



# D-316 Series



# The D-316 Series

The Versa Products Company D-316 Series valve is a high performance, high flow, direct acting solenoid valve. Designed as a 3-way (3/2), it is a true multipurpose/universal flow, "bubble tight" valve throughout its complete operating range and cycle life. Suitable for air, natural gas and hydraulic media. High performance stainless steels make the D-316 Series an ideal choice for the harshest environments. The D-316 can be configured for full NACE compliance. Designed for ease of installation and field serviceability make the D-316 the choice for all applications.

## Valve/Conduit Positioning

Solenoid housing rotates 360° without need for tools, disassembly or valve re-adjustment. The D-316 high performance valve can be mounted in any orientation for simplified installation and connection. Reduced installed cost/labor.

## Encapsulated Class H Coil

Offer Moisture resistant and enhanced heat dissipation. Standard Class H coil offers high temperature ratings for long product life in the most severe environments.

## Direct Acting Solenoid Design

The D-316 solenoid valves utilize a high performance direct acting solenoid for the perfect balance of flow, power and size.

## Poppet

Universal high flow balanced poppet design is maximized through a unique sealing design. The balanced design assures no false shifts due to pressure spikes regardless of application pressures. Universal flow provides all functions in one valve.

## Simple Maintenance

Replace coil and or seals without removing the valve from system tubing/piping.

## No External Vent

The valve internals are sealed, providing protection from harsh environmental conditions.



## Optimized Coil Design

The D-316 high performance coil allows maximum pull in force vs low power consumption.

## Integral Junction Box

'O' Ring sealing for solenoid enclosure. Fully weather protected integral junction box for IP66/67/68 rating and NEMA 6P prolonged submersibility. Assures long trouble-free life in wet environments. High temperature rated terminal strip is included, simplifying wiring, mounting, installation and serviceability.

## O Ring Poppet Sealing

Positive "Bubble Tight" sealing via standard 'O' rings. No custom or flat gaskets required, only readily available standard FKM 'O' rings. A variety of seal materials are available offering media and temperature flexibility.

## Corrosion Resistant Materials

Standard materials are 316L stainless steel for compatibility with the widest range of media in almost any service.

## Agency Approvals

The D-316 Series meets worldwide hazardous area regulations and standards.

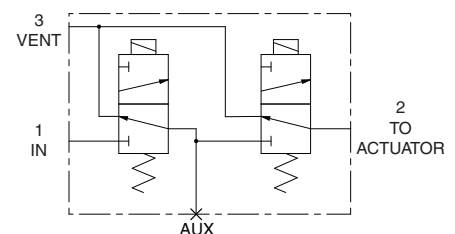
## D-316 Series Shut Off Valve (SOV) 1oo2

The SOV option provides a series pilot control circuit that requires two solenoids, a primary and a secondary, to be energized in order for the actuator to shift. Conversely if the electrical signal to either solenoid is removed the actuator will return to the de-energized position. This function can be considered as a 1oo2 where the primary solenoid is wired to the control system and the secondary, shut down solenoid, is wired to various sensors (e.g., temperature - pressure).

Consult factory for ordering information.



## FLOW SCHEMATIC



## Specifications

Actuation:	Solenoid actuated, spring return
Function:	3/2, 3-Way, 2 Position, universal flow
Media:	Pneumatic, Air/Inert gas and Hydraulic
Pressure:	vac to 175 psi (vac to 12 bar)
Flow:	0.8 Cv
Temperature:	+4°F to 194°F (-20°C to 90°C) -40°F to 194°F (-40°C to 90°C), low temp Buna option -44 -62°F to 194°F (-52°C to 90°C) Fluorosilicone option -T40
Port size:	¼" npt

### Voltage/Power:

Voltage	Power	Ordering code		
		DC	AC 60 Hz	AC 50 Hz
12 VDC 24 VDC 125 VDC	2.6 watts	-D012 -D024 -D125	—	—
110/120 VAC 220/240 VAC	3.1 watts	—	-A120 -A240	-E110 -E220

Coil class:	H Class
Surge protection:	None, standard Diode, suffix -303D. DC only Metal-oxide varistor (MOV), suffix -303. AC or DC
Connections:	½" NPT or M20 conduit hub
Ingress protection:	IP66/67/68 & NEMA 4, 4X & 6P
Materials of construction*:	
Body:	316L Stainless Steel
Poppet:	316L Stainless Steel
Coil Housing:	316L Stainless Steel
Coil:	Epoxy molded
Seals:	FKM: Fluorocarbon, standard

\*All valve components comply with NACE MR0175 except for main spring which is 316 stainless steel.  
All wetted parts are NACE Compliant.  
For full NACE compliance, add option -NA for Inconel spring.



DSM-3301-316-M-XDDT-D024  
DSM-3301-316-M5R-XDDT-D024



DSM-3301-316-XDDT-356BN-D024†

## Solenoid Type

Solenoid Type	Suffix Number	Rating	Agency	Connection
World Solenoid	-XDDS	Ex II 2 G D Ex d IIC T4 Gb Ex tb IIIC IP66 T4 °C Db Cl, I Zn 1, A/Ex d e IIC Cl, II, Zn 21, AEx tD A21, T4 °C	ATEX IECEX cCSA <sub>US</sub>	M20
World Solenoid with North American rating	-XDDT	Ex II 2 G D Ex d IIC T4 Gb Ex tb IIIC IP66 T4 °C Db Ex d IIC T4, Cl I, Zn 1, AEx d IIC T4 Zone 21, AEx tb IIIC T4 Db Type 4X, 6P, IP66/68 Cl I Div 1, Grps B, C & D Cl II Div 1 Grps E, F & G Cl III T4 Cl I Div 2, Grps A, B, C & D T4	ATEX IECEX cCSA <sub>US</sub>	½" NPT

For other "T" ratings consult factory

## ValveType - Options

Valve Type & Options	Part Number	Weight
Solenoid Operated-Spring return	DSM-3301-316-XDD*-(**)	5.1 lbs (2.3 kg)
Solenoid Operated-Spring return with Non-locking override, unguarded	DSM-3301-316-M-XDD*-(**)	5.2 lbs (2.4 kg)
Solenoid Operated-Spring return with Locking override, unguarded	DSM-3301-316-M5R-XDD*-(**)	5.2 lbs (2.4 kg)
Solenoid Operated-Spring return with Non-locking override, guarded	DSM-3301-316-G-XDD*-(**)	5.2 lbs (2.4 kg)
Solenoid Operated-Spring return with Locking override, guarded	DSM-3301-316-G5R-XDD*-(**)	5.2 lbs (2.4 kg)
Solenoid Operated-Spring return with Latching reset	DSM-3301-316-XDD*-356BN-(**)	5.4 lbs (2.4 kg)
Solenoid Operated-Spring return with Latching reset and manual button	DSM-3301-316-XDD*-356B-(**)	5.6 lbs (2.5 kg)

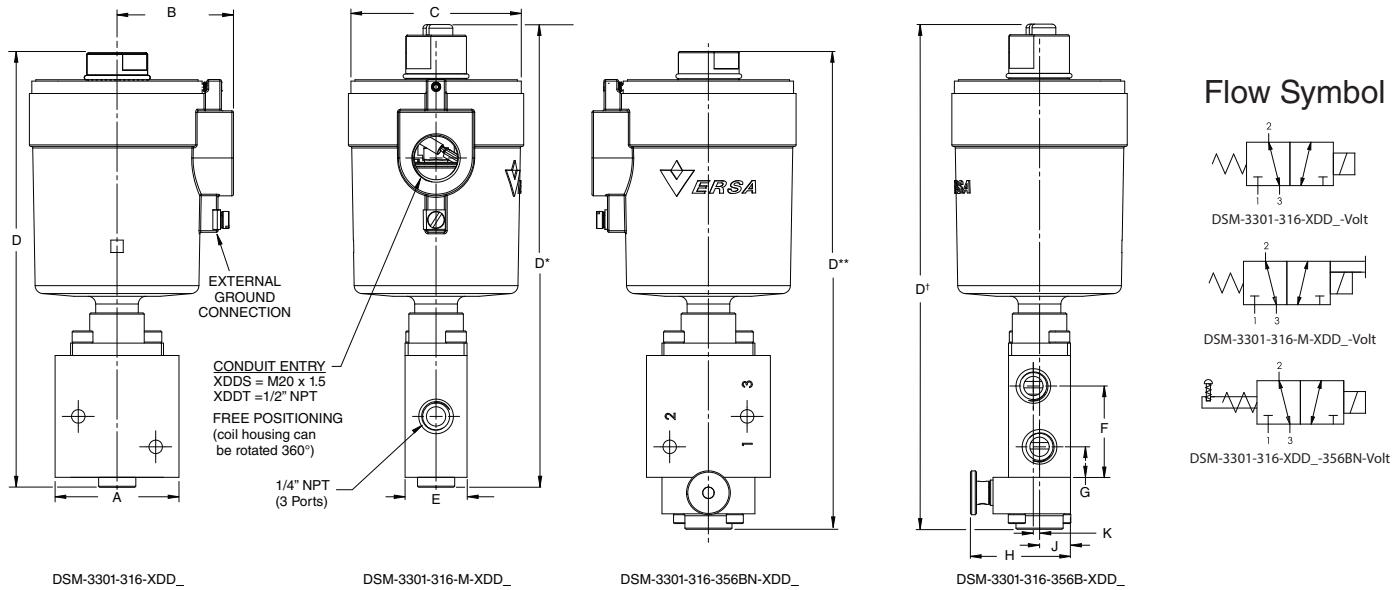
\*Select Suffix Number; XDDS for M20 conduit hub or XDDT for ½" NPT conduit hub. See "Solenoid Type" chart above

\*\*Select voltage from "Voltage/Power" chart above.

†For port 1 & 3 facing left use suffix -356BR or 356NBR

# The D-316 Series

## Dimensions



	A	B	C Ø	D	D*	D**	D†	E	F	G	H	J	K
DSM-3301-316-XDD_-Volts	2.00 50.8	1.87 47.5	2.83 71.9	7.06 177.8	—	—	—	1.00 25.4	1.47 7.4	0.49 12.5	—	0.50 12.7	0.10 2.54
DSM-3301-316-G-XDD_-Volts	2.00 50.8	1.87 47.5	2.83 71.9	—	7.31 185.7	—	—	1.00 25.4	1.47 7.4	0.49 12.5	—	0.50 12.7	0.10 2.54
DSM-3301-316-M-XDD_-Volts	2.00 50.8	1.87 47.5	2.83 71.9	—	7.48 190.0	—	—	1.00 25.4	1.47 7.4	0.49 12.5	—	0.50 12.7	0.10 2.54
DSM-3301-316-356B-XDD_-Volts	2.00 50.8	1.87 47.5	2.83 71.9	—	—	7.70 196.0	—	1.00 25.4	1.47 7.4	0.49 12.5	1.62 41.0	0.50 12.7	0.10 2.54
DSM-3301-316-356BN-XDD_-Volts	2.00 50.8	1.87 47.5	2.83 71.9	—	—	—	8.16 207.3	1.00 25.4	1.47 7.4	0.49 12.5	1.62 41.0	0.50 12.7	0.10 2.54

### WARNINGS REGARDING THE DESIGN APPLICATION, INSTALLATION AND SERVICE OF VERSA PRODUCTS

The warnings below must be read and reviewed before designing a system utilizing, installing, servicing, or removing a Versa product. Improper use, installation or servicing of a Versa product could create a hazard to personnel and property.

#### DESIGN APPLICATION WARNINGS

Versa products are intended for use where compressed air or industrial hydraulic fluids are present. For use with media other than specified or for non-industrial applications or other applications not within published specifications, consult Versa.

Versa products are not inherently dangerous. They are only a component of a larger system. The system in which a Versa product is used must include adequate safeguards to prevent injury or damage in the event of system or product failure, whether this failure be of switches, regulators, cylinders, valves or any other system component. System designers must provide adequate warnings for each system in which a Versa product is utilized. These warnings, including those set forth herein, should be provided by the designer to those who will come in contact with the system.

Where questions exist regarding the applicability of a Versa product to a given use, inquiries should be addressed directly to the manufacturer. Confirmation should be obtained directly from the manufacturer regarding any questioned application prior to proceeding.

#### INSTALLATION, OPERATION AND SERVICE WARNINGS

Do not install or service any Versa product on a system or machine without first depressurizing the system and turning off any air, fluid, or electricity to the system or machine. All applicable electrical, mechanical, and safety codes, as well as applicable governmental regulations and laws must be complied with when installing or servicing a Versa product.

Versa products should only be installed or serviced by qualified, knowledgeable personnel who understand how these specific products are to be installed and operated. The individual must be familiar with the particular specifications, including specifications for temperature, pressure, lubrication, environment and filtration for the Versa product which is being installed or serviced. Specifications may be obtained upon request directly from Versa. If damages should occur to a Versa product, do not operate the system containing the Versa product. Consult Versa for technical information.

### LIMITED WARRANTY DISCLAIMER AND LIMITATION OF REMEDIES

Versa's Series products are warranted to be free from defective material and workmanship for a period of ten years from the date of manufacture, provided said products are used in accordance with Versa specifications. Versa's liability pursuant to that warranty is limited to the replacement of the Versa product proved to be defective provided the allegedly defective product is returned to Versa or its authorized distributor. Versa provides no other warranties, expressed or implied, except as stated above. There are no implied warranties of merchantability or fitness for a particular purpose. Versa's liability for breach of warranty as herein stated is the only and exclusive remedy and in no event shall Versa be responsible or liable for incidental or consequential damages.

