

VB-2010 Series 2-Way and 3-Way Cast-Iron Globe Valve Bodies

General

The VB-2010 Series cast-iron globe valve bodies are engineered specifically for temperature control applications requiring an equal percentage flow characteristic and a high degree of control precision. Common applications include hot water and chilled water coils and heat exchangers in air handling units, chillers, boilers and cooling towers.

The VB-2010 Series valve bodies are designed with BSP threaded connections in 2-way and 3-way configurations. NPT threaded connections are available as options.

All VB-2010 Series valve bodies are

operated by VA-2000 or VA-2003 Series electric actuators which are ordered separately. The actuators are designed specifically for mounting directly to the VB-2000 or VB-2010 Series valve bodies without the need of special tools.

Ordering

To order, specify complete model number.

It is highly recommended to order the valve body and actuator factory mounted to save calibration time in the field.



Specifications

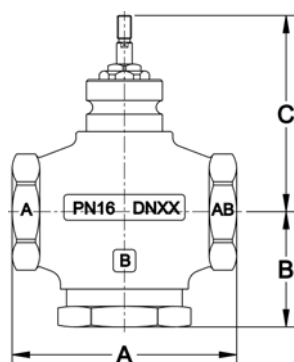
Valve Body Pressure Rating	1,600 kPa, PN16 (232 PSI)
Service	Chilled and hot water, up to 50% Glycol solutions
Flow Coefficient	See Table 1: Model Number Selection Guide
Valve Size	25 to 65 mm, 2-way or 3-way
Flow Characteristic	Service port A: Equal percentage Service port B: Linear (3-way only)
Seat Leakage	Less than 0.05% of Cv (Kv) factor
Materials:	
Body/Seat	HT250
Stem	Stainless steel 302 (1Cr18Ni19)
Sealing	PTFE filler and stainless steel counter-poise spring
Plate	Forging brass with nitrile rubber gasket
Fluid Temperature Limits	2 to 94°C (36 to 201°F)
Piping Connections	BSP tapered (NPT optional)
Port Configuration	Push-down-to-open
Ambient Conditions	Operating: -20 to 50°C (-4 to 122°F), 0-95% non-condensing Storage: -40 to 86°C (-40 to 186°F), 0-95% non-condensing
Shipping Weight	See Figure 1: Dimensions in mm

The performance specifications above are nominal and subject to tolerances and application variables of generally acceptable industry standards. The manufacturer shall not be liable for damages resulting from misapplication or misuse of its products.

Table 1: Model Number Selection Guide

Water Valve Body Model Number	Configuration	Connection Size		Flow Coefficient		Maximum Close-off (ΔP) kPa (PSI)	Stroke mm
		mm	inches	Kv	Cv	With VA-21xx Actuator	
VB-2210-25	2-Way	25	1"	10	12	600 (145)	15
VB-2210-32		32	1-1/4"	16	19	400 (108)	19
VB-2210-40		40	1-1/2"	25	29	300 (72)	19
VB-2210-50		50	2"	40	47	200 (43)	19
VB-2310-25	3-Way	25	1"	10	12	600 (145)	15
VB-2310-32		32	1-1/4"	16	19	400 (108)	19
VB-2310-40		40	1-1/2"	25	29	300 (72)	19
VB-2310-50		50	2"	40	47	200 (43)	19

Figure 1: Dimensions in mm



Model Number	A	B	C	Weight kg (lb)
VB-2210-25	110	58	111	2.4 (2.8)
VB-2210-32	120	65	111	2.8 (3.3)
VB-2210-40	130	68	114	3.2 (3.7)
VB-2210-50	145	70	121	4.6 (5.4)
VB-2310-25	110	75	111	2.5 (2.9)
VB-2310-32	120	83	111	3.0 (3.5)
VB-2310-40	130	84	114	3.6 (4.2)
VB-2310-50	145	89	121	4.9 (5.7)

Piping and Installation

The valves can be mounted in horizontal or vertical piping. When installed in horizontal piping, the actuator must be above the valve body and can be tilted left or right but it must not be tilted below 90° from vertical.

Notes:

- Before mounting the valve, make sure that the pipes are clean and free from scores
- It is essential that the pipes are lined up squarely with the valve at each connection and free from vibration.
- For installation in plants with high temperature fluid, use expansion joints to avoid pipe buckling against the valve body.
- Valve must not be installed in explosive atmosphere.
- Make certain that there is no overhead water source that may drip onto valve actuator and the valve is not subject to steam or water jets.
- For maintenance purposes, install the valve with sufficient headroom to allow complete valve actuator removal.

Figure 2: Flow Directions

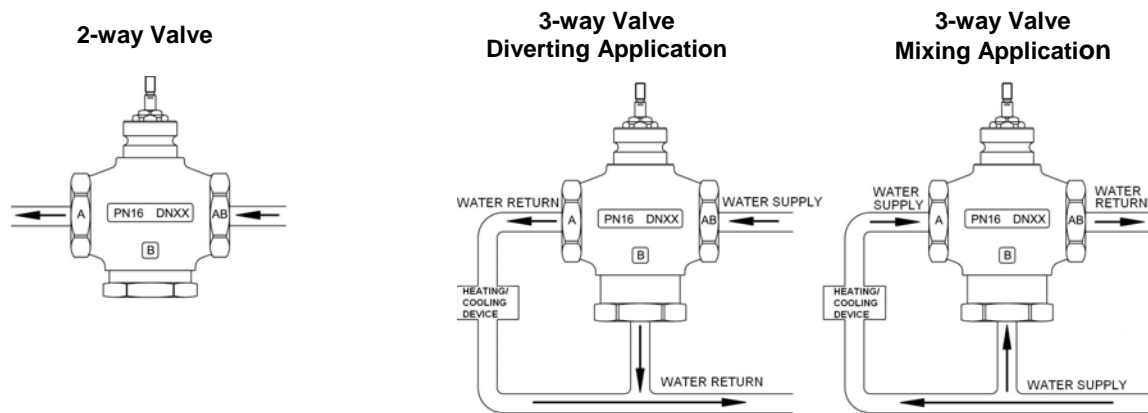
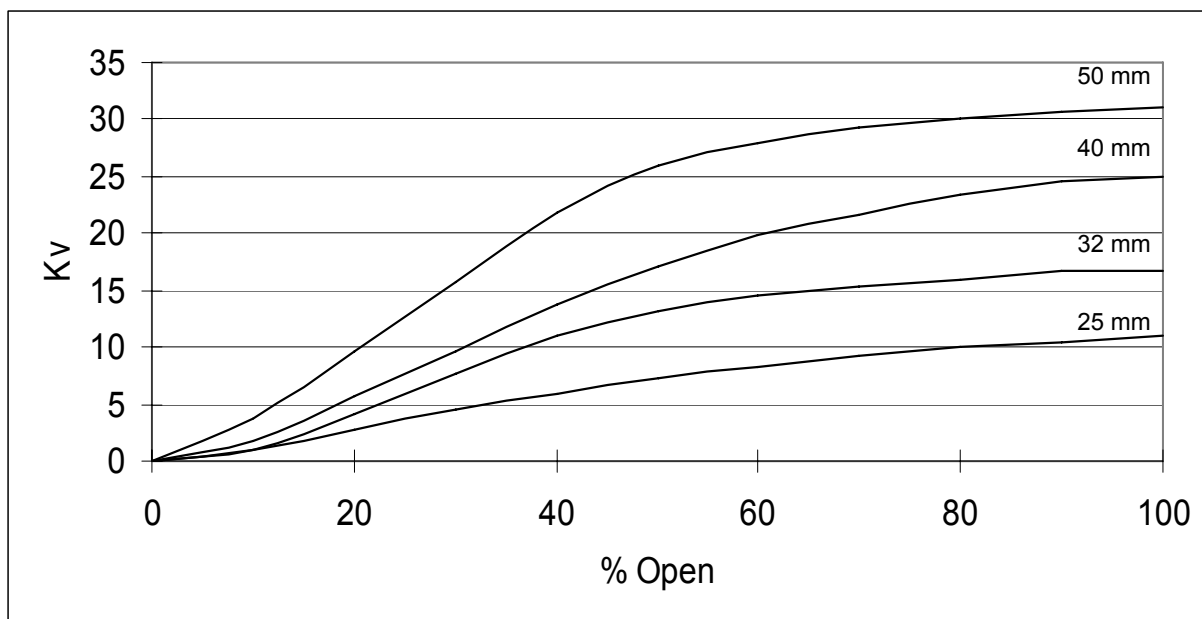


Figure 3: Flow Characteristic



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