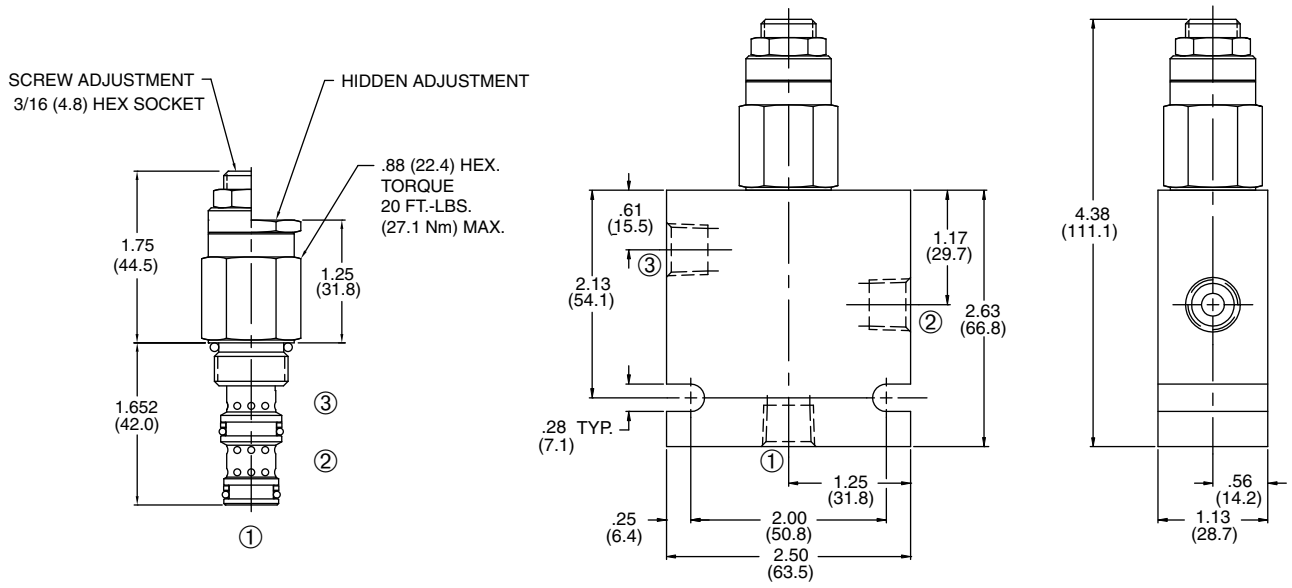
PRESSURE DROP VS. FLOW



DPRR-080

Adjustable, Pilot-Operated,
Pressure Reducing/Relieving Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPRR - 080 - * - * - ** / ** - ****

REDUCING/RELIEVING VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton
U = Urethane

ADJUSTMENT STYLE
S = SCREW
H = HIDDEN (TAMPER RESISTANT)

SPRING RANGE
20 = 300 to 2000 PSI (20 to 138 Bar)
Preset: 300 PSI (20 Bar)
40 = 1800 to 4000 PSI (124 to 276 Bar)
Preset: 3000 PSI (207 Bar)
50 = 2000 to 5000 PSI (138 to 345 Bar)
Preset: 4000 PSI (276 Bar)

FACTORY PRESET PSI
50 PSI increments
(Omit for Std.)

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for cartridge only.
(Other porting options
available – consult factory.)

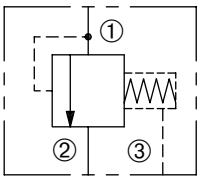
"U" Urethane option required for pressures above 3000 PSI (207 Bar)

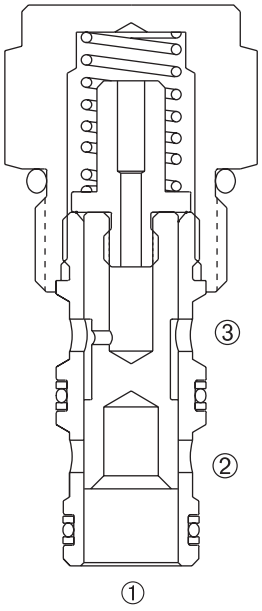
DDPS-100-3NCS

Differential Pressure
Sensing Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A fixed spool cartridge valve designed to direct oil to a circuit when a predetermined pressure differential has been reached.

OPERATION

The DDPS-100-3NCS in the steady state blocks flow from ① to ②. When the predetermined pressure differential between ① and ③ is achieved, the spool shifts to allow flow from ① to ②.

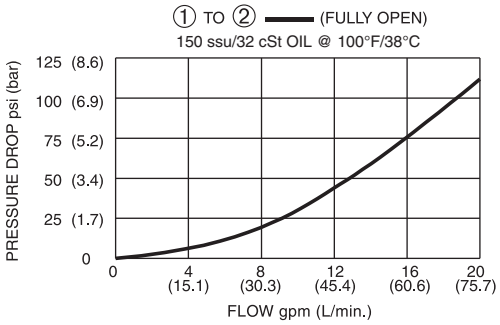
FEATURES and BENEFITS

- Hardened precision spool and sleeve for long life.
- Pressure differential setting options.
- Industry common cavity.
- Compact size.

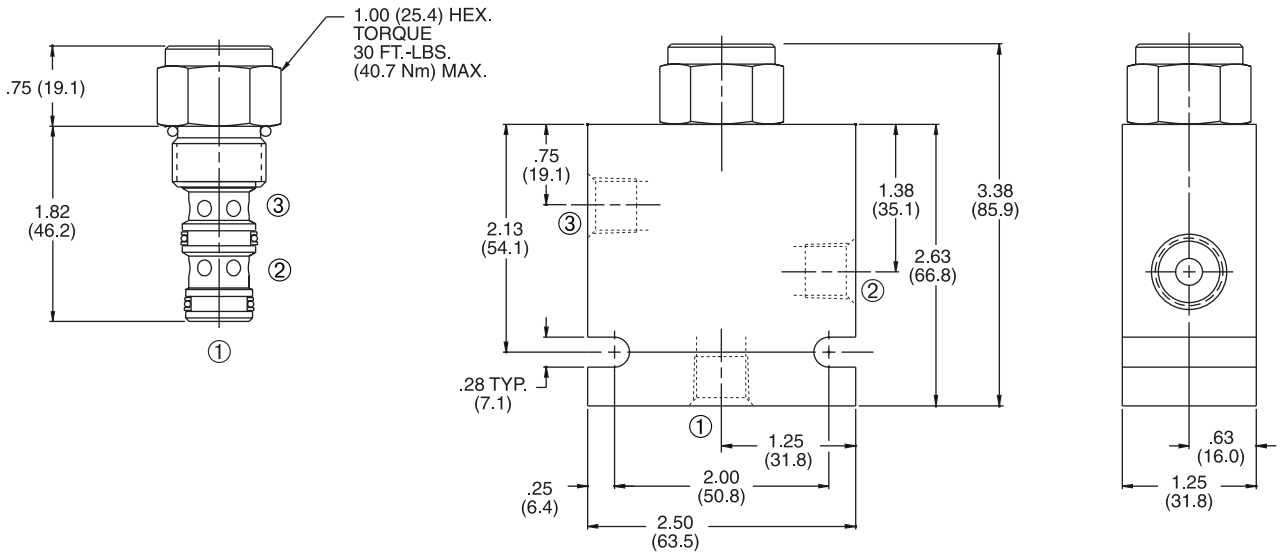
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Differential Pressure Setting: 40 PSI (2.8 Bar)
75 PSI (5.2 Bar)
100 PSI (6.9 Bar)
150 PSI (10.3 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3 see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DDPS - 100 - 3 NC S - * - * - ****

DIFFERENTIAL PRESSURE SENSING VALVE

CAVITY/SEAL

FLOW PATH

NORNALLY CLOSED

SPOOL

SEALS
N = Buna N
V = Viton

DIFFERENTIAL PRESSURE SETTING
40 = 40 PSI (2.8 Bar)
75 = 75 PSI (5.2 Bar)
100 = 100 PSI (8.9 Bar)
150 = 150 PSI (10.3 Bar)

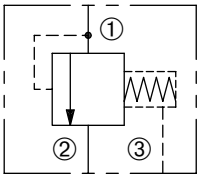
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

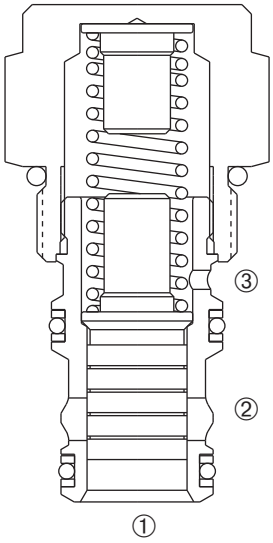
DDPS-160

Differential Pressure
Sensing Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 16





DESCRIPTION

A fixed spool cartridge valve designed to direct oil to a circuit when a predetermined pressure differential has been reached.

OPERATION

The DDPS-160 in the steady state blocks flow from ① to ②.

When the predetermined pressure differential between ① and ③ is achieved, the spool shifts to allow flow from ① to ②.

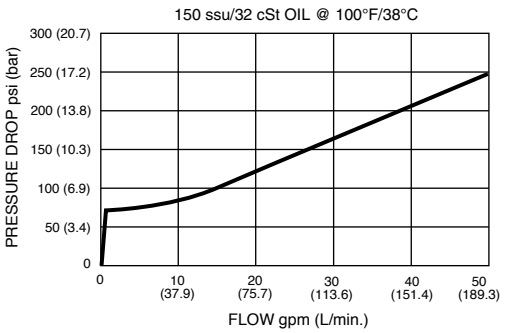
FEATURES and BENEFITS

- High flow capabilities.
- Hardened precision spool and sleeve for long life.
- Pressure differential setting options.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 in.³/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Differential Pressure Setting: 5 PSI (0.3 Bar)
20 PSI (1.4 Bar)
40 PSI (2.8 Bar)
80 PSI (5.5 Bar)
160 PSI (11.0 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 160-3S, see page 11.16.3S

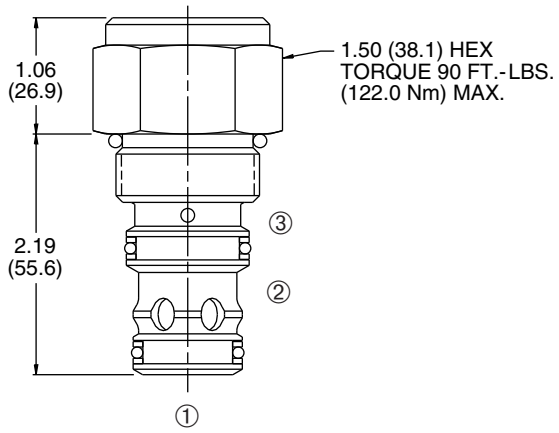
PRESSURE DROP VS. FLOW



DDPS-160

Differential Pressure
Sensing Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DDPS - 160 - * - *

DIFFERENTIAL PRESSURE SENSING VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

DIFFERENTIAL PRESSURE SETTING

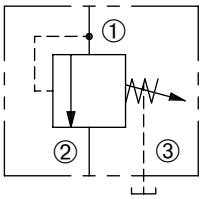
5	=	5 PSI	(0.3 Bar)
20	=	20 PSI	(1.4 Bar)
40	=	40 PSI	(2.8 Bar)
80	=	80 PSI	(5.5 Bar)
160	=	160 PSI	(11.0 Bar)

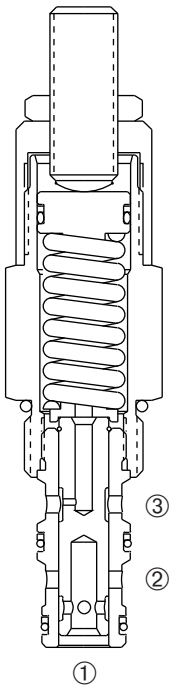
DPS-100

Adjustable, Direct-Acting
Externally-Drained Sequence Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

An adjustable, direct-acting spool cartridge valve designed to direct oil to a circuit when a predetermined pressure has been reached.

OPERATION

The DPS-100 in the steady state blocks flow at ① and ② with spring chamber ③ drained. When the preset pressure at ① is achieved, the spool shifts to allow flow from ① to ②.

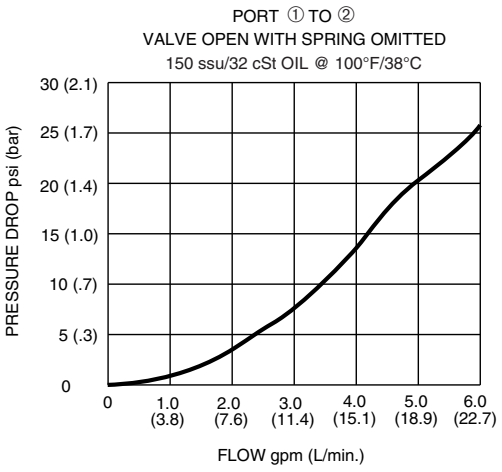
FEATURES and BENEFITS

- Variety of pressure ranges.
- Hardened precision spool and sleeve for long life.
- Hidden adjustment (tamper resistant) option.
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 in.³/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Spring Range: 50 PSI to 200 PSI (3 to 14 Bar)
Preset: 150 PSI (10 Bar)
100 PSI to 900 PSI (7 to 62 Bar)
Preset: 450 PSI (31 Bar)
700 PSI to 2400 PSI (48 to 166 Bar)
Preset: 1800 PSI (124 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

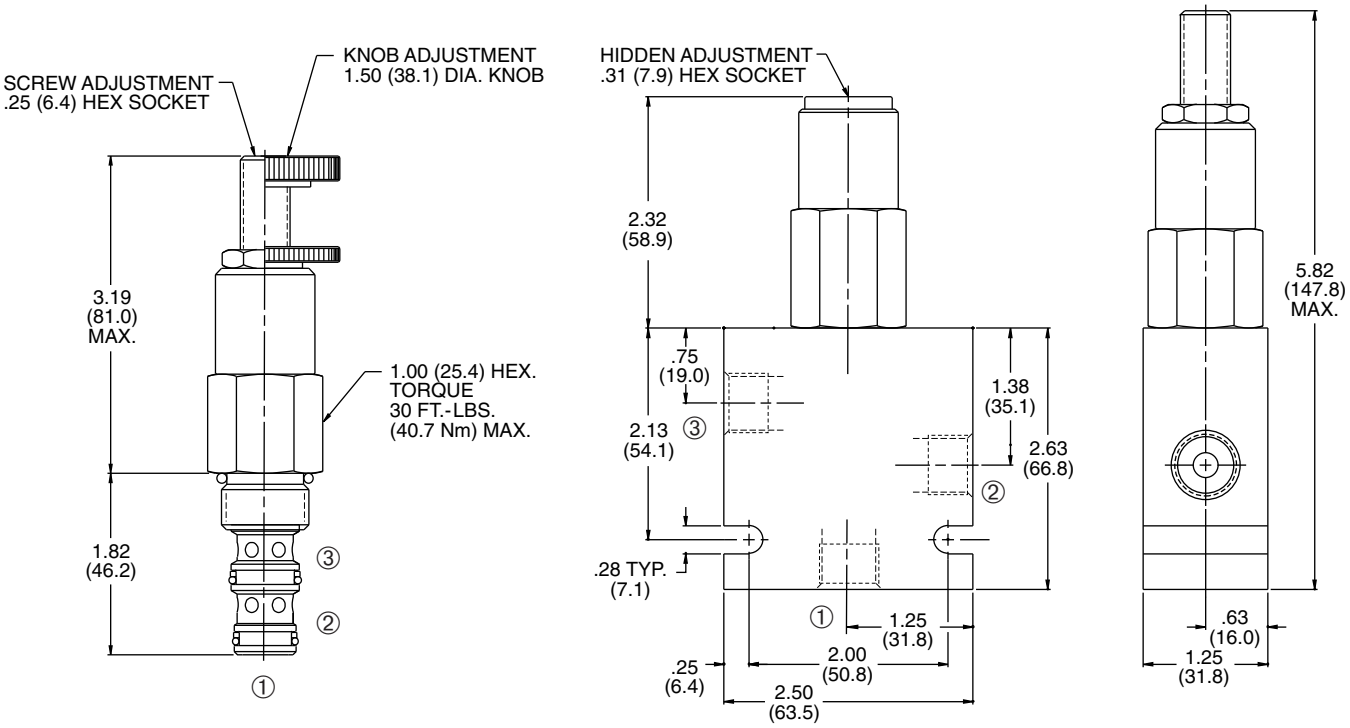
PRESSURE DROP VS. FLOW



DPS-100

Adjustable, Direct-Acting
Externally-Drained Sequence Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPS - 100 - * - * - ** / ** - ****

PRESSURE SEQUENCE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
H = Hidden
K = Knob
S = Screw

SPRING RANGE
2 = 50 to 200 PSI (3 to 14 Bar)
Preset: 150 PSI (10 Bar)
9 = 100 to 900 PSI (7 to 62 Bar)
Preset: 450 PSI (31 Bar)
24 = 700 to 2400 PSI (48 to 166 Bar)
Preset: 1800 PSI (124 Bar)

FACTORY PRESET PSI
(Omit for standard)

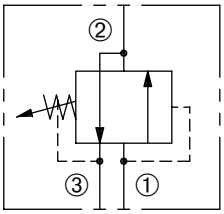
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

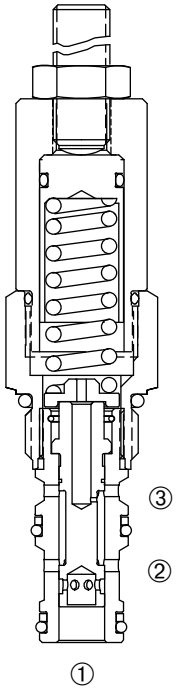
DPS2-080

Adjustable, Internally-Piloted,
Internally-Drained Sequence Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

An adjustable, internally-piloted spool cartridge valve designed to direct oil to a circuit when a predetermined pressure has been reached.

OPERATION

The DPS2-080 in steady state allows flow from ② to ③ with ① blocked. When the preset pressure at ① is achieved, the spool shifts to allow flow ① to ②.

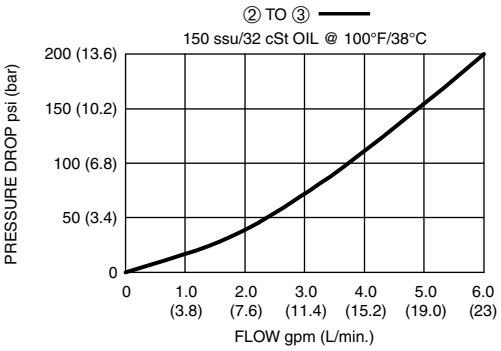
FEATURES and BENEFITS

- Hardened spool and sleeve for long life.
- Industry common cavity.
- Compact size

SPECIFICATIONS

Operating Pressure: 4000 PSI (276 Bar)
Max. Flow: 6 GPM (22.7 l/min)
Internal Leakage: 82 cc/min at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C).
Spring Range: 50 to 400 PSI (3.5 to 27.5 Bar)
300 to 2000 PSI (20 to 138 Bar)
1500 to 4000 PSI (103 to 276 Bar)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids.
Cavity/Cavity Tool: 080-3, see page 11.08.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 psi (207 Bar).

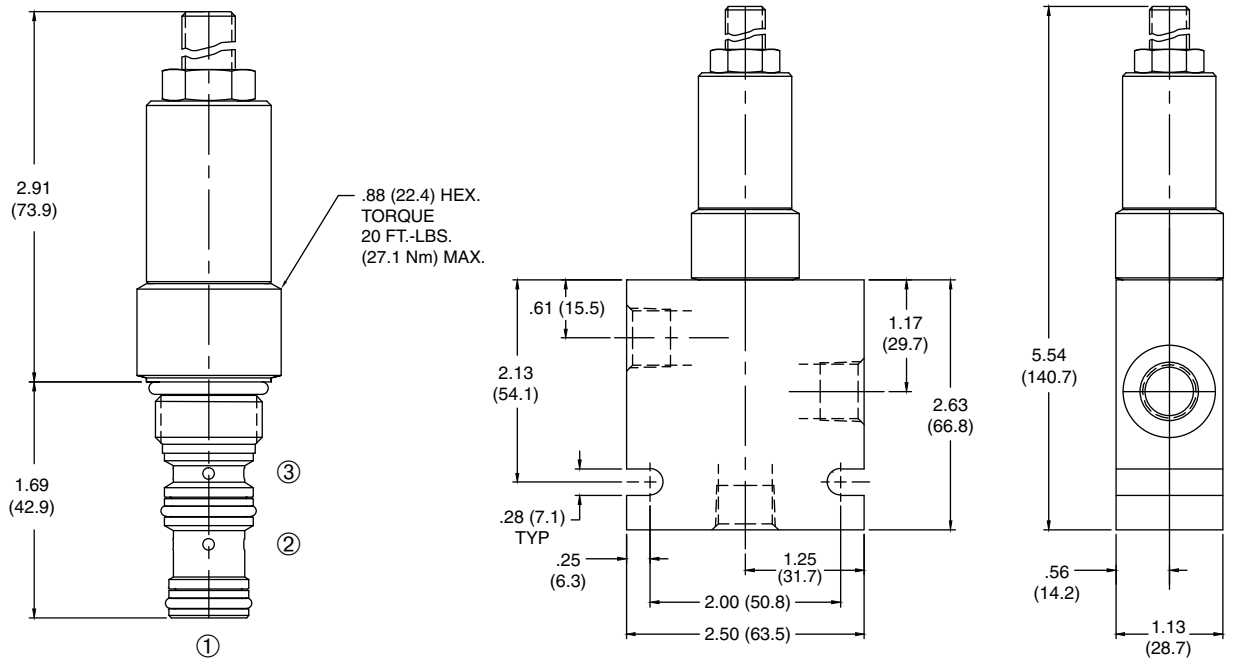
PRESSURE DROP VS. FLOW



DPS2-080

Adjustable, Internally-Piloted,
Internally-Drained Sequence Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPS2 - 080 - * - * - ** / ** - **

PRESSURE
SEQUENCE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

SCREW ADJUSTMENT
H = Hidden
K = Knob
S = Screw

SPRING RANGE
4 = 50 to 400 PSI
20 = 300 to 2000 PSI
30 = 1500 to 4000 PSI

FACTORY PRESET PSI
(Omit for standard)

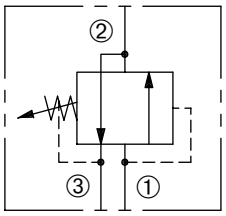
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting options available – consult factory.)

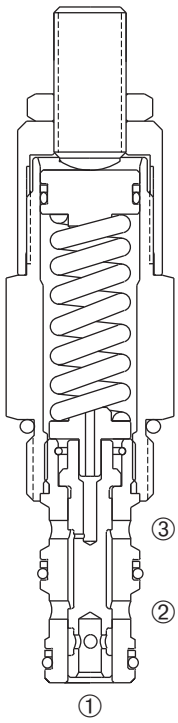
DPS2-100

Adjustable, Internally-Piloted,
Internally-Drained Sequence Valve

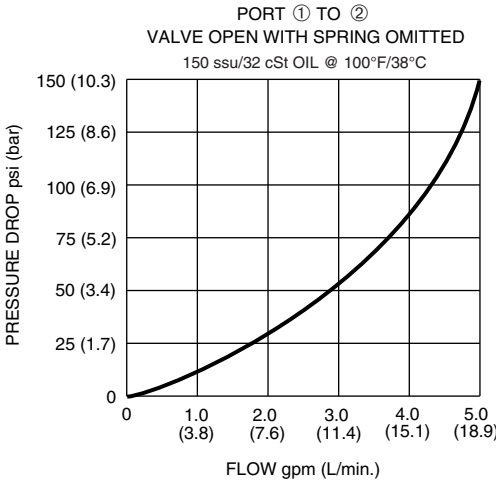
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





PRESSURE DROP VS. FLOW



DESCRIPTION

An adjustable, internally-piloted spool cartridge valve designed to direct oil to a circuit when a predetermined pressure has been reached.

OPERATION

The DPS2-100 in the steady state allows flow from ② to ③ with ① blocked. When the preset pressure at ① is achieved, the spool shifts to allow flow from ① to ②.

FEATURES and BENEFITS

- Variety of pressure ranges.
- Hardened precision spool and sleeve for long life.
- Hidden adjustment (tamper resistant) option.
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

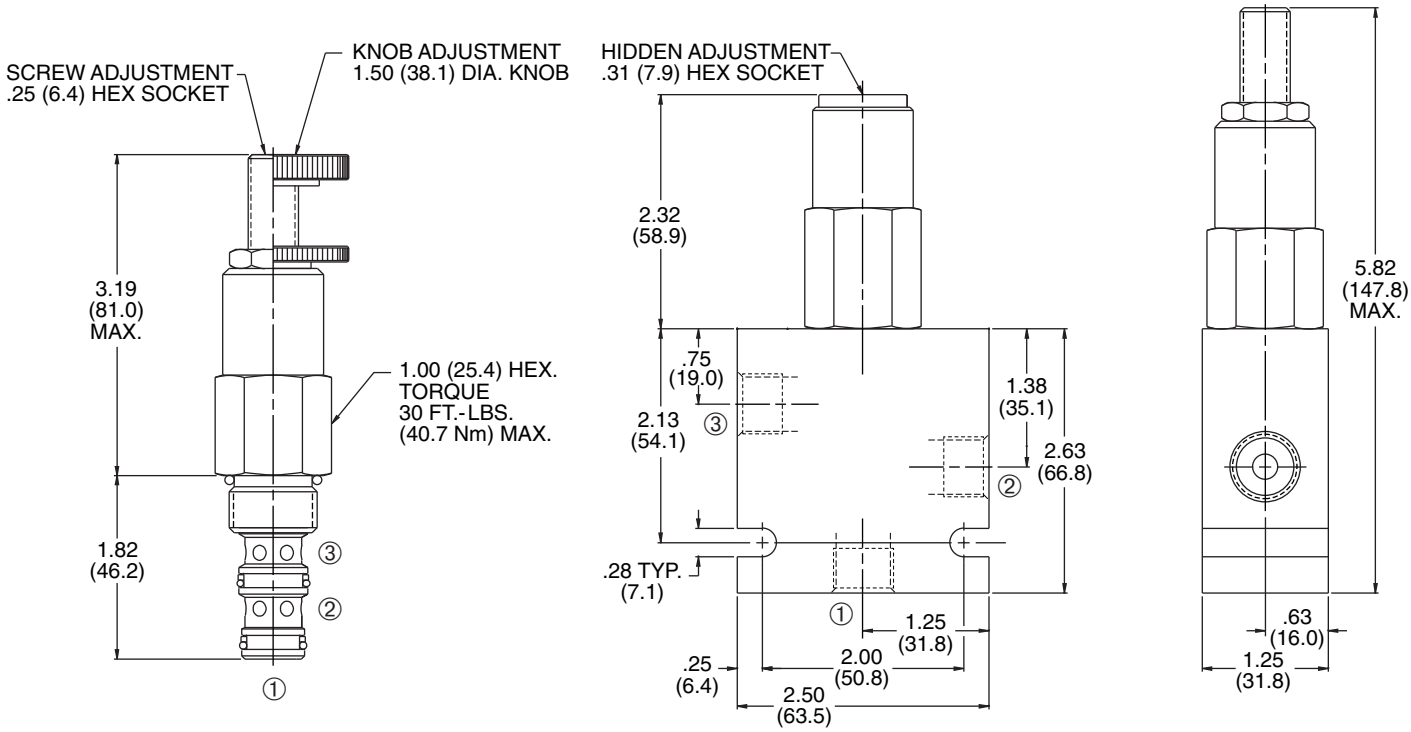
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 in.³/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Spring Range: 400 to 2400 PSI (28 to 166 Bar)
Preset: 2000 PSI (138 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DPS2-100

Adjustable, Internally-Piloted,
Internally-Drained Sequence Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPS2 - 100 - * - * - 24 / ** - ****

PRESSURE
SEQUENCE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
H =- Hidden
K = Knob
S = Screw

SPRING RANGE
24 = 400 to 2400 PSI (28 to 166 Bar)
Preset: 2000 PSI (138 Bar)

FACTORY PRESET PSI
(Omit for standard)

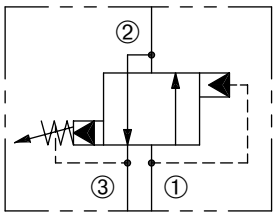
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting
options available –
consult factory.)

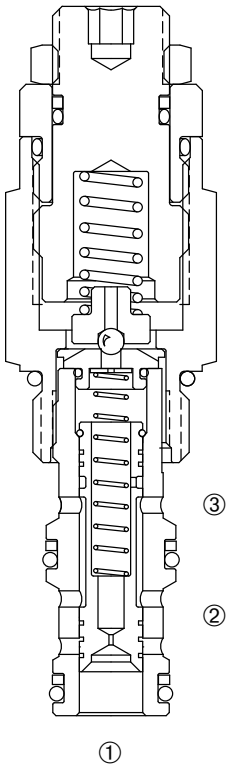
DPS3-080

Adjustable, Pilot-Operated,
Sequence Valve

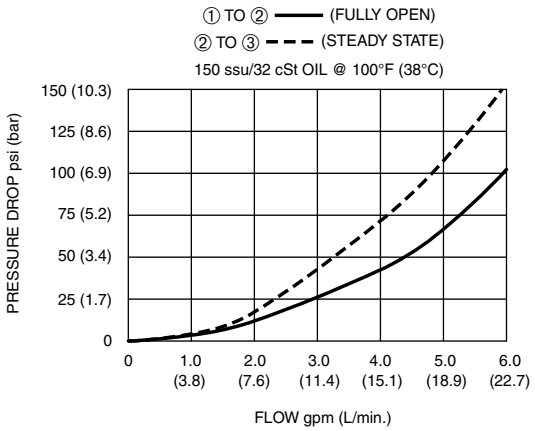
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





PRESSURE DROP VS. FLOW



DESCRIPTION

An adjustable, pilot operated spool cartridge valve designed to direct oil to a circuit when a predetermined pressure has been reached.

OPERATION

The DPS3-080 in steady state blocks flow at ① while allowing flow from ② to ③. When the preset pressure at ① is achieved the pilot section opens. This pilot flow creates a pressure differential across the spool, which causes the spool to shift to allow flow from ① to ②.

FEATURES and BENEFITS

- Hardened precision spool and sleeve for long life.
- Variety of pressure ranges.
- High accuracy of pilot operated design.
- Adjustment prevents spring from going solid.
- Adjustment may be locked in place.
- Tamper resistant option.
- Industry common cavity.
- Compact size.

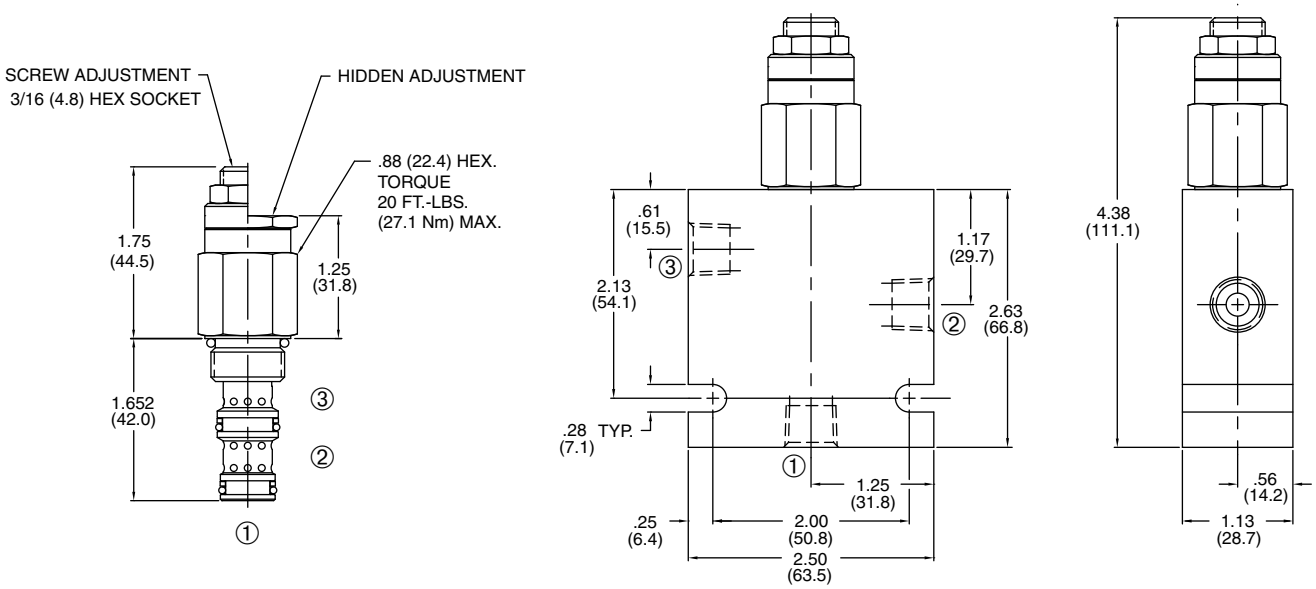
SPECIFICATIONS

Operating Pressure: 5000 PSI (345 Bar)
Flow: 6 GPM (22.7 L/min.)
Internal Leakage: 5 in^3/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Std. Spring Ranges: 300 to 5000 PSI (20 to 345 Bar)
Preset: (SEE HOW TO ORDER)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 19/15
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-3, see page 11.08.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

DPS3-080

Adjustable, Pilot-Operated,
Sequence Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPS3 - 080 - U - * - ** / ** - ****

PRESSURE
SEQUENCE VALVE

CAVITY/SEAL

SEALS
U = Urethane
Other options available -
Consult factory

ADJUSTMENT STYLE
S = Screw
H = Hidden (Tamper Resistant)

SPRING RANGE
15 = 300 to 1500 PSI (20 to 103 Bar)
Preset: 300 PSI (20 Bar)
50 = 1000 to 5000 PSI (69 to 345 Bar)
Preset: 3000 PSI (207 Bar)

FACTORY PRESET PSI
50 PSI Increments
(Omit for Std.)

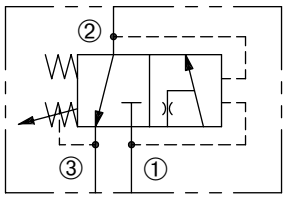
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for cartridge only.
(Other porting options
available – consult factory.)

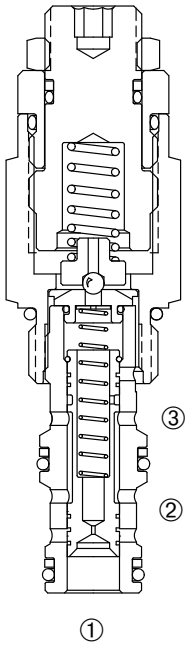
DPSK-080

Adjustable, Pilot-Operated,
Kick-Down Sequence Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

An adjustable, pilot-operated spool cartridge valve designed to direct oil to a circuit when a predetermined pressure has been reached.

OPERATION

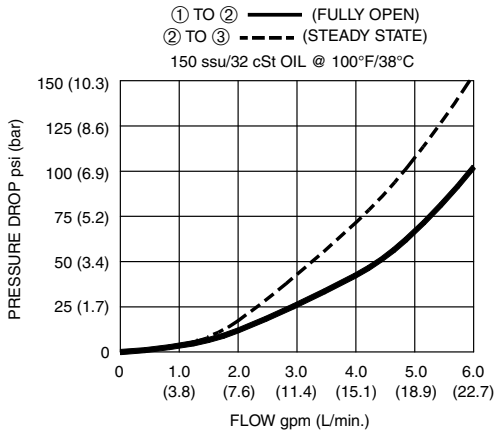
The DPSK-080 in steady state blocks flow at ① while allowing flow from ② to ③. When the preset pressure at ① is achieved, the pilot section opens. This pilot flow creates a pressure differential across the spool, which causes the spool to shift to allow flow from ① to ②.

The spool will not shift back (kick-down) until pressure at ② falls below a predetermined pressure.

FEATURES and BENEFITS

- Hardened precision spool and sleeve for long life.
- Variety of pressure ranges.
- High accuracy of pilot operated design.
- Adjustment prevents spring from going solid.
- Adjustment may be locked in place.
- Tamper resistant option.
- Industry common cavity.
- Compact size.

PRESSURE DROP VS. FLOW



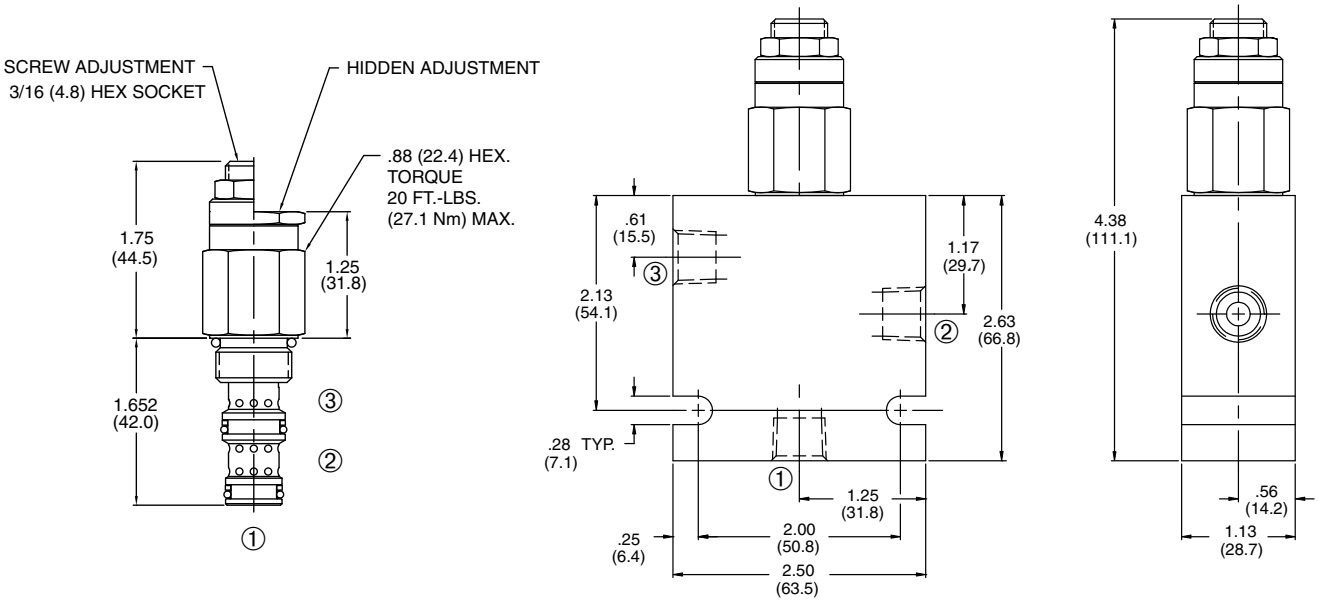
SPECIFICATIONS

Operating Pressure: 4000 PSI (276 Bar)
Flow: See PRESSURE DROP VS. FLOW graph
Nominal flow 5 GPM (19.0 l/min)
Internal Leakage: 5 in^3/min (82 cc/min) max. at 3000 PSI (207 Bar)
Spring Range: 300 to 4000 PSI (20 to 276 Bar)
Preset: (See HOW TO ORDER)
Reset Spring Pressure: 100 PSI (7 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 19/15
Fluids: Mineral-based fluids.
For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-3, see page 11.08.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 psi (207 Bar).

DPSK-080

Adjustable, Pilot-Operated,
Kick-Down Sequence Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPSK - 080 - * - * - ** / ** - ****

KICK-DOWN
SEQUENCE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton
U = Urethane

ADJUSTMENT STYLE
S = SCREW
H = HIDDEN (TAMPER RESISTANT)

SPRING RANGE
20 = 300 to 2000 PSI (20 to 138 Bar)
Preset: 300 PSI (20 Bar)
40 = 1800 to 4000 PSI (124 to 276 Bar)
Preset: 3000 PSI (207 Bar)
50 = 2000 to 5000 PSI (138 to 345 Bar)
Preset: 4000 PSI (276 Bar)

FACTORY PRESET PSI
50 PSI increments
(Omit for Std.)

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for cartridge only.
(Other porting options
available – consult factory.)

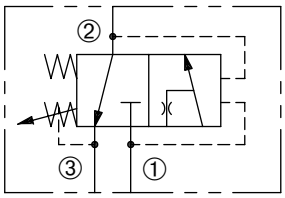
"U" Urethane option required for pressures above 3000 PSI (207 Bar)

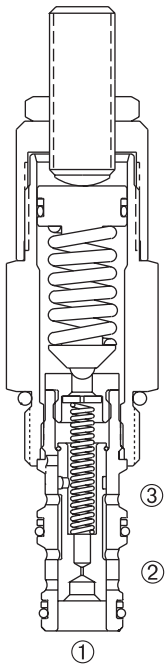
DPSK-100 (Reset 120 PSI)

Adjustable, Pilot-Operated
Kick-Down Sequence Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

An adjustable, pilot-operated spool cartridge valve designed to direct oil to a circuit when a predetermined pressure has been reached.

OPERATION

The DPSK-100 in the steady state blocks flow at ① while allowing flow from ② to ③. When the preset pressure at ① is achieved, the pilot section opens. This pilot flow creates a pressure differential across the spool, which causes the spool to shift to allow flow from ① to ②. The spool will not shift back (kick-down) until pressure at ② falls below a predetermined pressure.

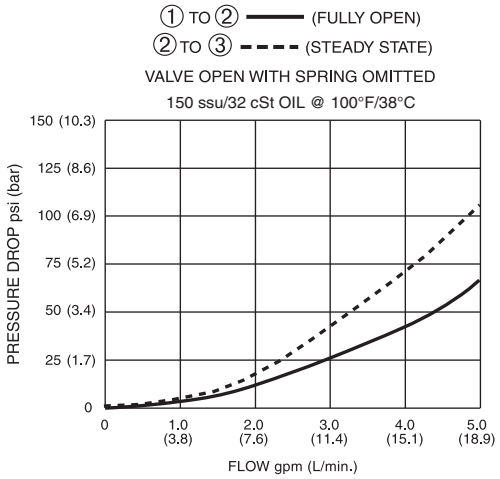
FEATURES and BENEFITS

- Variety of pressure ranges.
- Hardened precision spool and sleeve for long life.
- Hidden adjustment (tamper resistant) option.
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Spring Range: 300 to 500 PSI (21 to 34 Bar)
Preset: 400 PSI (28 Bar)
350 to 3000 PSI (24 to 207 Bar)
Preset: 2000 PSI (138 Bar)
Reset Spring Pressure: 120 PSI (8 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

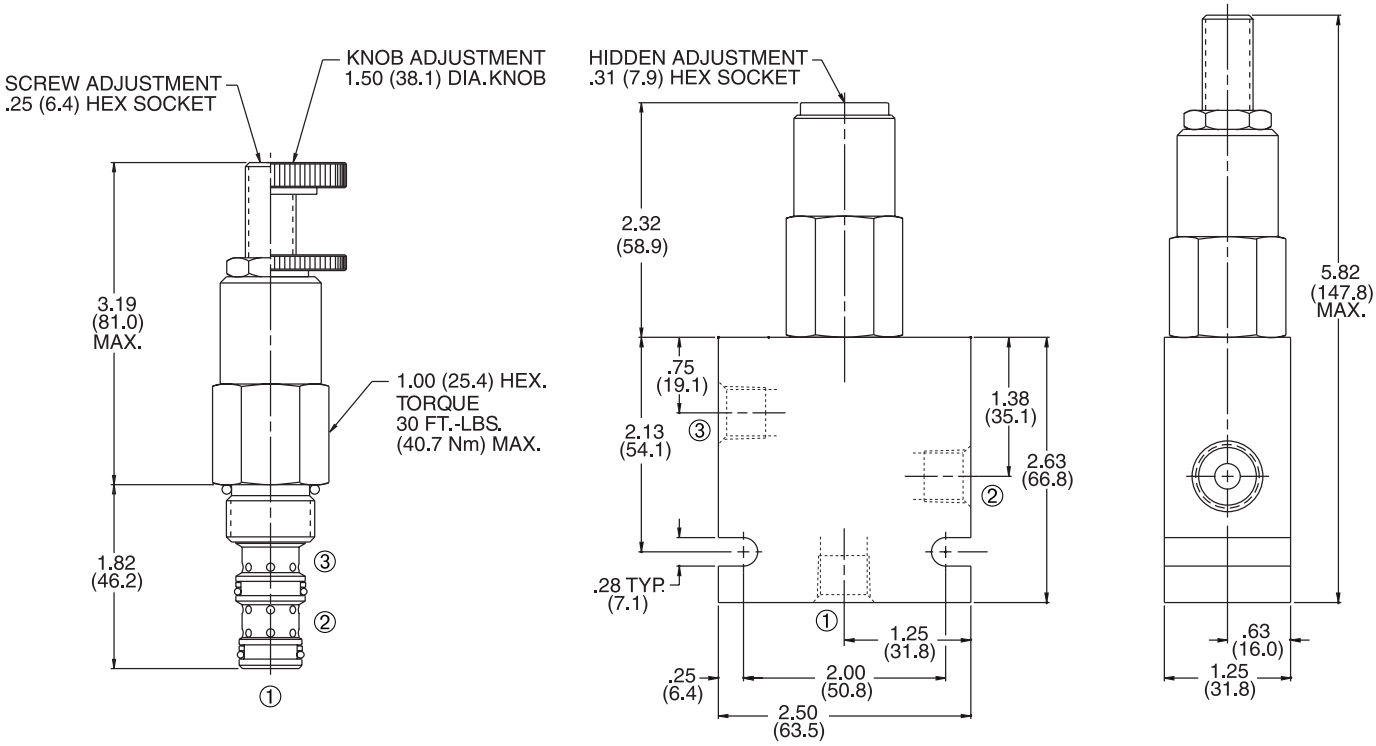
PRESSURE DROP VS. FLOW



DPSK-100 (Reset 120 PSI)

Adjustable, Pilot-Operated
Kick-Down Sequence Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPSK - 100 - * - * - ** / ** - ****

KICK-DOWN PRESSURE SEQUENCE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
H = Hidden
K = Knob
S = Screw

SPRING RANGE
5 = 300 to 500 PSI (21 to 34 Bar)
Preset: 400 PSI (28 Bar)
30 = 350 to 3000 PSI (24 to 207 Bar)
Preset: 2000 PSI (138 Bar)

FACTORY PRESET PSI
(Omit for standard)

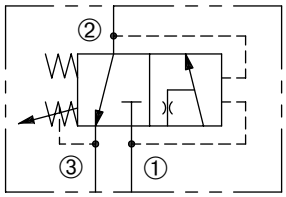
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

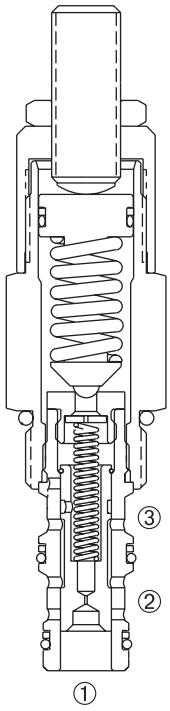
DPSK2-100 (Reset 300 PSI)

Adjustable, Pilot-Operated
Kick-Down Sequence Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

An adjustable, pilot-operated spool cartridge valve designed to direct oil to a circuit when a predetermined pressure has been reached.

OPERATION

The DPSK2-100 in the steady state blocks flow at ① while allowing flow from ② to ③. When the preset pressure at ① is achieved, the pilot section opens. This pilot flow creates a pressure differential across the spool, which causes the spool to shift to allow flow from ① to ②. The spool will not shift back (kick-down) until pressure at ② falls below a predetermined pressure.

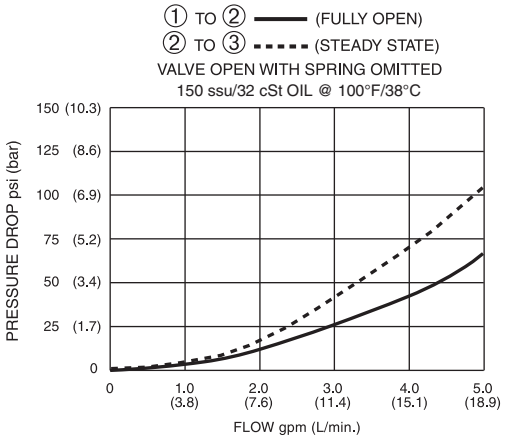
FEATURES and BENEFITS

- Higher kick-down pressure than DPSK-100 (see page 7.05.1).
- Variety of pressure ranges.
- Hardened precision spool and sleeve for long life.
- Hidden adjustment (tamper resistant) option.
- Aluminum knob and disc nut option.
- Adjustment may be locked in place.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 in.^{3}/min. (82 cc/min.) max. at 3000 PSI (207 Bar)
Spring Ranges: 350 to 3000 PSI (24 to 207 Bar)
Preset: 1200 PSI (83 Bar)
Reset Spring Pressure: 300 PSI (21 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

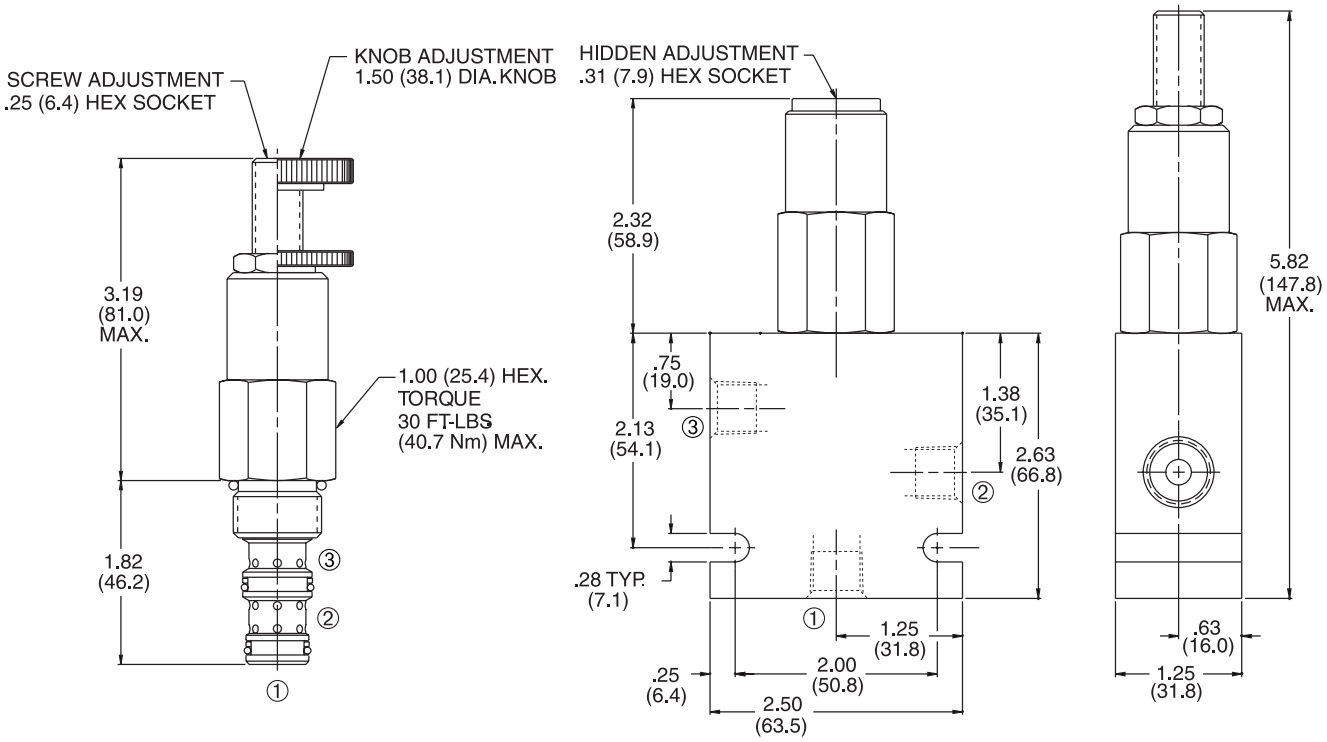
PRESSURE DROP VS. FLOW



DPSK2-100 (Reset 300 PSI)

Adjustable, Pilot-Operated
Kick-Down Sequence Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPSK2 - 100 - * - * - ** / ** - **

KICK-DOWN PRESSURE SEQUENCE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

ADJUSTMENT STYLE
H = Hidden
K = Knob
S = Screw

SPRING RANGE
30 = 350 to 3000 PSI (24 to 207 Bar)
Preset: 1200 PSI (83 Bar)

FACTORY PRESET PSI
(Omit for standard)

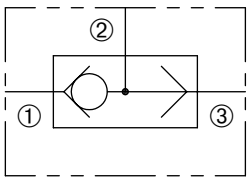
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

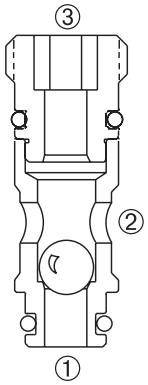
ZSHB-63

Ball-Type
Shuttle Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE





DESCRIPTION

A cartridge valve designed to direct flow from either of the two inlet ports to a common outlet port.

OPERATION

The ZSHB-63 allows the check ball to move away from inlet port ① or ③ with the greatest differential pressure and seat against the other inlet port having the least differential pressure. This provides a flow path to outlet port ②.

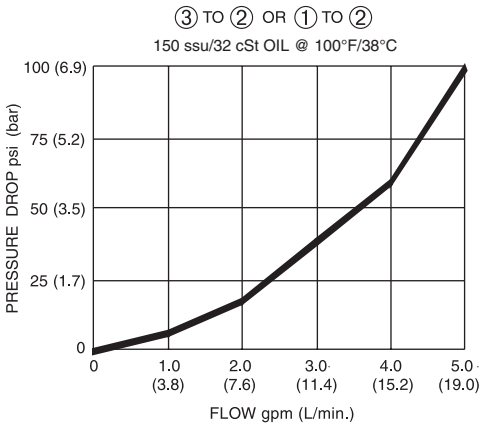
FEATURES and BENEFITS

- Excellent response to pressure changes.
- Chrome alloy ball for long life.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 4 GPM (15.1 L/min).
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: ZP63, see page 11.06.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW

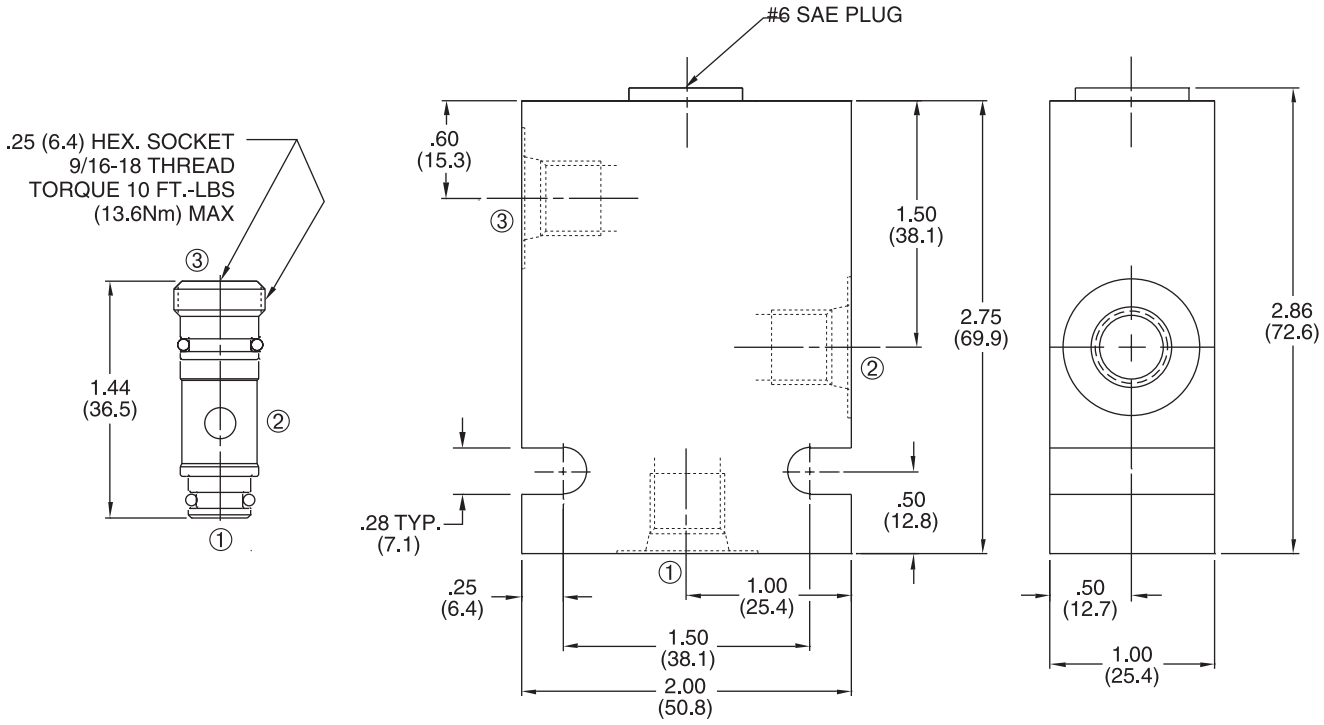


ZSHB-63

Ball-Type
Shuttle Valve

ZERO PROFILE

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZSHB - 63 - U - **

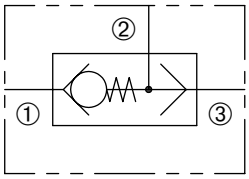
- ZSHB — SHUTTLE VALVE
- 63 — CAVITY
- U — SEALS
  U = Urethane
- ** — PORTING
  4T = SAE 4
  Omit for Cartridge Only.

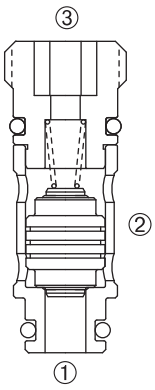
ZSH2-63

Zero Leak, Spring-Bias
Shuttle Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE





DESCRIPTION

A cartridge valve designed to direct flow from either of the two inlet ports to a common outlet port.

OPERATION

The ZSH2-63 allows the spring-bias poppet to move away from inlet port ① (biased closed) or ③ with the greatest differential pressure and seat against the other inlet port having the least differential pressure. This provides a flow path to outlet port ②.

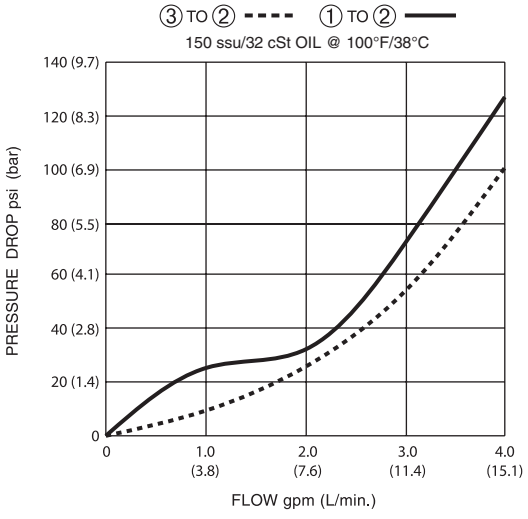
FEATURES and BENEFITS

- Excellent response to pressure changes.
- Zero leak.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal flow 4 gpm (15.1 L/min.)
Internal Leakage: 0 drops/min. max. at 1500 PSI (103 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: ZP63, see page 11.06.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



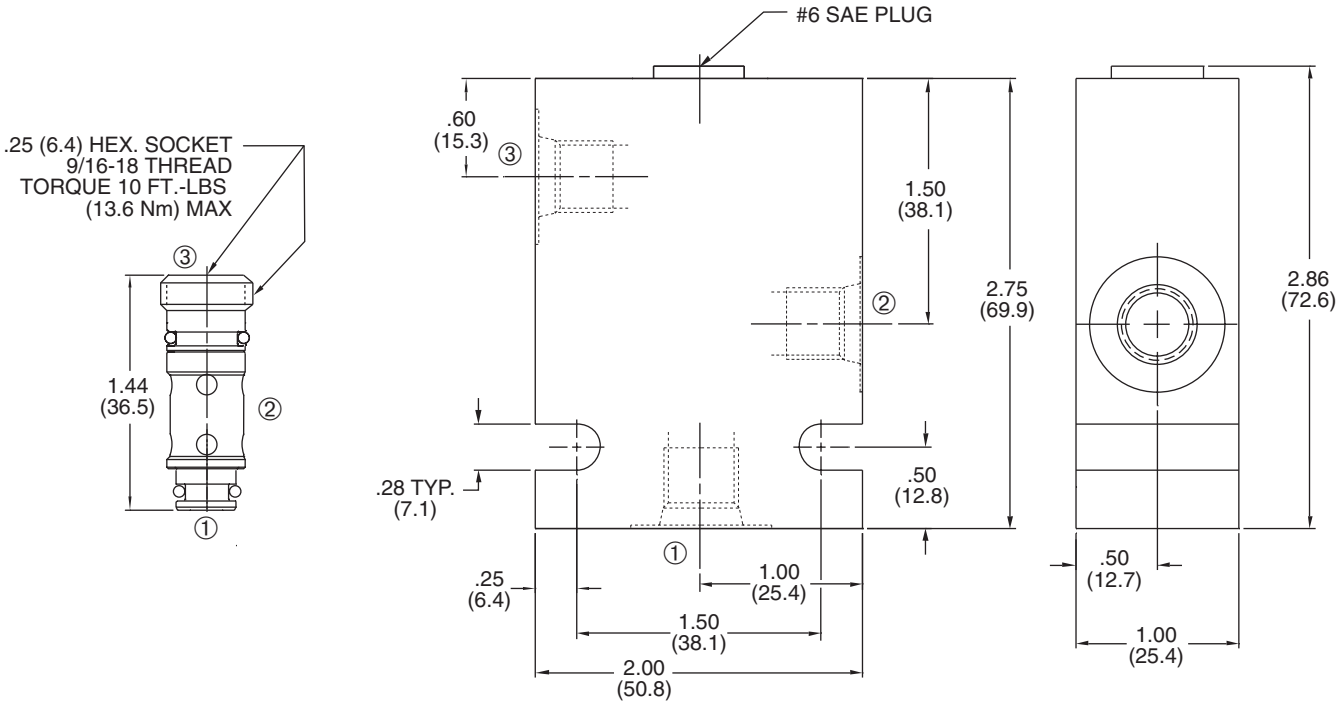
DELTROL fluid products
DIVISION OF DELTROL CORP

ZSH2-63

Zero Leak, Spring-Bias
Shuttle Valve

ZERO PROFILE

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

ZSH 2 - 63 - U - **

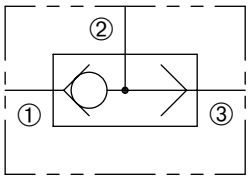
- ZSH — SHUTTLE VALVE
- 2 — SPRING-BIASED
- 63 — CAVITY
- U — SEALS
  U = Urethane
- ** — PORTING
  4T = SAE 4
  6T = SAE 6
  Omit for Cartridge Only.

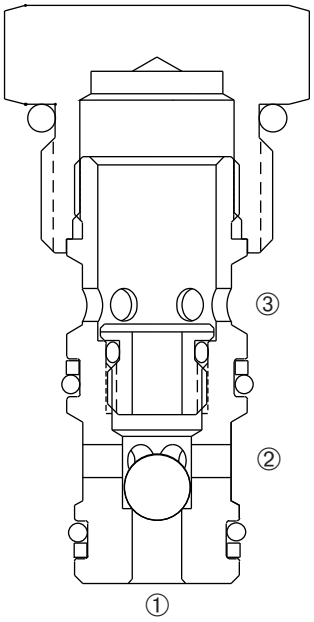
DSH-100

Ball-Type
Shuttle Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed to direct flow from either of the two inlet ports to a common outlet port.

OPERATION

The DSH-100 allows the check ball to move away from inlet port ① or ③ with the greatest differential pressure and seat against the other inlet port having the least differential pressure providing a flow path to outlet port ②.

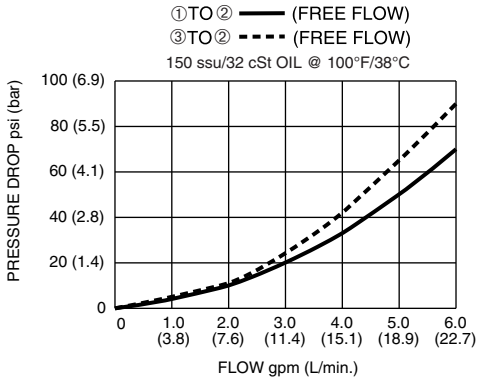
FEATURES and BENEFITS

- Excellent response to pressure changes.
- Hardened working parts for long life.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3, see page 11.10.3
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

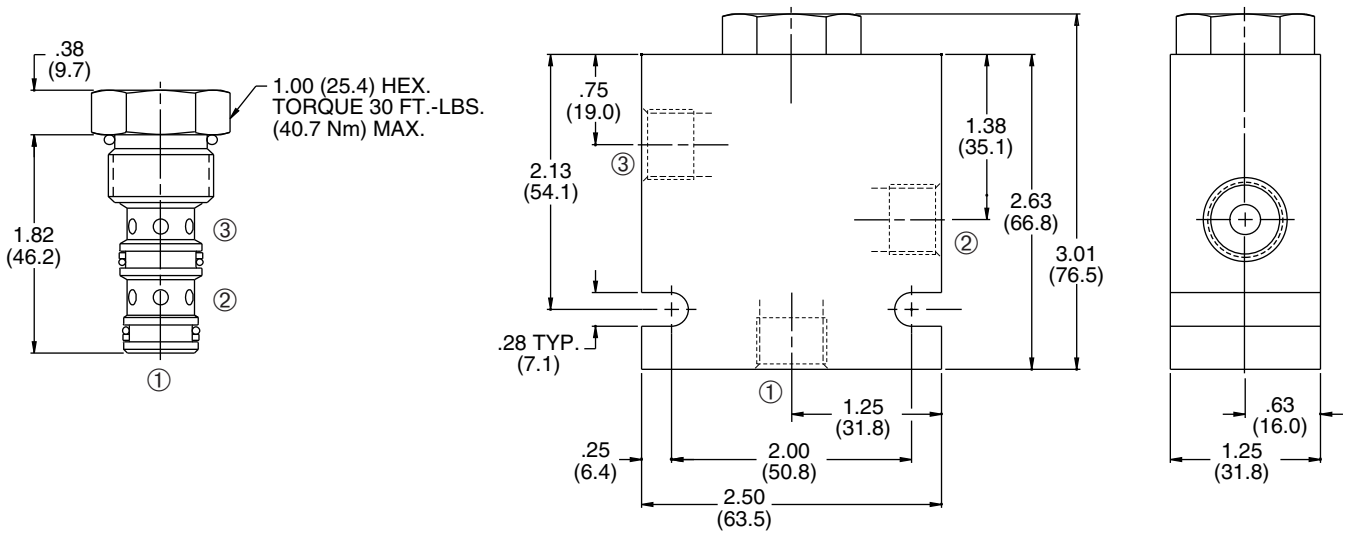
PRESSURE DROP VS. FLOW



DSH-100

Ball-Type
Shuttle Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DSH - 100 - * - **

SHUTTLE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

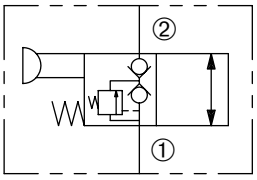
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only. (Other porting options available – consult factory.)

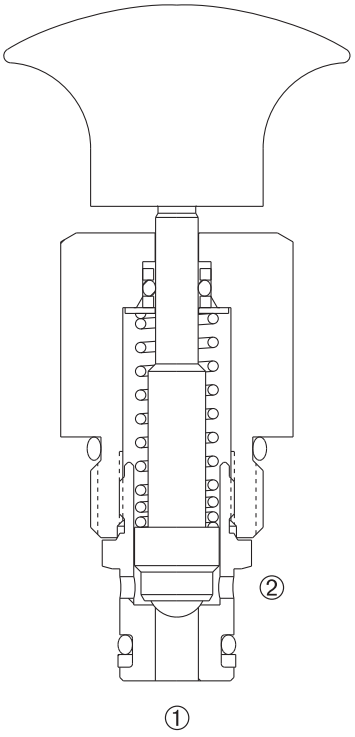
DMP-080-2NCP

Manual Pull, Two-Way,
Normally Closed Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A manual operated pull style cartridge valve designed with positive shut off to be used in load holding applications.

OPERATION

The DMP-080-2NCP blocks flow from ② to ①, or ① to ②. When the knob is pulled, fluid flows from ② to ①, or ① to ②. The cartridge allows flow from ① to ② after overcoming the spring force of 450 PSI (31 Bar).

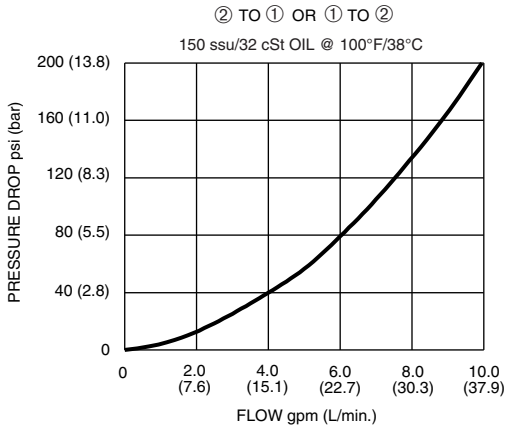
FEATURES and BENEFITS

- Large red knob for easy identification and use.
- Chrome alloy ball for long life.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



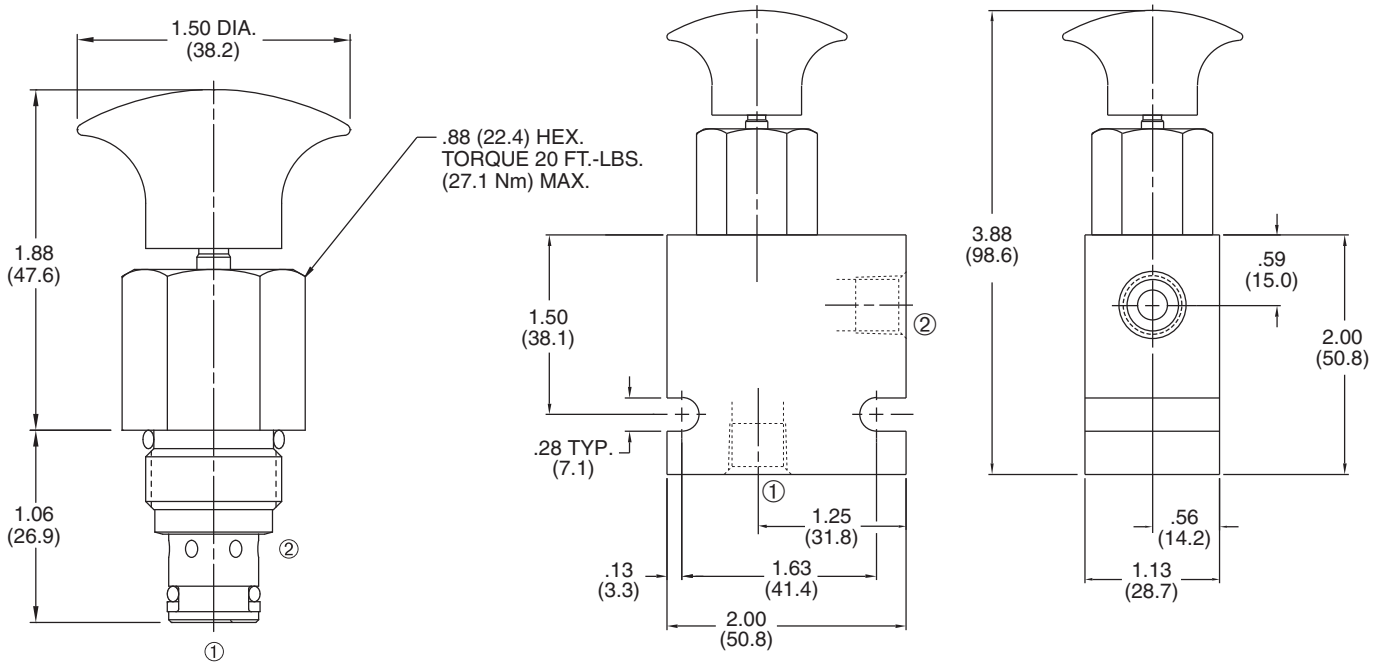
DELTROL fluid products
DIVISION OF DELTROL CORP

DMP-080-2NCP

Manual Pull, Two-Way,
Normally Closed Valve

SERIES 8

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DMP - 080 - 2 NC P - * - **

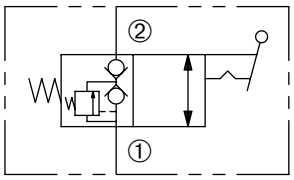
- MANUAL PULL
- CAVITY/SEAL
- FLOW PATH
- NORMALLY CLOSED
- POPPET
- SEALS
  N = Buna N
  V = Viton
- PORTING
  2N = 1/4 PTF
  3N = 3/8 PTF
  4T = SAE 4
  6T = SAE 6
  Omit for Cartridge Only.
  (Other porting options available – consult factory.)

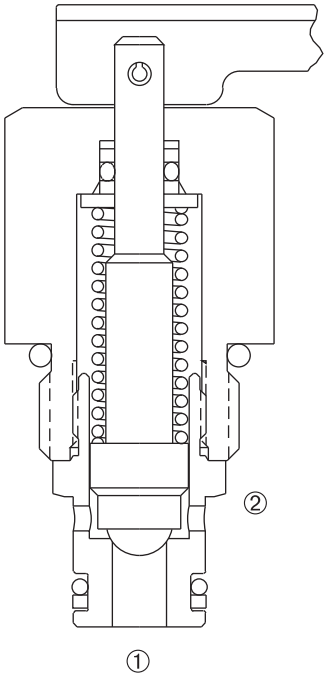
DTV-080

Normally Closed, Detent,
Toggle-Operated Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A toggle-operated cartridge valve designed with positive shut off to be used in load holding applications.

OPERATION

The DTV-080 blocks flow from ② to ①, or ① to ②. When the toggle handle is actuated, fluid flows from ② to ①, or ① to ②. The cartridge allows reverse flow from ① to ② after overcoming the spring force of 450 PSI (31 Bar).

The DTV-080 can be actuated by pushing or pulling the toggle handle and will over-center detent open.

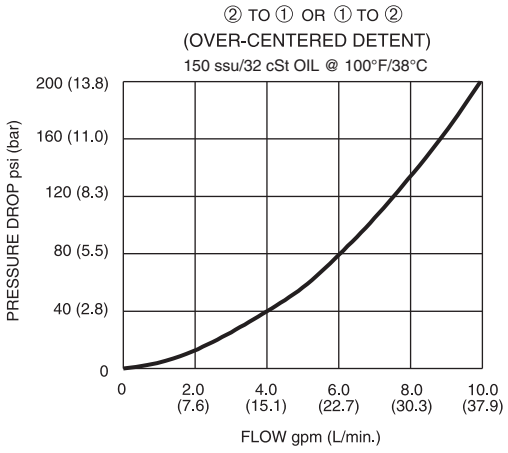
FEATURES and BENEFITS

- Chrome alloy ball for long life.
- Push or pull actuator.
- Over-center detents open.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2 , see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

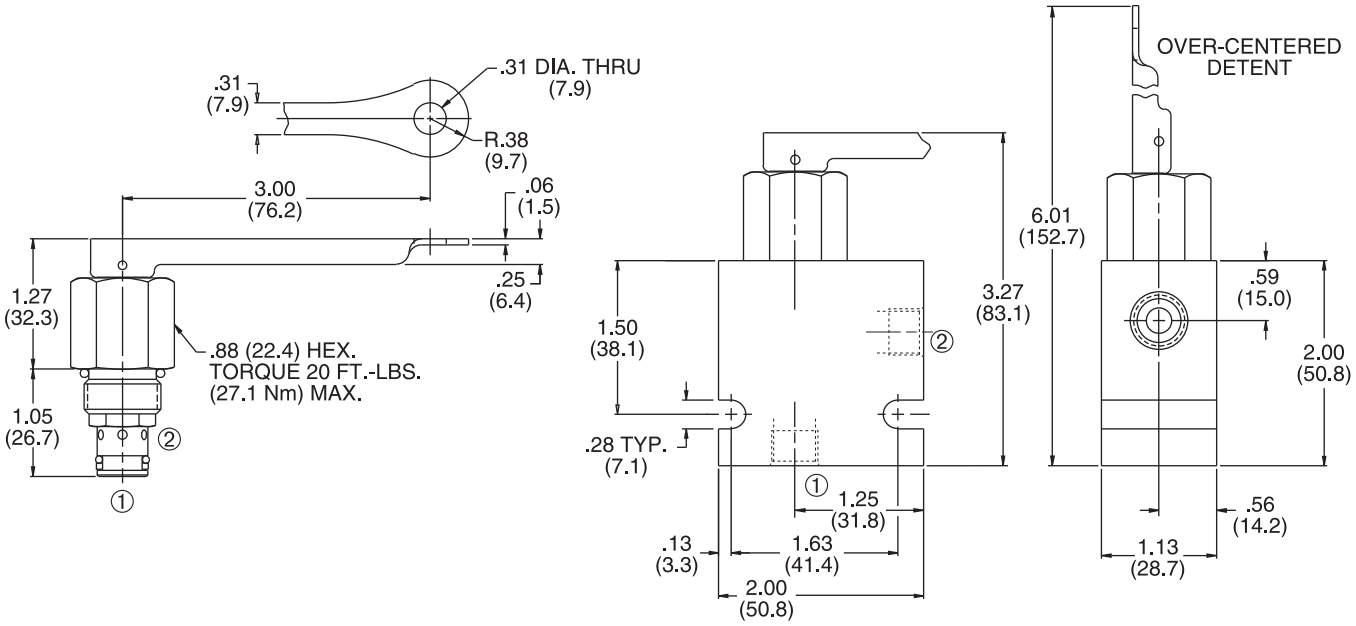
PRESSURE DROP VS. FLOW



DTV-080

Normally Closed, Detent,
Toggle-Operated Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DTV - 080 - * - **

TOGGLE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

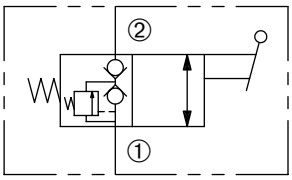
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting options available – consult factory.)

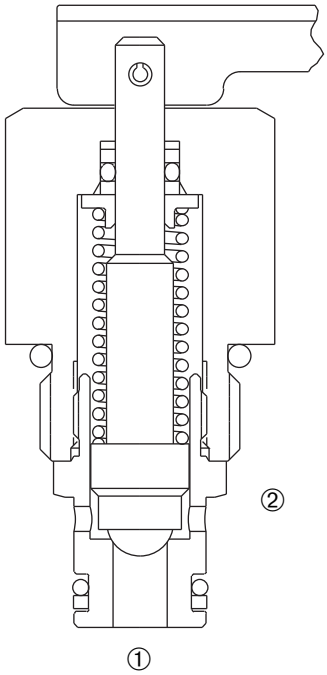
DTV2-080

Normally Closed,
Toggle-Operated Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A toggle-operated cartridge valve designed with positive shut off to be used in load holding applications.

OPERATION

The DTV2-080 blocks flow from ② to ①, or ① to ②. When the toggle handle is actuated, fluid flows from ② to ①, or ① to ②. The cartridge allows reverse flow from ① to ② after overcoming the spring force of 450 PSI (31 Bar).

The DTV2-080 can be actuated by pushing or pulling the toggle handle.

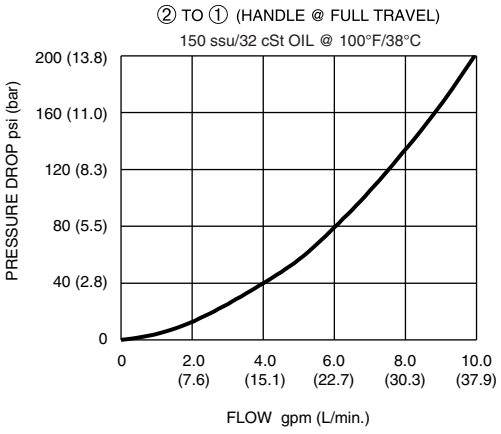
FEATURES and BENEFITS

- Chrome alloy ball for long life.
- Push or pull actuator.
- Cannot over-center detent open (Safety purposes).
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30° F to +250° F (-35°C to +120° C)
Recommended Filtration: Critical Application-ISO 17/15/13
Non-Critical Application-ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility consult factory.
Cavity/Cavity Tools: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

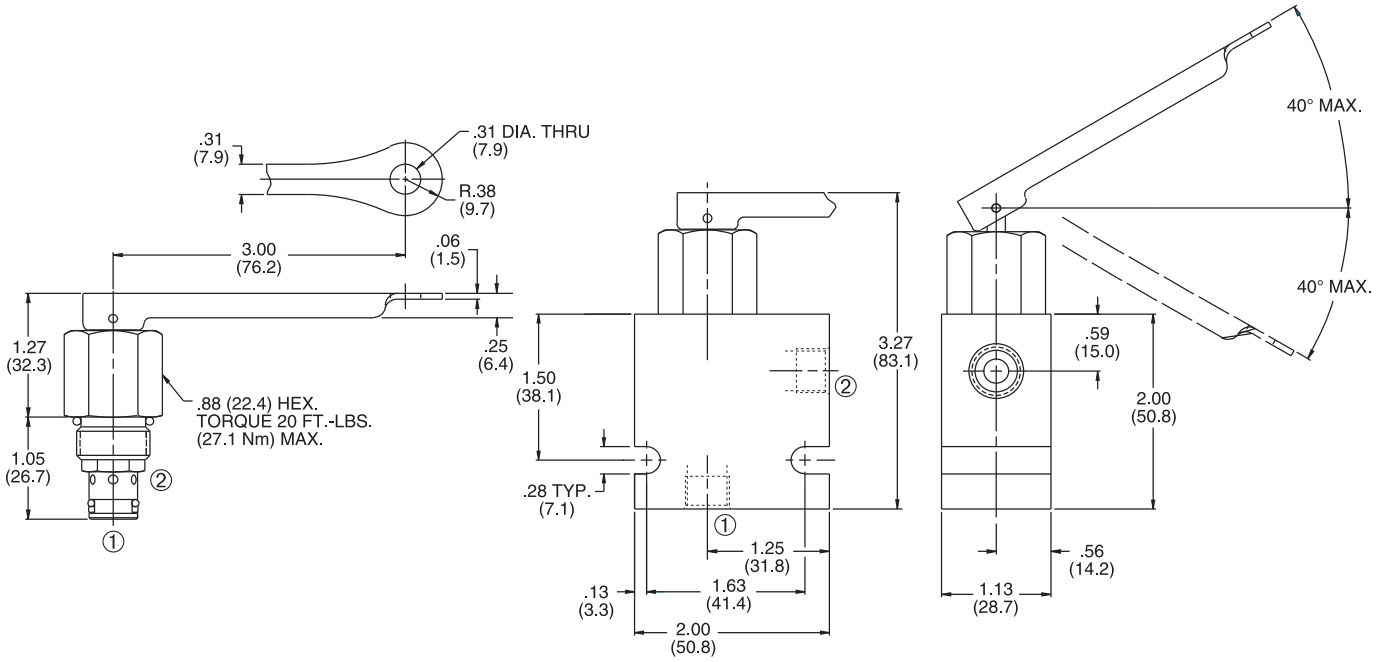
PRESSURE DROP VS. FLOW



DTV2-080

Normally Closed,
Toggle-Operated Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DTV2 - 080 - * - **

TOGGLE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

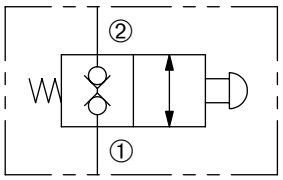
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only
(Other porting options available – consult factory.)

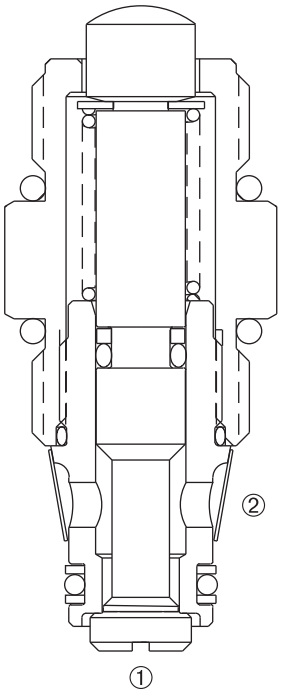
DMR2-080

Normally Closed, Zero Leak
Mechanically-Operated Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A mechanically-operated cartridge valve designed with positive shut off to be used in load-holding applications.

OPERATION

The DMR2-080 blocks flow in both directions. When the plunger is actuated, the poppet opens, allowing flow in either direction.

The force required to depress the plunger is the summation of:
Pressure psi at ① x .066
Pressure psi at ② x .011
8-lb. spring constant

Note: Omit pressure at ① if no pressure exists.
Omit pressure at ② if no pressure exists.

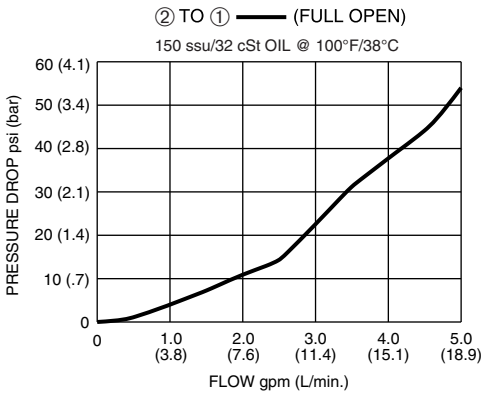
FEATURES and BENEFITS

- Hardened poppet and seat for long life.
- Zero leak.
- Externally threaded for connecting a manual operator.
- Filter screen standard.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 5 GPM (18.9 L/min).
Internal Leakage: 0 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Actuation Force: Force (lbs.) = (P① x .066) + (P② x .011) + 8
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

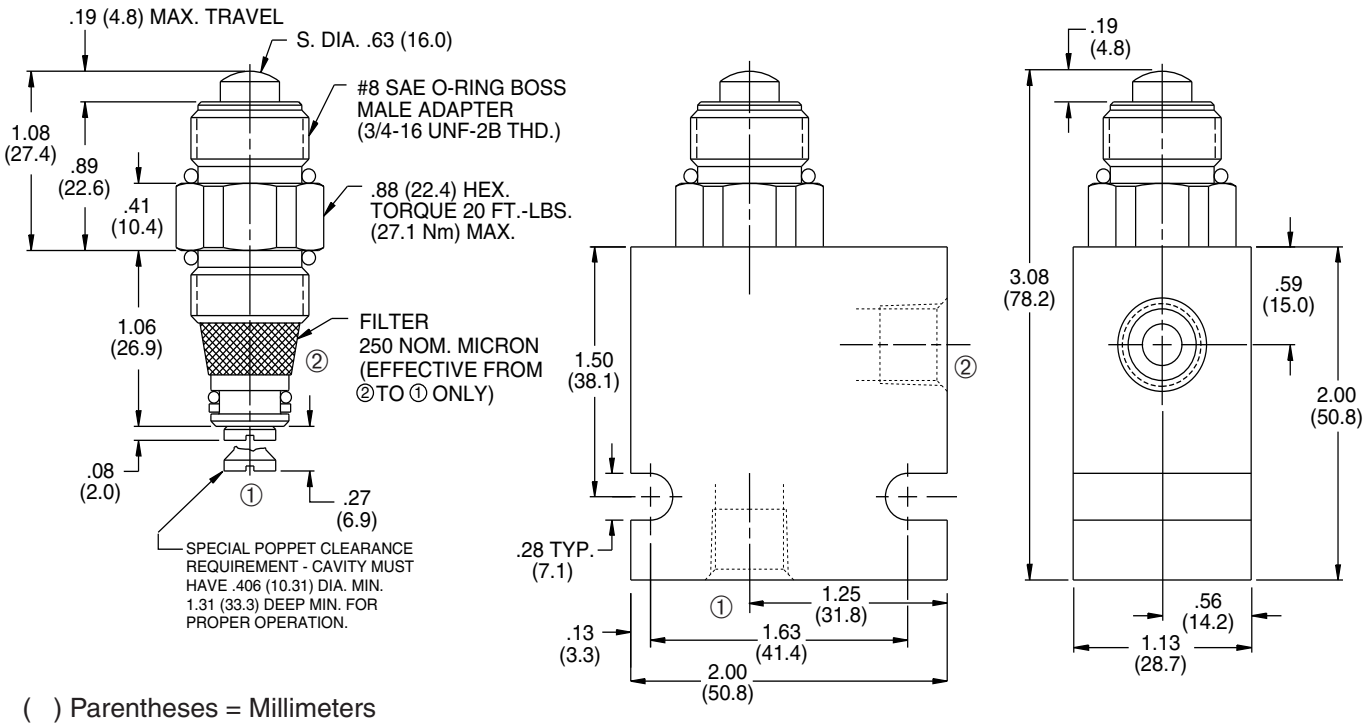
PRESSURE DROP VS. FLOW



DMR2-080

Normally Closed, Zero Leak
Mechanically-Operated Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DMR2 - 080 - * - **

MANUAL RELEASE VALVE

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

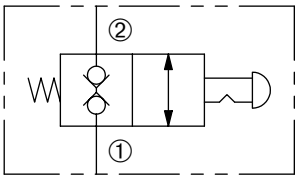
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
4T = SAE 4
6T = SAE 6
Omit for Cartridge Only.
(Other porting options available – consult factory.)

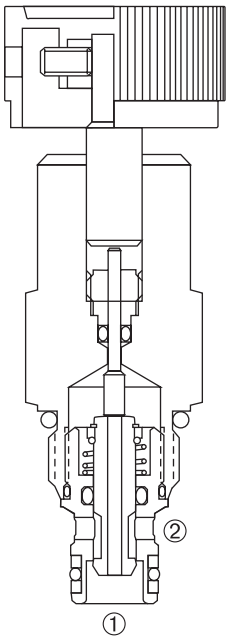
DMO-080-2NCSP

Normally Closed, Bi-Directional
Manual-Operated Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8





DESCRIPTION

A manually-operated cartridge valve designed with positive shut off, low leakage and blocking in both directions, to be used in load holding applications.

OPERATION

In the closed position flow is blocked in both directions.

Opening is achieved by pushing down on knob, turning in a counterclockwise direction and releasing into a detented open position allowing flow from either ① to ② or ② to ①.

To return to the normally closed position, push down on knob, turn clockwise and release.

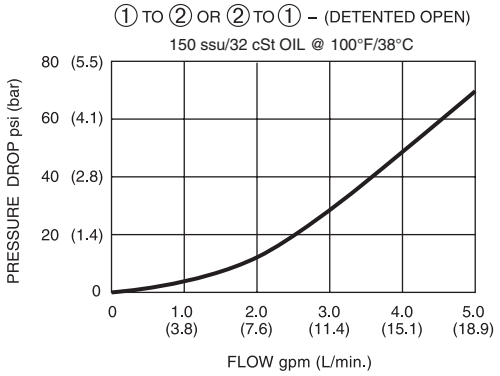
FEATURES and BENEFITS

- Hardened poppet and seat for long life and low leakage.
- Low leak valve available.
- Positive detent open.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 5 GPM (18.9 L/min).
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Low leakage available-
Less than 2 drops/min. max. at 3000 PSI (207 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: Critical Application – ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 080-2, see page 11.08.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

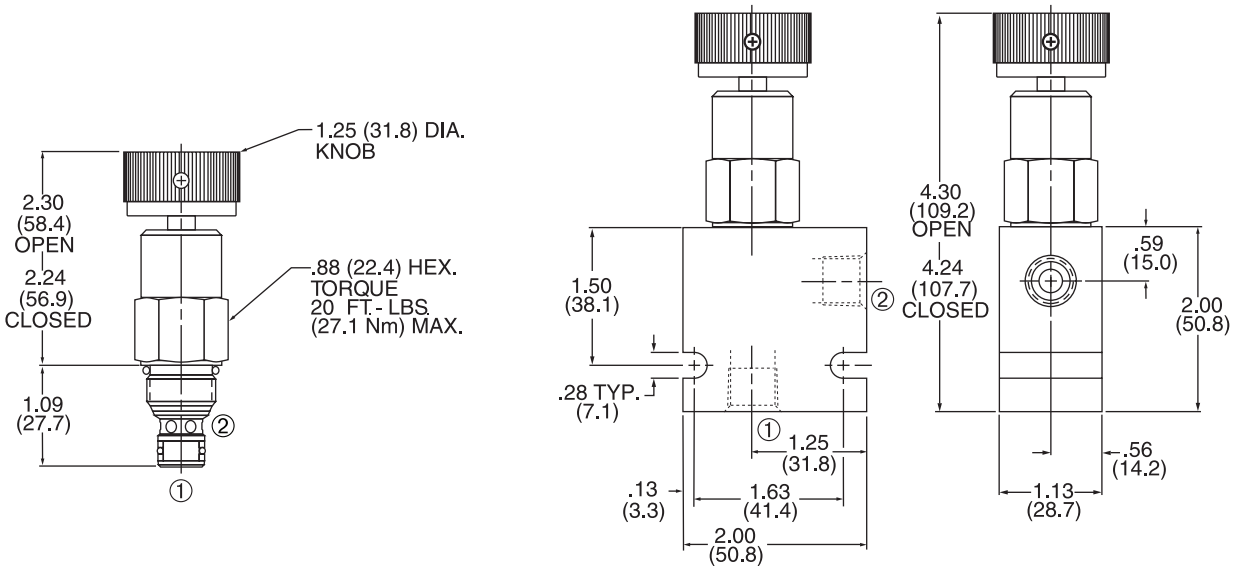
PRESSURE DROP VS. FLOW



DMO-080-2NCSP

Normally Closed, Bi-Directional
Manual-Operated Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DMO - 080 - 2 NC SP - * - * - **

- DMO — MANUAL PULL
- 080 — CAVITY/SEAL
- 2 — FLOW PATH
- NC — NORMALLY CLOSED
- SP — BI-DIRECTIONAL
- * — SEALS
  - N = Buna N
  - V = Viton
- * — L = Low Leak Option (Omit for Standard)
- ** — PORTING
  - 2N = 1/4 PTF
  - 3N = 3/8 PTF
  - 4T = SAE 4
  - 6T = SAE 6

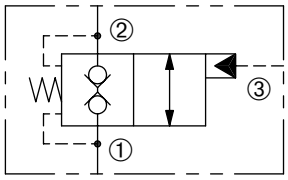
  Omit for Cartridge Only. (Other porting options available – consult factory.)

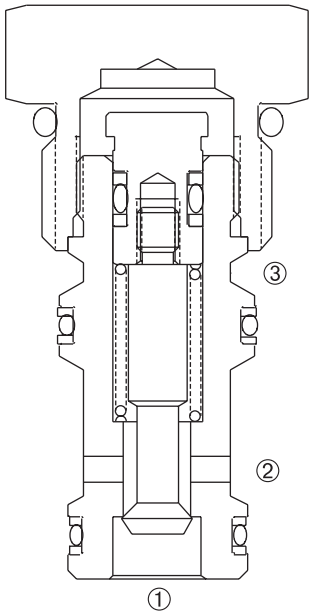
DPOD-100-2NCP

Pilot To Open, Poppet-Type,
Directional Control Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed to block flow in both directions. Free flow can be achieved by reaching the required pilot pressure. This valve is commonly used in load holding or blocking applications.

OPERATION

In the steady state the poppet is held closed to block flow between ① and ② and ② and ①. When the required pilot pressure is achieved at ③, the poppet is held open to allow free flow between ② and ① or ① and ②. The pilot area ratio port ③ to ① is 1.3 to 1 and the area ratio port ③ to ② is 1.8 to 1.

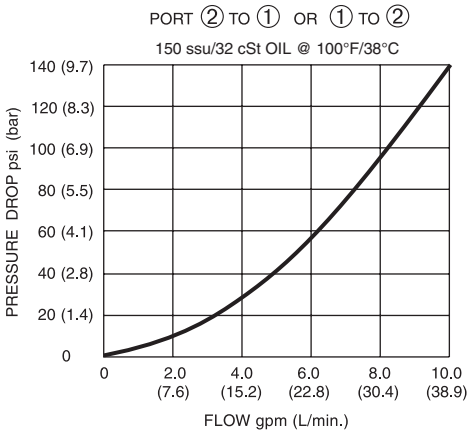
FEATURES and BENEFITS

- Hardened spool and sleeve for long life and low leakage.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Pilot Pressure: 125 PSI (8.6 Bar)
Pilot Ratio: ③ to ① is 1.3 to 1 and ③ to ② is 1.8 to 1.
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3S, see page 11.10.3S
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

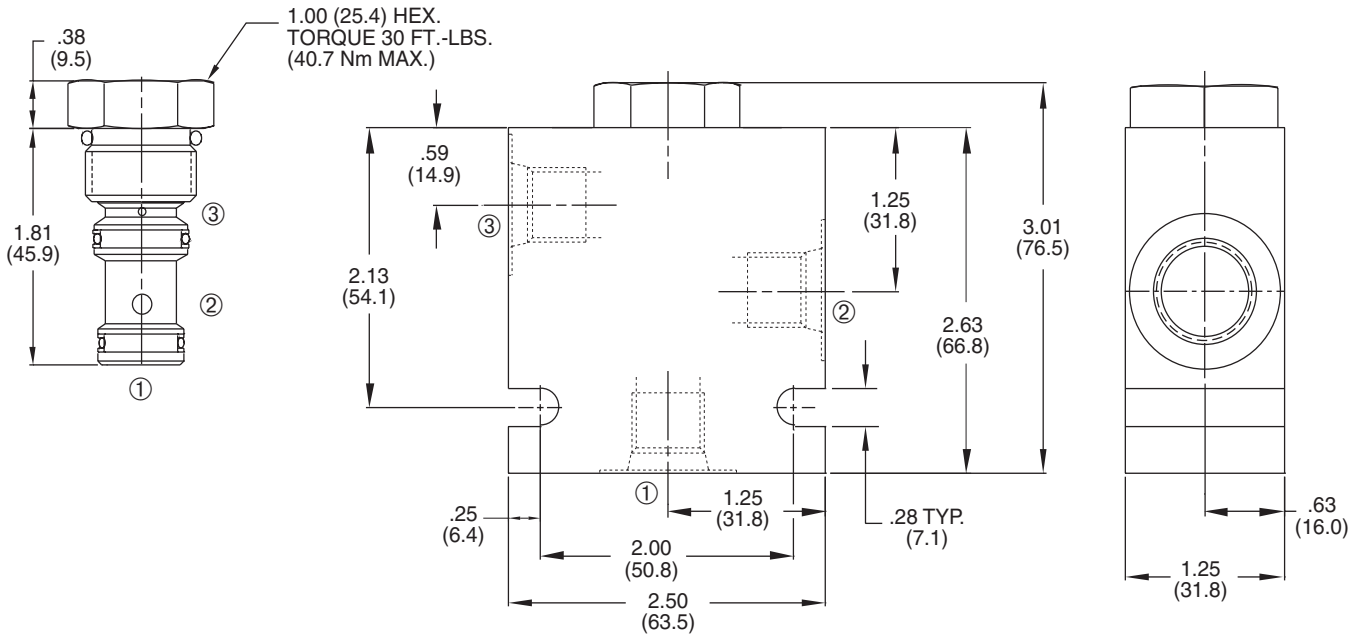
PRESSURE DROP VS. FLOW



DPOD-100-2NCP

Pilot To Open, Poppet-Type,
Directional Control Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPOD - 100 - 2 NC P - * - **

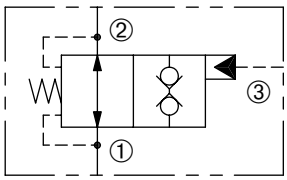
- PILOT-OPERATED DIRECTIONAL CONTROL VALVE
- CAVITY/SEAL
- FLOW PATH
- NORMALLY CLOSED
- POPPET
- SEALS
  N = Buna N
  V = Viton
- PORTING
  2N = 1/4 PTF
  3N = 3/8 PTF
  4T = SAE 4
  6T = SAE 6
  Omit for Cartridge Only.
  (Other porting options available – consult factory.)

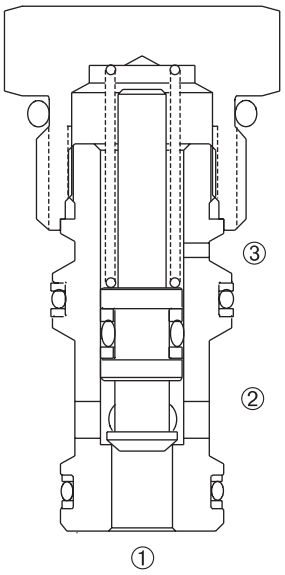
DPOD-100-2NOP

Pilot To Close, Poppet-Type,
Directional Control Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed to allow free flow in both directions. The valve can be piloted to block flow in both directions. This valve can used as a load holding or blocking valve.

OPERATION

Pressure at ① or ② overcomes the spring-bias poppet and allows free flow between ② and ① or ① to ②. When required the pilot pressure is achieved at ③, the poppet is held closed to block flow between ② and ① and ① and ②. The pilot area ratio port ③ to ① is 2.0 to 1 and the area ratio port ③ to ② is 2.8 to 1.

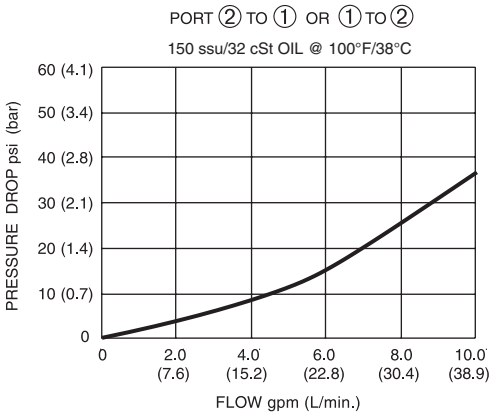
FEATURES and BENEFITS

- Hardened poppet and sleeve for long life and low leakage.
- Industry common cavity.
- Compact size.

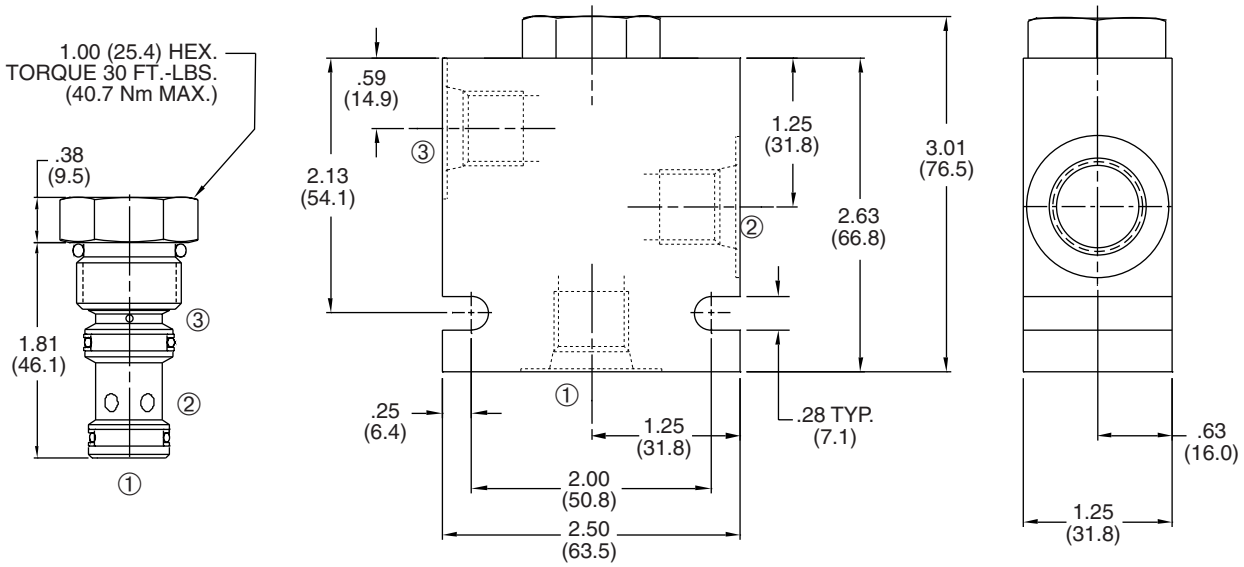
SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Internal Leakage: 5 drops/min. max. at 3000 PSI (207 Bar)
Crack Pressure: 65 PSI (45 Bar) at port 1 (biased spring).
85 PSI (58.6 Bar) at port 2 (biased spring).
Pilot Pressure: 125 PSI (8.6 Bar)
Pilot Ratio: ③ to ① is 2.0 to 1 and ③ to ② is 2.8 to 1.
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 17/15/13
Non-Critical Application – ISO 20/18/14
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-3S, see page 11.10.3S
Body Material: Anodized 6061T6 aluminum
alloy rated at 3000 PSI (207 Bar).

PRESSURE DROP VS. FLOW



INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPOD - 100 - 2 NO P - * - **

PILOT-OPERATED
DIRECTIONAL
CONTROL VALVE

CAVITY/SEAL

FLOW PATH

NORMALLY OPEN

POPPET

SEALS
N = Buna N
V = Viton

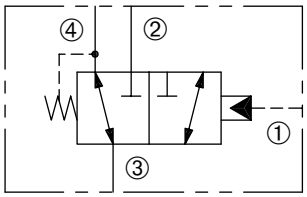
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

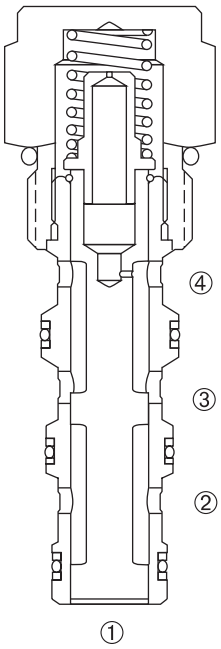
DPOD-100-3

Pilot-Operated, Three-Way, Two-Position,
Directional Control Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed as a pilot-operated, three-way, two-position, spool-type, directional valve.

OPERATION

With no pilot signal at port ①, port ② is blocked and flow is allowed betwen port ③ and ④. With the required pilot signal applied at port ①, the valve shifts to allow flow between ports ③ and ② while blocking flow at port ④.

The bias spring which is common to port ④ returns the spool to its original position when the pilot signal is removed.

Pressure at port ④ must be considered when determining the required pressure to shift.

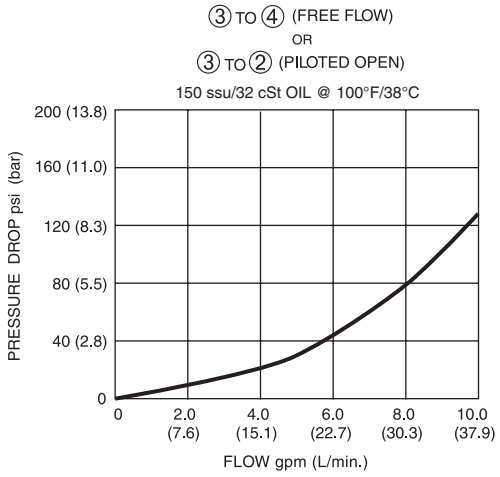
FEATURES and BENEFITS

- Hardened spool and sleeve for long life.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 10 GPM (37.9 L/min).
Internal Leakage: 5 in^3/min. (82cc/min.) max. at 3000 PSI (207 Bar)
Pilot Pressure: 125 PSI (8.6 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-4, see page 11.10.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

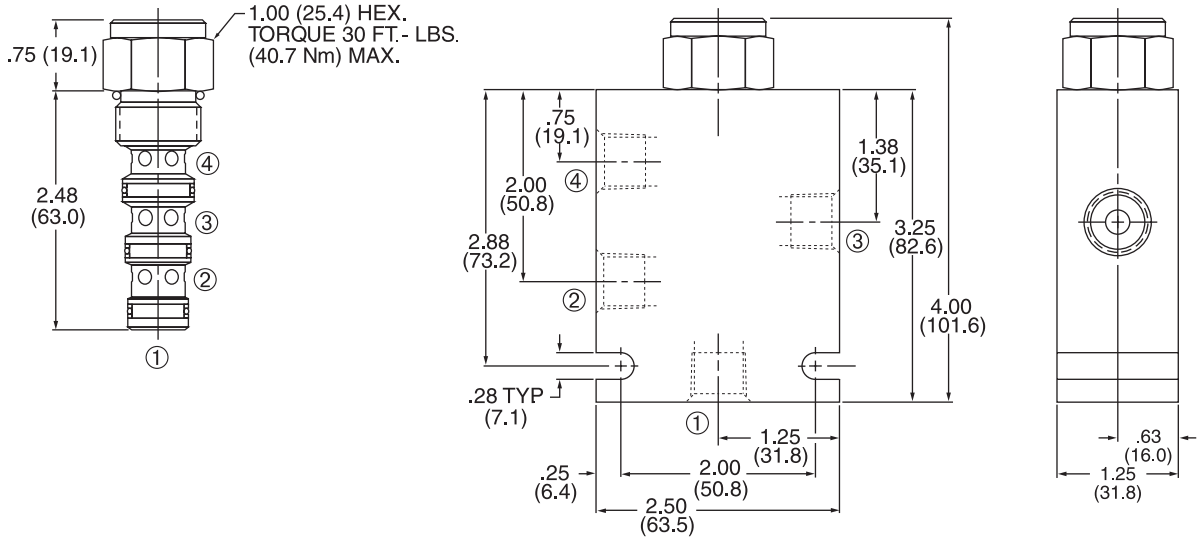
PRESSURE DROP VS. FLOW



DPOD-100-3

Pilot-Operated, Three-Way, Two-Position,
Directional Control Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPOD - 100 - 3 - * - 125 - **

PILOT-OPERATED
DIRECTIONAL
CONTROL VALVE

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

PILOT PRESSURE (shift pressure)
125 = 125 PSI (8.6 Bar)

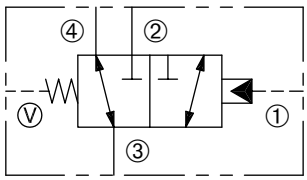
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

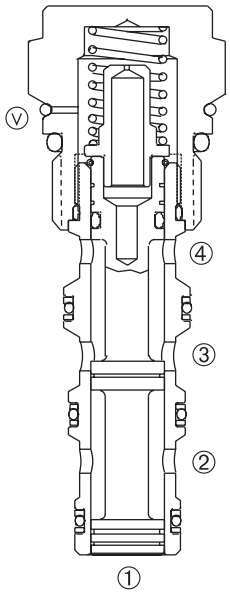
DPOD2-100-3

Pilot-Operated, Externally Vented,
Three-Way, Two-Position, Directional Control Valve

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A cartridge valve designed as a pilot-operated, three-way, two-position, spool-type, directional control valve.

OPERATION

With no pilot signal at port ①, port ② is blocked and flow is allowed betwen port ③ and ④. With the required pilot signal applied at port ①, the valve shifts to allow flow between ports ③ and ② while blocking flow at port ④.
The bias spring returns the spool to its original position when the pilot signal is removed.

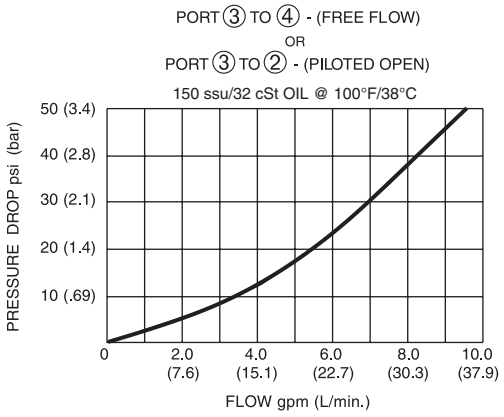
FEATURES and BENEFITS

- Hardened spool and sleeve for long life.
- Industry common cavity.
- Compact size.

SPECIFICATIONS

Operating Pressure: 3000 PSI (207 Bar)
Flow: See PRESSURE DROP VS. FLOW graph.
Nominal Flow 10 GPM (37.9 L/min).
Internal Leakage: 5 in^3/min. (82cc/min.) max. at 3000 PSI (207 Bar)
Pilot Pressure: 125 PSI (8.6 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-4, see page 11.10.4
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

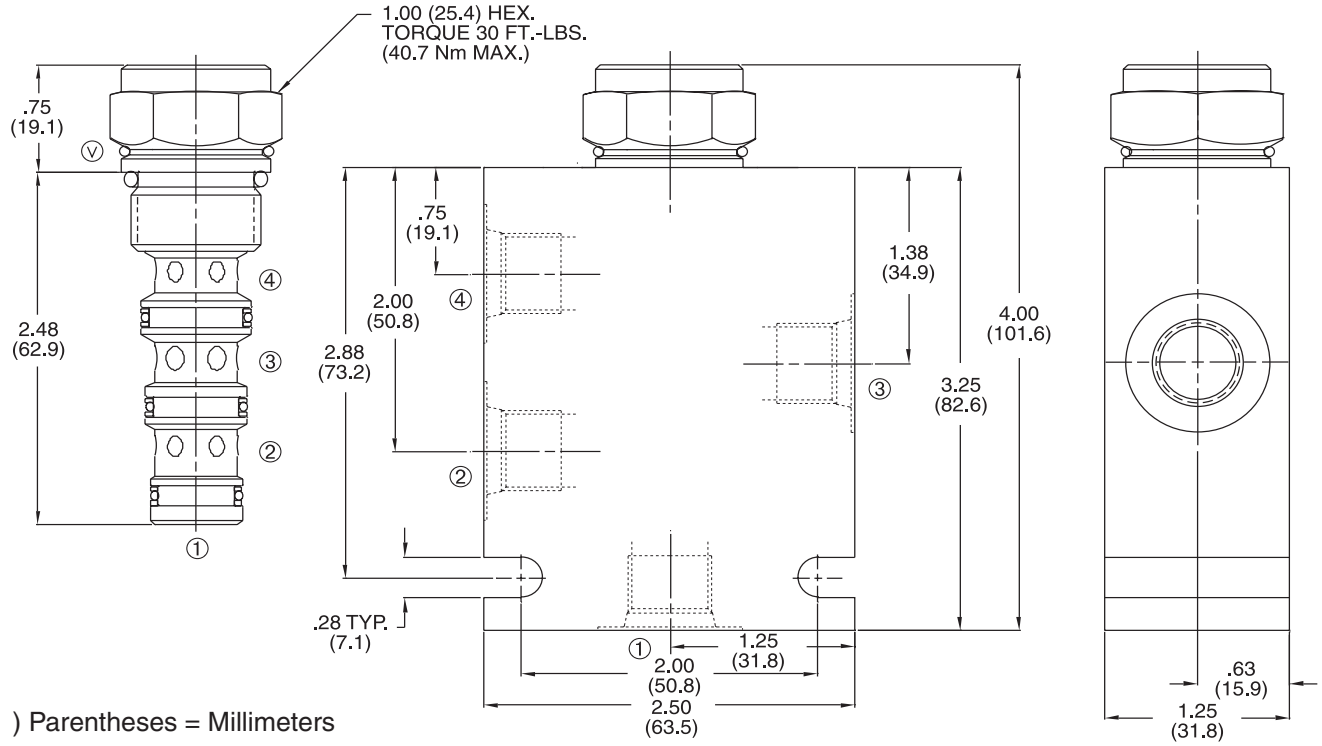
PRESSURE DROP VS. FLOW



DPOD2-100-3

Pilot-Operated, Externally Vented,
Three-Way, Two-Position, Directional Control Valve

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DPOD2 - 100 - 3 - * - 125 - **

PILOT-OPERATED
DIRECTIONAL
CONTROL VALVE

CAVITY/SEAL

FLOW PATH

SEALS
N = Buna N
V = Viton

PILOT PRESSURE (shift pressure)
125 = 125 PSI (8.6 Bar)

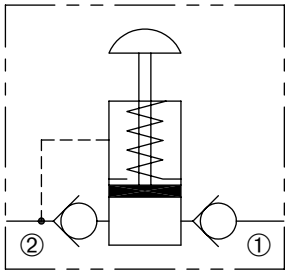
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available – consult factory.)

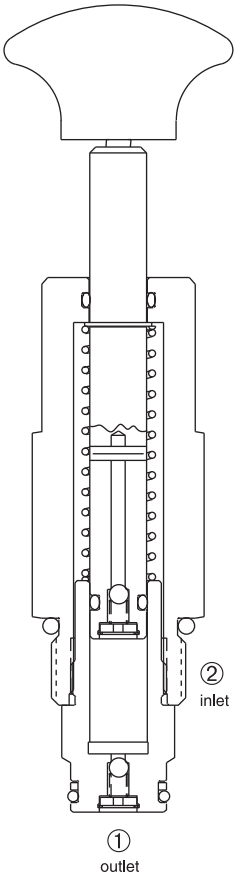
DHP2-100

Hand Pump

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A self-contained cartridge style hand pump designed to deliver flow when the operator is pushed. The inlet and outlet checks are integral to the cartridge.

OPERATION

When the operator is pushed, the DHP2-100 delivers nominal flow of .083 cu. in. to the ① port. When the operator is pulled, DHP2-100 draws fluid from the ② port.

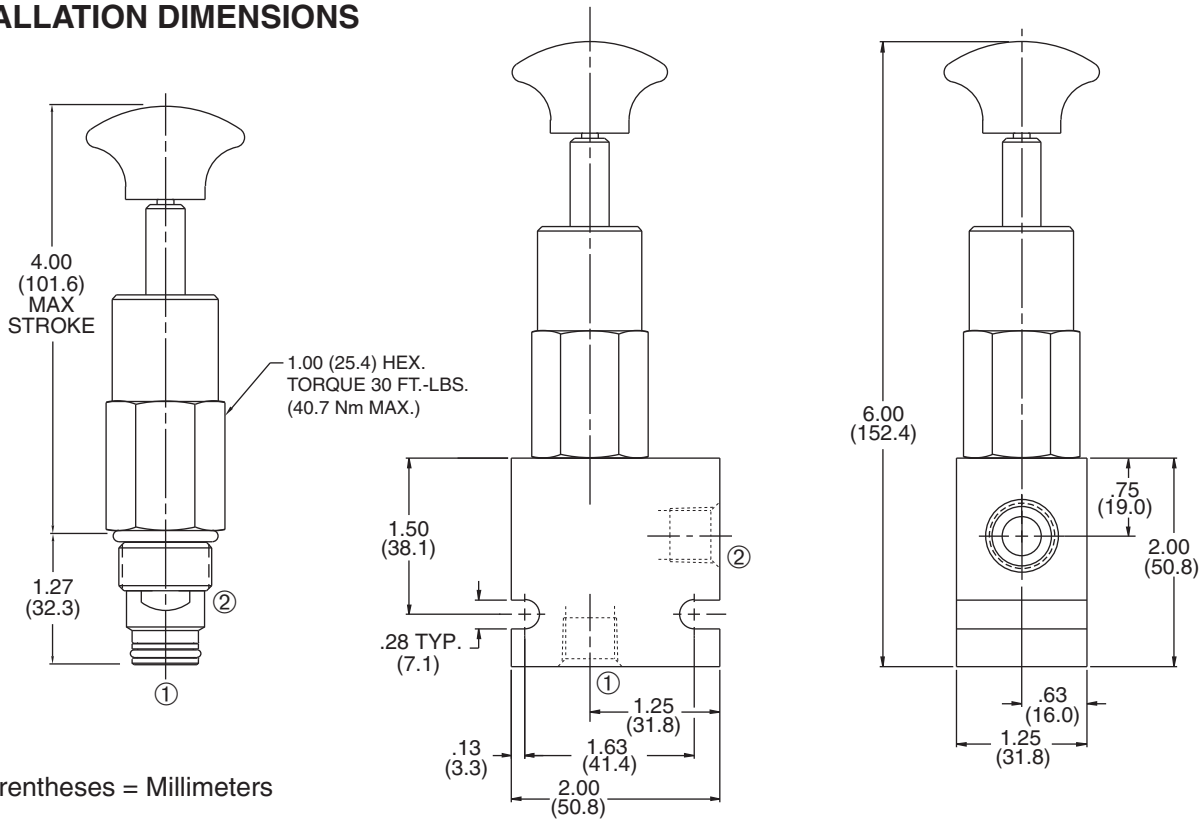
FEATURES and BENEFITS

- Checks are integral to the cartridge.
- Hardened parts for long life.
- Industry common cavity.

SPECIFICATIONS

Maximum Pressure: 3000 PSI (207 Bar)
Operating Pressure: 2000 PSI (138 Bar)
Flow: .083 cu. in.
Internal Leakage: 2 drops/min. max. at 2000 PSI (138 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DHP2 - 100 - * - **

HAND PUMP

CAVITY/SEAL

SEALS
N = Buna N
V = Viton

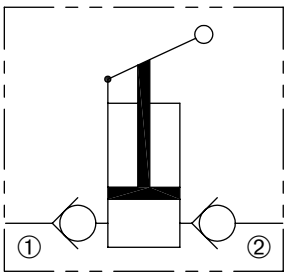
PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available-consult factory.)

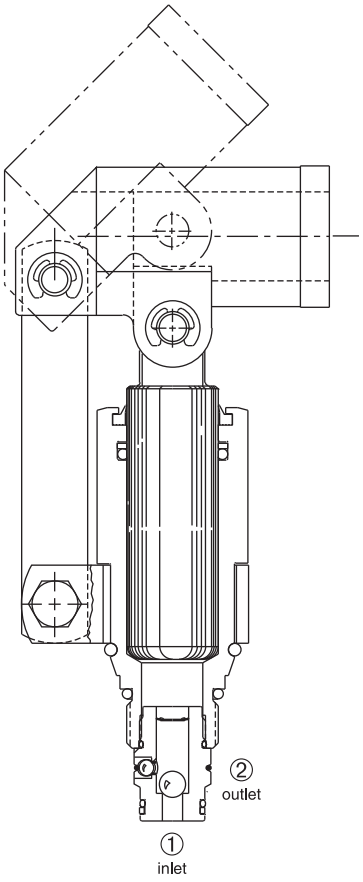
DHP-100

Hand Pump

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10





DESCRIPTION

A self-contained cartridge style hand pump designed to deliver flow when the operator is pushed. The inlet and outlet checks are integral to the cartridge.

OPERATION

When the operator is pushed, the DHP-100 delivers nominal flow of 0.5 cu. in. to the ② port. When the operator is pulled, DHP-100 draws fluid from the ① port.

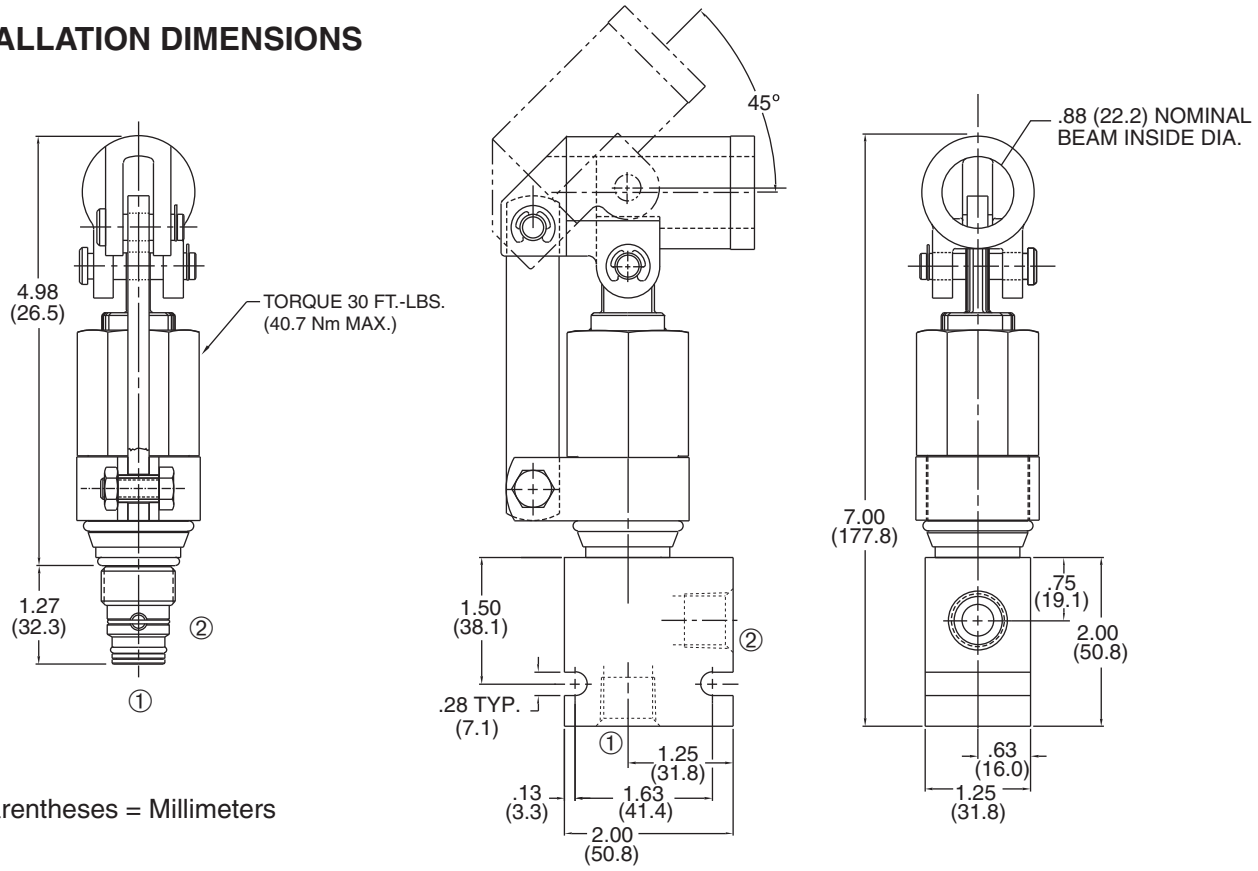
FEATURES and BENEFITS

- Cast Beam for heavy duty applications.
- Checks are integral to the cartridge.
- Hardened parts for long life.
- Beam rotates 360° for flexible installation and operation.
- Industry common cavity.

SPECIFICATIONS

Maximum Pressure: 3000 PSI (207 Bar)
Operating Pressure: 2000 PSI (138 Bar)
Flow: 0.5 cu. in. @ 45° rotation.
Hand Effort: 80 lbs. @ 1500 PSI (103 Bar) - 6 in. (406.4) long handle.
Internal Leakage: 2 drops/min. max. at 2000 PSI (138 Bar)
Temperature: -30°F to +250°F (-35°C to +120°C)
Recommended Filtration: ISO 17/15/13
Fluids: Mineral-based fluids. For other fluid compatibility, consult factory.
Cavity/Cavity Tool: 100-2, see page 11.10.2
In-Line Body Material: Anodized 6061T6 aluminum alloy rated at 3000 PSI (207 Bar).

INSTALLATION DIMENSIONS



( ) Parentheses = Millimeters

HOW TO ORDER

DHP - 100 - * - **

HAND PUMP

CAVITY/SEAL

PORTING
2N = 1/4 PTF
3N = 3/8 PTF
6T = SAE 6
8T = SAE 8
Omit for Cartridge Only.
(Other porting options available - consult factory.)

SEALS
N = Buna N
V = Viton

Notes

DELTROL fluid products
DIVISION OF DELTROL CORP

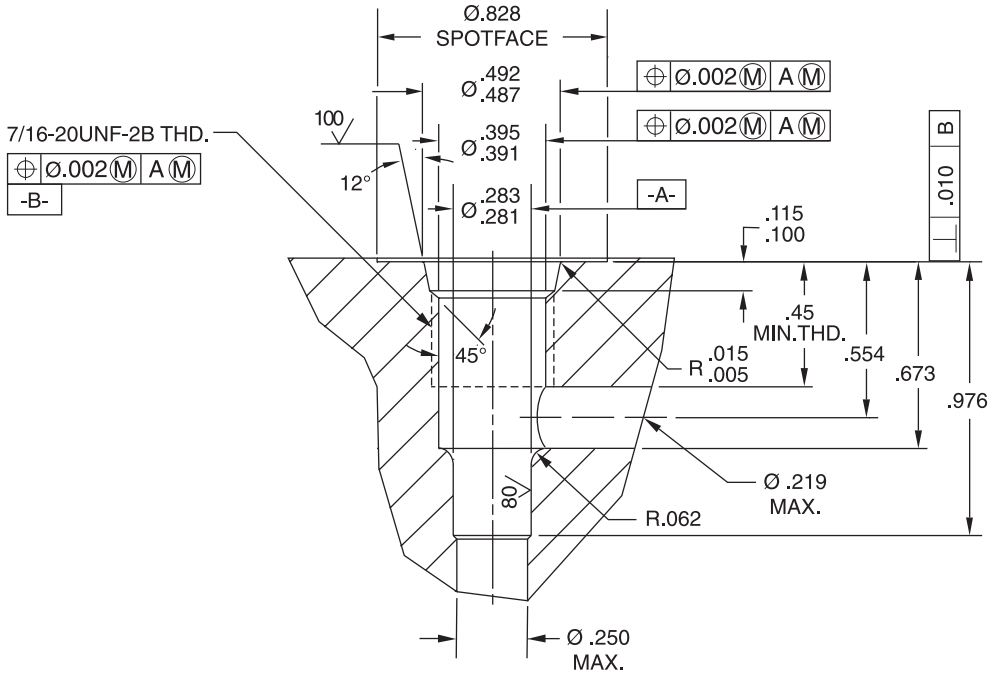
Recommended Filtration

APPLICATION	ISO CLEANLINESS CODE (PARTICLE SIZE CLASSIFICATION)	STANDARDS RATING ISO 4406:1999
Critical	4µ(c) / 6µ(c) / 14µ(c)	17/15/13
Non-Critical	4µ(c) / 6µ(c) / 14µ(c)	20/18/14

ZP42
Cavity

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE

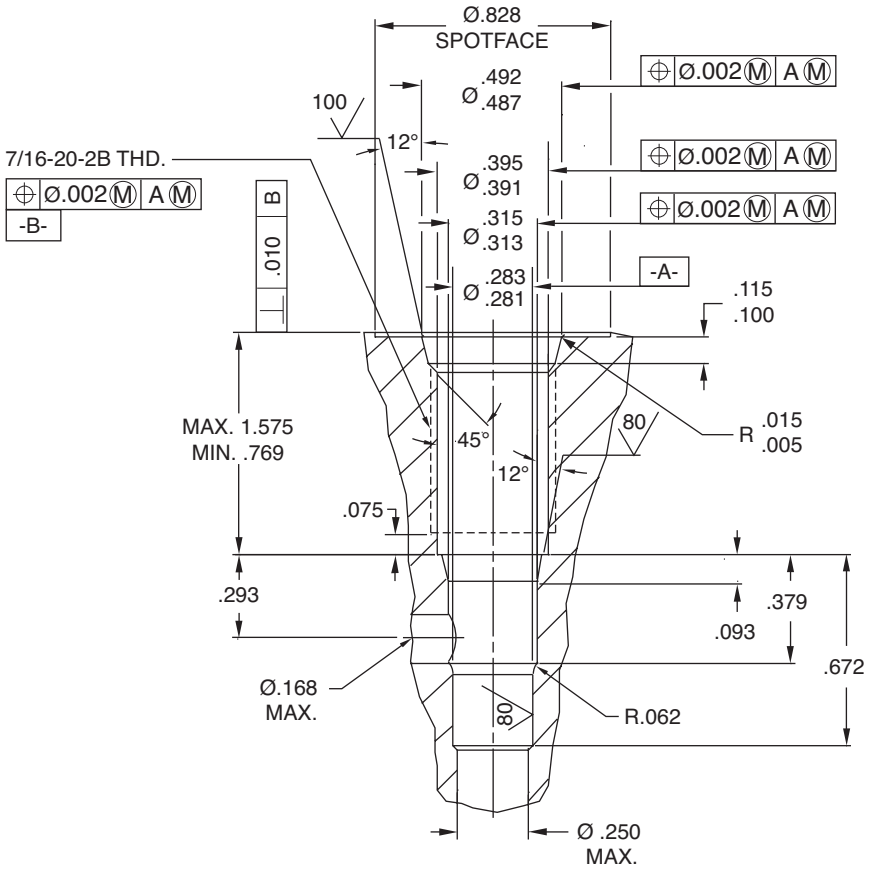


ZP42 Cavity

Rough Drill	P/N – 10206-12
Finish Form Tool	P/N – 10206-13

UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚



ZP43 Cavity

Rough Drill	P/N – 10201-56
Finish Form Tool	P/N – 10201-57

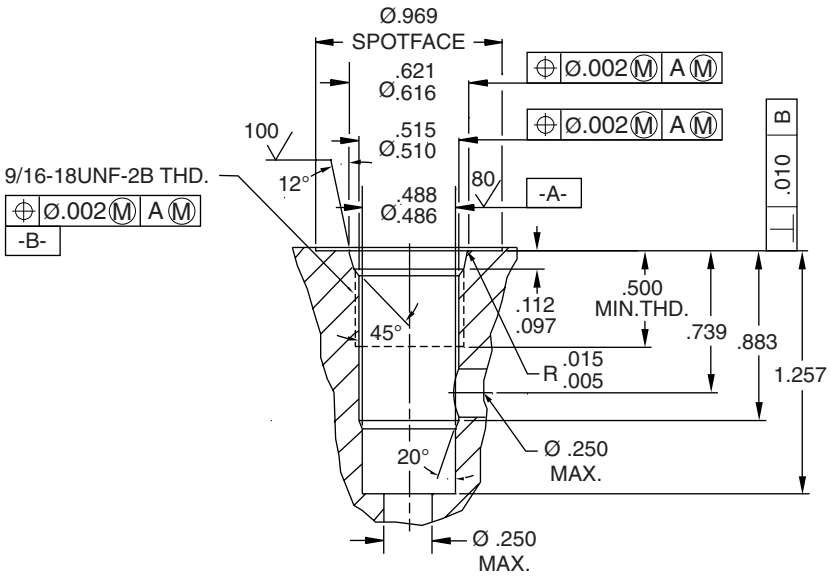
UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚

ZP62
Cavity

DELTROL fluid products
DIVISION OF DELTROL CORP

ZERO PROFILE

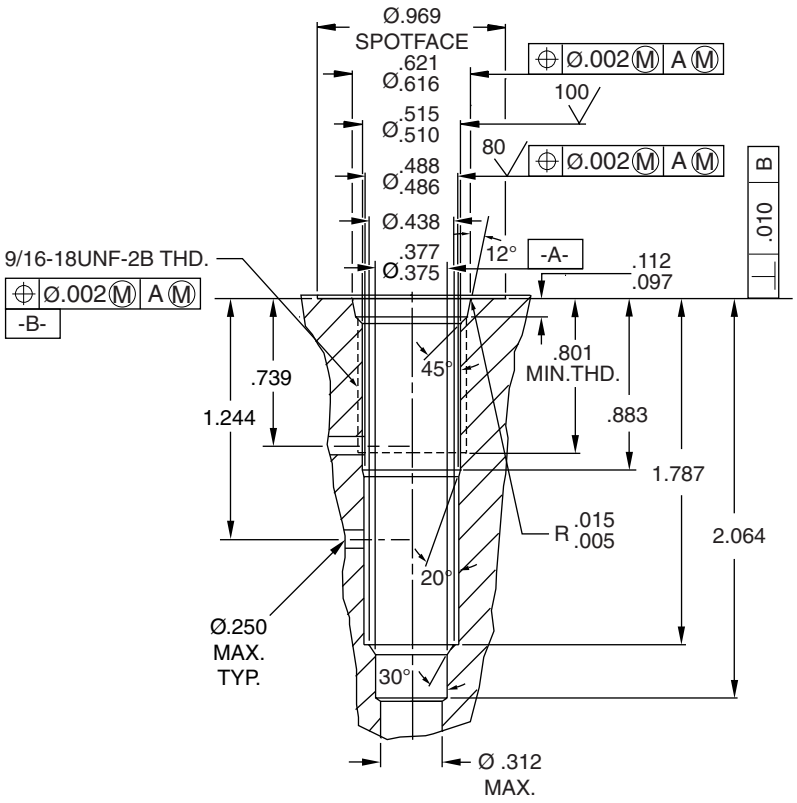


ZP62 Cavity

Rough Drill	P/N – 10202-02
Finish Form Tool	P/N – 10202-03

UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚



ZP63 Cavity

Rough Drill	P/N – 10201-54
Finish Form Tool	P/N – 10201-54

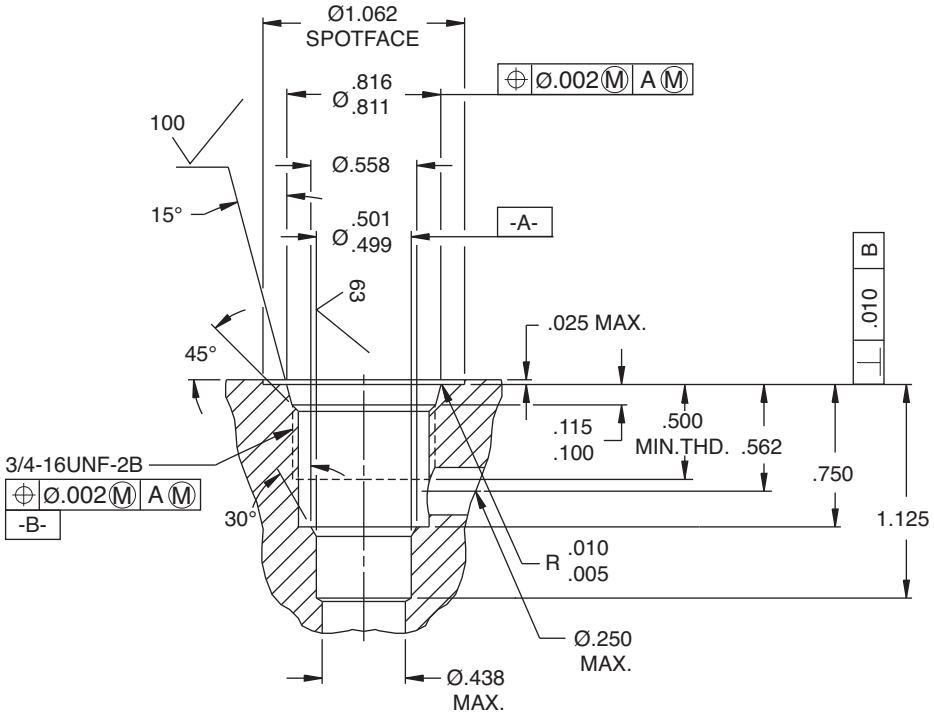
UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚

080-2 Cavity

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8



080-2 Cavity

Rough Drill	P/N – 10131-76
Finish Form Tool	P/N – 10131-77

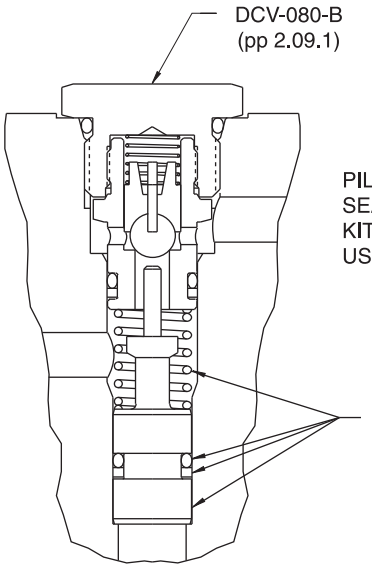
UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚

080-2P Cavity

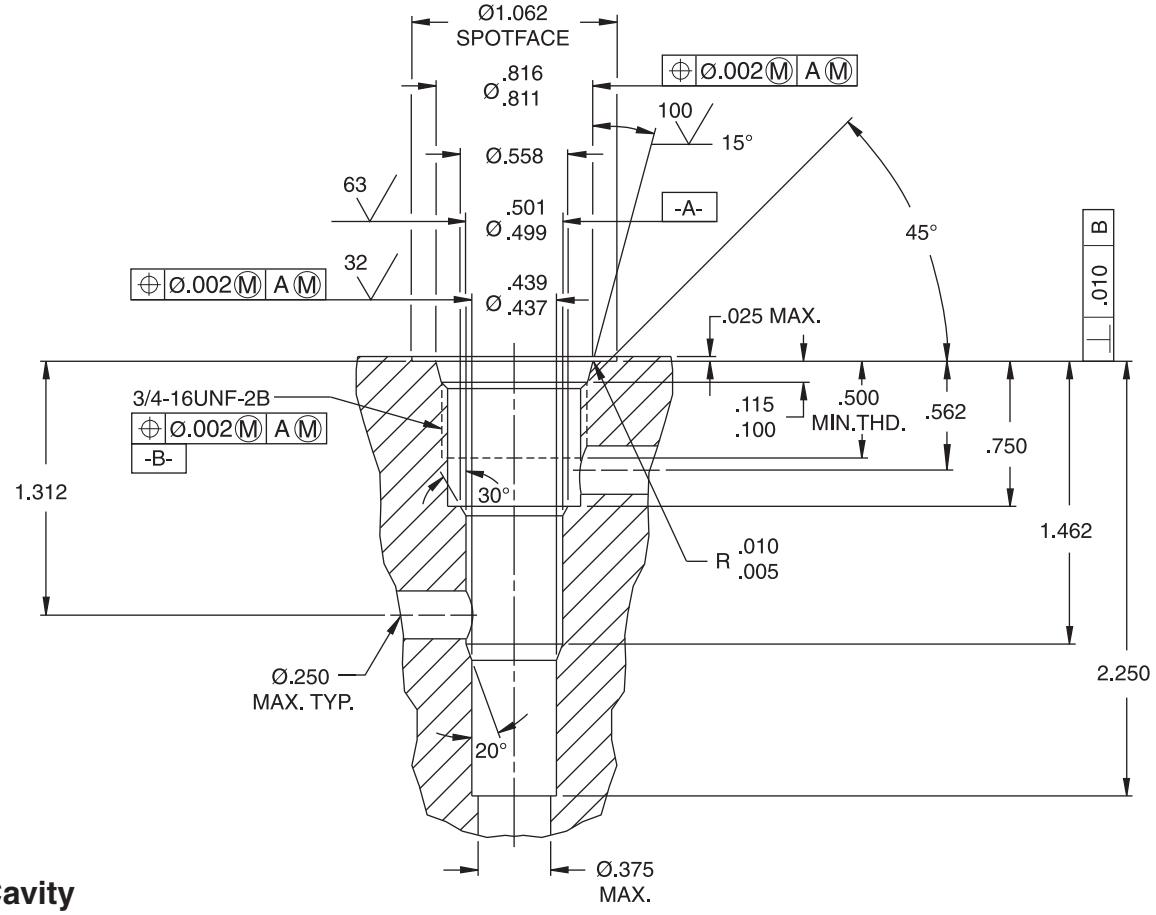
PILOT PISTON KITS FOR MANIFOLD DESIGNS

SERIES 8



PILOT PISTON AREA TO PILOT SEAT AREA RATIO IS 5:1.
KIT IS NOT RECOMMENDED FOR USE WITH DCV-080-PB.

KIT, PILOT PISTON/SPRING
(INCLUDES SEALS)
P/N-10130-28



080-2P Cavity

Rough Drill	P/N – 10167-19
Finish Form Tool	P/N – 10167-20

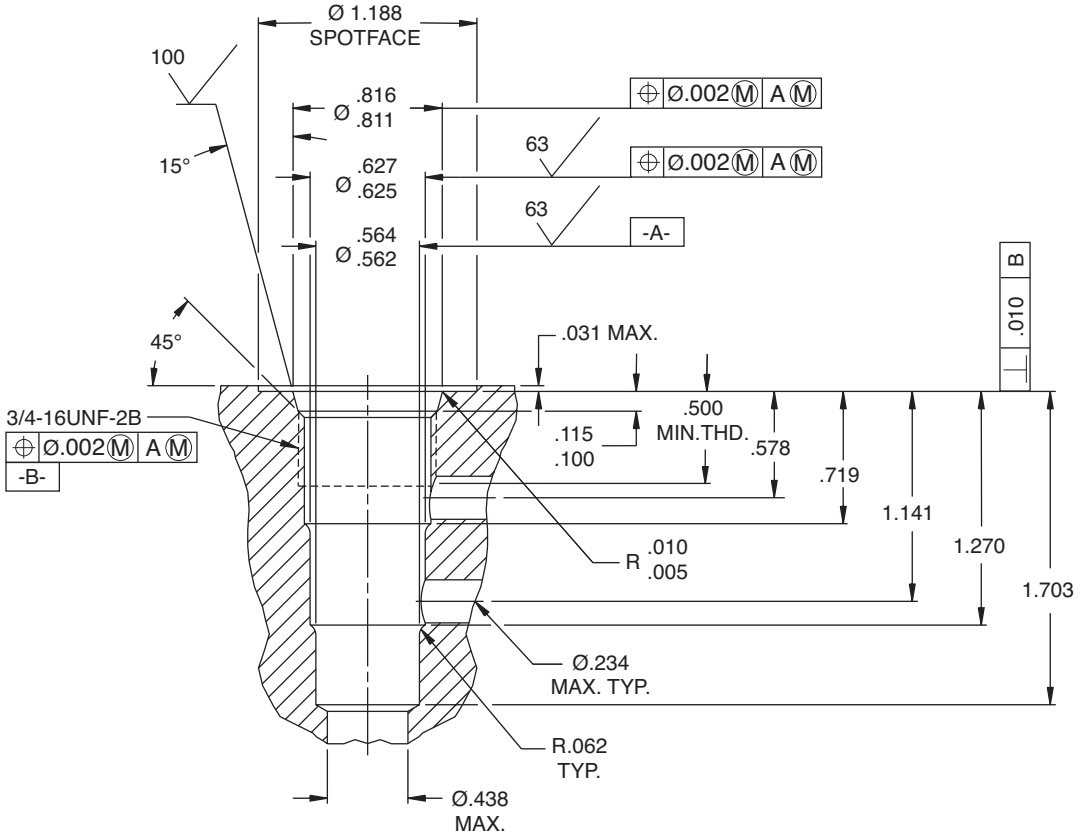
UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚

080-3 Cavity

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8

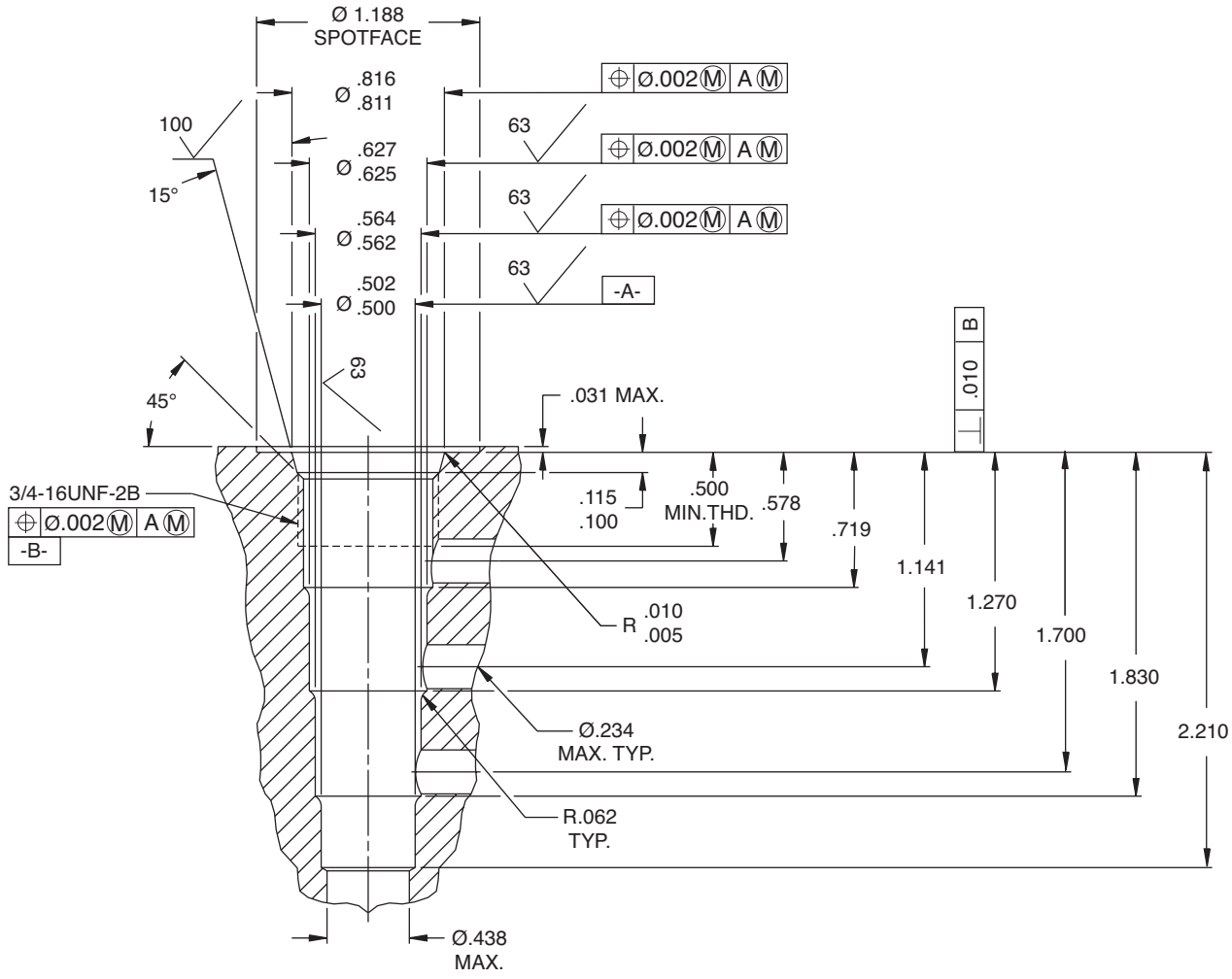


080-3 Cavity

Rough Drill	P/N-10131-80
Finish Form Tool	P/N-10131-81

UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚



080-4 Cavity

Rough Drill	P/N-10132-15
Finish Form Tool	P/N-10132-16

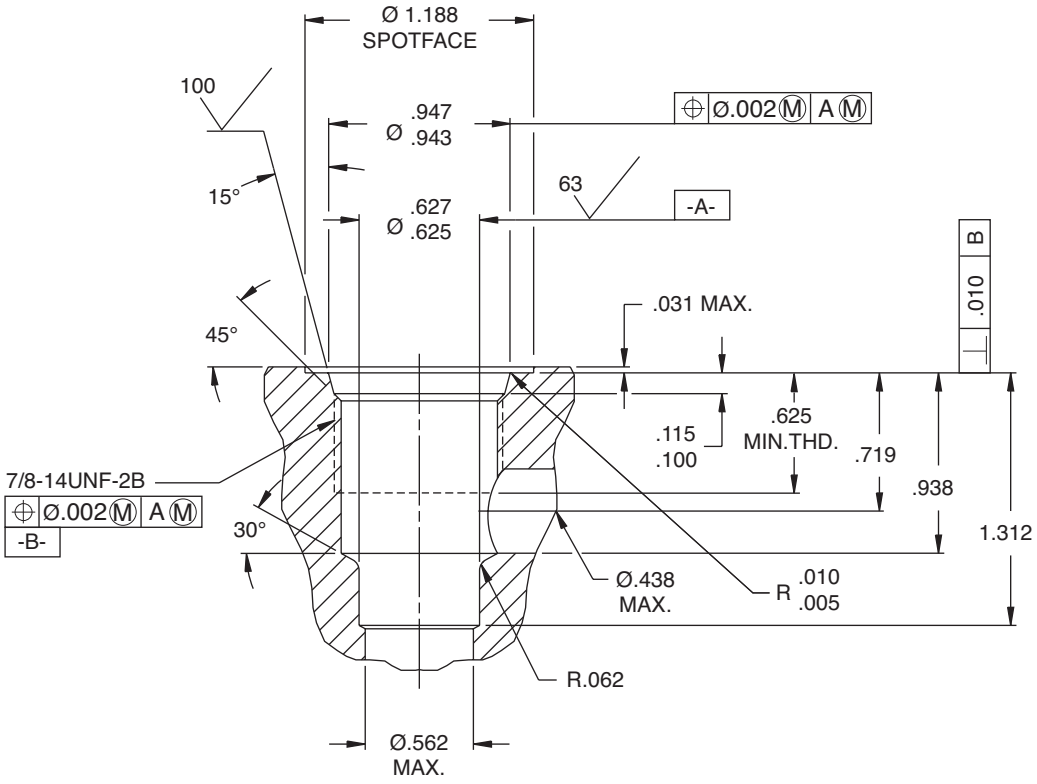
UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚

100-2 Cavity

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10



100-2 Cavity

Rough Drill	P/N-10131-82
Finish Form Tool	P/N-10131-83

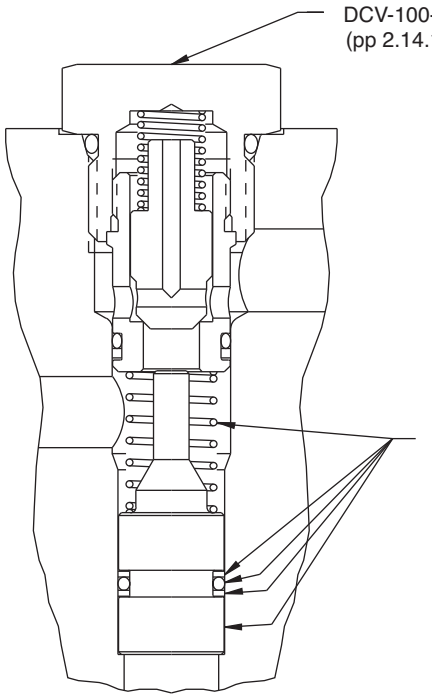
UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚

100-2P Cavity

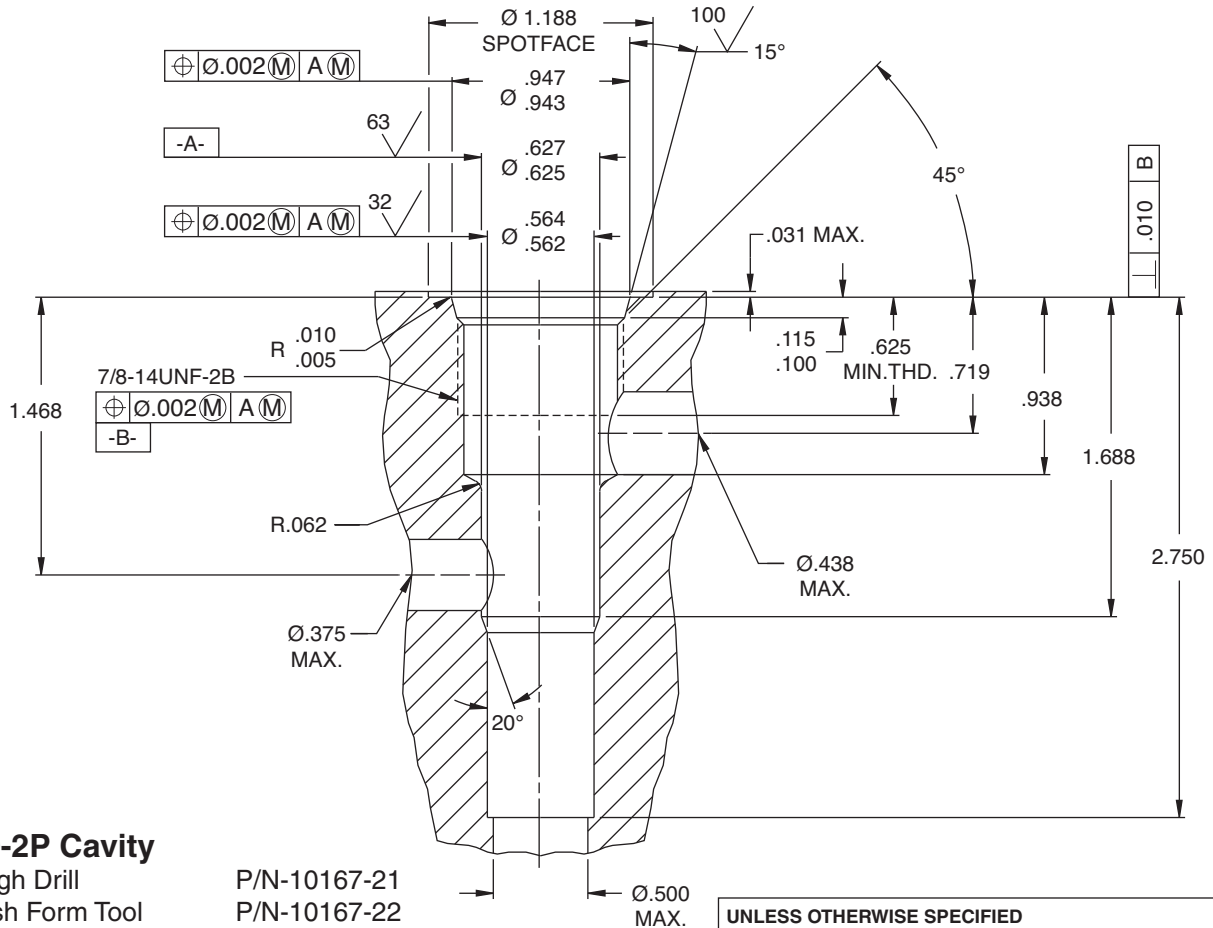
PILOT PISTON KITS FOR MANIFOLD DESIGNS

SERIES 10



PILOT PISTON AREA TO PILOT SEAT AREA RATIO IS 3.5:1. KIT WITH SPRING IS RECOMMENDED FOR CHECK VALVES 30 PSI CRACK OR LOWER.

KIT, PILOT PISTON/SPRING
(INCLUDES SEALS)
P/N-10146-76
KIT, PILOT PISTON
(INCLUDES SEALS)
P/N-10146-70



100-2P Cavity

Rough Drill	P/N-10167-21
Finish Form Tool	P/N-10167-22

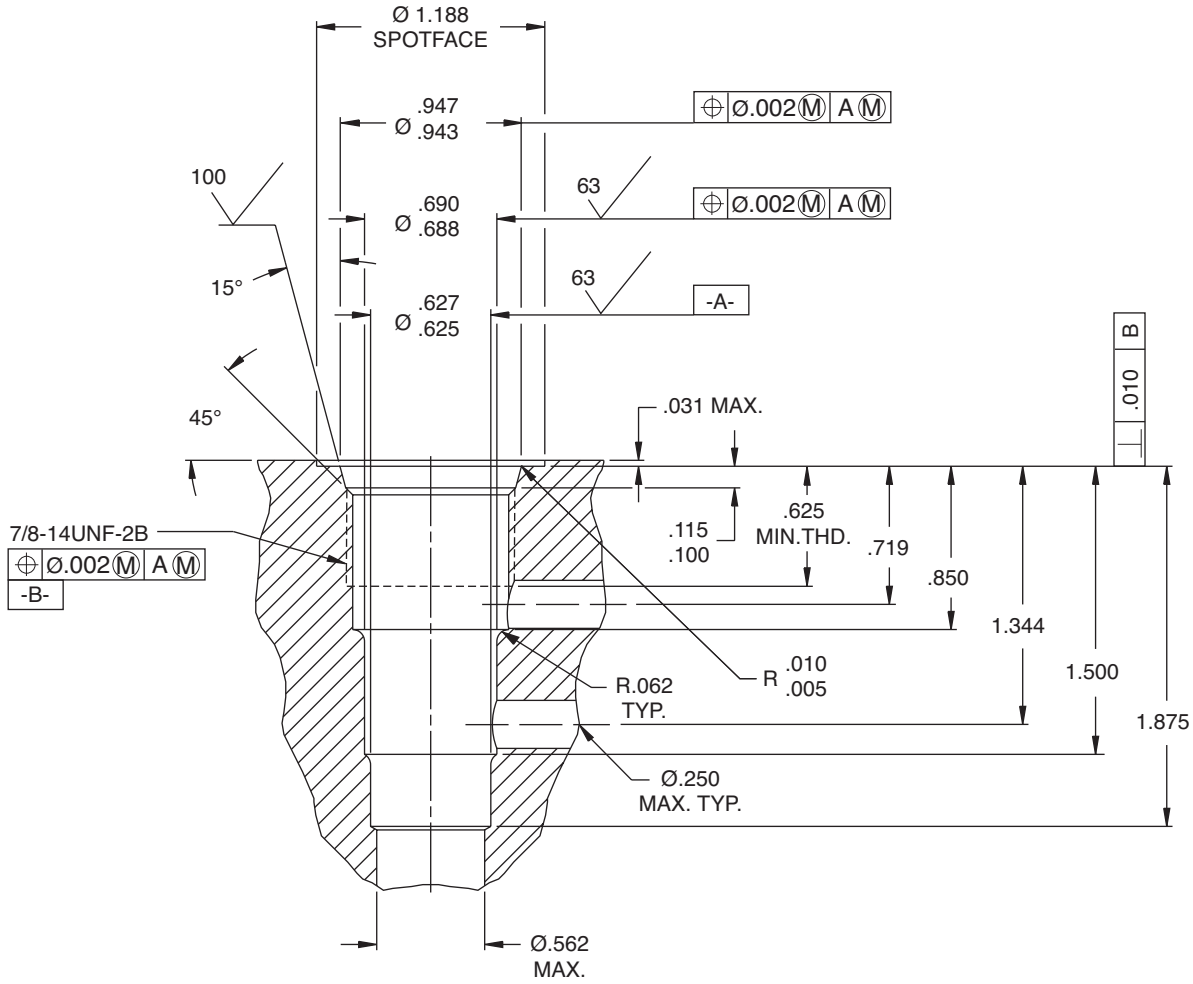
UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚

100-3 Cavity

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10

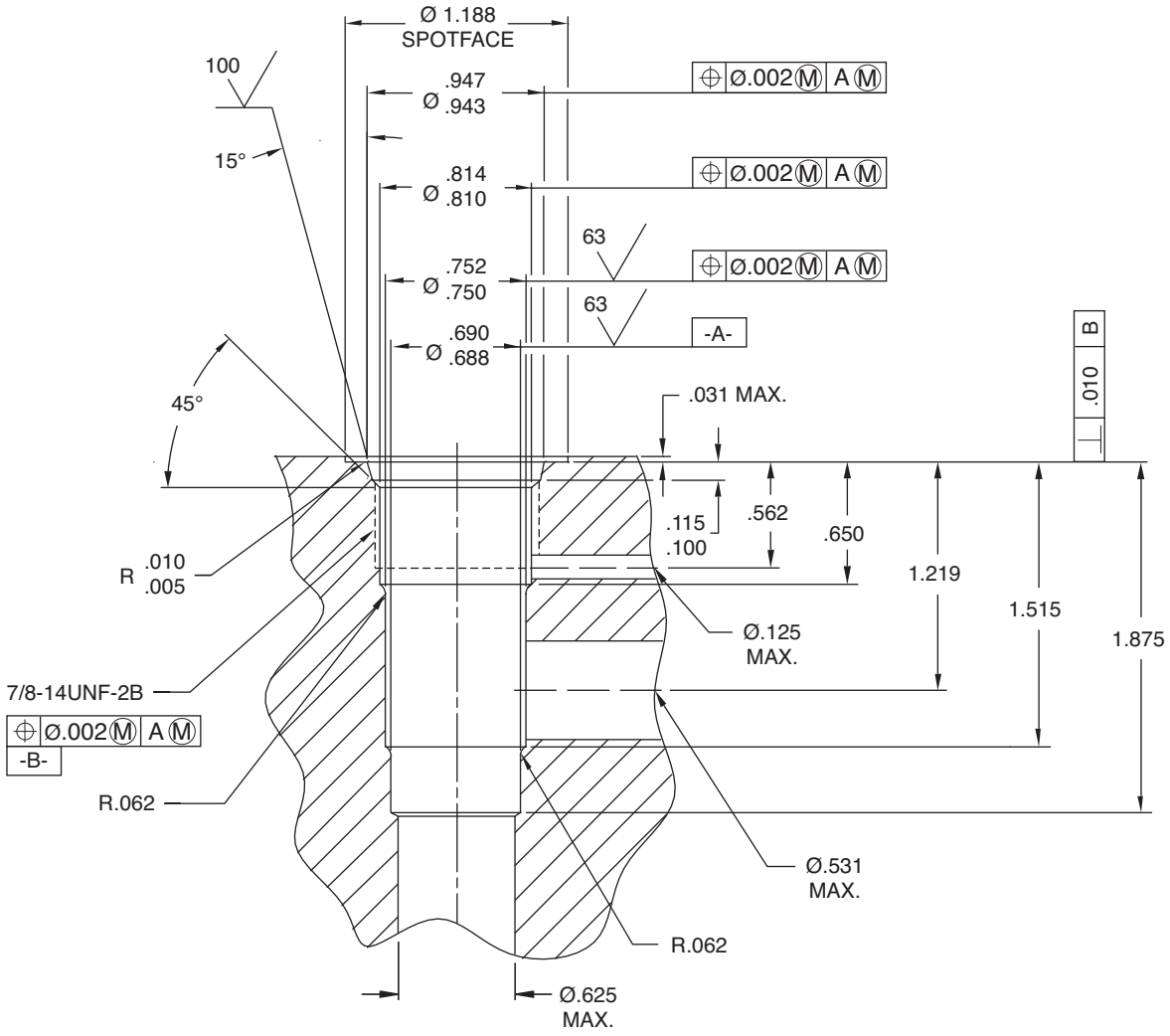


100-3 Cavity

Rough Drill	P/N-10131-84
Finish Form Tool	P/N-10131-85

UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚



100-3S Cavity

Rough Drill	P/N-10194-27
Finish Form Tool	P/N-10194-28

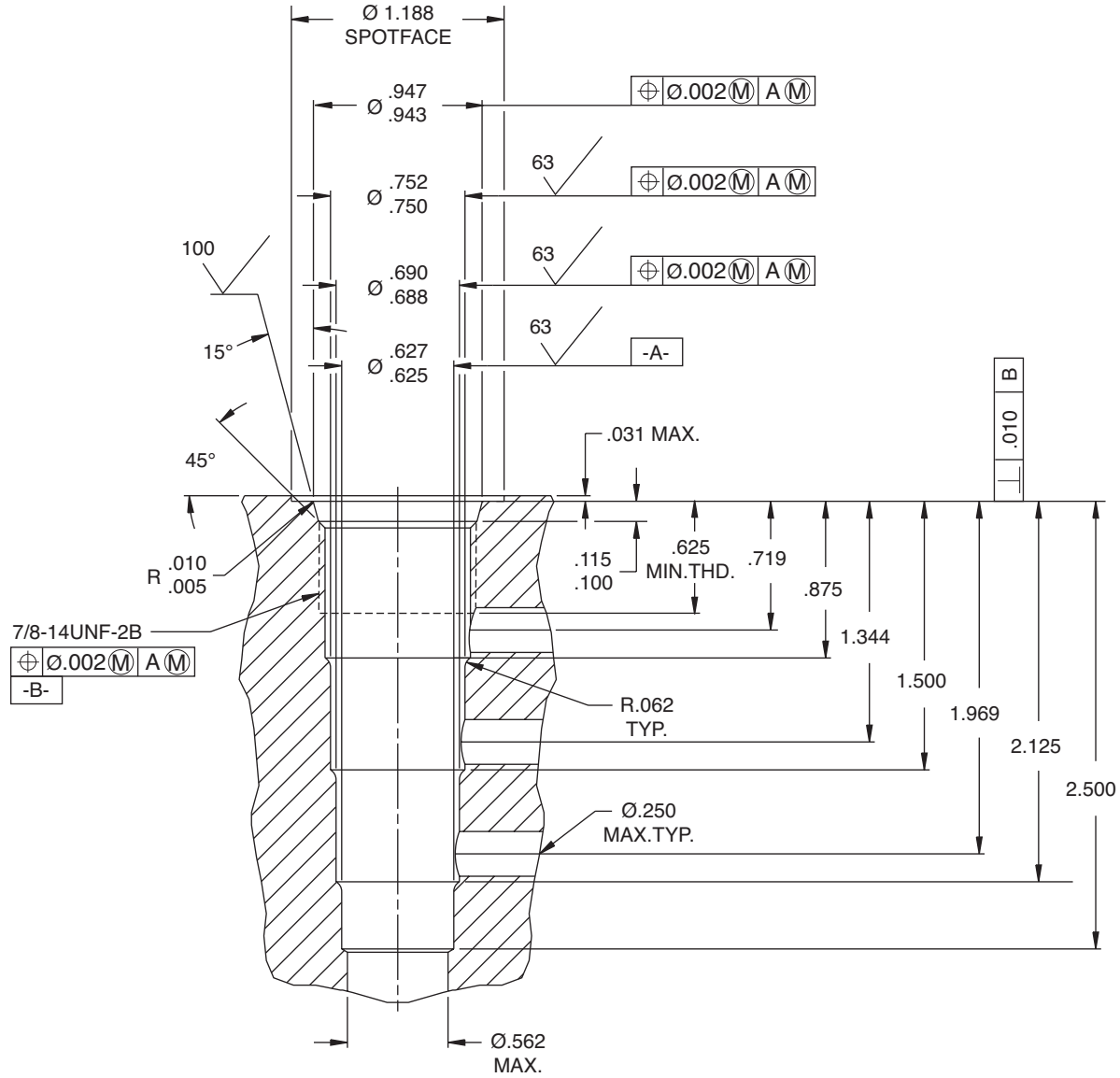
UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚

100-4 Cavity

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 10

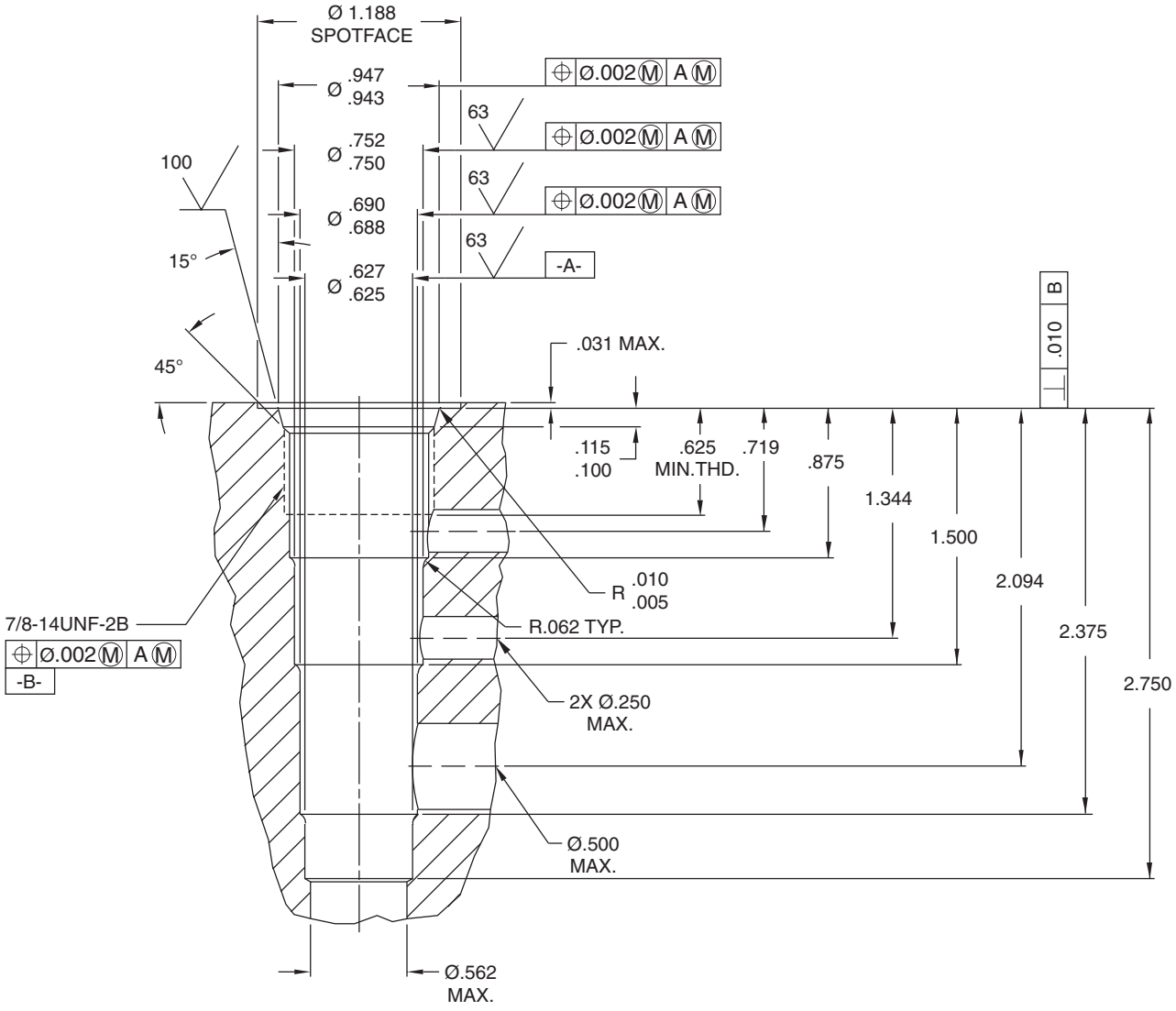


100-4 Cavity

Rough Drill	P/N – 10131-86
Finish Form Tool	P/N – 10131-87

UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚



100-4L Cavity

Rough Drill	P/N – 10164-16
Finish Form Tool	P/N – 10164-17

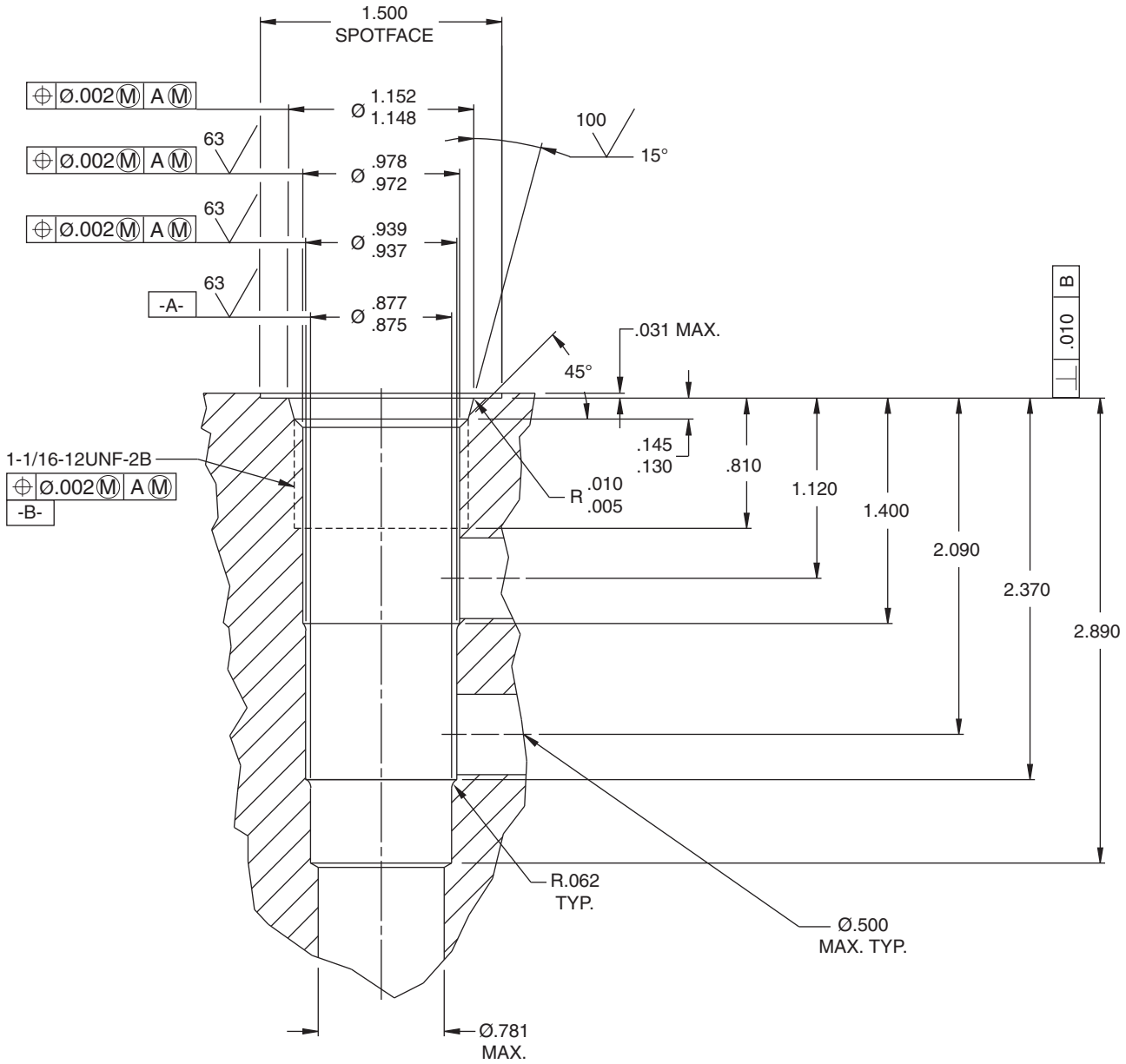
UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚

120-3 Cavity

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 12

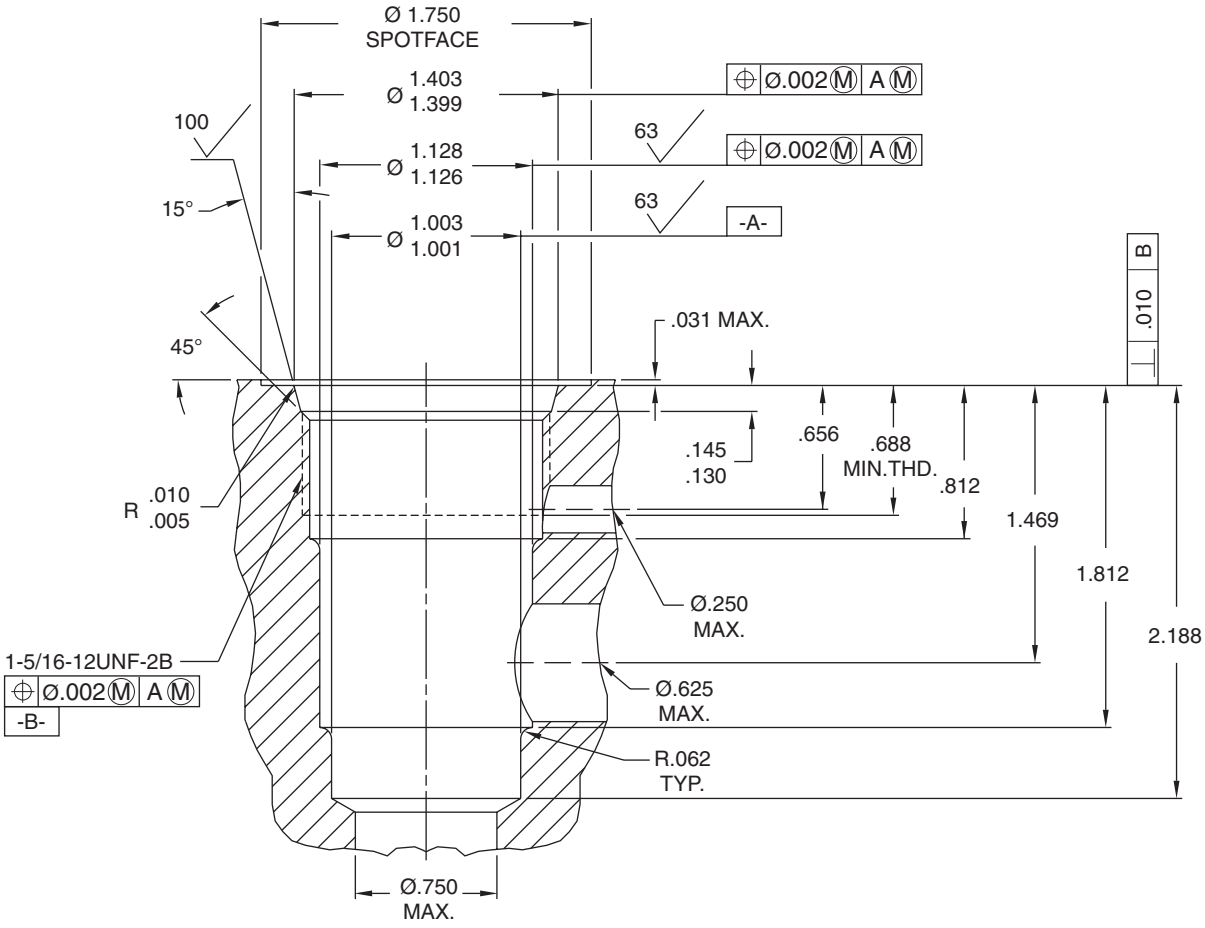


120-3 Cavity

Rough Drill	P/N – 10144-91
Finish Form Tool	P/N – 10144-92

UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚



160-3S Cavity

Rough Drill	P/N – 10133-60
Finish Form Tool	P/N – 10133-62

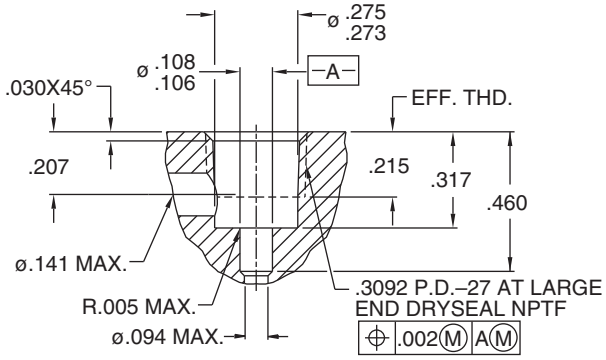
UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚

NC**
Cavity

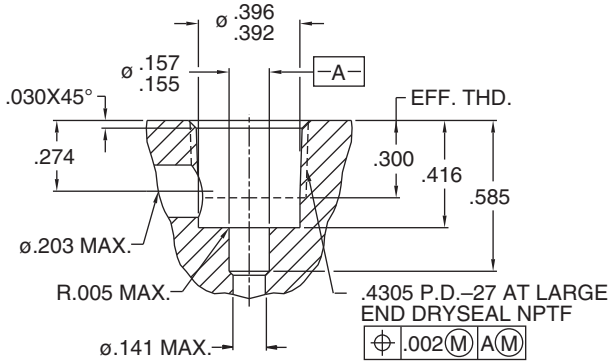
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES NC



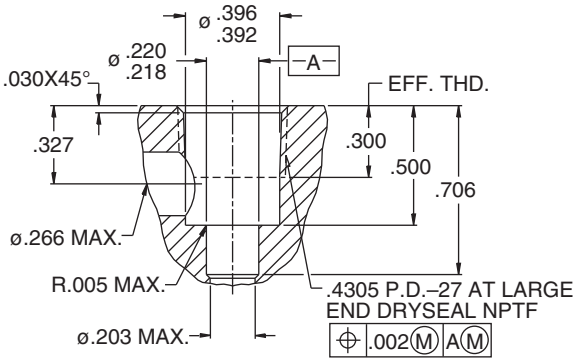
NC10 Cavity

Step Drill	P/N – 10131-90
Tap – Steel	P/N – 10131-91
Tap – Aluminum	P/N – 10131-92



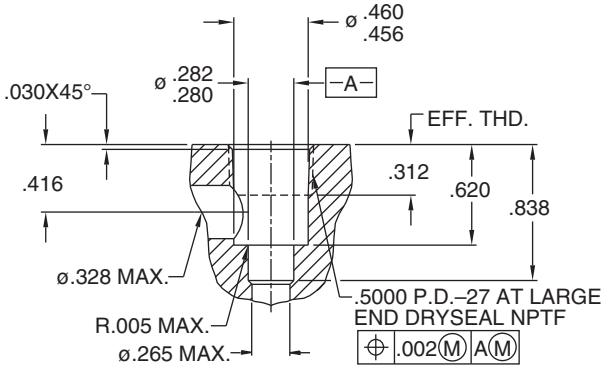
NC20 Cavity

Step Drill	P/N – 10131-93
Tap – Steel	P/N – 10131-94
Tap – Aluminum	P/N – 10131-95



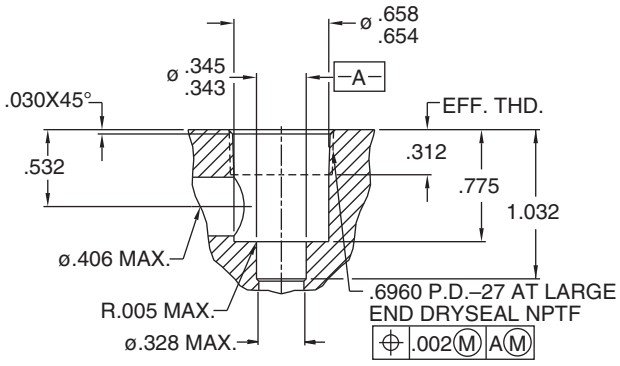
NC25 Cavity

Step Drill	P/N – 10131-96
Tap – Steel	P/N – 10131-94
Tap – Aluminum	P/N – 10131-95



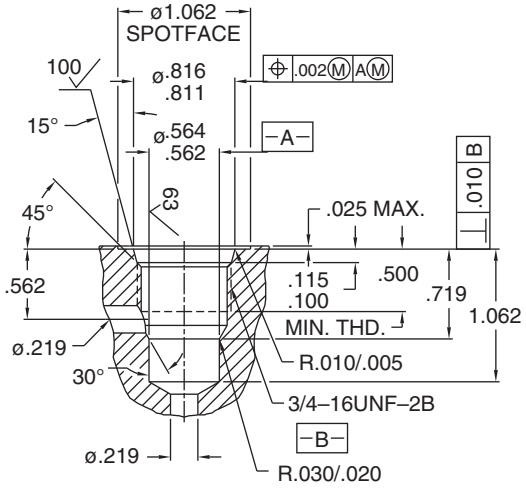
NC30 Cavity

Step Drill	P/N – 10131-99
Tap – Steel	P/N – 10132-00
Tap – Aluminum	P/N – 10132-01



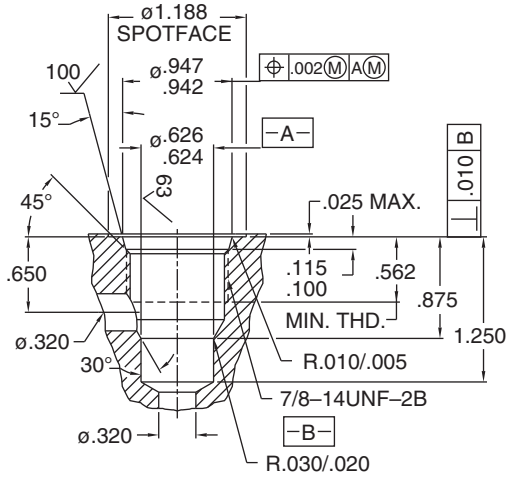
NC35 Cavity

Step Drill	P/N – 10132-02
Tap – Steel	P/N – 10132-03
Tap – Aluminum	P/N – 10132-04



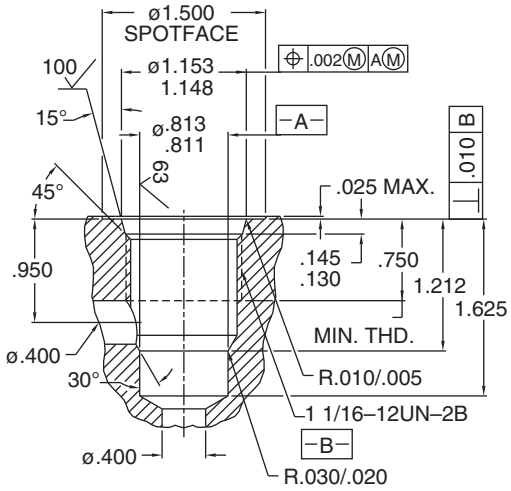
S210 Cavity

Rough Drill	P/N – 10132-05
Finish Form Tool	P/N – 10132-06



S310 Cavity

Rough Drill	P/N – 10132-07
Finish Form Tool	P/N – 10132-08



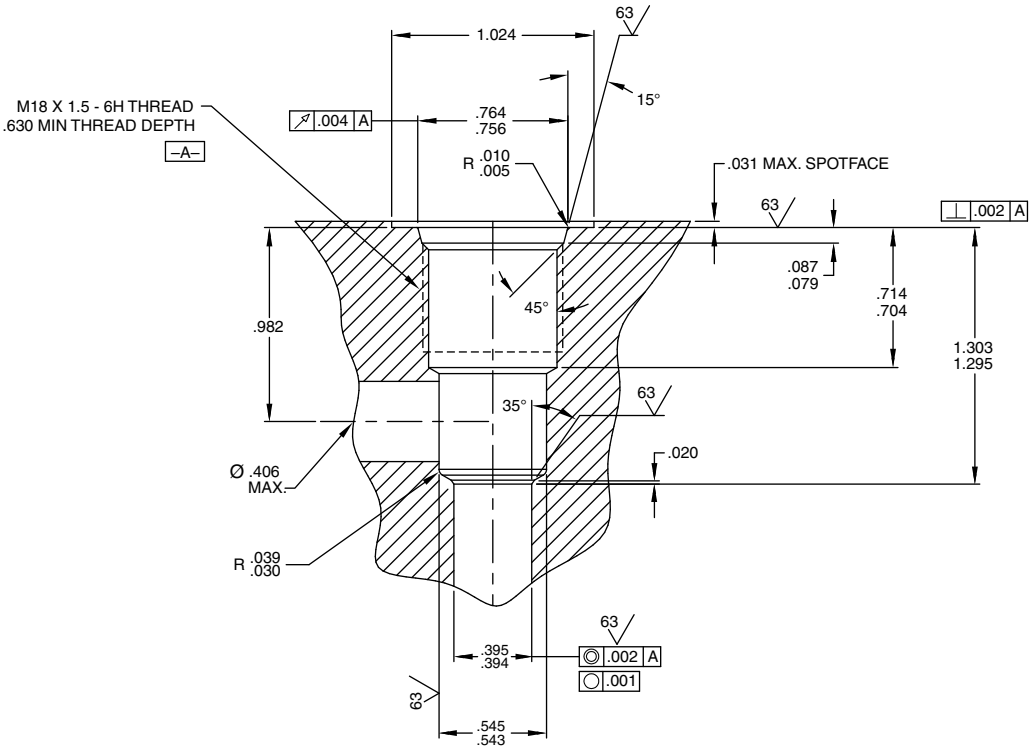
S410 Cavity

Rough Drill	P/N – 10132-09
Finish Form Tool	P/N – 10132-10

R05-2 Cavity

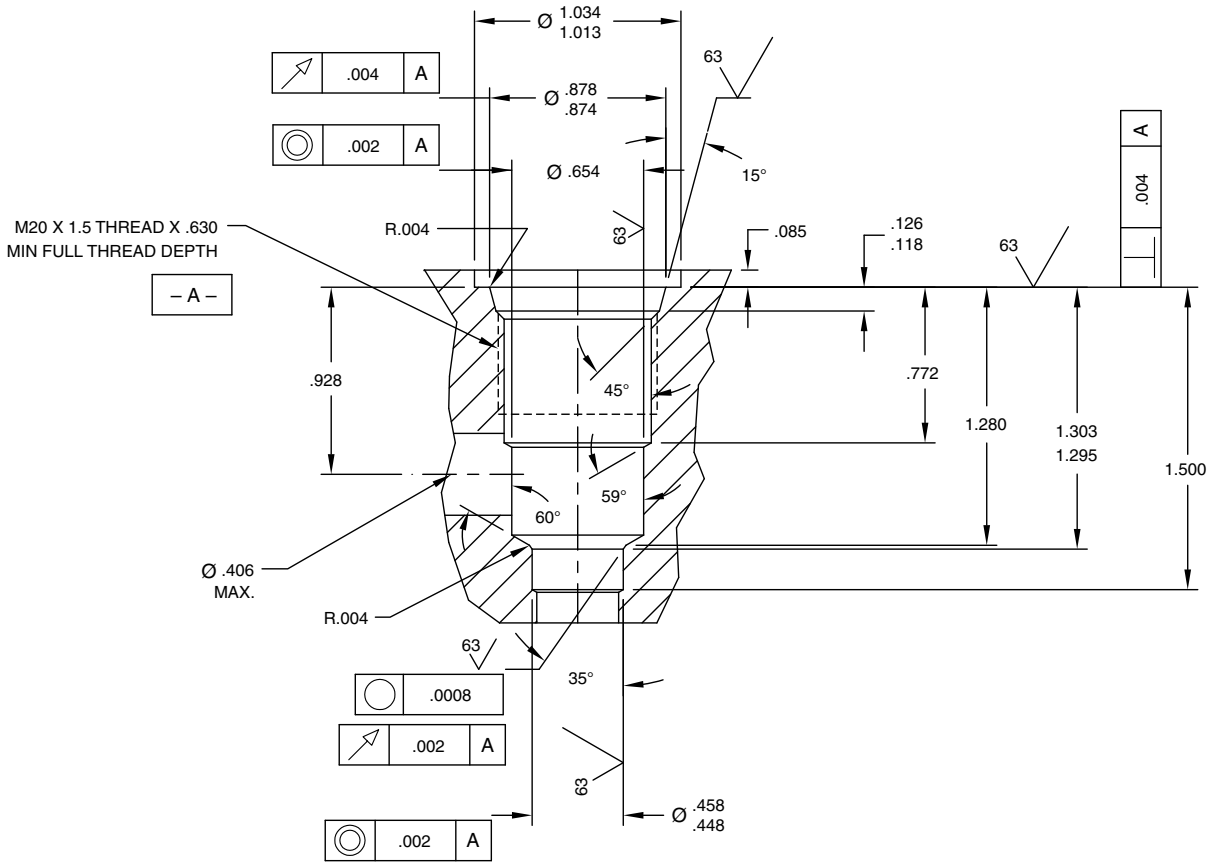
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 050



R05-2 CAVITY

UNLESS OTHERWISE SPECIFIED	
Specifications subject to change, consult factory.	2 PLACE DIM ± .01 3 PLACE DIM ± .005
All dimensions in inches.	ANGLE ± .5˚



R06-2 CAVITY

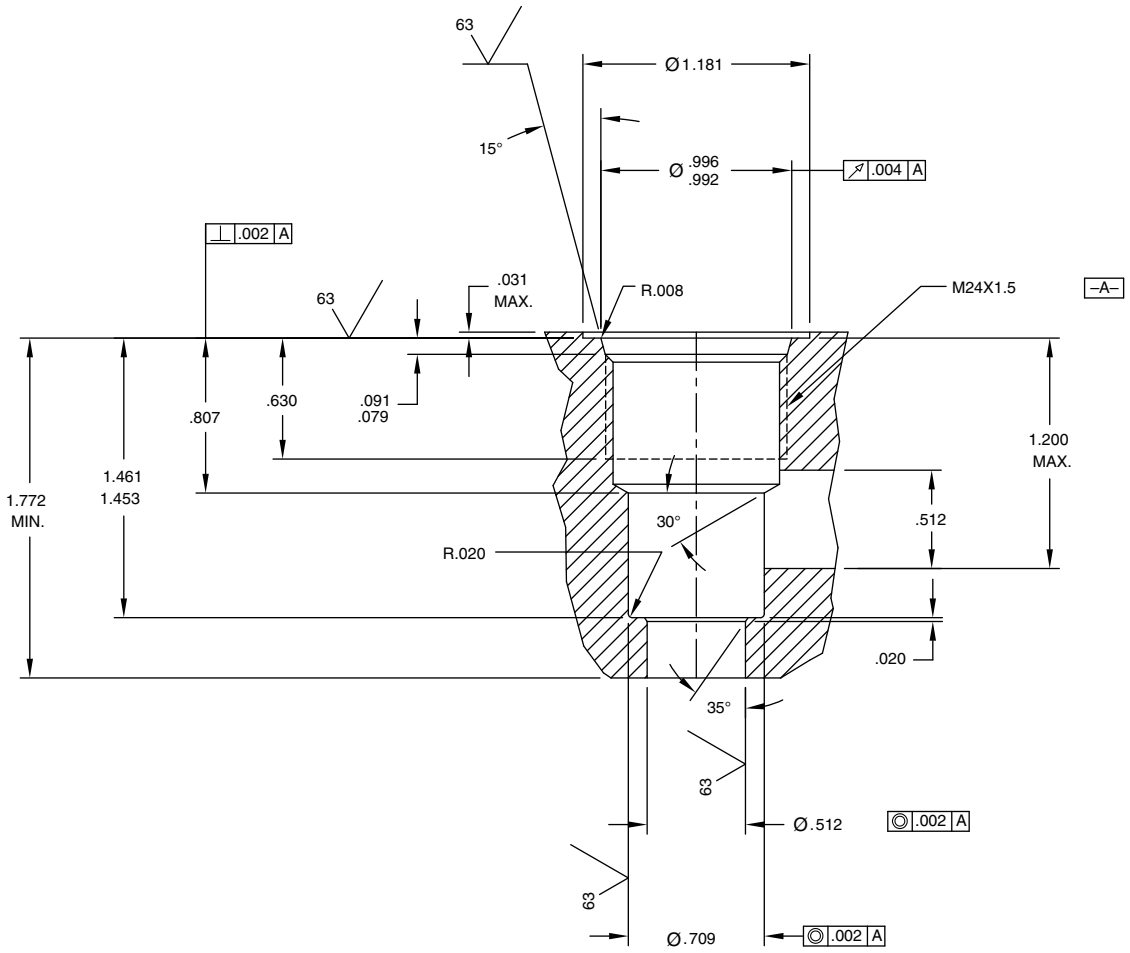
UNLESS OTHERWISE SPECIFIED
Specifications subject to change, consult factory.
All dimensions in inches.

2 PLACE DIM ± .01
3 PLACE DIM ± .005
ANGLE ± .5˚

R08-2 Cavity

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 080



R08-2 CAVITY

UNLESS OTHERWISE SPECIFIED	
Specifications subject to change,	2 PLACE DIM ± .01
consult factory.	3 PLACE DIM ± .005
All dimensions in inches.	ANGLE ± .5˚

Notes

Solenoid Coil Features/Specifications

DELTROL fluid products
DIVISION OF DELTROL CORP

- **STANDARD VOLTAGE:** 10, 12, 20 AND 24 VOLTS D.C.
  120 AND 240 VOLTS A.C.

- **WATTAGE:** SERIES 8: ALL COILS ARE NOMINALLY 16 WATTS AT 68˚F./20˚C.
  SERIES 10: 10 VOLT COILS ARE NOMINALLY 19 WATTS AT 68°F./23°C.
  12, 20, 24, 120 AND 240 VOLT COILS ARE NOMINALLY 22 WATTS AT 68˚F./20˚C.

- **DUTY RATING:** SEE COIL PAGES.

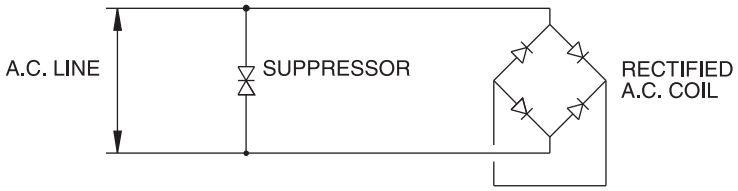
- **AMBIENT OPERATING TEMPERATURE:** 212˚F/100˚C

- **MAGNET WIRE:** ALL 100 SERIES ARE THERMAL CLASS 200˚C., NEMA PUB, NO. MW1000

- **ENCAPSULATING MATERIAL:** THERMOPLASTIC POLYESTER (PET) (RYNITE 415 HP).

- **LEAD WIRES:** 18/20 GAUGE. MEETS SAE J1128 XLPE, TYPE SXL.

- **A.C. VOLTAGE COILS:** INTERNALLY FULL WAVE RECTIFIED TO SUPPLY THE COIL WINDING WITH D.C. CURRENT. THEREFORE THE COIL WINDING HAS NO “INRUSH” CURRENT MAKING IT SUITABLE FOR 50 OR 60 HERTZ (Hz) CYCLE APPLICATIONS. THE RECTIFIERS USED IN A.C. COILS MAY REQUIRE PROTECTION FROM TRANSIENT OVER VOLTAGES EXCEEDING 1000 VOLTS. PROTECT RECTFIED A.C. COILS BY INSTALLING A COMMERCIALLY AVAILABLE NONPOLARIZED SELENIUM DIODE SUPPRESSOR OR METAL-OXIDE VARISTOR ACROSS THE A.C. COIL AS SHOWN.



DELTROL fluid products
DIVISION OF DELTROL CORP

Dream Coil Data

SPECIFICATIONS

Wattage: Nominally 16 watt at 68°F./20°C.

Duty Rating: Continuous up to 115% voltage.

Ambient Operating Temperature: 212°F/100°C.

Encapsulating Material: Thermoplastic Polyester (PET) (Rynite 415 HP).

Termination Options: See below and on the following pages.

Environmental: IP69K for Deutsch, Metri-Pack and Amp Junior timer-style coils.

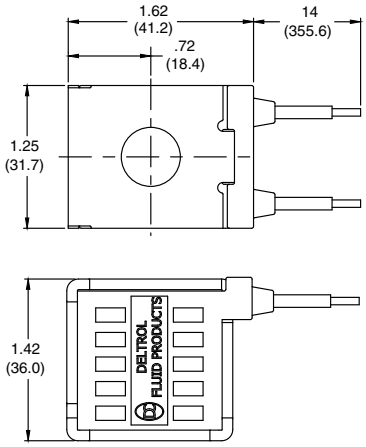
	SERIES 8	
	16 WATT	
VOLTS	OHMS	INITIAL CURRENT DRAW (AMPS)
10 DC	6.2	1.60
12 DC	9.0	1.33
20 DC	25.0	.80
24 DC	35.8	.67

DOUBLE LEADS

CODE - **DE

VOLTS	PART NO.	LEAD COLOR
10 DC	10257-40	GREEN
12 DC	10244-28	RED
20 DC	10258-75	
24 DC	10257-41	BLUE

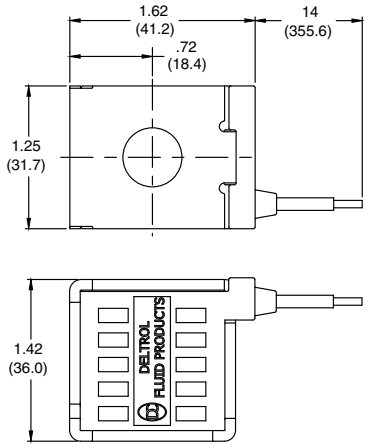
FOR INTERNAL DIODE – CONSULT FACTORY



SINGLE LEAD

CODE - **SE

VOLTS	PART NO.	LEAD COLOR
10 DC	10257-44	GREEN
12 DC	10244-29	RED
20 DC	10258-76	
24 DC	10257-45	BLUE



Dream Coil Data (continued)

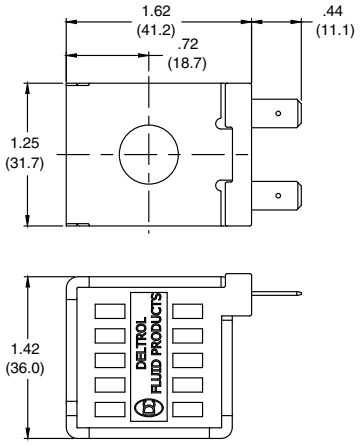
DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8

DOUBLE SPADE
CODE - **BE

VOLTS	PART NO.
10 DC	10257-46
12 DC	10244-27
20 DC	10257-47
24 DC	10257-48

TERMINATION:
1/4" MALE QUICK-CONNECT
PER SAE J858A (TYPE 1B)

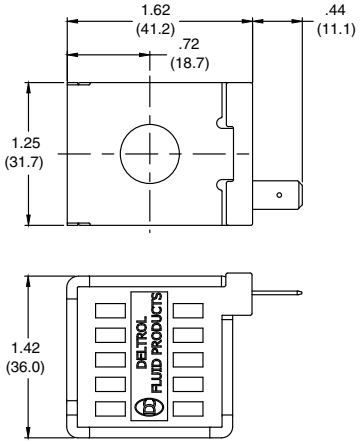


FOR INTERNAL DIODE – CONSULT FACTORY

SINGLE SPADE
CODE - **AE

VOLTS	PART NO.
10 DC	10257-51
12 DC	10252-18
20 DC	10258-77
24 DC	10257-52

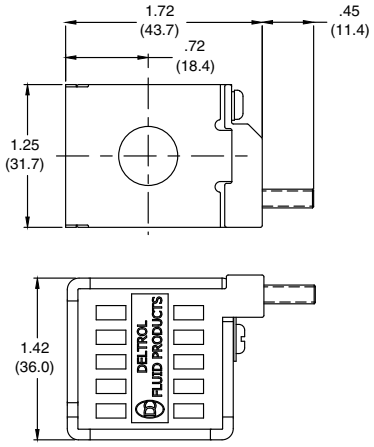
TERMINATION:
1/4" MALE QUICK-CONNECT
PER SAE J858A (TYPE 1B)



SINGLE STUD
CODE - **EE

VOLTS	PART NO.
10 DC	10257-53
12 DC	10252-19
20 DC	10258-78
24 DC	10257-54

TERMINATION:
8-32 MALE STUD
WITH BRASS NUTS

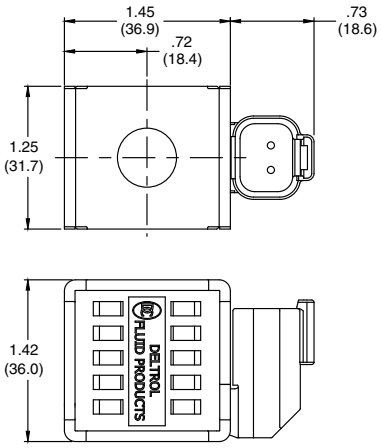


DEUTSCH

CODE - **UE

VOLTS	PART NO.
10 DC	10257-55
12 DC	10244-24
20 DC	10257-56
24 DC	10257-57

TERMINATION:
INTEGRAL DEUTSCH CONNECTOR
DT04-2P
MATING CONNECTOR
DT06-2S

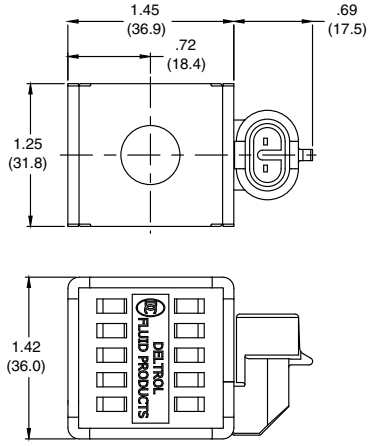


FOR INTERNAL DIODE – CONSULT FACTORY

METRI-PACK

CODE - **PE

VOLTS	PART NO.
10 DC	10257-58
12 DC	10244-25
20 DC	10257-59
24 DC	10257-60

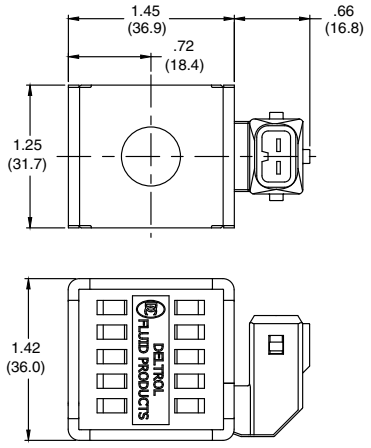


FOR INTERNAL DIODE – CONSULT FACTORY

AMP JUNIOR TIMER

CODE - **JE

VOLTS	PART NO.
10 DC	10257-61
12 DC	10244-26
20 DC	10257-62
24 DC	10257-63



FOR INTERNAL DIODE – CONSULT FACTORY

Solenoid Coil Data

DELTROL fluid products
DIVISION OF DELTROL CORP

SERIES 8

SPECIFICATIONS

Wattage: Nominally 16 watt at 68°F./20°C.

Duty Rating: Continuous up to 115% voltage.

Ambient Operating Temperature: 212°F/100°C

Encapsulating Material: Thermoplastic Polyester (PET) (Rynite 415 HP).

A.C. Coils: Internally rectified with a full wave bridge (no inrush current).

Termination Options: See below and on the next page.

	16 WATT	
VOLTS	OHMS	INITIAL CURRENT DRAW (AMPS)
10 DC	6.2	1.60
12 DC	9.0	1.33
20 DC	25.0	.80
24 DC	35.8	.67
120 AC	Δ827	.15
240 AC	Δ3306	.07

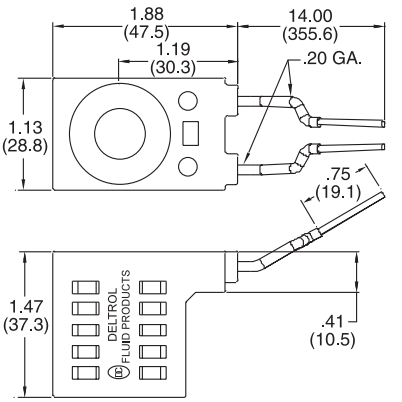
ΔRESISTANCE CANNOT BE MEASURED ON AC COIL ASSEMBLIES

DOUBLE LEADS

CODE - **DS

VOLTS	PART NO.	LEAD COLOR
10 DC	10205-94	GREEN
12 DC	10184-42	RED
24 DC	10184-37	BLUE
120 AC	10184-49	BLACK
240 AC	10184-53	YELLOW

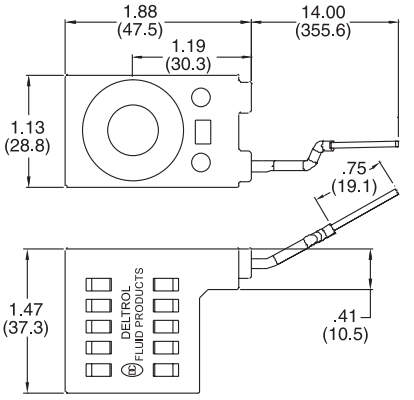
FOR INTERNAL DIODE – CONSULT FACTORY



SINGLE LEAD

CODE - **SS

VOLTS	PART NO.	LEAD COLOR
10 DC	10194-19	GREEN
12 DC	10184-32	RED
24 DC	10190-44	BLUE



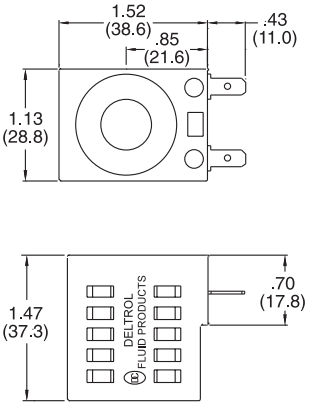
DOUBLE SPADE

CODE - **BS

VOLTS	PART NO.
10 DC	10221-46
12 DC	10216-12
20 DC	10222-51
24 DC	10216-11
120 AC	10222-49
240 AC	10222-50

FOR INTERNAL DIODE – CONSULT FACTORY

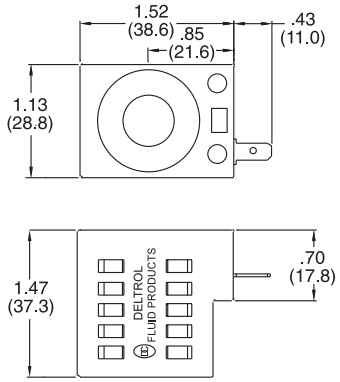
TERMINATION:
1/4" MALE QUICK-CONNECT
PER SAE J858A (TYPE 1B)



SINGLE SPADE
CODE - **AS

VOLTS	PART NO.
10 DC	10222-46
12 DC	10221-30
24 DC	10221-47

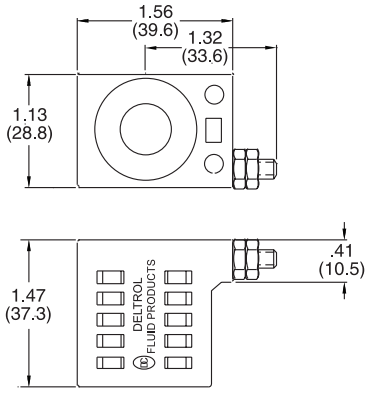
TERMINATION:
1/4" MALE QUICK-CONNECT
PER SAE J858A (TYPE 1B)



SINGLE STUD
CODE - **ES

VOLTS	PART NO.
10 DC	10196-60
12 DC	10196-61
24 DC	10196-62

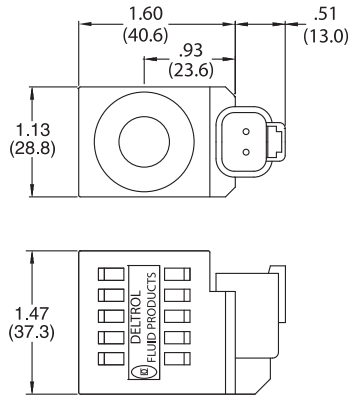
TERMINATION:
8-32 MALE STUD
WITH BRASS NUTS



DEUTSCH
CODE - **US

VOLTS	PART NO.
10 DC	10210-13
12 DC	10222-99
20 DC	10228-95
24 DC	10228-52

TERMINATION:
INTEGRAL DEUTSCH CONNECTOR
DT04-2P
MATING CONNECTOR
DT06-2S



FOR INTERNAL DIODE – CONSULT FACTORY

Solenoid Coil Data

SERIES 10

SPECIFICATIONS

Wattage: 10 volts: nominally 19 watts at 68°F./20°C.
12, 20, 24, 120 and 240 volts: nominally 22 watts at 68°F./20°C.

Duty Rating: Continuous up to 100% voltage.

Ambient Operating Temperature: 212°F/100°C.

Encapsulating Material: Thermoplastic Polyester (PET).

A.C. Coils: Internally rectified with a full wave bridge (no inrush current).

Termination Options: See below and on the next page.

	19 WATT		22 WATT	
VOLTS	OHMS	INITIAL CURRENT DRAW (AMPS)	OHMS	INITIAL CURRENT DRAW (AMPS)
10 DC	5.3	1.9		
12 DC			6.5	1.83
20 DC			18.2	1.10
24 DC			26.1	.92
120 AC			Δ496	.18
240 AC			Δ1830	.18

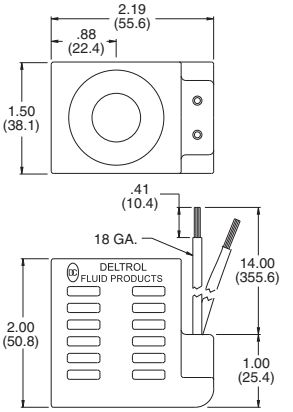
ΔRESISTANCE CANNOT BE MEASURED ON AC COIL ASSEMBLIES

DOUBLE LEADS

CODE - **D

VOLTS	PART NO.	LEAD COLOR
10 DC	10163-99	GREEN
12 DC	10162-76	RED
20 DC	10223-97	
24 DC	10162-77	BLUE
120 AC	10162-82	BLACK
240 AC	10162-83	YELLOW

LEAD WIRES: 18/20 GAUGE MEETS SAE J1128 XLPE, TYPE SXL.

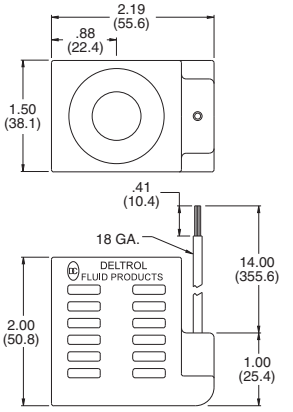


SINGLE LEAD

CODE - **S

VOLTS	PART NO.	LEAD COLOR
10 DC	10164-12	GREEN
12 DC	10164-10	RED
24 DC	10164-11	BLUE

LEAD WIRES: 18/20 GAUGE MEETS SAE J1128 XLPE, TYPE SXL.

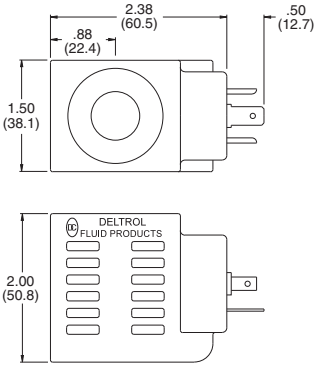


HIRSCHMANN®

CODE - **H

VOLTS	PART NO.
10 DC	10164-02
12 DC	10162-78
24 DC	10162-79
120 AC	10162-84
240 AC	10162-85

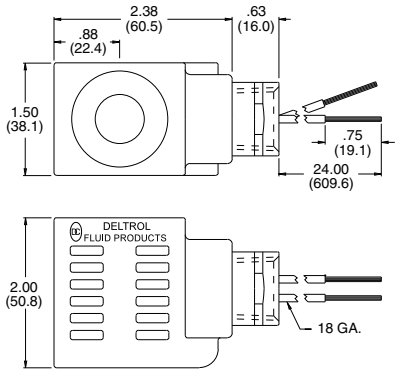
TERMINATION:
HIRSCHMANN GSR 200
(2 POLE + GROUND APPLIANCE PLUG)
MATING CONNECTOR 43650



CONDUIT (FEMALE 1/2-14 NPT)

CODE - **C

VOLTS	PART NO.	LEAD COLOR
10 DC	10164-05	GREEN
12 DC	10162-80	RED
24 DC	10162-81	BLUE
120 AC	10162-86	BLACK
240 AC	10162-87	YELLOW



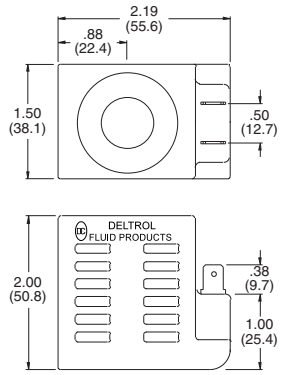
LEAD WIRES: 18/20 GAUGE MEETS SAE J1128 XLPE, TYPE SXL.

DOUBLE SPADE

CODE - **B

VOLTS	PART NO.
10 DC	10164-08
12 DC	10162-91
20 DC	10234-53
24 DC	10162-92
120 AC	10162-90
240 AC	10164-09

TERMINATION:
1/4" MALE QUICK-CONNECT
PER SAE J858A (TYPE 1B)

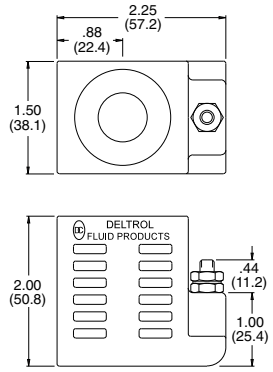


SINGLE STUD

CODE - **E

VOLTS	PART NO.
10 DC	10164-15
12 DC	10164-13
24 DC	10164-14

TERMINATION:
10-32 MALE STUD WITH
2 BRASS NUTS AND 1 STEEL
EXTERNAL TOOTH LOCKWASHER



Notes

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Warranty and Disclaimer

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