VSB-VMB

MODELS		SIZE	Kvs (Cvs) [m3/h]	STROKE [mm (inch)]
2-way	3-way		A-AB	
VSB3	VMB3	3/4"	6.3 (7.3)	16.5 (0.65")
VSB4	VMB4	1"	10 (11.6)	
VSB5	VMB5	1 1/4"	16 (18.5)	
VSB6	VMB6	1 1/2"	22 (25.4)	
VSB8	VMB8	2"	30 (34.7)	
VSB8A	VMB8A		40 (46.2)	

APPLICATION AND USE

Two-way VSB and three-way VMB valves can be used either for control or fluid detection in air-conditioning, thermoventilation and heating plants, both environmental and industrial, and in machines for product thermal process.
Three-way valves should be used only as mixing valves; angle way should never be used for control purposes.

MANUFACTURING CHARACTERISTICS

The valve body is made of G25 cast iron. The plug is in brass with Contoured-type profile on direct way and V-port on angle way.
The stem is in CrNi steel with threaded M8 end and female threaded connections. The stem packing is constituted by a EPDM O-ring with graphited teflon scraper rings.
NOTE: The valves are also available in the stainless steel plug version (profile and Kvs/Cvs are the same of the brass plug). For further sales in-formation, please contact our Sales Support.

TECHNICAL CHARACTERISTICS

Constructions: ANSI 125
Control characteristics: direct way equal-percentage
angle way linear (VMB)
Leakage*: direct way 0-.03% of Kvs (Cvs)
angle way 0-2% of Kvs (Cvs)
Connections: female threaded
Stroke: 16.5 mm(.65"), max 18.5 mm (.73")
Allowed fluids:
- water: max. temperature 150°C (302°F)
min. temperature -10°C (14°F)
(in case of ice on stem and gasket, use the stem-heater, see actuators data sheets; is not applicable to V.B DN15 valves)
glycol added max 50%
- saturated steam: max. temperature 150°C (302°F)
max. pressure 250kPa (36.25 PSI), absolute value

Weight: see dimensions

* Leakage is measured according to the EN1349 standard.

ATTENTION: If V.B valves are assembled with MVB+spacer (MVBHT) the max. operating temperature is 140°C, while without spacer is 120°C (248°F). For other actuators the max. operating temperature is 150°C (302°F).

INSTALLATION

Before valves are mounted, make sure that pipes are clean, free from welding slags, that are perfectly lined up with valve body and not subjected to vibrations.
The valve can be mounted in any position except upside-down (for MVH actuators see Fig. 3).
While assembling, respect the flow directions indicated by the letters located on the valve body (see Fig. 1 and 2) and the application schemes.

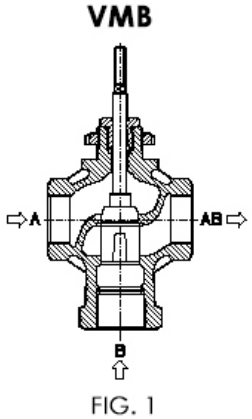


FIG. 1

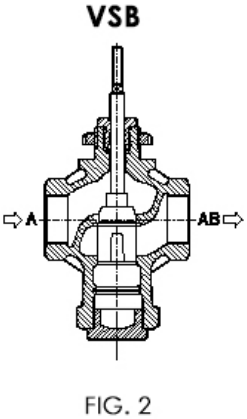


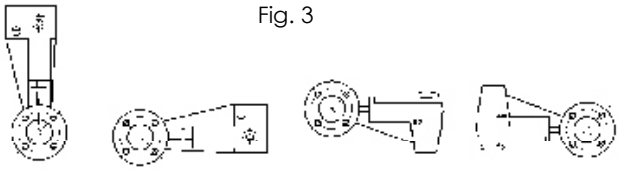
FIG. 2

ACTUATORS

VSB and VMB are actuated by MVB, MVH, MVH56EA/C, MVE electrical actuators.

MOUNTING POSITIONS

Fig. 3



YES NO

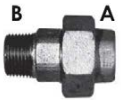
OPERATING

With the stem extended, the direct way is closed.
With the stem retracted, the direct way is open.

ACCESSORIES

AG52	Valve linkage kit with MVE
AG62	Valve linkage kit with MVH
AG63	Valve linkage kit with MVE..S
GVB3	Insulation shell for DN 3/4“ valves for V.B3
GVB4	Insulation shell for DN 1“ valves for V.B4
GVB5	Insulation shell for DN 1 1/4" for V.B5
GVB6	Insulation shell for DN 1 1/2" for V.B6
GVB8	Insulation shell for DN 2" for V.B8
GVB8A	Insulation shell for DN 2" for V.B8A

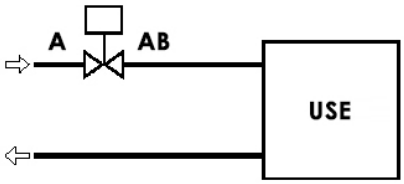
CAST IRON FITTINGS 3 PIECES			
THREAD		FITTING CODE	SEAL CODE
A	B		
G3/4" F	G3/4" M	**89948-02**	**89949-02**
G1" F	G1" M	**89948-03**	**89949-03**
G1"1/4 F	G1"1/4 M	**89948-04**	**89949-04**
G1"1/2 F	G1"1/2 M	**89948-05**	**89949-05**
G2" F	G2" M	**89948-06**	**89949-06**



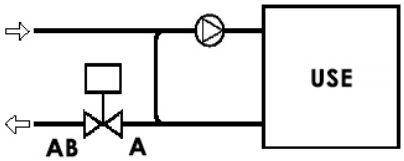
APPLICATION SCHEMES

VSB VALVES

a) Variable flow control when used

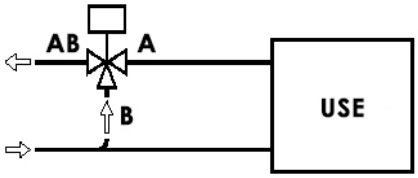


b) Constant flow when used in injection circuits

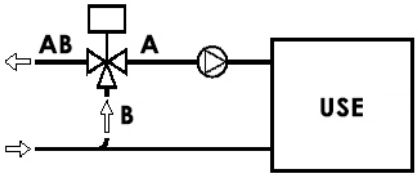


VMB VALVES

c) Variable flow mixing when used



d) Constant flow mixing when used in injection or tapping circuits



MAX DIFFERENTIAL CLOSE-OFF PRESSURE [kPa (PSI)]

U-Bolt Connection	SIZE	MVH		MVHA/C*		MVB		MVE.06		MVE.10		MVE.15		MVE.22	
		A-AB	B-AB	A-AB	B-AB	A-AB	B-AB	A-AB	B-AB	A-AB	B-AB	A-AB	B-AB	A-AB	B-AB
VSB VMB	3/4"	1600 (232)	1600 (232)	1600 (232)	1560 (226)	1080 (157)	260 (38)	1600 (232)	1310 (190)	1600 (232)	1600 (232)	1600 (232)	1600 (232)	1600 (232)	1600 (232)
	1"	1600 (232)	1600 (232)	1380 (200)	1030 (149)	680 (99)	170 (25)	1190 (173)	870 (126)	1600 (232)	1560 (226)	1600 (232)	1600 (232)	1600 (232)	1600 (232)
	1 1/4"	1600 (232)	1370 (199)	840 (122)	650 (94)	410 (59)	110 (16)	720 (104)	540 (78)	1210 (175)	980 (142)	1600 (232)	1540 (223)	1600 (232)	1600 (232)
	1 1/2"	1170 (170)	990 (144)	590 (86)	470 (68)	290 (42)	80 (12)	500 (73)	390 (57)	860 (125)	710 (103)	1300 (189)	1110 (161)	1600 (232)	1600 (232)
	2"	870 (126)	750 (109)	440 (64)	350 (51)	210 (30)	60 (9)	370 (54)	290 (42)	640 (93)	540 (78)	960 (139)	840 (122)	1430 (207)	1263 (183)

* with MVH.A in emergency valve closed, with MVH.C in emergency valve open.

100 kPa = 1 bar = 14.5 PSI

Kv is the flow rate expressed in m3/h of water at a temperature between 5°C (41°F) and 40°C (104°F) passing through a valve open at the nominal stroke with 100 kPa (14.5 PSI) (1 bar) differential pressure.

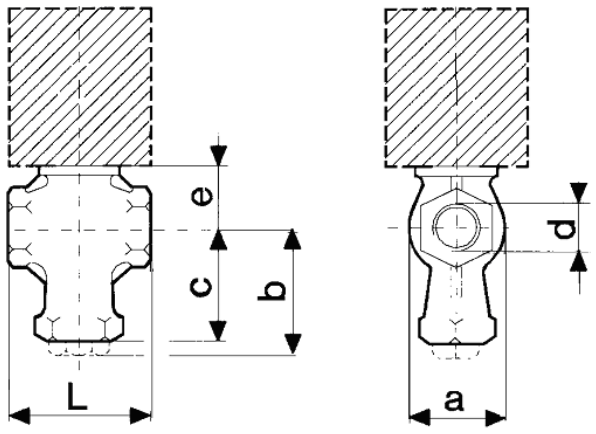
Cv is the volume (in US gallons) of water at 60°F that will flow per minute across a valve with a pressure drop of 1 PSI.

MAX REGULATION DIFFERENTIAL PRESSURE [kPa (PSI)]

The max regulation differential pressure, it means the pressure which can be used during the stroke, is conditioned by wear between seat and plug and by the performance guaranteed by the actuator for the evaluated valve. So we recommend not to overcome the differential pressure whose value corresponds to the minimum between 200kPa (29 PSI) (maximum admitted value not to cause wear) and the one shown in the previous table (max close-off differential pressure).

Note: The max operating pressures at different temperatures for various PN classes must correspond to the following standards: UNI 1092-02 and UNI 12516-1.

DIMENSIONS [mm (inch)]



VALVE DIMENSIONS [mm (inch)]							
SIZE	Ø d	VSB-VMB			VSB	VMB	Weight [kg (lb)]
		L	a	e	b	c	
4"	G 3/4"	85 (3.35)	54 (2.12)	34.5 (1.36)	79 (3.1)	67.5 (2.66)	1.1 (2.4)
1"	G 1/2"	95 (3.74)	62 (2.44)	39.5 (1.44)	83 (3.27)	72.5 (2.85)	1.5 (3.3)
1 1/4"	G 1 1/4"	108 (4.25)	70 (2.76)	43.5 (1.71)	90 (3.5)	78.5 (3.07)	2 (4.4)
1 1/2"	G 1 1/2"	120 (4.72)	81 (3.19)	51 (2.00)	98 (3.86)	85.5 (3.37)	2.7 (5.9)
2" (V.B8A)	G 2"	194 (7.64)	97 (3.82)	54.5 (2.15)	111 (4.37)	97 (3.82)	5 (11.0)
2" (V.B8)	G 2"	142 (5.59)	97 (3.82)	54.5 (2.15)	111 (4.37)	97 (3.82)	4 (8.8)