Two-way Single Seat Globe Valves

SS - VS

CE In compliance with 97/23/CE PED

USE

SS - VS series valves are used to control fluids belonging to the group showed in the table according to article 9 of 97/23/CE directive (PED) in air-conditioning, thermoventilation and heating plants and in industrial processes; therefore, they cannot be employed as safety valves.

MANUFACTURING CHARACTERISTICS

They consist in a two-way simple seat valve body to be assembled on an electrical bidirectional actuator, driving mechanical connection with elastic pin and position indicator.

TECHNICAL CHARACTERISTICS

Model	VSG DN 25÷150	SSGA DN15÷100	VSS DN25÷65	SSAA DN15÷80	SSAACP DN15÷80
Construction	PN 16	PN 16	PN 25	PN 40	PN 40
Body	cast iron	cast iron	spheroidal cast iron	steel	steel
Seat	cast iron	stainless steel	steel	stainless steel	stainless steel
Plug	forged brass	stainless steel	steel	stainless steel	stainless steel
Stem (Ø 9mm)	stainless steel	stainless steel	stainless steel	stainless steel	stainless steel
Control characteristic	equal percentage	equal percentage	equal percentage	equal percentage	equal percentage
Stem packing	Viton O-ring (4)	Teflon V-ring	Teflon V-ring	Teflon V-ring	(2)
Max fluid temperature °C	150	200	230	230	350
Min fluid temperature °C	-10(1)	-10(1)	-10(1)	-10(1)	-20 (1) (3)
Fluid (5)	Group 2	Group 2	Group 2	Group 2	Group 1
Connections	flanges PN 16	flanges PN 16	flanges PN 25	flanges PN 40	flanges PN 40
Leakage % of Kvs	0,03	0,02	0,02	0,02	0,02
Action	normally open	normally closed	normally open	normally closed	normally closed

(1) For applications with possible ice formation on stem and gasket, see 245 accessory.
(2) Graphite packing for high temperatures; forced lubrication on extended neck. Teflon gasket for low temperatures, see (3)
(3) For applications on fluids from -10 to -20 °C, add letter B to the model name, e.g. SSAACP50B. In such a case, the max. temperature is 230 °C.
(4) Double O-ring and graphited teflon scraper ring.
(5) Group 1: water, overheated water, steam, diathermic oil.
For different fluids belonging to group 1, please contact our Sales Support.
Group 2: water, overheated water, steam.
For different fluids belonging to group 2, please contact our Sales Support.

MOTORIZED VALVES OPTIONS

MODEL DESCRIPTION

A150-2 flanges with ANSI 150 bolt holes (for SSAA valves)
A300-2 flanges with ANSI 300 bolt holes (for SSAA valves)

ACCESSORIES

MODEL DESCRIPTION

245 stem heater for applications on -10 °C low temperature fluid with SH - ST - MVL actuators.

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

*MAX DIFFERENTIAL AND CLOSE-OFF PRESSURE (bar) **

DN	Kvs			VSG			SSGA			VSS			SSAA	
mm	VSG	VSS	SS	SH/ST	MVL	MVLA/C**	SH	MVL	MVLA/C**	SH	MVL	MVLA/C**	MVL	MVLA/C**
15 R	--	--	1,6	-	-	-	6(16)	6(16)	6(16)	-	-	-	10(30)	10(30)
15	--	--	4	-	-	-	6(16)	6(16)	6(16)	-	-	-	10(30)	10(20)
20	--	--	6,3	-	-	-	6(16)	6(16)	6(14)	-	-	-	10(30)	10(12)
25 R	4	4	--	2(10)	2(10)	2(10)	-	-	-	8(20)	8(20)	7(10)	-	-
25 I	6,3	6,3	--	2(10)	2(10)	2(10)	-	-	-	8(18)	8(20)	7(10)	-	-
25	10	10	10	2(10)	2(10)	2(10)	6(16)	6(16)	6(9)	8(16)	8(20)	7(10)	10(20)	7,5
32	--	16	16	-	-	-	6(16)	6(16)	6(9)	7,5(12)	8(14)	6	10(20)	7,5
40	25	25	24	2(7,5)	2(9,5)	2(3,5)	6(10)	6(13,5)	5,5	6,5(8)	8(10)	4,5	10(13)	4,5
50	40	40	32	2(4,7)	2(6)	2(2,4)	6(7)	6(9)	3,5	5,2	6,5	2,7	8	3
65	63	63	63	2(2,8)	2(3,6)	1,4	2,5	3,5	1,4	2,7	3,7	1,4	3,5	1
80	100	--	110	1,7	2(2,3)	0,8	1,5	2,3	0,9	-	-	-	2,4	0,8
100	130	--	140	0,8	1,4	0,4	1	1,4	0,5	-	-	-	-	-
125	200	--	--	0,5	0,8	-	-	-	-	-	-	-	-	-
150	300	--	--	0,3	0,4	-	-	-	-	-	-	-	-	-

Kvs is the flow rate in m^3/h of water at a temperature between 5 °C and 40 °C passing through a valve open at nominal stroke with 100 kPa (1 bar) differential pressure.

* The values in brackets represent the max differential pressure the actuator can bear, in order to maintain the valve in closed position. When only one value is indicated, this corresponds to the max differential and close-off pressure.

** **VS** valves: in emergency MVLA valve closed; MVLC valve open. **SS** valves: in emergency MVLA valve open; MVLC valve closed.

Note: The max operating pressures at different temperatures for various NP classes must correspond to the UNI 1284 table.

ACTUATORS TECHNICAL CHARACTERISTICS, ELECTRICAL WIRING DIAGRAM AND INSTALLATION

See SH - ST - MVL actuators data sheets and mounting instructions.

INSTALLATION

HYDRAULIC CONNECTIONS

Respect the fluid direction as indicated by the arrow on the valve body or, in case letters are used with inlet in A and outlet AB.

VALVE MOUNTING

Before mounting the valve, make sure pipes are clean, free from welding slags. The pipes must be perfectly aligned with the valve body and not subjected to vibrations. For installations on plants with high temperature fluids (steam, overheated water, diathermic oil) use expansion joints to avoid the dilatation of pipes to overload the valve body. Install the valves with the actuator in vertical position for fluid temperature up to 120°C; with higher temperatures they should be mounted horizontally.

The valves can also be mounted in any other position provided that the actuator main shaft is always horizontal.

Leave sufficient room over the actuator, at least 10 cm., to allow the actuator disassembling from the valve body for eventual maintenance.

The actuator must not be installed in explosive atmosphere, at a room temperature higher than 50 °C and lower than -5 °C; they must not be subjected to steam or water jets or dripping.

Avoid the valve installation in plants which are considered aggressive and/or corrosive for valve materials.

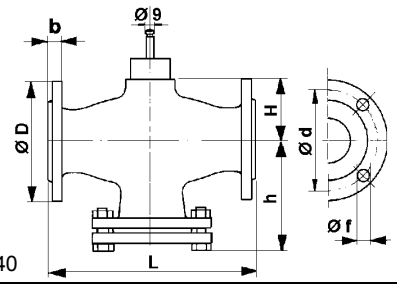
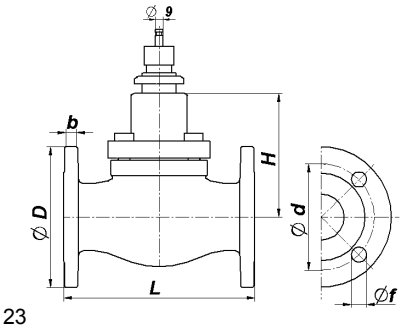
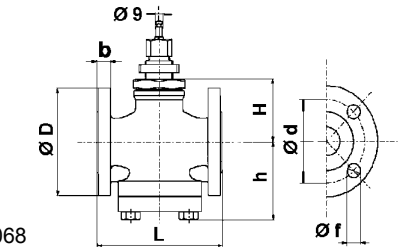
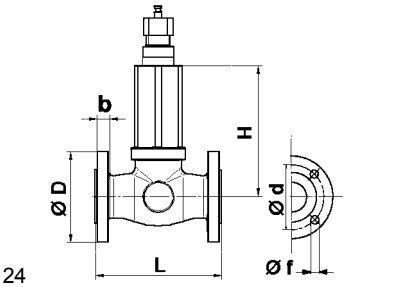
Please contact our Sales Support in order to define which potentially aggressive or polluting substances can be used.

We disclaim all responsibility in case of valve failure due to external fortuitous events (fire, earthquakes etc.).

Notes: The actuator can be rotated with respect to the valve body by blocking the ring nut; after such operation re-tighten the ring nut.

Following the hydraulic installation it is necessary to check the tight of the stem packing placed on the bonnet, both in cases of low and high temperatures. The valves require periodic maintenance.

OVERALL DIMENSIONS (mm)

Figure	Model	DN	L	H	h	Ø D	b	Ød	Øf	Holes	Weight Kg		Stroke mm
 N4040	**VSG** PN16	25	160	37	106	115	16	85	14	4	5		16,5
		40	200	51	128	150	18	110	18	4	9,6		25
		50	230	53	145	165	20	125	18	4	13		25
		65	290	71	175	185	20	145	18	4	18		25
		80	310	81	187	200	22	160	18	8	28,6		45
		100	350	93	207	220	22	180	18	8	32		45
		125	400	115	234	250	24	210	18	8	45		45
		150	480	133	277	285	24	240	22	8	60		45
											SSGA	SSAA	
 N4123	**SSGA** PN16 **SSAA** PN40 (DN100= only for SSGA)	15	130	76	-	95	16	65	14	4	3,5	4,1	16,5
		20	150	79	-	105	16	75	14	4	4,5	5,1	16,5
		25	160	81	-	115	16	85	14	4	5,5	6,1	16,5
		32	180	129	-	140	18	100	18	4	8,7	10,1	25
		40	200	137	-	150	18	110	18	4	10,3	12,3	25
		50	230	145	-	165	20	125	18	4	13,7	17	25
		65	270	160	-	185	20	145	18	4 / 8 *	19,6	23,8	25
		80	310	176	-	200	22	160	18	8	31,7	32	45
		100	350	190	-	220	24	180	18	8	43,5	-	45
 N4068	**VSS** PN25 DN25÷65	25	160	83	83	115	18	85	14	4	6		16,5
		32	180	123	102	140	18	100	18	4	10		25
		40	200	123	104	150	18	110	18	4	11		25
		50	230	123	110	165	20	125	18	4	16		25
		65	270	147	124	185	22	145	18	8	20		25
 N4124	**SSAACP** PN40	15	130	162	-	95	16	65	14	4	6,2		16,5
		20	150	164	-	105	18	75	14	4	8,3		16,5
		25	160	167	-	115	18	85	14	4	8,6		16,5
		32	180	254	-	140	18	100	18	4	14,7		25
		40	200	262	-	150	18	110	18	4	15,4		25
		50	230	270	-	165	20	125	18	4	25		25
		65	270	285	-	185	22	145	18	8	29		25
		80	310	301	-	200	24	160	18	8	38		45

*** No. 4 holes for SSGA**
No. 8 holes for SSAA

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

MVL56F

CE

MODEL	STROKE TIME FOR CONTROLLI VALVES			POWER SUPPLY (Vac)	CONTROL
	16,5 mm	25 mm	45 mm		
MVL56F	26 s	40 s	70 s	24 V	proportional
	300/60 s	300/60 s	300/60 s		floating

APPLICATION AND USE

MVL actuators have linear characteristic (linear ratio between input signal and valve coupling joint movement). They are used for fluid control in air-conditioning and heating systems and in industrial processes. The control signal can be set as proportional or floating by acting on the dip switches. They are designed for direct coupling on all CONTROLLI globe valves and they may also be used easily on other manufacturers' valves having a stroke between 9 and 50 mm.

OPERATION

The actuators are equipped with bidirectional electrical motor, they self-adjust according to the valve stroke, granting a constant torque at the valve mechanical stroke ends regardless of their position.
All models are also provided with a feedback output signal indicating the valve position.

MANUFACTURING CHARACTERISTICS

The actuator consists in a die-cast aluminium housing, which includes mounting bracket for connection to valve body.
Reduction gears supported by ball bearings. Movement is transmitted to a rack-and-pinion mechanism connected to the valve stem through a suitable joint.
Internal electronic card with easily accessible terminals for electrical connections.
The manual control knob is placed on the front part of the actuator; the knob is in thermoplastic material.
The actuator is maintenance-free.

POSSIBLE COMBINATIONS AND CONNECTIONS

The actuator can be connected to any controller, providing that the relevant output signal complies with the requirements at "Technical Characteristics" paragraph. In particular it can be connected to CONTROLLI 500-line controllers.

TECHNICAL CHARACTERISTICS

Power supply	24 Vac, ±10%
Consumption	12 VA
Dimensioning	15 VA
Frequency	50...60 Hz
Stroke	9...50 mm
Stroke time	See available models
Force	1500 N
Temperature	
- operating	-15T 50 °C
- storage	-25T 65°C
Allowed room humidity	Class R according to DIN 40040
Terminal board	screw-type 1,5 mm^2 wires
N. 2 conduit opening	plastic punchable, replaceable by PG 13,5 compression glands
Protection degree	IP 55 DIN 40050 (IEC 529) For highly polluted environments according to IEC 730-1(93)/6.5.3
Weight	4 Kg
Control signal	
Floating	2 SPST contacts
Proportional	
- voltage	0...10V (factory setting), 2...10V/ 4...7V/8...11V/1...5V/6...9V
-current	see MVLFS5 accessory
Output indication	
G0-Y	2...10 Vdc (max 2 mA)
Voltage outside power supply output	
G0-G1	16 Vdc (max 25 mA)

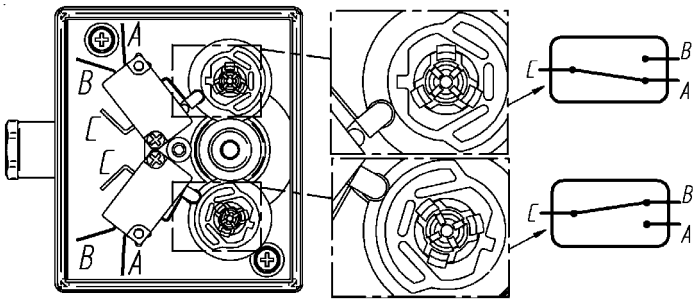
The product complies with EMC 2004/108/CE directive according to the following standards: EN50081-1 for emission, EN50082-1 for immunity.

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

ACCESSORIES

DMVL **(only factory-mounted. To be ordered together with the actuator)**.
2 auxiliary microswitches (SPDT 10 (3) A-250V~) adjustable on the whole stroke. Microdisconnection type 1B according to IEC 730-1(93)/ 6.4.3.2. It is possible to place the cams so that the microswitches act according to the required position. Keep in mind that when the lever is on the cam protruding part, the contact is closed between b and c and open between c and a (see figure below).



Make the electrical connections in compliance with the rules in force.
Attention: during operation, the cables must not interfere with the cams and the gears.

DMVF 2 stroke end microswitches with electronic control, not adjustable.

MVLFS5 Accessory for 4÷20 mA control signal.
This accessory is factory-supplie with the actuator.

MVLHT Valve body-actuator spacer reducing the actuator direct exposure in case of installation with high-temperature fluids.
Dimensions: Ø 120 mm; h = actuator height + 102 mm

245 Stem heater 24 V~, 50 W (for applications with fluid temperature <-10 °C)

AG31 Assembling kit for VMB and VSB valves.

INSTALLATION AND MOUNTING

The actuator can be mounted in the positions shown in Fig. 3. It is advisable to use the motorized valve with MVLHT spacer in order to reduce the actuator working temperature in case of fluids at high temperatures (approximately > 120° C) in the valve body. For fluids over 160°C avoid mounting the actuator in vertical position on the valve so as to avoid the direct exposure to heat sources.
Carry out the electrical connections by removing the cover, in compliance with the rules in force. For valve mounting, follow the assembly instructions inside the package.
These actuators are factory-supplied with 0...10 V- control signal. To select different ranges, move the “DIP” microswitches (see fig. 1 and 2).
For 4...20 mA range it is necessary to select 2...10 V range and mount the resistance as shown on installation instructions of the actuator.
To reverse the action direction, move the DIP 7 from OFF to ON.

ELECTRONIC BOARD

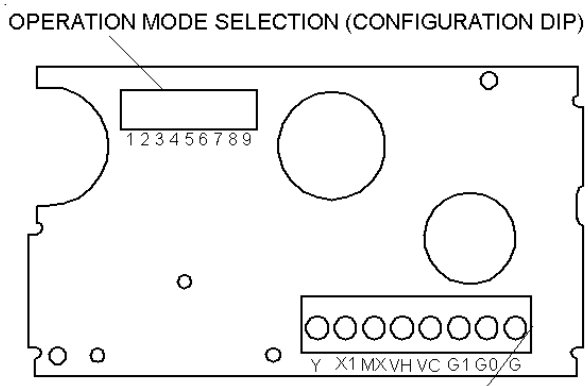


FIG. 1

WIRING DIAGRAMS

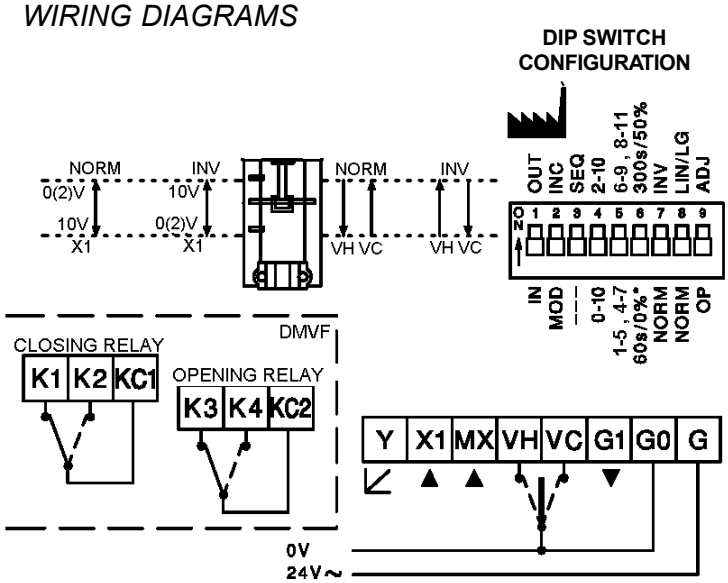


FIG. 2

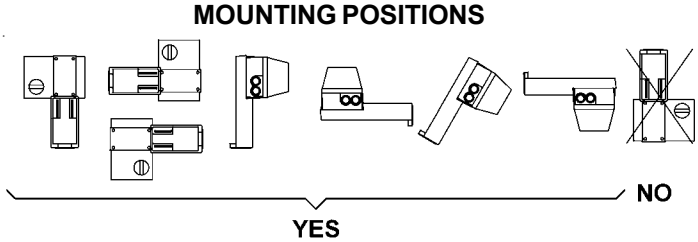
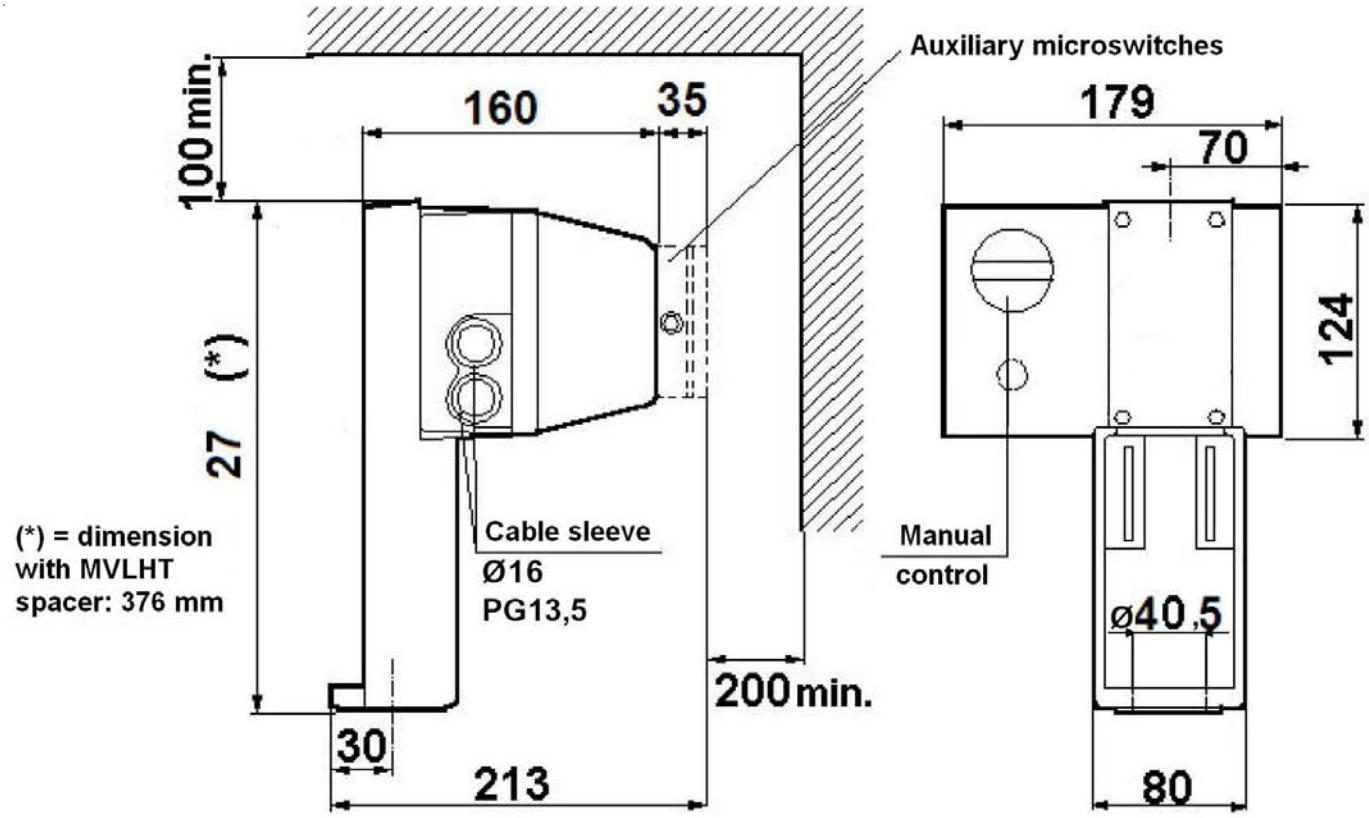


FIG. 3

OVERALL DIMENSIONS (mm)



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