

# HOW TO SELECT A VERSA VALVE

Every letter and digit in the product number of a has significant meaning. The product number shown below (VSG-4522-U-14-A120) indicates the following:

<b>V</b>	<b>S</b>	<b>G</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>U</b>	<b>14</b>	<b>A120</b>
PNEUMATIC SERVICE	SPRING RETURN	SOLENOID PILOT-ACTUATED	FOUR-WAY	1/2" NPT	SIDE PORTS (INPILOT)	TWO POSITION	UPRIGHT STYLE SOLENOID	SOLENOID EXHAUST/DUST EXCLUDER NUT	120V60 COIL

## BASIC PRODUCT NUMBER

<b>V</b>	<b>S</b>	<b>G</b>	<b>4</b>	<b>5</b>	
VALVE SERIES	ACTUATING DEVICES		FUNCTIONAL TYPE OF VALVE		VALVE PORTSIZE
	ON LEFT END OF VALVE LOOKING AT INLET	ON RIGHT END OF VALVE LOOKING AT INLET			
<p><b>V Series "V" Valve</b> Pneumatic service to 200 psi (14 bar)</p> <p><b>T Series "T" Valve</b> Hydraulic service to 500 psi (35 bar)</p>	<p><b>A</b> 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</p> <p><b>B</b> Spring Centering (for 3 position manually operated valves)</p> <p><b>C</b> Cam</p> <p><b>D</b> Spring Centering from one offset position only (for 3 position manually operated valves). Spring pulls spool to center</p> <p><b>E</b> Spring Centering from one offset position only (for 3 position manually operated valves). Spring pushes spool to center</p> <p><b>F</b> Pedal (for toe operation)</p> <p><b>G</b> Solenoid-Pilot/2 position</p> <p><b>H</b> Hand Lever (offset lever)</p> <p><b>I</b> Palm Button</p> <p><b>J</b> Pilot-Spring Centering (for 3 position pilot operated valves)</p> <p><b>K</b> Differential Pilot Return</p> <p><b>L</b> Hand Lever (centerline lever)</p> <p><b>N</b> Non-return Device (for manually operated valves — allows valve to be positioned anywhere without detents)</p> <p><b>P</b> Pressure Pilot/2 position (for bleed pilot also use suffix detail "-1")</p> <p><b>R</b> Reverse Spring Return (for manually operated valves). Spring pulls valve spool</p> <p><b>S</b> Spring Return. Spring pushes valve spool</p> <p><b>T</b> Treadle (for heel-toe operation)</p> <p><b>U</b> Three-Detent (for manually operated valves)</p> <p><b>W</b> Diaphragm-Pilot/2 position</p> <p><b>X</b> Solenoid-Pilot Spring Centering (for 3 position solenoid operated valves)</p> <p><b>Y</b> Diaphragm-Pilot Spring Centering (for 3 position diaphragm operated valves)</p> <p><b>Z</b> Two-Detent (for manually operated valves)</p>		<p><b>2</b> Two-Way</p> <p><b>3</b> Three-Way</p> <p><b>4</b> Four-Way</p> <p><b>5</b> Five-Way (Dual Pressure Four-Way)</p> <p><b>7</b> Two-Outlet (Directional Three-Way-Diverter)</p> <p><b>8</b> Two-Inlet (Directional Three-Way-Selector)</p>	<p><b>2</b> 1/8" NPT</p> <p><b>*3</b> 1/4" NPT</p> <p><b>4</b> 3/8" NPT</p> <p><b>*5</b> 1/2" NPT</p> <p><b>6</b> 3/4" NPT</p> <p><b>*7</b> 1" NPT</p> <p><b>7</b> with suffix-12 provides 1 1/4" (32mm) capacity with 1" NPT sideports or 1 1/4" NPT subplate ports</p> <p>For sizes 1/8" TO 1/2": ISO 228/1 "G" type threads are indicated by additional use of suffix "-2B". Contact factory for availability.</p> <p>*Basic valve size</p>	

# SELECTOR CHART

## SUFFIX DETAILS Suffix details indicate modifications or variations to the basic valve. When specifying simply add those suffix details required in alphanumeric order.

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

# 2

### BODY DETAILS

- 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.
- 1 SUBPLATE MOUNTING-EXPILOT**  
Body-ported for subplate mounting. This type of body is screw connected to a subplate or manifold that is connected to pressure lines and is used for mechanical, manual and EXPilot\* type solenoid or pilot actuated valves.
- 2 SIDEPORTED - INPILOT**  
Body same as "0" above, except it has an auxiliary internal passage to supply INPilot\*\* type solenoid and pilot actuators.
- 3 SUBPLATE MOUNTING-INPILOT**  
Body same as "1" above, except it has internal auxiliary passage to supply INPilot\*\* type solenoid and pilot actuators.
- \*Separate pressure line connection needed to supply solenoid-pilot, differential pilot return or to control pressure pilot.
- \*\*Internal auxiliary porting supplies pressurized medium being controlled to pilot, solenoid- pilot or differential pilot return.

# 2

### SPOOL DETAILS (Flow patterns)

- TWO-WAY or THREE-WAY VALVES**  
**Two Position**
- 1 Normally Closed (actuating device must be on right end of valve)
  - 2 Normally Open (actuating device must be on left end of valve)
- THREE-WAY VALVES**  
**Three Position**
- 3 All ports blocked in center position
- FOUR-WAY VALVES**  
**Two Position**
- 2 Standard flow pattern: inlet alternately open to one cylinder port; opposite cylinder port alternately open to exhaust.
- FIVE-WAY VALVES**  
**Two Position**
- 2 Standard flow pattern: each inlet port open (alternately) to one cylinder port; opposite cylinder port open (alternately) to exhaust
- FOUR-WAY OR FIVE-WAY VALVES**  
**Three Position**  
(Offset flows as standard flow patterns, above)  
**Center Position**
- 3 All ports blocked
  - 4 Cylinder ports open to exhaust
  - 8 Inlet(s) open to both cylinder ports
  - 9 All ports open
- DIVERTER & SELECTOR VALVES**
- 2 2-position
  - 3 All ports blocked in center position

# -U-

### OPTIONS/VOLTAGES SUFFIX DETAILS

- Actuator Orientation:**  
-218A thru -218G, Hand Lever, page 14  
-226, Cam actuator, page 15  
-227A thru -227C, Pilot actuator, page 15
- Combination Actuators:**  
-33, Retainer cap, page 59  
-113, -113L, Hand/2-detent, page 62 & 63  
-114, -114L, Hand/3-detent, page 62 & 63  
-115, Palm button/2-detent, page 62  
-130A, -130L Hand/spring return, page 62 & 63  
-136, Palm button/spring return, page 62  
-138, Solenoid/spring return, page 64  
-150, Pilot/2-detent, page 63  
-159, Pilot/spring return, page 64  
-173, Solenoid/detent, page 64  
-181D, Latching Resets page 68
- Solenoid Options:**  
**For General Purpose:**  
-243, Grommeted housing, page 9  
-HC, -HCC, DIN connector, page 9 - 11  
-HT, Class H coil, Page 9 - 11  
-P, Plug-in coil  
-PC, -PS, Potted coil (Ingress Protection NEMA 4/4X)
- Popular Option Combo's for Hazardous Service** (see page 9-11)  
-XXE4 Hazardous weather protected, UL/CSA (-XX, -D14, -PC, -ST)  
-XXL4, Hazardous, weather protected, UL/CSA (-XX, -D14, -PC)  
-XXN4 Hazardous, weather protected, UL/CSA (-XX, -D14, -LB, -PC)  
-XNE4 Hazardous, weather protected, ATEX (-XN, D14, -PC, -ST)  
-XNL4 Hazardous, weather protected, ATEX (-XN, -D14, -LB, -PC, -ST)  
-XDBS9 (d)Flameproof, World Solenoid (-XDBS, -HT, -LX, -D14)  
-XDBT9 (d)Flameproof, World Solenoid (-XDBT, -HT, -LX, -D14)  
-XV9 weather protected, UL/CSA (-XV, -HT, -LX, -D14)  
-XT9 (d)Flameproof, World Solenoid, ATEX (-XT, -HT, -LX, -D14)
- For Hazardous Service WITH INTEGRAL Junction Box** (Page 9 - 11):  
-XDBS, -XDBT, (d)Flameproof, ATEX, IEC, CSA, INMETRO  
-XIFA, -XIFE, -XIFF, (ib)Intrinsic Safe, ATEX  
-XMAA, -XMAE, -XMAF, (m)Encapsulation, (e)Increased Safety, ATEX  
-XMF, -XMF, -XMF, (m)Encapsulation, (e)Increased Safety, ATEX
- For Hazardous Service** (Page 9 - 11):  
-XX, Hazardous locations, UL & CSA  
-XN, (d)Flameproof, ATEX  
-XV, Hazardous locations; World Solenoid  
-XT, Hazardous locations; World Solenoid
- For Intrinsic Safe** (see page 10)  
-XISC, -XISX6 (ib)Intrinsic Safe, ATEX FM & CSA  
-HC, -HCC, Connector for IS
- Manual Override** (page 17):  
-G, Guarded  
-G5R, Guarded-locking  
-M, Unguarded  
-M5R, Unguarded-locking
- Seals:**  
-3, Continuous duty solenoid/high temp core, fluorocarbon FKM, page 9  
-11, High nitrile NBR, page 4, 7 & 9  
-31, U-cup pilot, page 6  
-155, Fluorocarbon FKM, page 4, 7 & 9  
-EP, Ethylene propylene EPR, page 4
- Special service/lubrication:**  
-1, Bleed pilot, page 14 & 19  
-10, Electroless nickel plating-internal, page 4  
-21, INPilot/EXPilot  
-55A, FDA approved silicone grease, page 7  
-55M, Silicone grease, page 7  
-167, Electroless nickel plating-external, page 4  
-200, Plus pressure rating to 200 psi (14 bar), page 6  
-H2, 3/8" NPT threaded solenoid exhaust adapter, page 17  
-H, 1/4" NPT threaded solenoid exhaust adapter, page 17  
-H500, Hydraulic solenoid rated to 450 psi (31 bar), page 6  
-NGS, -NGST Natural Gas Service - Low Temperature
- Dust Excluders - Dust Screens - Exhaust Vents:**  
-DE\*, Exhaust port protection, watertight; see Accessories Catalog  
-MFS\*, Exhaust port protection, dust proof; see Accessories Catalog  
-14, Sol. vent, dust proof, E Type  
-L14, Sol. vent, dust proof, E4/E5 Type; see page 17  
-C14, Sol. vent, watertight, engineered polymer; see page 17  
-D14, Sol. vent, watertight, stainless steel; see page 17  
-DK, Includes MFS\* and -C14 see page 17
- Tagging:**  
-NV28A, Stainless steel ID tag; see page 71

# COIL CODE

Solenoid actuated valves require a Coil Code that indicates the specific coil current/frequency and voltage. The Coil Code consists of a letter to indicate the current frequency:

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

Three numbers follow the Rating Code to indicate voltage:

**Examples:**

Code	Voltage
24V60 =	024
120V60 =	120
24VDC =	024

See Page 9 for specific coil and codes.