

Popular Versa Solenoid Valve Guide for The Oil & Gas Industry

Listed below are "Popular Versa Valves". Versa offers a multitude of other Valves and Options to meet the applications specific needs. Find detailed technical information at www.versa-valves.com or contact factory 201-843-2400.

Common Brass Valves Used in the Oil & Gas Industry

Common Circuit	Fail Closed Spring Return Actuator		Fail Last Position Spring Return Actuator		Fail Closed Double Acting Actuator		Fail Last Position Double Acting Actuator	
Function Description	Solenoid Actuated - Spring Return		Solenoid - Solenoid Return		Solenoid Actuated - Spring Return		Solenoid Actuated - Solenoid Return	
Base Part Number Solenoid Actuated	VSG-3321-NGST-A Voltage	VSG-3321-NGST-A Voltage	VSG-3321-NGST-A Voltage	VSG-3321-NGST-A Voltage	VSG-4322-NGST-A Voltage	VSG-4322-NGST-A Voltage	VSG-4722-NGST-A Voltage	VSG-4722-NGST-A Voltage
Valve Body Material	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg
Function	3 Way 2 Pos	3 Way 2 Pos	3 Way 2 Pos	3 Way 2 Pos	3 Way 2 Pos	3 Way 2 Pos	3 Way 2 Pos	3 Way 2 Pos
Port Size	1/4" NPT	1/2" NPT	1" NPT	1/4" NPT	1/2" NPT	1" NPT	1/4" NPT	1/2" NPT
Elastomer	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N
Amb Temp Range	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F
Low Watt Coil	4.0 Cv	4.0 Cv	4.0 Cv	4.0 Cv	4.0 Cv	4.0 Cv	4.0 Cv	4.0 Cv
Flow	1.8 Cv	1.8 Cv	1.8 Cv	1.8 Cv	1.8 Cv	1.8 Cv	1.8 Cv	1.8 Cv
Pressure Range Low Watt Coil	55 - 120 PSI	55 - 120 PSI	55 - 120 PSI	20 - 120 PSI	20 - 120 PSI	55 - 120 PSI	55 - 120 PSI	20 - 120 PSI

SIL CERTIFICATE AVAILABLE - SIL 3 CAPABLE

Common 316 Stainless Steel (ENP Brass 1" 4 Way) Valves Used in the Oil & Gas Industry

Common Circuit	Fail Closed Spring Return Actuator		Fail Last Position Spring Return Actuator		Fail Closed Double Acting Actuator		Fail Last Position Double Acting Actuator	
Function Description	Solenoid Actuated - Spring Return		Solenoid Actuated - Solenoid Return		Solenoid Actuated - Spring Return		Solenoid Actuated - Solenoid Return	
Base Part Number Solenoid Actuated	CSG-3321-316-S-A 44-Voltage	VSG-3521-316-S-A 44-Voltage	CGG-3321-316-A 44-Voltage	VGG-3321-316-A 44-Voltage	CSG-4322-316-S-A 44-Voltage	VSG-4722-MSS-A 44-Voltage	CGG-4322-316-A Options	VGG-4722-MSS-A 55F-Options
Valve Body Material	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg	*=Sol Opt Pkg
Function	316 Stainless	316 Stainless	316 Stainless	316 Stainless	316 Stainless	316 Stainless	316 Stainless	316 Stainless
Port Size	1/4" NPT	1/2" NPT	1" NPT	1/4" NPT	1/2" NPT	1" NPT	1/4" NPT	1/2" NPT
Elastomer	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N	Low Temp Buna-N
Amb Temp Range	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F	-40°F to 131°F
Low Watt Coil	4.0 Cv	4.0 Cv	4.0 Cv	4.0 Cv	4.0 Cv	4.0 Cv	4.0 Cv	4.0 Cv
Flow	2.0 Cv	5.5 Cv	11.1 Cv	2.0 Cv	5.5 Cv	11.1 Cv	2.0 Cv	5.5 Cv
Pressure Range Low Watt Coil	55 - 120 PSI	55 - 120 PSI	55 - 120 PSI	20 - 120 PSI	20 - 120 PSI	55 - 120 PSI	55 - 120 PSI	20 - 120 PSI

SIL CERTIFICATE AVAILABLE - SIL 3 CAPABLE

*Solenoid Suffix Option Package (Options may be used individually)

Combo Suffix	Suffix ID	Description
Solenoid Option Package	-LA	.85 Watt Solenoid 120 psi Max - Reduced power consumption (DC Voltage Only)
-XXV4 .85 Watt BRASS AND STAINLESS (DC Voltage ONLY)	-D14	Solenoid Dust & Water Excluder for Low Watt Coil - Keeps debris & water from entering coil exhaust
-XXS4 All Above +ST	-PC	Potted Coil NEMA 4X - Protection against Ingress of Moisture
Solenoid Option Package	-XX	Hazardous Location North America
-XXS4 All Above +ST	-ST	Stainless Coil Enclosure - Added Corrosion Protection
Solenoid Option Package	-LB	1.8 Watt Solenoid 120 psi Max - Reduced power consumption
-XXN4 1.8 Watt BRASS AND STAINLESS	-D14	Solenoid Dust & Water Excluder for Low Watt Coil - Keeps debris & water from entering coil exhaust
-XXS4 All Above +ST	-PC	Potted Coil NEMA 4X - Protection against Ingress of Moisture
Solenoid Option Package	-XX	Hazardous Location North America
-XXS4 All Above +ST	-ST	Stainless Coil Enclosure - Added Corrosion Protection
Solenoid Option Package	-D14	Solenoid Dust & Water Excluder for Low Watt Coil - Keeps debris & water from entering coil exhaust
-XXL4 7.2 Watt BRASS AND STAINLESS	-PC	Potted Coil NEMA 4X - Protection against Ingress of Moisture
-XXS4 All Above +ST	-XX	Hazardous Location North America
-XXS4 All Above +ST	-ST	Stainless Coil Enclosure - Added Corrosion Protection
XDB79C .85 Watt Low Watt World Certified Solenoid	.85 Watt Coil	.85 Watt Solenoid 120 psi Max (DC Only)
	1.8 Watt Coil	1.8 Watt Solenoid 150 psi Max
	Enclosure	316 Stainless Steel - Rotatable 360°
	Coil Class	Class H Coil
	Coil Enclosure	316 Stainless Steel
	Ingress Protection	4X & 6P - IP 66/67/68 Gland Dependent
	Wire Connection	Terminal Strip
	Haz. Loc.	NEC 500, NEC505, ATEX, IECEx, INMETRO
	Conduit	1/2" NPT
	-D14	Solenoid Dust & Water Excluder for Low Watt Coil - Keeps debris & water from entering coil exhaust
	-D14	Solenoid Dust & Water Excluder for Low Watt Coil - Keeps debris & water from entering coil exhaust
Solenoid Option Package 9.5 Watt DC	-PC	Potted Coil NEMA 4X, Plated Coil Enclosure - Protection against Ingress of Moisture
-XXL4 V-SERIES BRASS ONLY	-XX	Hazardous Location North America

Body Suffix Option Package (Options may be used individually)

Combo Suffix	Suffix ID	Description
Solver Service Package -JGS, BRASS VALVES ONLY	-S	Strong Return Spring (min pilot pressure 55psi) - Provides Extra Force for Return of spool
	-15S	Fluorocarbon Elastomer - Higher Temperature Range (F, Media Compatibility)
	-55F	Molykote Silicone Grease - offers greater adhesion characteristics
	-31	U-Cup on pilot piston - Reduces Friction on Return Stroke
	-10	Elect Nickel P10 Internal Components - Decreases Elastomer Friction
	-S	Strong Return Spring (min pilot pressure 55psi) - Provides Extra Force for Return of spool
Low Temp Severe Service Package - NGST	-44	Low Temp Elastomer Package
BRASS VALVES ONLY	-55F	Molykote Silicone Grease - offers greater adhesion characteristics
	-31	U-Cup on pilot piston - Reduces Friction on Return Stroke
	-10	Elect Nickel P10 Internal Components - Decreases Elastomer Friction
Marine Service (Non-Corrosive Material) -MS	-S-205	Stainless Steel Strong Spring
	-31	U-Cup on Pilot Piston
	-3415-3546	Brass Spring Cap - Stainless Screws
	-RS	Popular Actuation / Latching Devices Requires an "A" Actuator
	-SOV	20oz Redundant Solenoid must have "A" Actuator - 2 Integral solenoids on spool valve up to 1/2" port
	181D (350N C-316)	10oz 2 Redundant Solenoid (must have "A" Actuator) - 2 Integral solenoids on spool valve up to 1/2" port
	3358 (350N C-316)	10oz 2 of 2 solenoids must de-energize for valve to trip
	301E	Latching Manual Reset with Manual Operated Lever (Latches When Tripped) ("A" Return Device) On loss of power solenoid trips & latches. When re-energized solenoid must be reset manually to enable movement to offset position.
	1369E	Latching Manual Reset (Latches When Tripped) ("A" Return Device) On loss of power solenoid trips & latches. When re-energized solenoid must be reset manually to enable movement to offset position.
	-314	Key Actuation Removable in Open or Closed position
	-DP	Double Piston Actuation - Generates greater opening force with lower pilot pressure

Common Options

Consult Factory for:	North American Hazardous Location	ATEX IECEx Hazardous Location
Higher & Lower Temperature Range Options	-XXE	-PC-ST-XX
Higher & Lower Pressure Range Options	-XXJ	-LB-PC-ST-XX
Elastomer Options	-XXK	-HT-LB-PC-ST-XX
Hydraulic Service Specifications	-XXL	-PC-XX
316 Valve Standard Silicone Grease & U-Cup on Pilot Piston	-XXN	-LB-PC-XX
Part numbers on sheet feature low temp option @ -40F. For Sld temp +5F on Brass use -NGS in lieu of -NGST on 316 stainless steel -44 suffix	-XXS	-LA-PC-ST-XX
	-XXV	-LA-PC-XX
	-5100	H2-LB-PC-ST-XX
	-5104	H2-LB-PC-ST-XX
	-44	Low Temp Buna Seals Good to -40F (Consult factory for details on specific models)
	-EP	Ethylene Propylene Seals Good to -65 (Consult factory for details on specific models)
	-S	Strong Return Spring (55 psi min pilot pressure)
	-SS	Super strong return spring (75 psi min pilot pressure)
	-HT	High Temp Coil Class H - Enables use of solenoid in higher ambient temperatures
	-RS	Extended plunger for position indication
	-20	Pneumatic signal to indicate solenoid condition
	-4 Way Valve	Use a 4 way valve in a 3 way function. In the outlet port (B) install a status indicator. In the normal position it will indicate pressure present. When spool moves to the offset position status indicator will show indicate pressure loss.
	-P	Pressure Pilot Actuation Device ("P" Replaces "G" in Product Code Actuating Devices)
	-W	Diaphragm Pilot Actuation Device ("W" Replaces "G" in Product Code Actuating Devices)
	-T	Palm Button Actuation Device ("T" Replaces "G" in Product Code Actuating Devices)

Unique Valves Designed by Versa For Valve Automation (schematics on reverse side)

Valve Series	Actuating Devices	Body Details
CAU-430X-316-314E507-2039 14"	Solenoid Exercise & Bypass Valve 3 Position Key Actuated: Position 1 - Normal Operation; Position 2 - Maintain Actuator	4 Way Valve
CAU-430X-316-314E507-2039 12"	Position - Test Solenoid; Position 3 - Maintain Actuator position - Bypass Circuit for Component Servicing	
CAU-3321-316-316-314E507-2039 14" NPT	Designed to increase shifting and return force. The increased force is generated by incorporating a double piston along with a spring that more than doubles the return force with a low 45 psi min. pilot pressure	

Other Actuation Device Codes

Valve Series	Actuating Devices	Body Details
V	At Left End of Valve	Function
G	At Right End of Valve	Port Size
-		Type of Body
4		Spool Details
5		
2		
-		
LB		
PC		
XX		
D024		

Common DIRECT Acting Valves Used in the Oil & Gas Industry

Part Number	ESSM-3301-22-XXV4-	ESSM-3301-23-XXN4-	ESSM-3301-34-XXL4-	EASM-3301-23-XDB79C	EASM-3301-23-XDB79
Function	3 Way N/C	3 Way N/C	3 Way N/C	3 Way N/C	3 Way N/C
Valve Body Material -	303 Stainless -316 Optional	303 Stainless -316 Optional	303 Stainless Std -316 Optional	303 Stainless Std -316 Optional	303 Stainless Std -316 Optional
Solenoid Housing	FM18	FM18	FM18	316 Stainless Steel	316 Stainless Steel
Port Size NPT	1/4	1/4	1/4	1/4	1/4
Flow Cr. In - Cyl / Cyl - Ex	02 / 02	02 / 06	06 / 106	02 / 06	02 / 06
Pressure Range: Coil	0-120	0-150	0-200	0-150	0-200
Wattage	.85	1.8	7.2 Watt	.85	1.8
Haz Loc Sol Coils Included	-LA-L14-PC-XX	-LB-L14-PC-XX	L14-PC-XX	See XDB Features Below	See XDB Features Below
Wire Leads	24"	24"	24"	Terminal Block	Terminal Block
Max Hydraulic Pressure	Pneumatic / Gas Only	-22- 120 PSI Hydraulic	150 PSI Hydraulic	150	200

Hazardous Location Solenoids

Suffix Detail Option	Classification	Cert	Ingress Protection	Coil Class	Common Voltage	Suffix	Elect Conn
-XX	Class I, Div 2, Groups A&B Class I, Div 1 Groups C&D Class II, Div 1 Groups E,F,G	UL & CSA	NEMA 7 & 9	Class F Coil	-A120 120 Volt AC -D024 24 Volt DC	-D012 12 Volt DC	1/2" NPT
-XISC	Class I, Div 1, Groups A,B,C&D Class II, Div 1 Groups E,F,G Class II, Div 1	CSA & FM	NEMA 4	Class F Coil	-D024 24 Volt DC	-HCC 1/2" Conduit Conn	HC Cord Grip, -HCC 1/2" Conduit Conn

ATEX - IECEx & Now Available TRCU (Formerly GOST) (Consult Factory)

Suffix Detail Option	Marking ATEX	Marking IECEx	Ingress Protection	Temp	Common Voltage	Suffix
-XN	II 2 G Exd IB+H2 T6, T3	Exd IB+H2 T6 to T3 Gb	IP 65, PC/P67, PCS IP 68	T6, T3	-A120 120 Volt AC -D024 24 Volt DC	M20 X1.5 1/2" NPT
-XDB	II 2 G Exd IC T4 ... T6	Exd IC T4 to T6 Gb	IP 66 / IP 67	T4 ... T6	-D024 24 Volt DC	6-12 mm Gland
-XDBT	II 2 G Exd IC T4 ... T6	Exd IC T4 to T6 Gb	IP 66 / IP 67	T4 ... T6	-D024 24 Volt DC	6-12 mm Gland
-XDBT	II 2 G Exd IC T4 ... T6	Exd IC T4 to T6 Gb	IP 66 / IP 67	T4 ... T6	-D024 24 Volt DC	1/2" NPT

World Solenoid North American - ATEX - IECEx - INMETRO

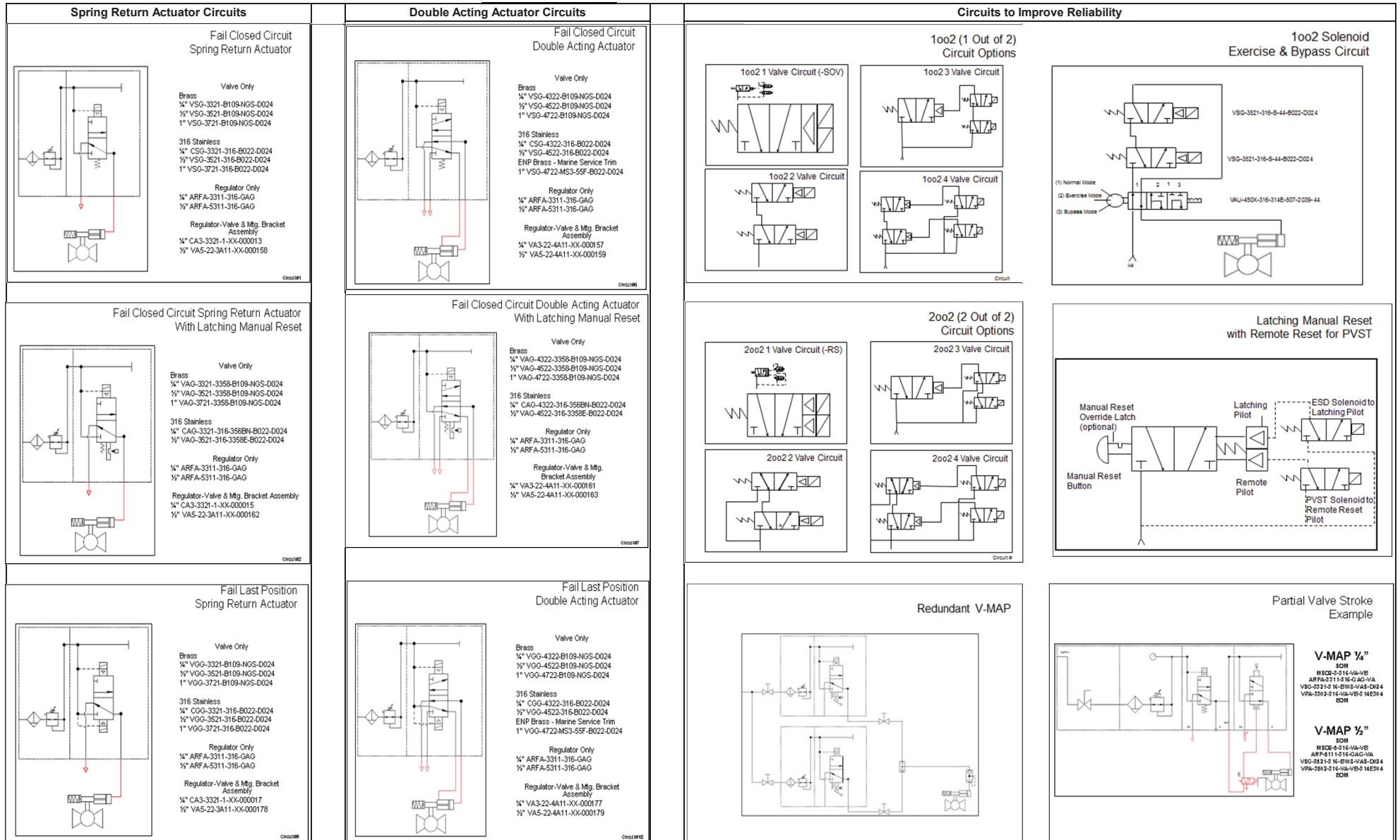
Suffix Detail Prefix	Hazardous Location Standard	Hazardous Location Protection
XDB71 No Sol Exhaust Option	ATEX IEC Ex II 2 GD	Ex d e IC T4 Gb
XDB72 1/8" NPT Sol Exhaust		Ex tb IC T135°C Db
XDB73 1/4" NPT Sol Exhaust		IP 66/67/68
XDB74 Sol Dust Excluder Sintered	North America NEC 500	Class I, Division 1, Groups B,C,D T4
XDB75 Sol Dust & Water Excluder		Class II, Division 1, Groups E,F,G
XDB76 Sol Dust Excluder Sintered		IP 66 / NEMA 4x, 6P
XDB77 Sol Exhaust Option	North America NEC 505	Class I Zone 1 AEx d e IC T4
XDB78 Sol Exhaust Option		Class II Zone 21 AEx ID 21 T 135°C IP66
XDB79 Sol Exhaust Option		Class III DIP A21 T 135°C IP66
XDB80 Sol Exhaust Option		NEMA 4x, 6P
XDB81 Sol Exhaust Option	ATEX IEC Ex II 2 GD	Ex d e IC T4 Gb
XDB82 1/8" NPT Sol Exhaust		Ex tb IC T135°C Db
XDB83 1/4" NPT Sol Exhaust		IP 66/67/68
XDB84 Sol Dust Excluder Sintered	North America NEC 505	Class I Zone 1 AEx d e IC T4
XDB85 Sol Dust & Water Excluder		Class II Zone 21 AEx ID 21 T 135°C IP66
XDB86 Sol Dust Excluder Sintered		Class III DIP A21 T 135°C IP66
XDB87 Sol Exhaust Option		NEMA 4x, 6P
XDB88 Sol Exhaust Option		NEMA 4x, 6P

Accessories (316 in part number indicates 316 Stainless Steel)

Description	Part Number	Description	Part Number	Description	Part Number	Flow Cv
Dust Excluder 1/4" 1/2" 1"	OE-0.5, 7Y-316	Shunt Valve 1/4" 1/2" 1"	PC-0.5, 316	1/2" FiltrReg 316 SS	ARFA-3111-316	2.1
D14 Solenoid Water & Dust Exclud	P-1005-11-316-D14 (Small Coil)	1" Filtr / Reg 316 SS	PC-0.5, 316	1" Filtr / Reg 316 SS	ARFA-7111-316	4.3
L14 Solenoid Dust Excluder	P-1005-11-316-L14 (Small Coil)	H2 1/8" Sol Ex Adpt	P-1005-11-316-H2-155	Flow Control 1/4"	PV-3-316	2.0 - 2.0
D14 Solenoid Water & Dust Exclud	P-1002-11-316-D14 (Large Coil)	Flow Control 1/2"	PV-5-316	Flow Control 1/2"	PV-5-316	5.0 - 5.0
E14 Solenoid Dust Excluder	P-1002-11-E14 (Large Coil)	Flow Control 1"	PV-7-316	Flow Control 1"	PV-7-316	13.8 - 9.4
		Check Valve 1/4"	CV-3-316	Check Valve 1/2"	CV-5-316	5.0
		Quick Exh 1/4"	QE-3-316	Quick Exh 1/2"	QE-5-316	In 3.0 / Ex 3.3
		Quick Exh 3/4"	QE-5-316	Quick Exh 1"	QE-7-316	In 3.8 / Ex 8.8
		Quick Exh 1 1/4"	QE-7-316	Quick Exh 1 1/2"	QE-9-316	In 4.6 / Ex 13.6
		Elect Quick Ex 1/4"	ESQE-30404-316-8109-	Elect Quick Ex 1/2"	ESQE-50406-316-8109-	In 106 / Ex 3.3
		Elect Quick Ex 1/2"	EQE-50406-316-8109-	Elect Quick Ex 1"	EQE-50406-316-8109-	In 106 / Ex 8.8
		Status Indicator	Depressurized Color	Status Indicator	Pressurized Color	
		SP-2-316	Red	SP-2-316-403GR	Green	
		SP-2-316-403GR	Green	SP-2-316-403YG	Yellow	
		SP-2-316-403YG	Yellow	SP-2-316-403GY	Green	



Common Valve Actuation Circuits with Popular Versa Valve Part Numbers for Severe Service Applications



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