MODELS		DN (inch)	Kvs m^3/h	STROKE (mm)
Two-way	Three-way			
VSB1	VMB1	1/2	1,6	16,5
VSB11	VMB11		1	
VSB15	VMB15		2,5	
VSB2	VMB2		4	
VSB3	VMB3	3/4	6,3	
VSB4	VMB4	1	10	
VSB5	VMB5	1 1/4	16	
VSB6	VMB6	1 1/2	22	
VSB8	VMB8	2	30	
VSB8A	VMB8A		40	

100 kPa = 1 bar = 10 m H_2O

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.

ACTUATORS

VSB and VMB are actuated by CONTROLLI MVB, MVL, MVLA/C, SH, ST electrical and by PL600 and PG300 pneumatic actuators.

VALVES		ACTUATORS						
Two-way	Three way	MVB PG330 PG340 +AG34	MVLA/C +AG31 PG320 +AG34	MVL +AG31 MVF515 +AG52	SH-ST +AG21	PL600 +AG21	MVF54 +AG52	MVF58 +AG52
VSB1	VMB1	4,1	16	16	16	16	11	16
VSB11	VMB11	4,1	16	16	16	16	11	16
VSB15	VMB15	4,1	16	16	16	16	11	16
VSB2	VMB2	4,1	16	16	16	16	11	16
VSB3	VMB3	2,7	15,2	16	16	11	9,5	16
VSB4	VMB4	1,8	10	16	16	7,3	6	11,5
VSB5	VMB5	1,1	6,3	14	12	4,5	3,5	7
VSB6	VMB6	0,8	4,6	10	8,5	3,3	2,5	5,2
VSB8	VMB8	0,6	3,5	7,5	6,6	2,5	1,8	4
VSB8A	VMB8A	0,6	3,5	7,5	6,6	2,5	1,8	4

ΔP max = max differential pressure value ensured by the actuator for regular operation

NOTE In order to avoid wear between plug and seat, we recommend not to overcome the 2 bar differential pressure

ACCESSORIES

For the assembly on actuators other than MVB, use the following accessories:

AG21 for SH-ST-PL600 actuators
AG31 for MVL-MVLA/C actuators
AG34 for PG 300 actuators
AG52 for MVF

Note: in case of lack of voltage, with MVLA direct way is closed, with MVLC angle way is closed.

OPERATION

When stem is up, the direct way is closed, with stem down direct way is open.

MANUFACTURING CHARACTERISTICS

The valve body is made of G25 cast iron (only DN1/2" valves have brass body and fitting).
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 Viton O-ring with graphited teflon scraper rings.
NOTE: The valves are also available in the stainless steel plug version (profile and Kvs are the same of the brass plug). For further sales information, please contact our Sales Support

TECHNICAL CHARACTERISTICS

Body rating	1600 kPa max (16 bar)
Control characteristics	
VSB-VMB direct way	equal-percentage
VMB angle way	linear
Leakage	
VSB-VMB direct way	0...0,03% of Kvs
VMB angle way	0...2% of Kvs
Connections	female threaded
Stroke	16,5 mm (max 18,5)
Allowed fluids	
- water	
max. temperature	150 °C
min. temperature	-10 °C (in case of ice on stem and gasket, use the stem-heater, see actuators data sheets; is not applicable to V.B 1/2" valves)
glycol added	max 50%
- saturated steam	
max. temperature	150 °C
max. pressure	2,5 bar (absolute value)
Weight	See overall dimensions

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

CONTROLLI
ISO 9000

CONTROLLI
16010 SANT'OLCESE Genova - Italy
Tel.: +39 01073061 Fax: +39 0107306870/871
E-mail: info@controlli.org Web: www.controlli.org

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 MVL - MVLA/C 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.

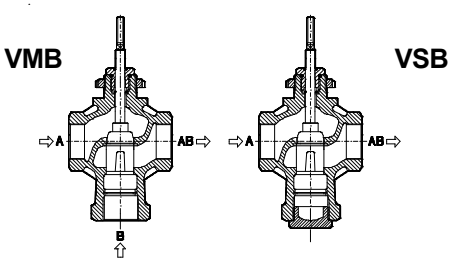

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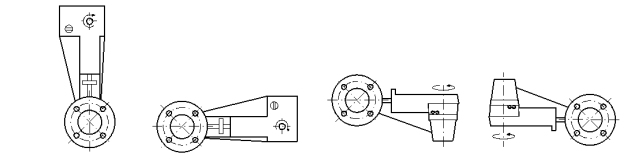
FIG. 1 **FIG. 2**

MOUNTING POSITIONS



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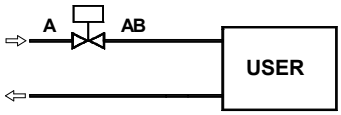
YES **NO**

FIG. 3

APPLICATION SCHEMES

VSB VALVES

a) Variable flow control when used



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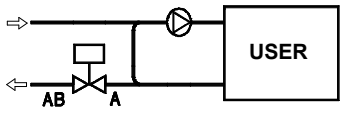
b) Constant flow when used in injection circuits



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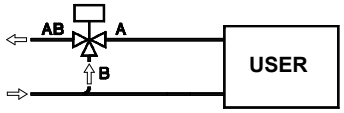
VMB VALVES

c) Variable flow mixing when used



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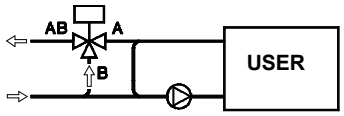
d) Constant flow mixing when used in injection or tapping circuits



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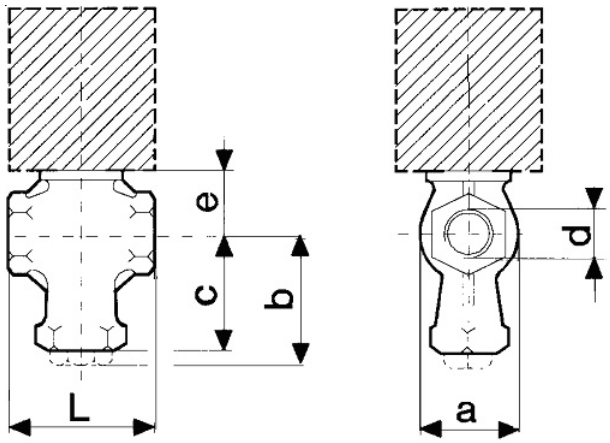
OVERALL DIMENSIONS (mm.)



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VALVE DIMENSIONS (mm)							WEIGHT (Kg.)
DN"	d	VSB-VMB			VSB	VMB	
		L	a	e	b	c	
1/2	G 1/2	80	54	17	70	70	1,1
3/4	G 3/4	85	54	34,5	79	67,5	1,1
1	G 1	95	62	39,5	83	72,5	1,5
1 1/4	G 1 1/4	108	70	43,5	90	78,5	2
1 1/2	G 1 1/2	120	81	51	98	85,5	2,7
2 (V.B8A)	G 2	194	97	54,5	111	97	5
2 (V.B8)	G 2	142	97	54,5	111	97	4

The performances stated on this sheet can be modified without any prior notice due to design improvement.