Globe Valve Bodies, Flanged, Two & Three Way

INTEC CONTROLS

VSB.F
VMB.F

certified
ISO 9001

DESCRIPTION

1/2" to 2 1/2" flanged, single seated, 2-way and 3-way, 232 PSIG body rated, hot and chilled water and low pressure steam valves.

APPLICATION

Valves for 2-way or 3-way mixing configuration in commercial and industrial heating, ventilation and air conditioning systems.

FEATURES

- *232 PSIG body rated*
- *Hot & chilled water*
- *Low pressure steam*
- *3-way for mixing application*
- *Equal percentage flow characteristic*
- *High turndown ratio*
- *Maintenance free*
- *Two-year warranty*

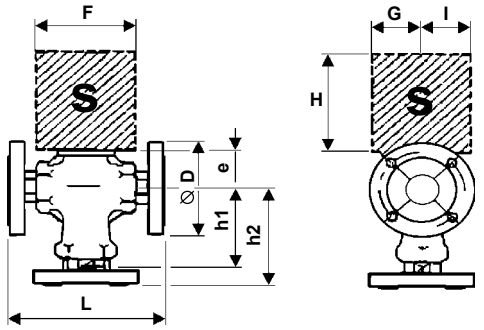
SPECIFICATIONS

Physical	
Body rating	232 PSIG (1600 kPa)
Media	
- water temperature	14 °F to 248 °F* (-10 °C to 120 °C*)
- glycol added	Max. 50% of water contents "Note: Keep stem and packaging free from icing"
- steam temperature	248 °F* (120 °C*) ** w/MVBHT spacer up to 284 °F (140 °C)* *w/MVL actuator up to 302 °F (150 °C)*
- steam gage pressure	Max. 14.5 PSIG (100 kPa)
Pipe Connection	Flanged, UNI
Material/Characteristics	
- 3/4" to 2 1/2" valve body	Cast iron, G25, w/corrosion resistant coating
- 1/2" valve body	Brass
- packing	Viton O-ring w/graphited teflon scraper rings
- stem	CrNi stainless steel
- plug	Brass w/contoured-type profile for straight-way, V-port-type profile for angle-way
- seat	Cast iron, G25
Stem stroke	
- 1/2" to 2" valves	0.65 in. (16.5 mm), max. 0.73 in. (18.5 mm)
- 2 1/2" valve	0.79 in. (20 mm)
Leakage	
- straight-way	0... 0.03% of Cv
- angle-way	0... 2% of Cv
Stroke Cv	
1/2" to 2" valve	
- straight-way	Equal percentage
- angle-way	Linear
2 1/2" valve	
- straight & angle-way	Linear
Turndown ratio	Greater than 50:1
Max. flow	590 ft/min (3 m/sec)
Valve Actuator Compatibilities	MVB, MVL, MVL..A/C and others

Size	**Flow Coefficient**	**Maximum Differential Pressure**	**Maximum Close Off Pressure** w/Actuators			**Part Numbers**	
			MVB..	**MVL.. + AG31**	**MVL.. A/C + AG31**	**2-Way**	**3-Way**
Inch (mm)	Cv (Kv)	PSIG (kPa)	PSIG (kPa)	PSIG (kPa)	PSIG (kPa)		
1/2 (15)	1.16 (1.0)	29 (200)	145.0 (1000)	145.0 (1000)	145.0 (1000)	**VSB11F**	**VMB11F**
1/2 (15)	1.87 (1.6)	29 (200)	145.0 (1000)	145.0 (1000)	145.0 (1000)	**VSB1F**	**VMB1F**
1/2 (15)	2.92 (2.5)	29 (200)	145.0 (1000)	145.0 (1000)	145.0 (1000)	**VSB15F**	**VMB15F**
1/2 (15)	4.67 (4.0)	29 (200)	145.0 (1000)	145.0 (1000)	145.0 (1000)	**VSB2F**	**VMB2F**
3/3 (20)	7.35 (6.3)	29 (200)	145.0 (1000)	145.0 (1000)	145.0 (1000)	**VSB3F**	**VMB3F**
1 (25)	9.34 (8.0)	29 (200)	94.3 (650)	145.0 (1000)	145.0 (1000)	**VSB4F**	**VMB4F**
1 1/4 (32)	18.67 (16)	29 (200)	58.0 (400)	145.0 (1000)	145.0 (1000)	**VSB5F**	**VMB5F**
1 1/2 (40)	25.67 (22)	29 (200)	36.3 (250)	116.0 (800)	58.0 (400)	**VSB6F**	**VMB6F**
2 (50)	35.00 (30)	29 (200)	29.0 (200)	87.0 (600)	43.5 (300)	**VSB8F**	**VMB8F**
2 (50)	46.67 (40)	29 (200)	29.0 (200)	87.0 (600)	43.5 (300)	**VSB8AF**	**VMB8AF**
2 1/2 (65)	73.50 (63)	22 (150)	21.8 (150)	58.0 (400)	22.0 (150)	**VSB9F-A***	**VMB9F-A***

* ANSI Flanged

Outside Valve Body Dimensions, Inch (mm)							**Weight** lbs. (kg)	
Size	**Ø D**	**Holes**	**L**	**e**	**2-Way h1**	**3-Way h2**	**2-Way**	**3-Way**
1/2 (15) 3/4 (20)	3.74 (95) 4.13 (105)	4	5.12 (130) 5.91 (150)	0.67 (17) 1.38 (35)	2.76 (70) 3.11 (79)	3.74 (95) 3.94 (100)	6.4 (2.9) 7.7 (3.5)	7.9 (3.6) 9.9 (4.5)
1 (25) 1 1/4 (32)	4.53 (115) 5.51 (140)		6.30 (160) 7.09 (180)	1.57 (40) 1.73 (44)	3.27 (83) 3.54 (90)	4.13 (105) 4.53 (115)	9.5 (4.3) 13.7 (6.2)	12.1 (5.5) 17.6 (8.0)
1 1/2 (40) 2 (50)	5.91 (150) 6.50 (165)		7.87 (200) 10.00 (254)	2.01 (51) 2.17 (55)	3.78 (96) 4.37 (111)	4.96 (126) 5.00 (127)	16.5 (7.5) 25.3 (11.5)	21.6 (9.8) 31.3 (14.2)
2 1/2 (65)	7.28 (185)		11.42 (290)	2.32 (59)	5.71 (145)	6.57 (167)	30.9 (14.0)	38.1 (17.3)

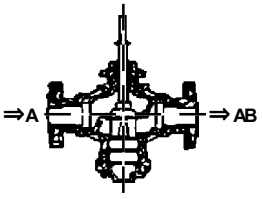


S = Space requirement for actuator mounting, Inch (mm)				
Actuator	**H**	**F**	**G**	**I**
MVB..	11.81 (300)	5.90 (150)	7.48 (190)	6.30 (160)
MVL..	14.61 (371)	8.66 (220)	1.18 (30)	5.83 (148)
MVL.. A/C	14.61 (371)	8.66 (220)	2.28 (58)	5.83 (148)

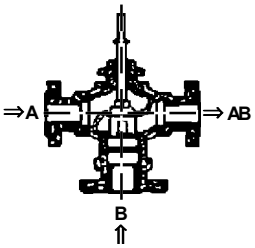
OPTIONS & ACCESSORIES

- **AG31**
  Linkage kit
  — For coupling MVL.., MVL.. A/C actuators to VSB.F/VMB.F valves
- **244**
  Stem heater for 3/4" to 2" valves
  — For media temperature below 14°F (-10°C) to avoid freeze-up of actuator/valve stem, 24 VAC, 25 VA
- **CF-DN15/NP16** — 1/2" (15 mm)
  CF-DN20/NP16 — 3/4" (20 mm)
  CF-DN25/NP16 — 1" (25 mm)
  CF-DN32/NP16 — 1 1/4" (32 mm)
  CF-DN40/NP16 — 1 1/2" (40 mm)
  CF-DN50/NP16 — 2" (50 mm)
  CF-DN65/NP16 — 2 1/2" (65 mm)
  Companion flange — UNI flange 232 PSIG (1600 kPa), w/bolts, nuts and gasket

VALVE PIPING & OPERATION



2-Way

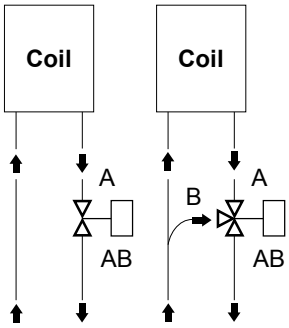


3-Way

Valve stem down, direct way **A** to **AB** is open.

MVL.. A/C spring return actuator action at power failure:

- MVL..C, direct way **A** to **AB** will be open.
- MVL..A, direct way **A** to **AB** will be closed.



2-Way **3-Way** Mixing Application

Valve markings on body for
2-way: **A** and **AB**
3-way: **A**, **B** and **AB**

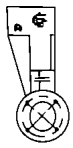
To avoid valve clogging, all dirt, metal shavings, slag, sand, etc. located inside of piping must be removed / flushed out prior to installing the valve.

Avoid installing the valve in a location where it will be subjected to vibration.

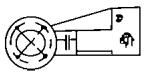
The valve can be installed in any position except in the valve stem downwards position.

Mount valve horizontally if valve media temperature is above 248°F (120°C).

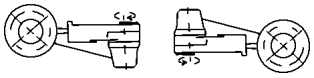
3-way valves should preferably be piped as mixing configuration (flow input **A** and **B** to output **AB**).



MVL.., MVL.. A/C Actuators



YES



NO