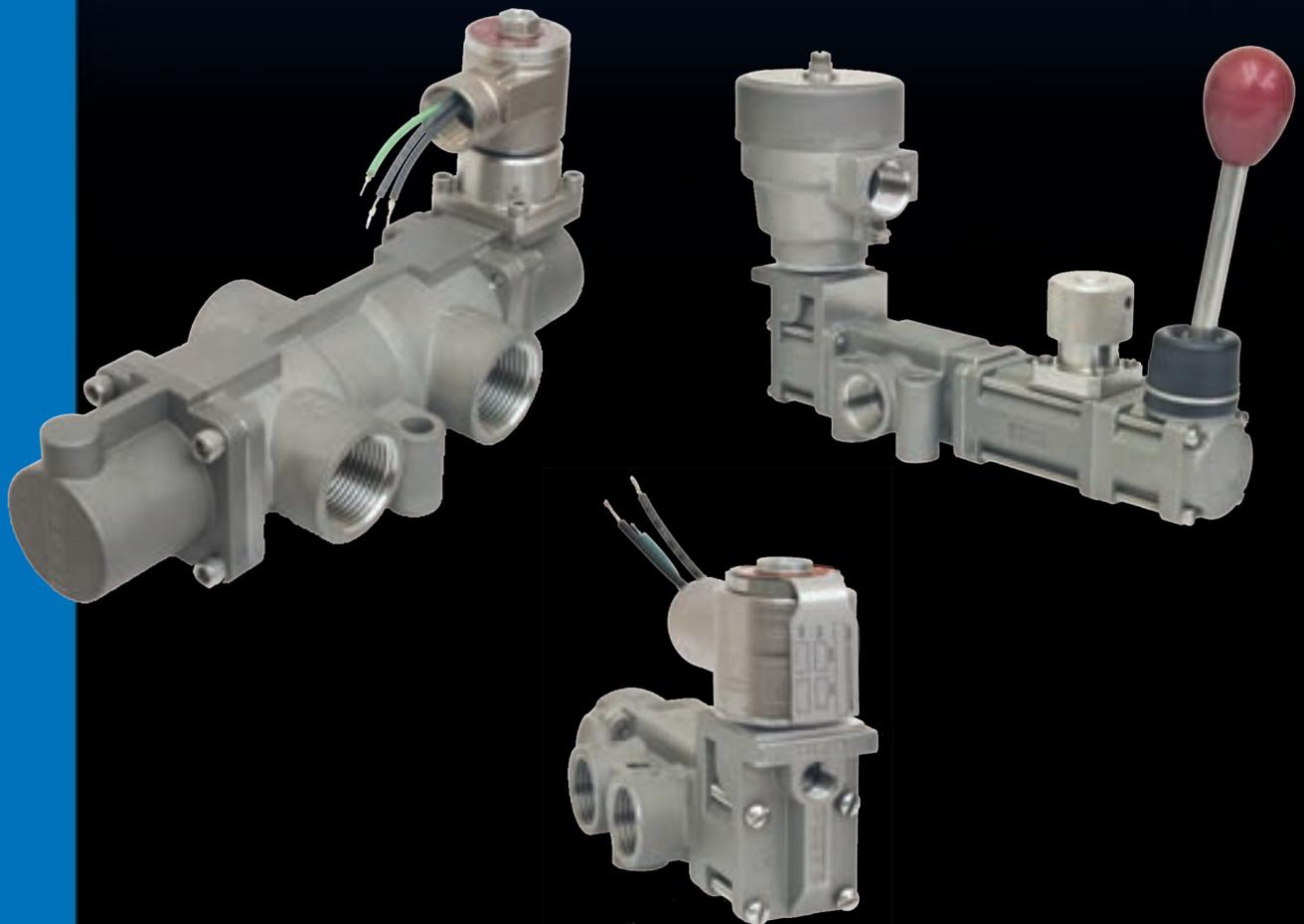




V-316 SERIES



VALVES/ACTUATORS

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Versa exercises diligence to assure that information contained in this catalog is correct, but does not accept responsibility for any errors or omissions. Versa also reserves the right to change or delete data or products at any time without prior notification. To be sure the data you require is correct, consult factory.

GENERAL CHARACTERISTICS OF SERIES “V-316” VALVES

The V-316 Valve Series provides a full range of control valves suited to the most demanding of applications. Ruggedly constructed, both internally and externally, of stainless steel, these valves are able to withstand the physical abuse of corrosive environments and controlled media.

A modular design concept utilizing three basic sub-assemblies: a Body Assembly and two Actuator Assemblies (active or passive), simplifies circuit planning while affording almost unlimited combination possibilities.

Port sizes are 1/4”, 3/8”, and 1/2” NPT in 2 and 3-position, three-way (3/2, 3/3), and four-way (5/2 and 5/3) styles. A 1” NPT is available as 2-position, three-way (3/2) and four-way (5/2).

Actuation types include manual (hand lever, palm button, latching detent & manual reset), pilot (pressure pilot, diaphragm pilot, “air-latch” pilot), and solenoid-pilot (including several approved hazardous service types).

CONSTRUCTION

High Performance Solenoid

Near frictionless direct acting poppet design yields positive shifting and the lowest solenoid power/wattage ratings. Epoxy encapsulated coils with high heat class ratings are standard for moisture resistance, heat dissipation and elevated temperature applications.

Solenoid-Pilot Design

Direct acting valve integrated on pilot valve
The V-316 Series solenoid valve utilizes a high performance solenoid-pilot design. This design utilizes available media pressure/force to shift valve assuring positive shifting. This design also produces the lowest wattage ratings in the industry.



Large Diameter Pilot

The Pilot design is maximized to offer positive shifting throughout range while residual volume is reduced for less air per shift. A U-cup is utilized for bubble tight sealing while reducing shift friction to a minimum.

Elastomer Packed Spool

“Low friction” type seals are utilized to offer bubble tight sealing throughout valve operation range.

Balanced Spool

The forces required to actuate the plunger are unaffected by pressure being controlled assuring positive shifting throughout the entire pressure range.

Investment Cast Stainless Steel

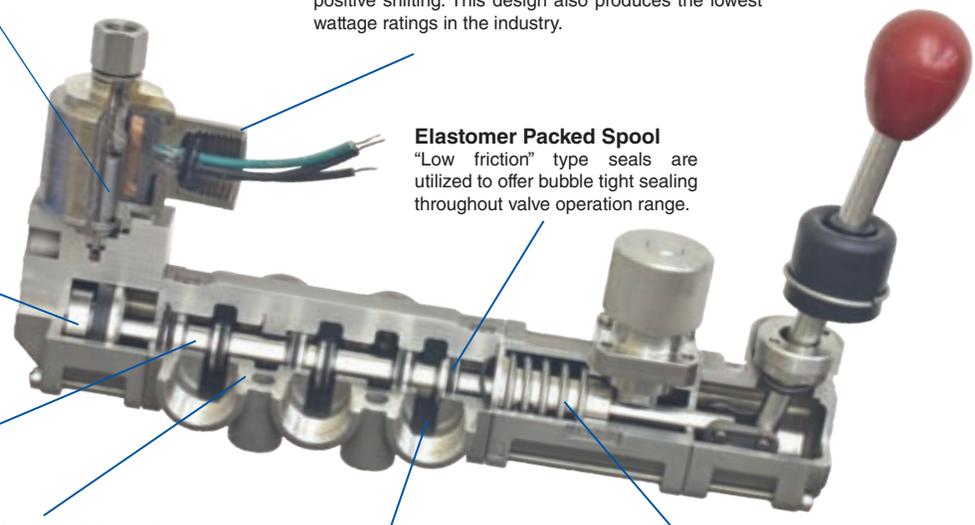
316 stainless steel components are utilized for superior corrosion protection in the harshest environments. Investment cast components offer a first class finish, while providing weight savings and maximized flow paths for superior flow.

Full Flow - Over Ported

Internal high flow area through valve is maximized so user is assured the fitting will reduce flow not the Versa valve.

Spring Return Device

Versa’s V-316 Series spring return valves offer the strongest spring return ratings on the market assuring a positive shift when valve is commanded to shift.



EVERY VALVE FUNCTIONALLY TESTED THROUGHOUT COMPLETE PRESSURE RANGE BEFORE SHIPPING

COMPATIBILITY & APPLICATION RANGE: Series V-316 valves are designed for the control of pneumatic pressures from partial vacuum to 200 psi (14 bar). Because Versa uses various styles and compounds of elastomers, it is possible to meet varying conditions of media and temperature.

Limitations generally apply to specific types of actuation, such as solenoid or pilot. The minimum and maximum pressures in these cases are dependent upon valve size, method of return actuation, valve series, and range of pressure being controlled. For specific information, refer to specification pages 6 thru 9.

HOW TO SELECT A VERSA VALVE



Every letter and digit in the product number has significant meaning. The product number shown below (VSG-4522-316-L14-A120) indicates the following:

V	S	G	-	4	5	2	2	-	316	-	L14	-	A120
PNEUMATIC SERVICE	SPRING RETURN	SOLENOID PILOT-ACTUATED		FOUR-WAY	1/2" NPT	SIDE PORTED (INPILOT)	TWO POSITION		316 STAINLESS STEEL		SOLENOID OPERATOR EQUIPPED WITH DUST EXCLUDER NUT		120V60 COIL

BASIC PRODUCT NUMBER

V	S		G	-	4	5
	VALVE SERIES	ACTUATING DEVICES				
		ON LEFT END OF VALVE LOOKING AT INLET	ON RIGHT END OF VALVE LOOKING AT INLET			
V-316 Series Valve Pneumatic service to 200 psi (14 bar)	A Special actuator of any type. Letter indicates position of actuator relative to right and left end of body. Suffix detail is required to designate specific actuator B Spring Centering (for 3 position manually operated valves) G Solenoid-Pilot/2 position I Palm Button J Pilot-Spring Centering (for 3 position pilot operated valves) L Hand Lever (centerline lever) N Non-return Device (for manually operated valves — allows valve to be positioned anywhere without detents) P Pressure Pilot/2 position R Reverse Spring Return (for manually operated valves). Spring pulls valve spool S Spring Return. Spring pushes valve spool U Three-Detent (for manually operated valves) W Diaphragm-Pilot (low pressure-pilot) X Solenoid-Pilot Spring Centering (for 3 position solenoid operated valves) Y Diaphragm-Pilot Spring Centering (for 3 position diaphragm operated valves) Z 2-Position Detent (for 2-position manually operated valves)		2 Two-Way* 3 Three-Way 4 Four-Way 7 Two-Outlet (Directional Three-Way-Diverter) 8 Two-Inlet (Directional Three-Way-Selector)	3 1/4" NPT 4 3/8" NPT 5 1/2" NPT 7 1" NPT		
		* Two-Way is accomplished by plugging the exhaust port of a three-way valve				

SUFFIX DETAILS

Suffix details indicate modifications or variations to the basic valve. When specifying simply add those suffix details required in alphabetical and/or numerical order.

Listed below are the suffix detail modifications found in this catalog and the page on which they are noted.

2	2 - 316 -	L14	- COIL CODE	
BODY DETAILS	SPOOL DETAILS (Flow patterns)	SUFFIX DETAILS		
VOLTAGE				
<p>0 SIDEPORTED-EXPILOT Body with integral, pipe threaded ports. This type of body is directly connected to pressure lines and is used for mechanical, manual and EXPilot* type solenoid or pilot actuated valves.</p> <p>2 SIDEPORTED - INPILOT Body same as "0" above, except it has an auxiliary internal passage to supply INPilot** type solenoid and pilot actuators.</p> <p>*Separate pressure line connection needed to supply solenoid-pilot.</p> <p>**Internal auxiliary porting supplies pressurized medium being controlled to pilot, solenoid- pilot..</p>	<p>THREE-WAY VALVES Two Position</p> <p>1 Normally Closed (actuating device must be on right end of valve)</p> <p>2 Normally Open (actuating device must be on left end of valve)</p> <p>THREE-WAY VALVES Three Position</p> <p>3 All ports blocked in center position</p> <p>FOUR-WAY VALVES Two Position</p> <p>2 Standard flow pattern: inlet alternately open to one cylinder port; opposite cylinder port alternately open to exhaust.</p> <p>FOUR-WAY Three Position (Offset flows as standard flow patterns, above)</p> <p>Center Position</p> <p>3 All ports blocked</p> <p>4 Cylinder ports open to exhaust</p> <p>DIVERTER & SELECTOR VALVES</p> <p>2 2-position</p> <p>3 All ports blocked in center position</p>	<p>"316" indicates that the basic construction material for valve parts is AISI 316 Stainless Steel (conforms to NACE Standard MR-01-75)</p> <p>Actuator Orientation: -218A thru -218C, Hand Lever, page 10 -227A thru -227C, Pilot actuator, page 12</p> <p>Combination Actuators: -33E, Retainer cap -113LE, Hand/2-detent, page 26 -114LE, Hand/3-detent, page 26 -115E, Palm button/2-detent, page 26 -130LAE, Hand/spring return, page 26 -136E, Palm button/spring return, page 26 -138E, Solenoid/spring return, page 27 -150E, Pilot/2-detent, page 27 -159E, Pilot/spring return, page 27 -173E, Solenoid/spring return, page 27 -181DRE, Latching Resets Page 26</p> <p>Solenoid Options; For General Purpose (Page 7-9): -HC, -HCC, DIN connector, -HT, Class H coil -PC, -PS, Potted coil</p> <p>For Hazardous Service (Page 7-9): -XX, Hazardous locations, UL & CSA -XN, (d)Flameproof, ATEX -LB, Low Power, 1.8 Watt -LA, Low Power, 0.85 Watt -HT, Class H coil, -PC, Potted coil, -ST, Stainless steel housing, -XISC, -XISX6 (ib)Intrinsic Safe, ATEX FM & CSA -HC, -HCC, Connector for IS</p> <p>Popular Option Combo's for Hazardous Service: -XXN, Hazardous, weather protected, UL/CSA (-LB, -PC, -XX) -XXJ, Hazardous, enhanced weather protected, UL/CSA (-LB, -PC, -ST, -XX) -XNN, Hazardous, weather protected, ATEX (-LB, -PC, -XN) -XNJ, Hazardous, enhanced weather protected, ATEX (-LB, -PC, -ST, -XN)</p> <p>For Hazardous Service WITH INTEGRAL Junction Box (Page 7-9): -XD8S, -XDBT, (d)Flameproof, ATEX, IEC, CSA, INMETRO -XIFA, -XIFE, -XIFF, (ib)Intrinsic Safe, ATEX -XMAA, -XMAE, -XMAF, (m)Encapsulation, (e)Increased Safety, ATEX -XMFA, -XMFE, -XMFF, (m)Encapsulation, (e)Increased Safety, ATEX</p> <p>Manual Override (page 13): -ME, Unguarded</p> <p>Seals: -44 Low temp Buna 6 -155, Fluorocarbon FKM, page 6</p> <p>Special service/lubrication: -DG-Dust Proof -D14 Dust excluder, page 13 -L14, Silencer/dustproof coil cover nut, page 13 -55A, FDA approved silicone grease -55M, Silicone grease -200E, Plus pressure rating to 200 psi (14 bar), page 6 -H, Threaded solenoid exhaust, page 13 -NGS Natural Gas Service -NGST Natural Gas Service— Low Temperature</p> <p>Tagging: -NV28A, Stainless steel ID tag; see Product Bulletin 181 page 13</p>		<p>Solenoid actuated valves require a Coil Code that indicates the specific coil current/frequency and voltage.</p> <p>The Coil Code consists of a letter to indicate the current frequency:</p> <p>Rating Code: A= 60Hz frequency D= Direct Current (DC) E= 50Hz frequency</p> <p>Three numbers follow the Rating Code to indicate voltage:</p> <p>Examples: Voltage Code 24V60 = A024 120V60 = A120 24VDC = D024</p> <p>See Page 7 for specific coil and codes.</p>

PORT SIZE - FLOW

Port Size	Flow Diameter inch	Flow Diameter mm	Flow Factor Cv
1/4 NPT	3/8	9.5	1.8
3/8 NPT	3/8	9.5	2.0
1/2 NPT	5/8	16.0	5.5
1 NPT	1-1/16	27	11.1

GASES	LIQUIDS
$SCFM = 22.5 C_v \sqrt{\frac{\Delta P \text{ (Outlet psi abs)}}{(460^\circ + F^\circ) (SG)}}$	$GPM = C_v \sqrt{\frac{\Delta P \text{ psi}}{(SG)}}$

Assumptions:	
Flow = Air	Inlet pressure = 100 psi (7 bar)
$\Delta P = 40$ psi (3 bar)	Outlet abs = 74.7 psi (5 bar)
Temp = 68°F (20°C)	SG = 1.0

MATERIALS

Valve body and internal parts:	316L stainless steel
Actuator caps:	316L stainless steel
Valve body/actuator seals:	FKM – fluorocarbon (diaphragm, Buna)
Optional:	Low Temperature Nitrile (-44) Ethylene Propylene (-EP)
Screws:	316 stainless steel
Solenoid internal parts:	300 & 400 grade stainless steel
Solenoid Coil housing:	Dependent on coil selected, see page 8 - 9

MEDIA

Air / inert gas, including natural gas. Consult factory for hydraulic service.

The standard V-316 Series product is rated for air and gas service including natural gas. While the standard valve is rated for natural gas, Versa recommends suffix detail –NGS for enhanced valve performance (-NGST for low temperature applications).

Versa Products Company's valves and accessories are intended for use in clean dry air or inert gas systems. Versa requires filters of 40 microns or better. Versa defines "dry" as a system where dew point is 20°F below the minimum temperature to which any part of the system is exposed.

Versa's products are rated for lubricated or non lubricated service. On lubricated service, care should be taken to follow the lubricator manufactures' recommendations as to use and maintenance. As Versa's products are elastomer sealed devices, seal compatibility with media, lubricator fluid and environmental conditions should be confirmed,

PRESSURE RANGES

TYPE OF ACTUATION	TYPE OF RETURN	OPERATING PRESSURE RANGE THROUGH VALVE (CONTROLLED PRESSURE)		MINIMUM PILOT PRESSURE* (When Applicable)		
		1/4 - 1/2	1	1/4 - 1/2	1	
Manual	Spring, Spring Centering, Detent	VAC. - 200 psi (VAC. - 14 bar)	—	—	—	
PILOT	Pressure Pilot	Spring Return, 2 Position	VAC. - 200 psi (VAC. - 14 bar)	VAC. - 200 psi (VAC. - 14 bar)	40 psi (2.8 bar)	50 psi (3.5 bar)
		Spring Centering, 3 Position	VAC. - 200 psi (VAC. - 14 bar)	—	40 psi (2.8 bar)	—
		2 Position, Dual Pilot	VAC. - 200 psi (VAC. - 14 bar)	VAC. - 200 psi (VAC. - 14 bar)	20 psi (1.4 bar)	20 psi (1.4 bar) i
	Diaphragm	Spring Return, 2 Position Spring Centering 3 Position	VAC. - 200 psi (VAC. - 14 bar)	—	10 - 50 psi MAX (0.7 - 3.4 bar MAX)	—
		Spring Return, 2 Position Spring Centering 3 Position	-31 VAC. - 200 psi (VAC. - 14 bar)	—	10 - 200 psi MAX (0.7 - 14 bar MAX)	—
		2 Position, Dual Diaphragm	VAC. - 200 psi (VAC. - 14 bar)	—	5 - 50 psi MAX (0.34 - 3.4 bar MAX)	—
	2 Position, Dual Diaphragm	-31 VAC. - 200 psi (VAC. - 14 bar)	—	5 - 200 psi MAX (0.34 - 14 bar MAX)	—	
SOLENOID PILOT	INPilot	Spring Return, 2 Position	40 - 175 psi† (2.8 - 12 bar)†	40 - 175 psi† (2.8 - 12 bar)†	40 - 175 psi MAX† (2.8 - 12 bar MAX)†	50 - 175 psi MAX (3.5 - 12 bar MAX)
		Spring Centering, 3 Position	40 - 175 psi† (2.8 - 12 bar)†	—	40 - 175 psi MAX† (2.8 - 12 bar MAX)†	—
		2 Position, Dual Solenoid	20 - 175 psi† (1.38 - 12 bar)†	20 - 175 psi MAX† (1.4 - 12 bar MAX)†	20 - 175 psi MAX† (1.4 - 12 bar MAX)†	20 - 175 psi MAX (1.4 - 12 bar MAX)
	EXPilot	Spring Return, 2 Position	VAC. - 200 psi† (VAC. - 14 bar)†	VAC - 200 psi MAX† (VAC - 14 bar MAX)†	40 - 200 psi MAX† (2.8 - 14 bar MAX)†	50 - 200 psi MAX (3.5 - 14 bar MAX)
		Spring Centering, 3 Position	VAC. - 200 psi† (VAC. - 14 bar)†	VAC - 200 psi MAX† (VAC - 14 bar MAX)†	20 - 200 psi MAX† (1.4 - 14 bar MAX)†	20 - 200 psi MAX (1.4 - 14 bar MAX)
		2 Position, Dual Solenoid	VAC. - 200 psi† (VAC. - 14 bar)†	VAC - 200 psi MAX† (VAC - 14 bar MAX)†	20 - 200 psi MAX† (1.4 - 14 bar MAX)†	20 - 200 psi MAX (1.4 - 14 bar MAX)

Notes: — When application involves temperatures below freezing or when shifting intervals are relatively long, it is recommended that suffix -S be specified for valves with spring actuation. Minimum pilot pressure must be increased by 40%.

*All standard solenoid valves with maximum operating pressure or pilot pressure listed at 175 psi (12 bar) may be plus pressure rated to a maximum of 200 psi (14 bar). Specified by adding suffix -200 to model number.

TEMPERATURES - SEALS

Temperature Range (Medium/Ambient Temperature)	Type of Service					
	Intermittent Duty Service		Continuous Duty Service			
	AC or DC		AC		DC	
	Coil	Solenoid Plunger	Coil	Solenoid Plunger	Coil	Solenoid Plunger
150°F to 200°F (65°C) (95°C)	Suffix -HT	Suffix -3 (may be inclusive in other suffix options as it is in -HT)	Suffix -HT	Suffix -3 (may be inclusive in other suffix options as it is in -HT)	Suffix -HT	Suffix -3 (may be inclusive in other suffix options as it is in -HT)
120°F to 150°F (50°C) (65°C)	Standard	Suffix -3 (may be inclusive in other suffix options)	Standard	Suffix -3 (may be inclusive in other suffix options)	Suffix -HT	Suffix -3 (may be inclusive in other suffix options as it is in -HT)
-10°F to 120°F (-23°C) (50°C)	Standard	Standard	Standard	Suffix -3 (may be inclusive in other suffix options)	Standard	Suffix -3 (may be inclusive in other suffix options)

The table above lists suggested suffix options for various temperature ranges and/or types of service. For temperatures or conditions not listed, consult factory.

SOLENOID/PILOT — COIL SPECIFICATIONS*

Solenoid Suffix (see page 8)	AC					DC			
	Voltage	Voltage Code	Inrush	Holding	Ohm	Voltage	Voltage Code	Inrush/Holding	Ohm
-HC & -HCC	24/60	A024	0.633	0.491	26.2	6	D006	1.760	3.4
	120/60	A120	0.127	0.098	647	12	D012	0.863	13.9
	240/60	A240	0.063	0.049	2790	24	D024	0.440	54.6
	110/50	E110	0.127	0.098	647	48	D048	0.216	222
	220/50	E220	0.063	0.049	2790	125	D125	0.055	1606
Standard, -PC, -243, -XX & -XN	24/60	A024	0.633	0.604	19	6	D006	1.300	4.6
	120/60	A120	0.127	0.121	475	12	D012	0.632	19
	240/60	A240	0.063	0.060	2000	24	D024	0.320	75
	110/50	E110	0.132	0.081	475	48	D048	0.154	311
	220/50	E220	0.066	0.041	2030	125	D125	0.062	2030
-XX & -XN with -LB	24/60	A024	0.290	0.150	43.2	6	D006	0.320	18.8
	120/60	A120	0.060	0.030	1085	12	D012	0.160	74.6
	240/60	A240	0.030	0.020	5521	24	D024	0.077	312
	110/50	E110	0.130	0.080	1085	48	D048	0.036	1337
	220/50	E220	14.500	0.070	5521	125	D125	0.015	8460
-XV, -XT -XDBT_ & -XDBS_ (1.8 Watts)	24/60	A024			20	6	D006	0.300	20
	120/60	A120	0.062	0.029	687	12	D012	0.150	80
	240/60	A240			2714	24	D024	0.075	320
	110/50	E110			687	48	D048	0.038	1280
	220/50	E220	0.032	0.016	2714	125	D125	0.016	8000

* Coils for voltages other than those listed above may be available.

Class H (Suffix -HT) coils are available for ordinary and hazardous service.

Contact factory for availability and delivery information.

Note: Coil Cover — Standard provides 1/2" NPT female conduit connection. Use Suffix -HC or -HCC for DIN style coil connector.

Coil Lead length — Standard coil lead lengths are at least 24" (60cm). Consult factory for availability of longer lead lengths.

SOLENOID PILOT – ELECTRICAL CERTIFICATIONS

Solenoid/Pilot actuated Series V-316 valves are available with a variety of different solenoids for both nonhazardous and hazardous locations. Basic details of actuators are listed below. For additional data consult factory.

NON HAZARDOUS LOCATIONS OPERATORS

	Suffix Identification	Protection Classification	Area Classification and (Gas Grouping)	Certification-(Conformance)	Ingress Protection
	None or -HT, PC	General Purpose	Indoor & Outdoor	CSA	NEMA 1,2, 3 & 4
	-HC -HCC (Shown)	General Purpose	Indoor & Outdoor	CSA	NEMA 4; IP65

HAZARDOUS LOCATION SOLENOIDS

	Agency Approvals		North America 		World*   	Agency	Ingress Protection
	Suffix*	Protection Classification	Zones	Divisions	Area Classification and (Gas Grouping)		
	-XX	Hazardous Locations	—	CL I, DIV 1, Grp (C & D) CL II, DIV 1, Grp (E, F & G) Temp T3C CL I, DIV 2 Grp (A B C) CL II, DIV 2 Grp (E, F & G) Temp T3C	—	UL CSA	NEMA 7 & 9
	-XN	(d) Flameproof	—	—	Ex d IIB+H2 T3...T6 Gb II 2 G Ex d IIB+H2 T3...T6 Gb	IECEX ATEX	IP66/67
	-XV	Hazardous Locations	—	—	—	CSA _{US}	NEMA 4, 4X, 6P, IP66
	-XT	(d) Flameproof	—	CL I, DIV 1, Grp (B, C, D) CL II, DIV 1, Grp (E, F, G) CL III CL I, DIV 2, Grp (A, B, C, D) CL II, DIV 1, Grp (E, F, G) CL III	—	—	—
	-XDBT	(d) Flameproof (e) Increased Safety	CL, I, Zn 1 A/Ex de IIC T* CL, II Zn, 21 AEx tD A21, DIP A21	—	Ex II 2 G D A/Ex d e IIC T3...T6 Gb Ex tb IIIC T3...T6 Db	ATEX - IECEX INMETRO	IP66/67/68
	-XDBS						
	-XMAA -XMAF	(mb) Encapsulation	—	—	Ex e mb IIC T5, T6 Gb Ex tb IIIC T85°C, T100°C Db II 2 G Ex e mb IIC T5...T6 Gb II 2 D Ex tb IIIC T85°C...T100°C Db	IECEX TR CU ATEX	IP67
	-XMFA -XMFF	(e) Increased Safety (tD) Tight Dust					
	-XIFA -XIFF	(ia) Intrinsic Safe	—	—	Ex (ia) IIC T4...T6 Gb Ex (ia) IIIC T130°C...T80°C Db II 2 G Ex ia IIC T4...T6 II 2 D Ex iaD 21 T130°C, T80°C	IECEX TR CU ATEX	IP67
		-XISX6 -XISC	Intrinsic Safe	—	—	II 2 G Ex ia IIC T4...T6 Gb II 2 G Ex ia IIB T4...T6 Gb CL I, DIV 1, Grp (A, B, C & D) CL II, DIV 1, Grp (E, F, & G) CL III	ATEX IECEX TR CU
		—		—	—	Factory Mutual CSA	

*Recommended solenoid options. See page 35

COIL CODES: Identify the solenoid frequency and voltage consisting of a "Rating Code" and "Voltage" as shown at right. Coil codes complete the part number for a solenoid operated valve.

Rating Code
 A = 60Hz frequency
 D = Direct Current (DC)
 E = 50Hz frequency

Voltage
 Indicated by three digits:
 e.g. 24 volts = 024
 120 volts = 120

A120 = AC, 120Volts/60hz

	Voltage (Power)	Electrical Characteristics	Miscellaneous
	All usual 50 Hz & 60 Hz AC (7.3W) All usual DC (9.5W)	Class F epoxy molded coil (155°C). Continuous duty, 2 leads 24" (60 cm).	Steel cover with 1/2 NPT conduit entry.
	24V60, 120V60, 240V60 (8.5W) 24V50, 110V50, 220V50 (8.5W) 12VDC, 24VDC, 48VDC (10.5W)	Class F epoxy molded coil (155°C), with 3 spade terminals and mini DIN socket with PG9 cable gland. Continuous duty.	Mini DIN socket with PG9 cable gland (-HC) or 1/2" conduit connection (-HCC).

	Voltage (Power)	Electrical Characteristics	Miscellaneous																																																														
	50 Hz & 60 Hz AC (6W), DC (7.2W) & (1.8W) AC: 12V60 (A012), 24V60 (A024), 48V60 (A048), 120V60 (A120), 240V60 (A120) DC: 6VDC (D006), 12VDC (D012), 24VDC (D024), 48VDC (D048)	Class F epoxy molded coil (155°C). continuous duty. 3 leads 24" (60 cm).	Plated steel coil housing with 1/2 NPT conduit entry. For additional (-XX) solenoid options see page 5 Plated steel coil housing with M20 x 1.5 conduit entry. Ground terminal on cover. For additional (-XN) solenoid options see page 5																																																														
	AC: 120V60HZ (A120), 240V60HZ (A240) 110V50HZ (E110), 220V50HZ (E230) DC: 12VDC (D012), 24VDC (D024) 48VDC (D048), 120VDC (D120) 1.8 watt standard. For 0.85 watt consult factory.	Epoxy molded coils rated for continuous duty, Class H – 180°C.	<table border="1"> <thead> <tr> <th rowspan="2">Stainless steel coil housing</th> <th colspan="2">Suffix Detail Option Packabe</th> </tr> <tr> <th>XV</th> <th>XT</th> </tr> </thead> <tbody> <tr> <td></td> <td colspan="2">1.8 watt</td> </tr> <tr> <td>Standard (vent to atmosphere)</td> <td>-XV1</td> <td>-XT1</td> </tr> <tr> <td>1/8" Adapter (-H2E)</td> <td>-XV2</td> <td>-XT2</td> </tr> <tr> <td>1/4" Adapter (-HE)</td> <td>-XV3</td> <td>-XT3</td> </tr> <tr> <td>Dust Nut (-L14)</td> <td>-XV4</td> <td>-XT4</td> </tr> <tr> <td>Water proof nut (-D14)</td> <td>-XV9*</td> <td>-XT9*</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th rowspan="2">Stainless steel coil housing with internal Junction Box. Internal and external ground screw.</th> <th colspan="4">Suffix Detail Ordering Code</th> </tr> <tr> <th colspan="2">M 20 Connection</th> <th colspan="2">½" Connection</th> </tr> <tr> <td></td> <th>No Diode</th> <th>Diode</th> <th>No Diode</th> <th>Diode</th> </tr> </thead> <tbody> <tr> <td>Standard (vent to atmosphere)</td> <td>XDBS1</td> <td>XDBS5</td> <td>XDBT1</td> <td>XDBT5</td> </tr> <tr> <td>1/8" Adapter (-H2E)</td> <td>XDBS2</td> <td>XDBS6</td> <td>XDBT2</td> <td>XDBT6</td> </tr> <tr> <td>1/4" Adapter (-HE)</td> <td>XDBS3</td> <td>XDBS7</td> <td>XDBT3</td> <td>XDBT7</td> </tr> <tr> <td>Dust Nut (-L14)</td> <td>XDBS4</td> <td>XDBS8</td> <td>XDBT4</td> <td>XDBT8</td> </tr> <tr> <td>Dust Excluder (-D14)</td> <td>XDBS9*</td> <td>XDBS10</td> <td>XDBT9*</td> <td>XDBT10</td> </tr> </tbody> </table>	Stainless steel coil housing	Suffix Detail Option Packabe		XV	XT		1.8 watt		Standard (vent to atmosphere)	-XV1	-XT1	1/8" Adapter (-H2E)	-XV2	-XT2	1/4" Adapter (-HE)	-XV3	-XT3	Dust Nut (-L14)	-XV4	-XT4	Water proof nut (-D14)	-XV9*	-XT9*	Stainless steel coil housing with internal Junction Box. Internal and external ground screw.	Suffix Detail Ordering Code				M 20 Connection		½" Connection			No Diode	Diode	No Diode	Diode	Standard (vent to atmosphere)	XDBS1	XDBS5	XDBT1	XDBT5	1/8" Adapter (-H2E)	XDBS2	XDBS6	XDBT2	XDBT6	1/4" Adapter (-HE)	XDBS3	XDBS7	XDBT3	XDBT7	Dust Nut (-L14)	XDBS4	XDBS8	XDBT4	XDBT8	Dust Excluder (-D14)	XDBS9*	XDBS10	XDBT9*	XDBT10
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24VDC (4W) (Consult factory for other voltage options)	Continuous duty coil & rectifier, including surge suppression, potted within housing.	Thick wall epoxy coil housing with integral junction box. Internal ground terminal. M20 x 1.5 conduit entry: (-XMAA), (-XMFA), 1/2 NPT conduit entry with adapter: (-XMAF), (-XMFF)																																																															
24VDC 10W inrush, 2.6W holding) (Consult factory for other voltages)	Continuous duty coil & power controller potted within housing.																																																																
24VDC (0.8W) (Consult factory for other voltages)	Continuous duty coil and power controller potted within housing.	Requires the use of an approved safety barrier or isolator. Thick wall epoxy coil housing and integral junction box. Internal ground terminal. M20 x 1.5 conduit entry: (-XIFA) 1/2 NPT conduit entry with adapter: (-XIFF)																																																															
24VDC (1.6 watt max.) System voltage prior to barrier	Class F epoxy molded coil (155°C). Continuous duty.	Requires the use of an approved barrier or isolator. Maximum operating system voltage before barrier 28VDC. Maximum pilot pressure 115 psi (8 bar). 3 spade terminals, ISO DIN 43650, Form "A" PG9 cable gland (-HC) 1/2 NPT conduit entry: (-HCC)																																																															

*Recommended solenoid options. See page 35