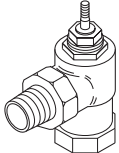
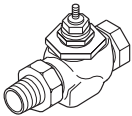
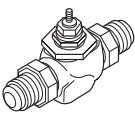
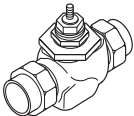
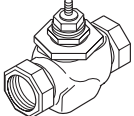
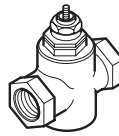
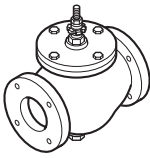


Valve Selection Guide for Two-Way Valves

Valve Application	Chilled or Hot Water 281°F Maximum; 35 psig Maximum Steam						
	Globe Valves						
Valve Body Type	Union, Angle	Union, Straightway	Flared	Union, Sweat	Screwed	Screwed	Flanged
							
Stem Up Open	VB-7211-0-3-P	VB-7211-0-4-P	VB-7212-0-4-P	VB-7214-0-4-P	VB-7213-0-4-P	VB-9213-0-4-P	VB-9213-0-5-P
Stem Up Closed	Not Available	VB-7221-0-4-P ^a	VB-7222-0-4-P ^a	VB-7224-0-4-P ^a	VB-7223-0-4-P ^a	VB-9223-0-4-P ^a	VB-9223-0-5-P ^a
Static Pressure Rating	250 psig	250 psig	250 psig	250 psig	250 psig	250 psig	125 psig
Sizes Available	1/2 to 1-1/4 in.	1/2 to 1-1/4 in.	5/8 in. O.D., SAE 45°	1/2 to 2 in.	1/2 to 2 in.	2-1/2 & 3 in.	2-1/2 to 6 in.
Range of Cv's Available	0.4 to 22	0.4 to 20	0.4 to 4.4	0.4 to 40	0.4 to 40	65 & 85	56 to 350
Flow Type	Equal %	Equal %	Equal %	Equal %	Equal %	Equal %	Equal %

PNEUMATIC ACTUATORS^b

	Pages						
	685 to 692	685 to 692 714 to 721	685 to 692	693 to 698	693 to 698	693 to 698	693 to 698

ELECTRIC/ ELECTRONIC ACTUATORS

Input Signals	Pages						
Two-Position (SPST) (Spring Return)	685 to 692	685 to 692 714 to 721	685 to 692	699 to 703	699 to 703 714 to 721	699 to 703	704 to 713
Two-Position (SPDT Snap Acting) (Non-Spring Return)	—	—	—	—	704 to 713	704 to 713	704 to 713
System 8000, Voltage Input 2 to 15 Vdc	685 to 692	685 to 692	685 to 692	699 to 703	699 to 703	699 to 703	699 to 703
Slidewire (Series 90)	—	—	—	—	699 to 703	699 to 703	699 to 703
Current Input 4 to 20 mA etc.	—	—	—	—	—	—	—
Floating Control, SPDT or Two SPST, Direct Digital Control	—	714 to 721	—	704 to 713	704 to 721	704 to 713	704 to 713
Pneumatic to Electric	—	—	—	699 to 713	699 to 713	699 to 713	699 to 713
Voltage Input 2 to 10 Vdc	—	714 to 721	—	—	714 to 721	—	—

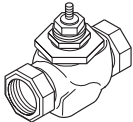
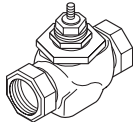
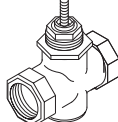
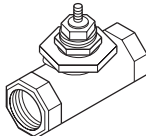
^a Not applicable with gear train actuators. Use stem up open valve body with N.C. actuator.

^b Optional inputs available to pneumatic are: SPST, SPDT, slidewire (Series 90), System 8000 (voltage input 2 to 15 Vdc), current input 4 to 20 mA. These options are shown with the specific valve selected.

HOW TO USE TABLE:

1. Select the vertical column that has a valve body series that meets your requirements.
2. Select the horizontal column with correct type of actuator (Pneumatic or Electric/Electronic) and correct input signal for Electric/Electronic actuator.
3. The intersection of the two columns shows the pages for complete selection and ordering information.

Valve Selection Guide for Two-Way Valves

Valve Application	Hot Water 340°F Max.; 100 psig Max. Steam	Hot Water 366°F Max.; 150 psig Max. Steam	Hot Water 300°F Max.; 50 psig Max. Steam	Hot Water 250°F Max.; 15 psig Max. Steam
Valve Body Type	Globe Valves			Ball Valve
	Screwed	Screwed	316 Stainless Steel Screwed	NPT Screwed
				
				VB-2253-0-8-P ^a
Stem Up Open	VB-7253-0-4-P	VB-7273-0-4-P	—	—
Stem Up Closed	VB-7263-0-4-P ^a	VB-7283-0-4-P ^b	VBS-9263-0-6-P	—
Static Pressure Rating	250 psig	250 psig	250 psig	125/150 psig
Sizes Available	1/2 to 2 in.	1/2 to 2 in.	1/2 to 3/4 in.	1/2 to 2 in.
Range of Cv's Available	0.4 to 40	0.4 to 40	0.10 to 6.2	1.0 to 389.0
Flow Type	Modified Linear	Modified Linear	Modified Linear	Equal %

PNEUMATIC ACTUATORS^c

	Pages			
	693 to 698	693 to 698	722 to 725	—

ELECTRIC/ELECTRONIC ACTUATORS

Input Signals	Pages			
Two-Position (SPST) (Spring Return)	699 to 703	699 to 703	—	726 to 730
Two-Position (SPDT Snap Acting) (Non-Spring Return)	704 to 713	704 to 713	722 to 725	726 to 730
System 8000, Voltage Input 2 to 15 Vdc	699 to 703	699 to 703	—	—
Slidewire (Series 90)	704 to 713	704 to 713	—	—
Current Input 4 to 20 mA etc.			722 to 725	—
Floating Control, SPDT or Two SPST, Direct Digital Control			—	726 to 730
Pneumatic to Electric			—	—

^a Linkage Required


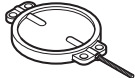
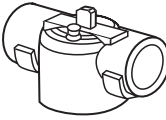
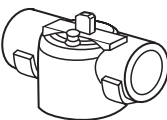
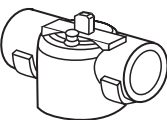
^b Not applicable with gear train actuators. Use stem up open valve body with N.C. actuator.

^c Optional inputs available to pneumatic are: SPST, SPDT, slidewire (Series 90), System 8000 (voltage input 2 to 15 Vdc), current input 4 to 20 mA. These options are shown with the specific valve selected.

HOW TO USE TABLE:

1. Select the vertical column that has a valve body series that meets your requirements.
2. Select the horizontal column with correct type of actuator (Pneumatic or Electric/Electronic) and correct input signal for Electric/Electronic actuator.
3. The intersection of the two columns shows the pages for complete selection and ordering information.

Valve Selection Guide for Two-Way Valves

Valve Application	Water 281°F Max.; 35 psig Max. Steam	Water 275°F Max.; 30 psig Max. Steam	Hot & Chilled Water 32 to 200°F (0 to 94°C)	32 to 250°F (0 to 121°C) 15 psia (103 kPa) Steam Water and Steam	Hot & Chilled Water 32 to 200°F (0 to 94°C)
Valve Body Type	Butterfly		ZoneOn/Off		Zone Modulating
	Metal-to-Metal	Rubber Lined	Screwed and Sweat		
					
	VXX-606X-XXX-2-P	VXX-616X-XXX-2-P	VT2XXX	VS2XXX	VM2XXX
Static Pressure Rating	125/150 psig	125/150 psig	300 psig (2068 kPa)	300 psig (2068 kPa)	300 psig (2068 kPa)
Sizes Available	2 to 24 in.	2 to 12 in.	1/2 to 1-1/4 in.	1/2 to 1-1/4 in.	1/2 to 1-1/4 in.
Range of Cv's Available	75 to 10,000	45 to 2,600	1.0 to 7.0	1.0 to 7.0	1.0 to 8.0
Flow Type	Equal %	Equal %	Linear	Linear	1 to 4 Cv: Equal % 8 Cv: Linear ^a

PNEUMATIC ACTUATORS^b

	Pages				
	731 to 735	731 to 735	—	—	—

ELECTRIC/ELECTRONIC ACTUATORS

Input Signals	Pages				
Two-Position (SPST) (Spring Return)	731 to 735	731 to 735	736 to 741	736 to 741	—
Two-Position (SPDT Snap Acting) (Non-Spring Return)	731 to 735	731 to 735	—	—	—
System 8000, Voltage Input 2 to 15 Vdc	731 to 735	731 to 735	—	—	—
Slidewire (Series 90)	731 to 735	731 to 735	—	—	—
Current Input 4 to 20 mA etc.			—	—	736 to 741
Floating Control, SPDT or Two SPST, Direct Digital Control			—	—	736 to 741
Pneumatic to Electric			—	—	—
Voltage input 0-10 /0-5/5-10 Vdc	—	—	—	—	736 to 741

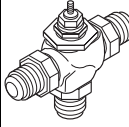
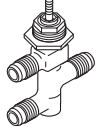
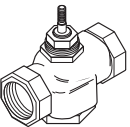
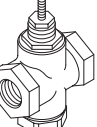
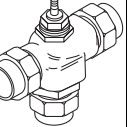
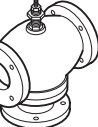
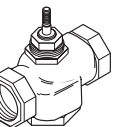

^a For use with non-spring return modulating actuators only (AT33XXXX, AP33XXXX)

^b Optional inputs available to pneumatic are: SPST, SPDT, slidewire (Series 90), System 8000 (voltage input 2 to 15 Vdc), current input 4 to 20 mA. These options are shown with the specific valve selected.

HOW TO USE TABLE:

1. Select the vertical column that has a valve body series that meets your requirements.
2. Select the horizontal column with correct type of actuator (Pneumatic or Electric/Electronic) and correct input signal for Electric/Electronic actuator.
3. The intersection of the two columns shows the pages for complete selection and ordering information.

Valve Selection Guide for Three-Way Valves

Valve Application	Chilled or Hot Water 300°F Maximum				Chilled or Hot Water 300°F Maximum	Chilled or Hot Water 300°F Maximum	Chilled or Hot Water 300°F Maximum	
Valve Body Type	Globe							
	Flared	Flared	Screwed	Screwed	Union Sweat	Flanged	Screwed	Flanged
								
	VB-7312-0-4-P	VB-324-0-5-P	VB-7313-0-4-P	VB-9313-0-4-P	VB-7314-0-4-P	VB-9313-0-5-P	VB-7323-0-4-P	VB-9323-0-5-P
Static Pressure Rating	250 psig	250 psig	250 psig	250 psig	250 psig	125 psig	250 psig	125 psig
Sizes Available	5/8 in. O.D., SAE 45°	1/2 in. O.D. Tube	1/2 to 2 in.	2-1/2 & 3 in.	1/2 to 2 in.	2-1/2 to 6 in.	1/2 to 2 in.	2-1/2 to 6 in.
Range of Cv's Available	2.2 to 4.4	1.5	2.2 to 41	67 to 91	2.2 to 41	74 to 390	4.4 to 40	75 to 275
Flow Type	Mixing	3-Way Mixing, Top Port Normally Closed, Bottom Port Normally Open	Mixing	Mixing	Mixing	Mixing	Diverting	Diverting

PNEUMATIC ACTUATORS^a

	Pages							
	742 to 748	742 to 748	749 to 755	749 to 755	749 to 755	749 to 755	749 to 755	749 to 755

ELECTRIC/ ELECTRONIC ACTUATOR

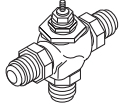
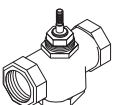


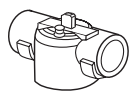
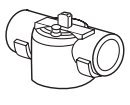
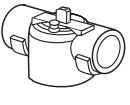
Input Signals	Pages							
Two-Position (SPST) (Spring Return)	742 to 748	742 to 748	756 to 776	760 to 769	756 to 776	760 to 769	756 to 776	760 to 769
Two-Position (SPDT Snap Acting) (Non-Spring Return)	—	—	760 to 776	760 to 769	760 to 776	760 to 769	760 to 776	760 to 769
System 8000, Voltage Input 2 to 15 Vdc	742 to 748	742 to 748	756 to 776	760 to 769	756 to 769	760 to 769	756 to 769	760 to 769
Slidewire (Series 90)	—	—	760 to 776	760 to 769	760 to 776	760 to 769	760 to 776	760 to 769
Current Input 4 to 20 mA etc.	—	—						
Floating Control, SPDT or Two SPST, Direct Digital Control	—	—						
Pneumatic to Electric	—	—						

^a Optional inputs available to pneumatic are: SPST, SPDT, slidewire (Series 90), System 8000 (voltage input 2 to 15 Vdc), current input 4 to 20 mA. These options are shown with the specific valve selected.

HOW TO USE TABLE:

1. Select the vertical column that has a valve body series that meets your requirements.
2. Select the horizontal column with correct type of actuator (Pneumatic or Electric/Electronic) and correct input signal for Electric/Electronic actuator.
3. The intersection of the two columns shows the pages for complete selection and ordering information.

Valve Selection Guide for Three-Way Valves

Valve Application	Chilled or Hot Water 300°F Maximum	Chilled or Hot Water	Chilled or Hot Water 281°F Maximum	Chilled or Hot Water 275°F Maximum	32 to 200°F (0 to 94°C) Hot & Chilled Water	32 to 250F (0 to 121C) Water and Steam 15 psia (103 kPa) Steam.	32 to 200°F (0 to 94°C) Hot & Chilled Water
Valve Body Type	Globe	Ball	Butterfly		Zone On/Off		Zone Modulating
	Flared	NPT Screwed	Metal-to-Metal	Rubber Lined	Screwed and Sweat		
							
	VB-7332-0-4-P	VB-2353-0-8-P ^a	VXX-666X-XXX-2-P	VXX-676X-XXX-2-P	VT3XXX	VS3XXX	VM3XXX
Static Pressure Rating	250 psig	—	125 psig	125 psig	300 psi (2068 kPa)	300 psi (2068 kPa)	300 psi (2068 kPa)
Sizes Available	5/8 in. O.D., SAE 45°	1/2 to 2 in.	2 to 24 in.	2 to 12 in.	1/2 to 1-1/4 in.	1/2 to 1-1/4 in.	1/2 to 1-1/4 in.
Range of Cv's Available	2.2 or 4.4	5.4 to 47.0	75 to 10,000	45 to 2,600	1.0 to 7.0	1.0 to 7.0	1.0 to 8.0
Flow Type	Sequencing	Equal %	Mixing or Diverting	Mixing or Diverting	Mixing or Diverting	Mixing or Diverting	1.0-4.0 Cv: Equal % Mixing 8.0 Cv: Mixing or Diverting ^b

PNEUMATIC ACTUATORS^c

	Pages						
	742 to 748		781 to 785	781 to 785	—	—	—

ELECTRIC/ ELECTRONIC ACTUATORS

Input Signals	Pages						
Two-Position (SPST) (Spring Return)	—	777 to 780	—	—	786 to 791	786 to 791	—
Two-Position (SPDT Snap Acting) (Non-Spring Return)	—	777 to 780	781 to 785	781 to 785	—	—	—
System 8000, Voltage Input 2 to 15 Vdc	742 to 748	—	781 to 785	781 to 785	—	—	—
Slidewire (Series 90)	—	—	781 to 785	781 to 785	—	—	—
Current Input 4 to 20 mA etc.	—	—			—	—	786 to 791
Floating Control, SPDT or Two SPST, Direct Digital Control	—	777 to 780			—	—	786 to 791
Pneumatic	—	—	—	—	—	—	—
Voltage input 0-10 /0-5/5-10 Vdc	—	777 to 780	—	—	—	—	786 to 791

^a Linkage required.

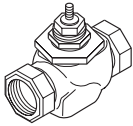
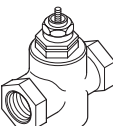
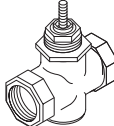
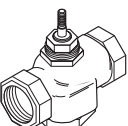
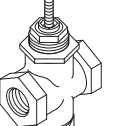
^b For use with non-spring return modulating actuators only (AT33XXXX, AP33XXXX)

^c Optional inputs available to pneumatic are: SPST, SPDT, slidewire (Series 90), System 8000 (voltage input 2 to 15 Vdc), current input 4 to 20 mA. These options are shown with the specific valve selected.

HOW TO USE TABLE:

1. Select the vertical column that has a valve body series that meets your requirements.
2. Select the horizontal column with correct type of actuator (Pneumatic or Electric/Electronic) and correct input signal for Electric/Electronic actuator.
3. The intersection of the two columns shows the pages for complete selection and ordering information.

Valve Selection Guide for SI-Threaded Valves, Two-Way and Three-Way

Valve Application		Globe				
		Two-Way Valves	Two-Way Valves	Two-Way Valves	Three-Way Valves	Three-Way Valves
		Chilled or Hot Water 138°C Maximum; 240 kPa (2.4 Bar) Max. Steam	Chilled or Hot Water 138°C Maximum; 240 kPa (2.4 Bar) Max. Steam	Hot Water 149°C 690 kPa Steam	Chilled or Hot Water 149°C Maximum	Chilled or Hot Water 149°C Maximum
						
Action	Two-Way Stem Up Open	VB-7215-0-4-P	VB-9215-0-4-P	—	—	—
	Two-Way Stem Up Closed	VB-7225-0-4-P	VB-9225-0-4-P	VBS-9265-0-6-P	—	—
	Three-Way Mixing	—	—	—	VB-7315-0-4-P	VB-9315-0-4-P
Static Pressure Rating		PN 16 (16 Bar)	PN 16 (16 Bar)	PN 16 (16 Bar)	PN 16 (16 Bar)	PN 16 (16 Bar)
Sizes Available		15 to 50 mm (R _p 1/2 to R _p 2)	65 & 80 mm (R _p 2-1/2 & R _p 3)	15 to 20 mm (R _p 1/2 & R _p 3/4)	15 to 50 mm (R _p 1/2 to R _p 2)	65 & 80 mm (R _p 2-1/2 & R _p 3)
Range of K _{vs} 's Available		0.3 to 35	56 & 73	0.09 to 5.4	1.9 to 36	58 & 78
Flow Type		Equal %	Equal %	Modified Linear	Linear	Linear

PNEUMATIC ACTUATORS

		Pages				
		795 to 798	795 to 798	816 to 819	820 to 823	820 to 823

ELECTRIC/ELECTRONIC ACTUATORS

Input signals		Pages				
Two-Position (SPST) Spring Return		803 to 815	803 to 809	—	824 to 840	827 to 834
Two-Position (SPDT Snap Acting) (Non-Spring Return)		799 to 815	803 to 809	816 to 819	824 to 840	827 to 834
System 8000, Voltage Input 2 to 15 Vdc, Voltage Input 0 to 15 Vdc		799 to 809	803 to 809	—	827 to 834	827 to 834
Slidewire (Series 90)		803 to 809	803 to 809	—	827 to 834	827 to 834
Current Input 4 to 20 mA _{dc}		799 to 809	803 to 809	816 to 819	827 to 834	827 to 834
Floating Control SPDT or Two SPST Direct Digital Control		799 to 815	803 to 809	—	824 to 840	827 to 834
Pneumatic to Electric		795 to 815	795 to 809	—	820 to 840	820 to 834
Voltage input 0-10 /0-5/5-10 Vdc		714 to 721 815 to 815	—	—	770 to 776 835 to 840	—