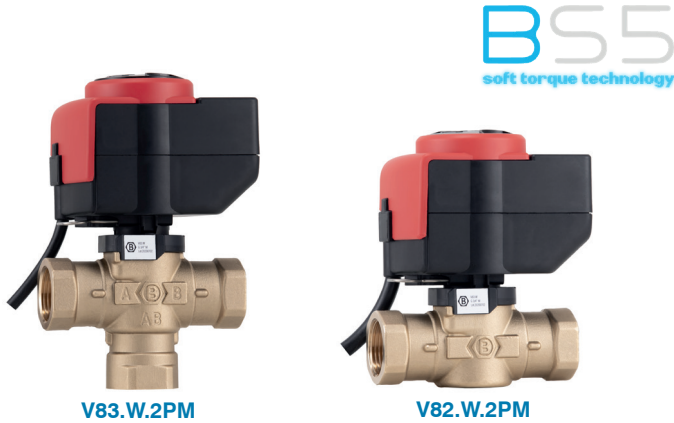


2 POINT MOTORIZED ROTOR ZONE AND DIVERTING VALVES



Description

Barberi® BS5 motorized rotor zone valves are used in the zone management of heating systems, wall-mounted boilers, solid fuel generators and heat pumps. The valve body features the Soft-Torque technology, characterized by a patented design and very low friction materials, which allow a fast and smooth rotation in 8 seconds only. The fast clip coupling, the knob for manual operation, the auxiliary microswitch, the integrated cable, the general compactness, the ergonomic design and the low resistant torque make the BS5 line an easy to use and high energy saving product.

The 3-way valve can also be used as diverting valve since the AB-A and AB-B ways have the same flow coefficient Kv. The 2-way valve is bidirectional (indifferent flow direction).

patented

Range of products

- Series V83.W.2PM** 3-way rotor zone and diverting valve with 2 point actuator
- Series V82.W.2PM** 2-way rotor zone valve with 2 point actuator
- Series M10.02P.3VM** 2 point spare actuator for 3-way rotor zone and diverting valve V83.W.2PM series
- Series M10.02P.2VM** 2 point spare actuator for 2-way rotor zone valve V82.W.2PM series

Technical features of the valve

Working temperature range: **0** (no frost)–**90 °C**
 Maximum working pressure: **10 bar**
 Maximum differential pressure: **1 bar**
 Leakage: **<0,1% Kv**
 Suitable fluids: **water for thermal systems, glycol solutions (max 30%)**
 Threaded connections: **male ISO 228-1, female EN 10226-1, compression ends EN 1254-2**
 Factory configuration:
 - 3-way: **actuator on B, valve with AB-B way open**
 - 2-way: **actuator on O (Open), valve open**

Protection class: **IP 44**
 Electric protection: **class II**
 Auxiliary microswitch contact rating: **1 SPST, 6(1) A-230 V**
 Ambient temperature (max. humidity 95% non condensing):
 Functioning: **-5–50 °C EN 60721-3-3 Cl. 3K4**
 Transport: **-30–70 °C EN 60721-3-2 Cl. 2K3**
 Storage: **-10–50 °C EN 60721-3-1 Cl. 1K2**
 Certification: **CE**

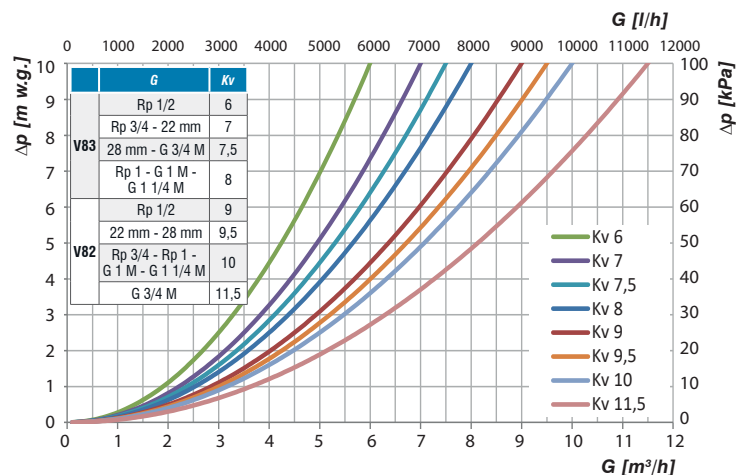
Materials

Valve body: **brass EN 12165 CW617N**
 Obturator: **brass EN 12164 CW614N**
 Gasket support: **polypropylene (PP)**
 Gasket: **NBR**
 Actuator case: **PA6**
 Plate for actuator connection: **PPS**

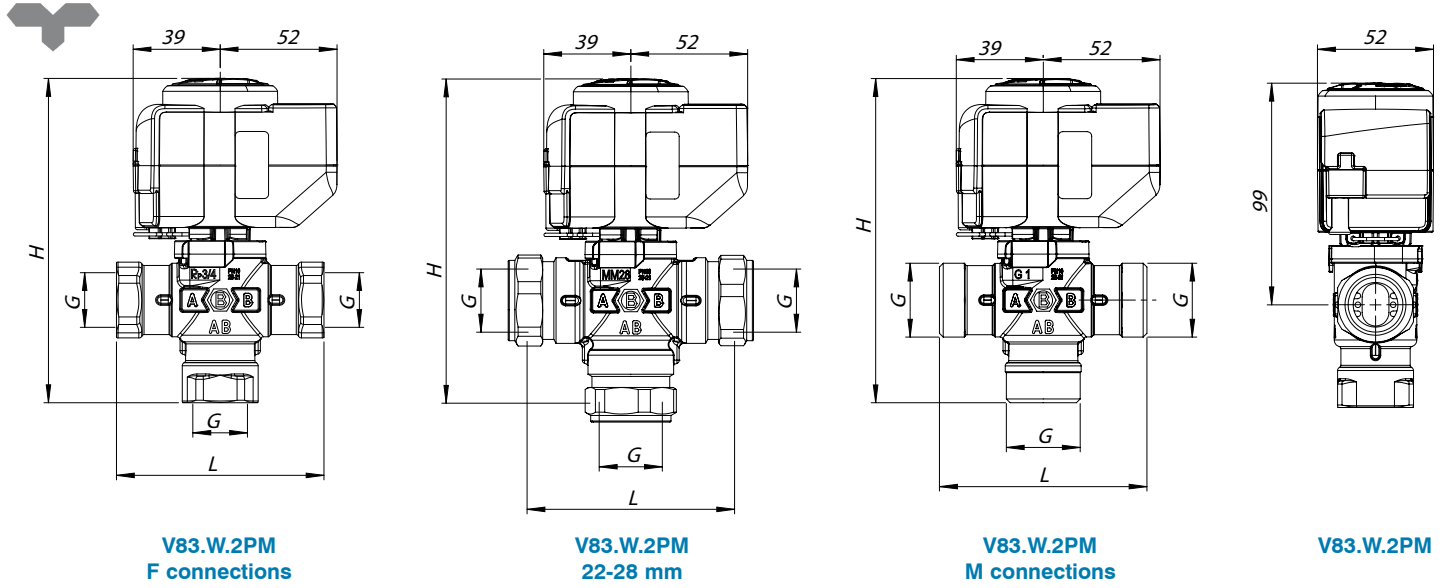
Technical features of the actuator

Running time: **8 s**
 Electric supply: **230 ± 10% Vac/50–60 Hz**
 Power consumption: **6 VA**
 Type of command: **2 points**
 Pole number: **5**
 Cable length: **0,9 m, integrated**

Diagrams



Dimensions

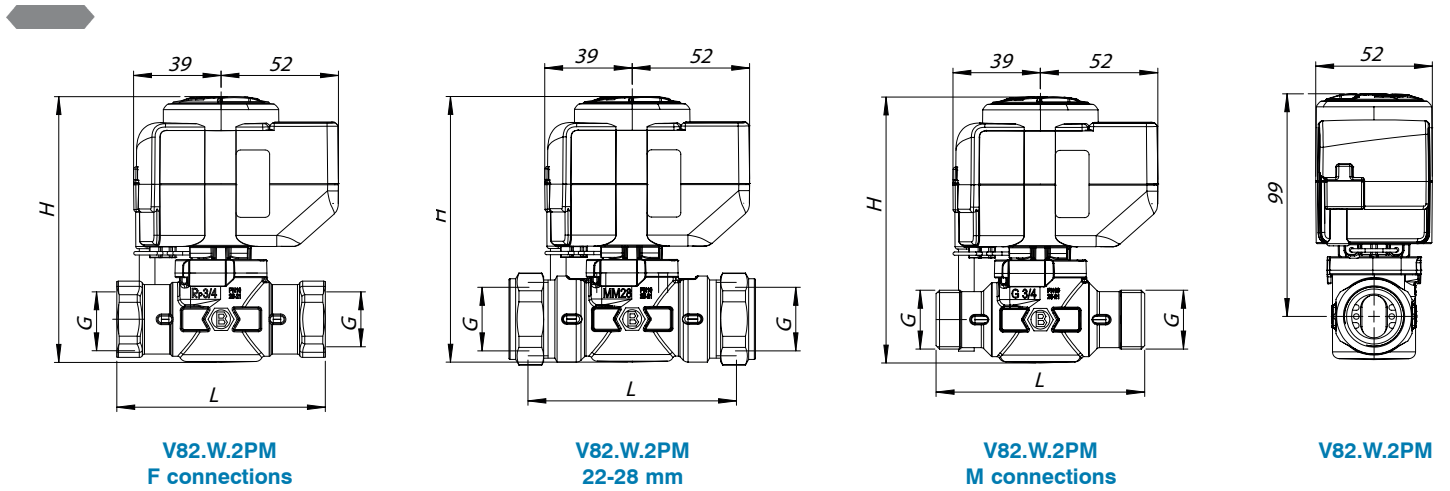


V83.W.2PM
F connections

V83.W.2PM
22-28 mm

V83.W.2PM
M connections

V83.W.2PM



V82.W.2PM
F connections

V82.W.2PM
22-28 mm

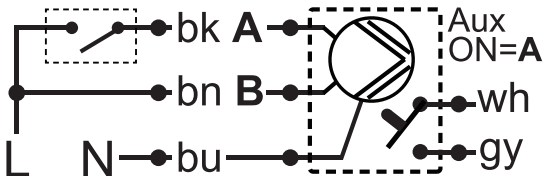
V82.W.2PM
M connections

V82.W.2PM

Series	Code	Ways	DN	G	Kv	P [bar]	L [mm]	H [mm]	V	Type of command	Running time [s]	Nr of poles	Cable connection	Weight [kg]	N. P/B	N. P/C
V83.W.2PM	V83 AF1 WAD C	3	20	Rp 1/2	6	10	93	145	230	2 points	8	5	Integrated	0,76	1	6
	V83 AF2 WAD C	3	20	Rp 3/4	7	10	93	145	230	2 points	8	5	Integrated	0,83	1	6
	V83 AF3 WAD C	3	20	Rp 1	8	10	93	145	230	2 points	8	5	Integrated	0,95	1	6
	V83 A22 WAD C	3	20	22 mm	7	10	93	145	230	2 points	8	5	Integrated	0,91	1	6
	V83 A28 WAD C	3	20	28 mm	7,5	10	93	145	230	2 points	8	5	Integrated	1,06	1	6
	V83 AM2 WAD C	3	20	G 3/4 M	7,5	10	93	145	230	2 points	8	5	Integrated	0,76	1	6
	V83 AM3 WAD C	3	20	G 1 M	8	10	93	145	230	2 points	8	5	Integrated	0,81	1	6
V83 AM4 WAD C	3	20	G 1 1/4 M	8	10	93	145	230	2 points	8	5	Integrated	0,88	1	6	
V82.W.2PM	V82 BF1 WAD E	2	20	Rp 1/2	9	10	93	119	230	2 points	8	5	Integrated	0,71	1	6
	V82 BF2 WAD E	2	20	Rp 3/4	10	10	93	119	230	2 points	8	5	Integrated	0,75	1	6
	V82 BF3 WAD E	2	20	Rp 1	10	10	93	121	230	2 points	8	5	Integrated	0,83	1	6
	V82 B22 WAD E	2	20	22 mm	9,5	10	93	119	230	2 points	8	5	Integrated	0,80	1	6
	V82 B28 WAD E	2	20	28 mm	9,5	10	93	120	230	2 points	8	5	Integrated	0,91	1	6
	V82 BM2 WAD E	2	20	G 3/4 M	11,5	10	93	119	230	2 points	8	5	Integrated	0,71	1	6
	V82 BM3 WAD E	2	20	G 1 M	10	10	93	119	230	2 points	8	5	Integrated	0,74	1	6
V82 BM4 WAD E	2	20	G 1 1/4 M	10	10	93	119	230	2 points	8	5	Integrated	0,78	1	6	
M10.02P3VM	M10 02P 007	Spare actuator for 3-way valve V83.W.2PM							230	2 points	8	5	Integrated	0,38	1	10
M10.02P2VM	M10 02P 011	Spare actuator for 2-way valve V82.W.2PM							230	2 points	8	5	Integrated	0,38	1	10

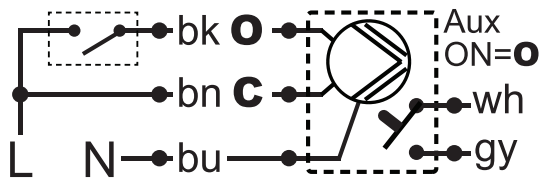
N. P/B: number of pieces in box - N. P/C: number of pieces in in carton

Wiring diagram



M10.02P.3VM: 2 points + auxiliary microswitch for 3-way valve

Colour	Indication
BK	Live for clockwise rotation
BN	Live for anticlockwise rotation
BU	Neutral
WH	Auxiliary microswitch gets closed at the end of the clockwise rotation towards A (actuator in A, valve in AB-A, Aux=ON) and gets open at the beginning of the anticlockwise rotation towards B
GY	
L	Live
N	Neutral



M10.02P.2VM: 2 points + auxiliary microswitch for 2-way valve

Colour	Indication
BK	Live for clockwise rotation: valve opening
BN	Live for anticlockwise rotation: valve closing
BU	Neutral
WH	Auxiliary microswitch gets closed at the end of the clockwise rotation for valve opening (actuator in O=Open, Aux=ON) and gets open at the beginning of the anticlockwise rotation for closing
GY	
L	Live
N	Neutral

Advantages

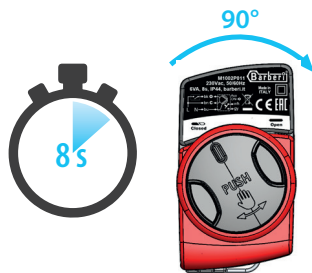
All the valves of Barberi® BS5 line are characterized by the following advantages:

Soft torque technology

The “soft torque technology” is a Barberi® patent which combines a particular design of the components with carefully selected materials; this combination allows to increase the product performance and ensure its maintenance over time. The result, in technical terms, is a very low resistant rotation torque which determines, in addition to the high flow rates and an anti-seize system, the following additional advantages:

Speed

The smooth and low-friction rotation makes the commutation faster (from one zone to the other in the 3-way valve, the zone closing in the 2-way valve), which occurs in 8 seconds only.

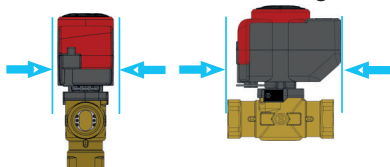


Energy saving

The low resistant torque requires a lower electrical consumption during the valve rotation.

Compact design

The BS5 design is totally “made in Barberi” and aims to optimize shape and function, with a more functional style. Thanks to the lower thermal and mechanical stresses produced by the Soft Torque Technology, it was possible to significantly reduce the actuator size, thus allowing wider application opportunities.



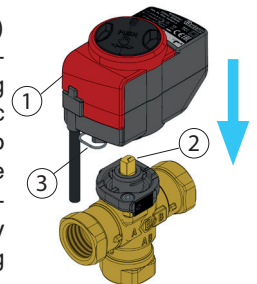
User friendly

Designed for intuitive use, the following systems simplify its installation and application:



One hand assembly

The installation of the actuator (1) on the valve body (2) can be performed with a single hand. Leaving the clip (3) placed in the specific slot, a simple click is enough to connect the actuator to the valve body, without any tool. The actuator disassembly can be made by removing the clip and unlocking the actuator from the valve stem.



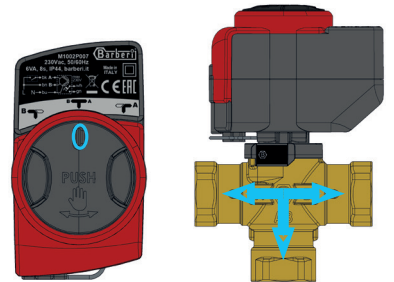
Push and turn system

The manual setting of the valve can be obtained by simply pushing down the knob and rotating it into the desired position.



Mid point - manual knob

Placing the actuator's manual knob half way (mid point), the 2-way valve gets partially open and the 3-way valve is set in the intermediate position. All the ports are therefore connected together thus making the system fill/drain faster.



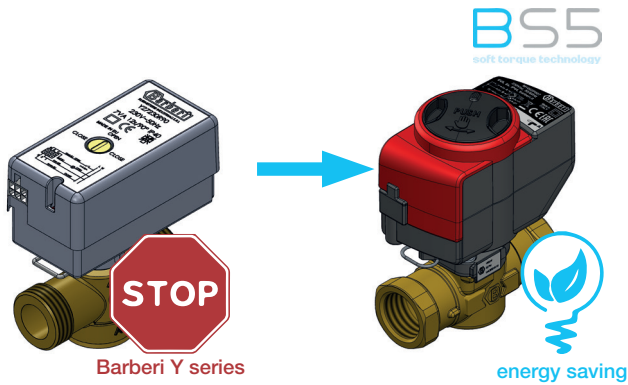
Traceability control

A specific place on the valve body shows all the information for a complete product traceability.

In addition to the advantages of the entire BS5 series, the 2 point series (red cover) shows the following peculiarities:

Interchangeability with Y series valves

The new 2 point BS5 valves are fully interchangeable with the previous Barberi Y series valves thanks to the same port configuration. Also the M10 actuator alone can be used as spare part for the previous Y27 model, connecting it on the previous valve body. This is an advantage if a complete or partial change of the previous Y series valve is needed, keeping the same working logic and same electric connections.



Wide range

The width of the range makes the BS5 series a perfect choice for every application:

- Valve body available with 2 and 3 ways. Versions with female connections (from 1/2" to 1"), male connections (from 3/4" to 1 1/4") and compression ends for copper pipe (22 and 28 mm);
- The 2 point actuator is fully interchangeable with the previous Y series. Automatic Return in Position (ARP) versions also available (green cover), V82.W.ARPM-V83.W.ARPM series.

VALVE SIZE

3/4" M	1/2 R _P	22 mm
1" M	3/4 R _P	28 mm
1 1/4" M	1 R _P	

ACTUATOR TYPE

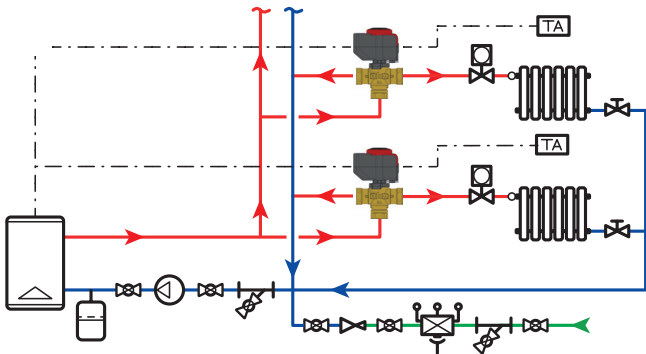


VALVE TYPE



Auxiliary microswitch

Both 2- and 3-way valves are equipped with auxiliary microswitch, SPST free of potential type. With the 2-way valve open or the 3-way diverted in A, the microswitch gets electrically closed thus allowing to activate other electric devices.



Working way

3-way valve

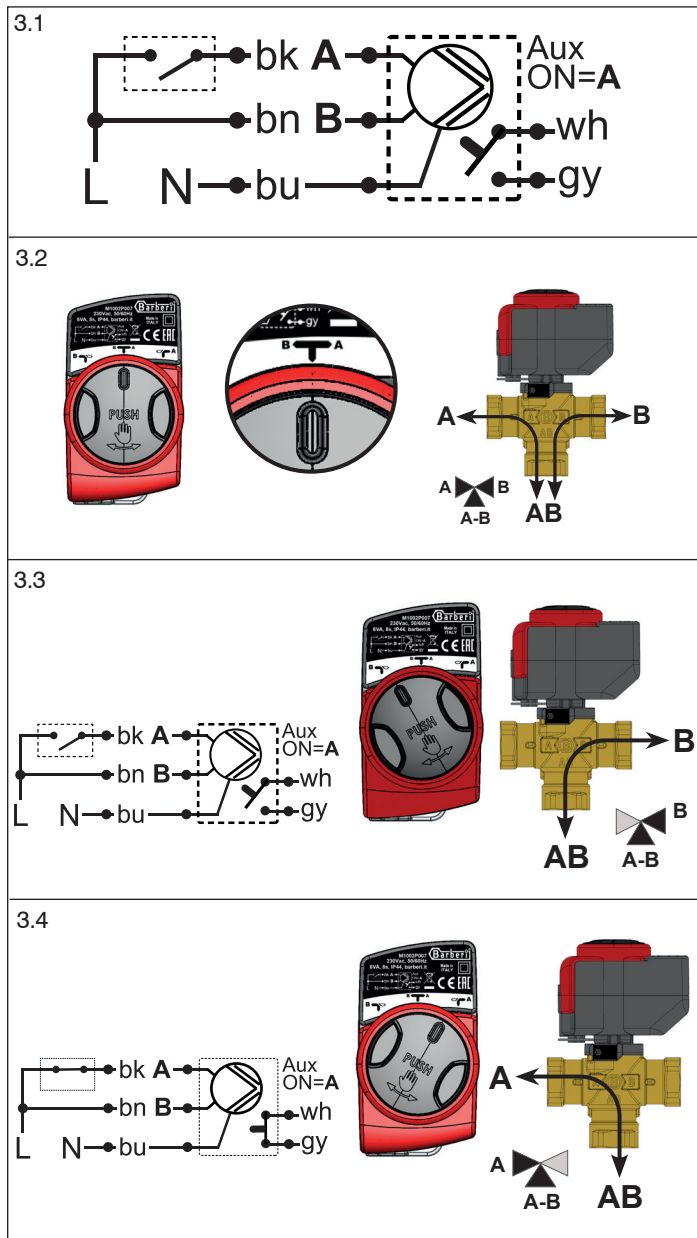
Fig. 3.1) Wiring diagram. According to the presence/absence of the electric supply on the black cable, the valve totally diverts the obturator by connecting the AB-A or AB-B way. The auxiliary microswitch gets closed at the end of the rotation towards AB-A.

Fig. 3.2) Intermediate "Mid position": manual mode for system fill/drain. This operation separates the valve stem from the actuator rotation mechanism. Press and rotate the knob to the rotation mid position in order to manually connect the common port AB to both ports A and B.

Fig. 3.3) Factory configuration/Autoreset: actuator in B, valve in AB-B. If previously manually rotated, at the first electric connection, the supply on the brown cable resets the initial AB-B position.

Fig. 3.4) Clockwise/anticlockwise rotation. When closing the electric contact on the black cable (for example through a thermostat), the valve rotates in clockwise direction fully up to the AB-A position. When the electric contact on the black cable gets open (also if the rotation is not complete), the valve reverses its rotation direction, turning towards the initial position AB-B.

Auxiliary microswitch. Two potential-free wire (SPST) type.



2-way valve

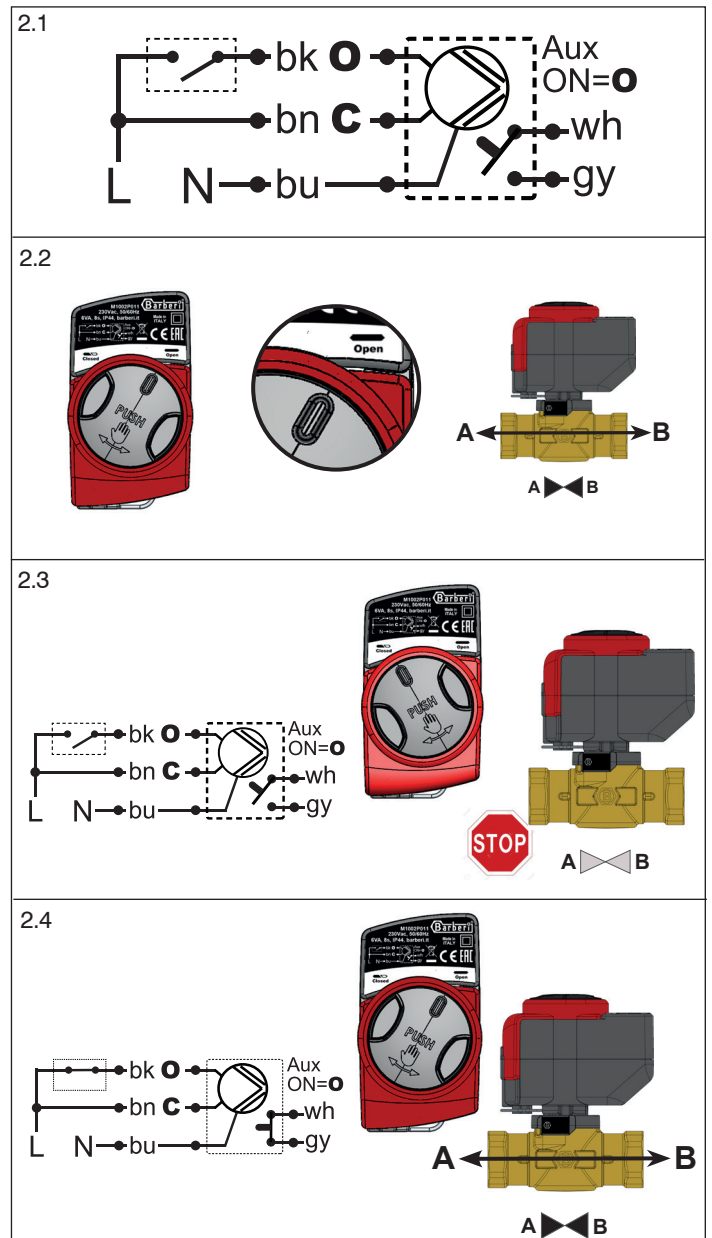
Fig. 2.1) Wiring diagram. According to the presence/absence of the electric supply on the black cable, the valve totally diverts the obturator to open/close the valve. The auxiliary microswitch gets closed at the end of the opening rotation.

Fig. 2.2) Manual functioning for system fill/drain. This operation separates the valve stem from the actuator rotation mechanism. Press and rotate the knob to Open in order to manually open the valve.

Fig. 2.3) Factory configuration/Autoreset: valve open, actuator in O (Open). At the first electric connection, the supply on the brown cable makes the valve rotate towards the closed position C (Closed).

Fig. 2.4) Clockwise/anticlockwise rotation. When closing the electric contact on the black cable (for example through a thermostat), the valve rotates in clockwise direction fully up to the open position O (Open). When the electric contact on the black cable gets open (also if the rotation is not complete), the valve reverses its rotation direction, turning towards the closed position C (Closed).

Auxiliary microswitch. Two potential-free wire (SPST) type.

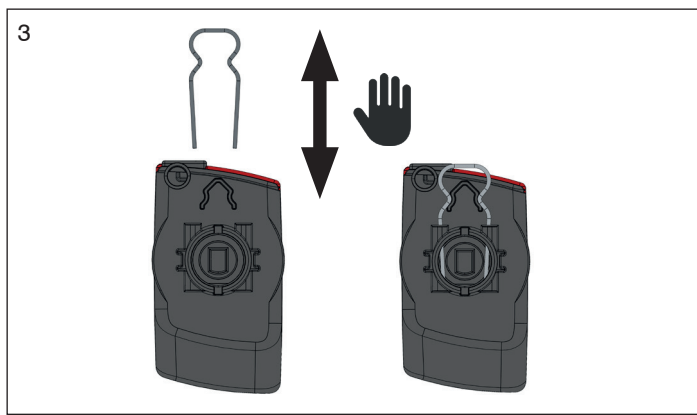
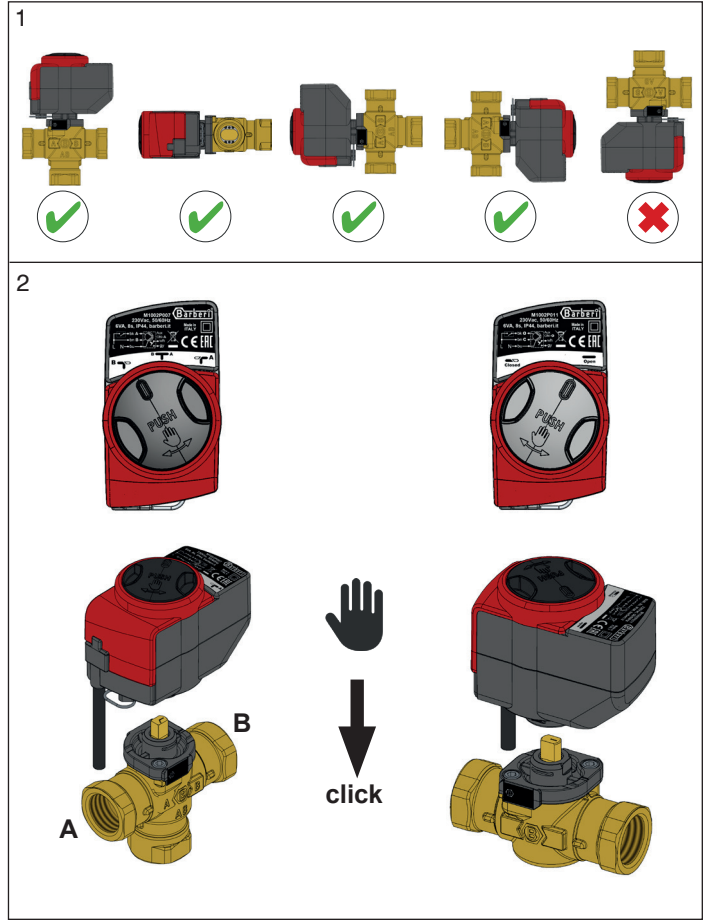


Installation

1) Motorized zone valves can be installed in any position except upside down. The 3-way valve cannot be converted into 2-way.

2) The installation of the actuator on the valve body can be performed through a clip, using a single hand without the need of any further tool (One hand assembly).

3) The actuator is supplied with the clip already placed in its specific seat. To assemble it on the valve body, it's necessary to align it to the valve body, as explained in the instruction sheet, and pushing it on the valve stem until hearing "click". To disassemble the actuator from the valve body, it's only necessary to remove the clip and lift the actuator. The insertion of the clip into its seat is made easier by specific chamfers that make the operation faster.



Accessories

M10.02P.3VM

Spare actuator for 3-way zone and diverting valve. 2 point type with rapid assembling on the valve, manual knob and cable. Auxiliary microswitch.

Protection class: **IP 44**
 Frequency: **50-60 Hz**
 Power consumption: **6 VA**
 Aux. microswitch contact rating: **1 SPST, 6(1) A-230 V**



Code	V	Running time [s]	Nr. poles	Cable [m]		
M10 02P 007	230	8	5	0,9	1	10

M10.02P.2VM

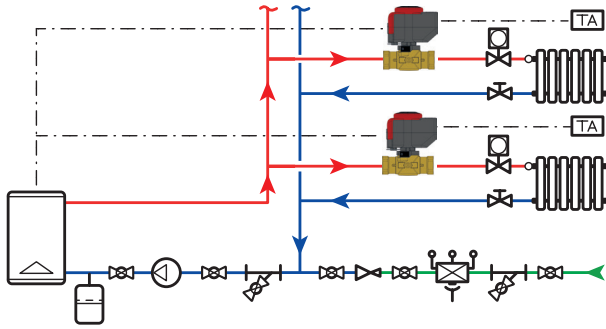
Spare actuator for 2-way zone valve. 2 point type with rapid assembling on the valve, manual knob and cable. Auxiliary microswitch.

Protection class: **IP 44**
 Frequency: **50-60 Hz**
 Power consumption: **6 VA**
 Aux. microswitch contact rating: **1 SPST, 6(1) A-230 V**

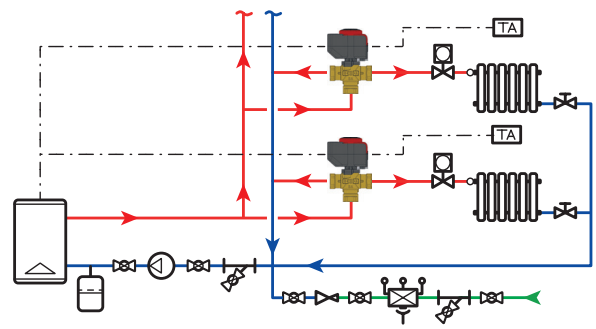


Code	V	Running time [s]	Nr. poles	Cable [m]		
M10 02P 011	230	8	5	0,9	1	10

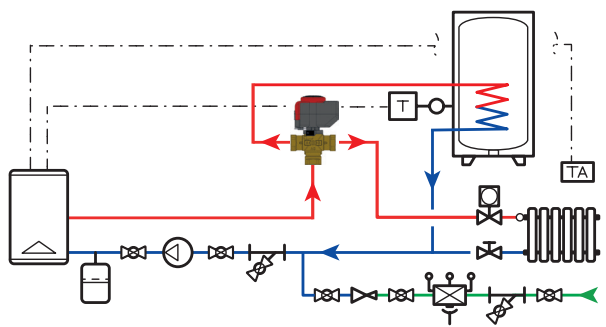
System diagrams



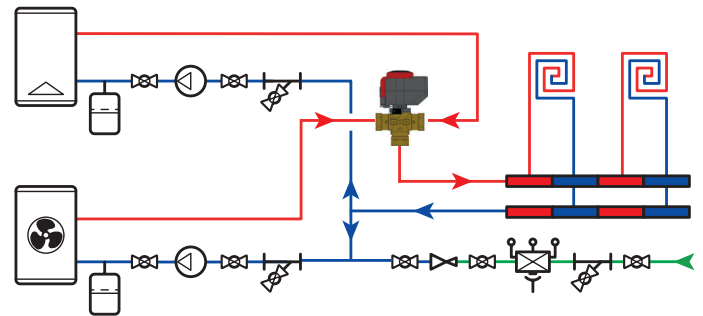
V82.W.2PM: use as zone valve in a heating system



V83.W.2PM: use as zone valve in a heating system



V83.W.2PM: use as diverting valve, 1 inlet and 2 outlets, as priority between the heating system and the domestic water storage



V83.W.2PM: use as diverting valve, 2 inlets and 1 outlet, to connect two generators to the same system

Specifications

Series V83.W.2PM

3-way rotor zone and diverting valve with 2 point actuator. Threaded connections Rp 1/2 (from Rp 1/2 to Rp 1, from G 3/4 M to G 1 1/4 M, compression ends for copper pipe 22 mm and 28 mm). Brass body and obturator; gasket support in polypropylene; NBR gaskets; actuator case in polyamide. Maximum working pressure 10 bar. Maximum differential pressure 1 bar. Working temperature range 0–90 °C. Leakage <0,1% Kv. Complete with 2 point actuator with manual knob: running time 8 s (complete commutation); electric supply 230±10% Vac, frequency 50–60 Hz; electric consumption 6 VA; number of poles 5 with integrated cable; cable length 0,9 m; protection class IP 44; electric protection class II; auxiliary microswitch contact rating (1 SPST) 6(1) A-230 V. Suitable fluids water for thermal systems, glycol solutions (max 30%).

Series V82.W.2PM

2-way rotor zone valve with 2 point actuator. Threaded connections Rp 1/2 (from Rp 1/2 to Rp 1, from G 3/4 M to G 1 1/4 M, compression ends for copper pipe 22 mm and 28 mm). Brass body and obturator; gasket support in polypropylene; NBR gaskets; actuator case in polyamide. Maximum working pressure 10 bar. Maximum differential pressure 1 bar. Working temperature range 0–90 °C. Leakage <0,1% Kv. Complete with 2 point actuator with manual knob: running time 8 s (complete commutation); electric supply 230±10% Vac, frequency 50–60 Hz; electric consumption 6 VA; number of poles 5 with integrated cable; cable length 0,9 m; protection class IP 44; electric protection class II; auxiliary microswitch contact rating (1 SPST) 6(1) A-230 V. Suitable fluids water for thermal systems, glycol solutions (max 30%).

Series M10.02P3VM

2 point spare actuator for 3-way rotor zone and diverting valve V83.W.2PM series with manual knob: running time 8 s (complete commutation); electric supply 230±10% Vac, frequency 50–60 Hz; electric consumption 6 VA; number of poles 5 with integrated cable; cable length 0,9 m; protection class IP 44; electric protection class II; auxiliary microswitch contact rating (1 SPST) 6(1) A-230 V.

Series M10.02P2VM

2 point spare actuator for 2-way rotor zone valve V82.W.2PM series with manual knob: running time 8 s (complete commutation); electric supply 230±10% Vac, frequency 50–60 Hz; electric consumption 6 VA; number of poles 5 with integrated cable; cable length 0,9 m; protection class IP 44; electric protection class II; auxiliary microswitch contact rating (1 SPST) 6(1) A-230 V.