

2 POINT, 3 POINT AND MULTIFUNCTION 3+2 POINT ACTUATORS

Description



The M03.3 3 point actuator is used to motorize all the threaded 3- and 4-way mixing valves and all the motorizable regulating groups DN 20, DN 25 and DN 32. The M03.2 2 point actuator can be combined to all the 3-way threaded mixing valves to be used in on-off mode as diverting valves. The M03.4 multifunction actuator incorporates 3 and 2 point operating modes in one product. To select the operating mode, it's only necessary to connect the cables according to its respective wiring diagram, without any selector. It can be used in 3 point mode to motorize all the threaded 3- and 4-way mixing valves and all the motorizable regulating groups DN 20, DN 25 and DN 32. In 2 point mode it can be combined to all the 3-way threaded mixing valves to be used in on-off mode as diverting or zone valves.

The rotation angle is 90°. At the end of the rotation, the electric supply is cut off by the end microswitch. If necessary, by pressing the central knob, the actuator can be set in manual mode: the operation unlocks the gear system and makes it possible to manually rotate the actuator and the connected valve. Available, according to the models, with 120, 60 and 22 s rotation times, with and without auxiliary microswitch. Can be connected, depending on the models, to on-off devices (i.e. thermostats) or 3 point weather compensated controllers to regulate the temperature.

Range of products

Actuator for threaded mixing valves and DN 20, DN 25, DN 32 groups	M03	XXX	X	X	X	X
Torque 10 N-m		010				
Torque 5 N-m		005				
Electric supply 230 V 50-60 Hz			1			
Electric supply 24 Vac			2			
3 point without auxiliary microswitch (3 poles)					D	
3 point with auxiliary microswitch (6 poles)					G	
2 point without auxiliary microswitch (3 poles)					A	
2 point with auxiliary microswitch (6 poles)					H	
3+2 point without auxiliary microswitch (3 poles)					R	
Running time 120 s (90°)					A	
Running time 60 s (90°)					B	
Running time 22 s (90°)					D	
1,5 m integrated cable						B
0,15 m cable with rapid connector						D

Features

Running time: **120 s, 60 s, 22 s**
 Rotation angle: **90°**
 Torque: **10 N·m, 5 N·m**
 Electric supply: **230 Vac, 24 Vac/50-60 Hz**
 Power consumption: **4 VA**
 Type: **2 points, 3 points, 3+2 points (multifunction)**
 Number of poles: **3, 6 with integrated cable/3 with rapid connector**
 Cable length: **1,5 m with integrated cable/0,15 m with rapid connector**
 Protection class: **IP 44**
 Electric protection: **class II**
 Auxiliary microswitch contact rating (6 pole versions): **6 (1) A**

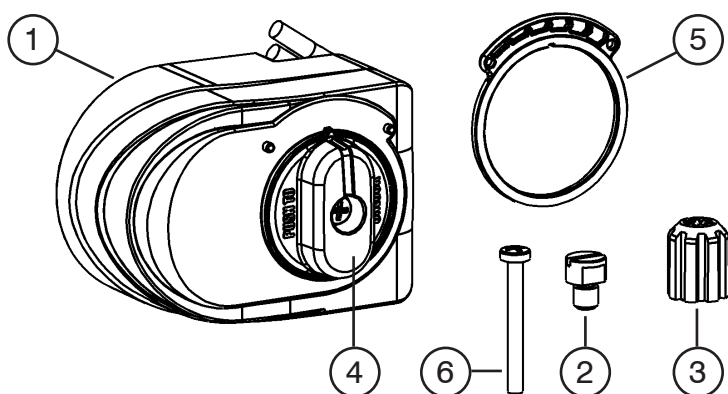
Ambient temperature:
 Functioning: **-5-50 °C EN 60721-3-3 Cl. 3K4, max. humidity 95% non condensing**
 Transport: **-30-70 °C EN 60721-3-2 Cl. 2K3, max. humidity 95% non condensing**
 Storage: **-20-70 °C EN 60721-3-1 Cl. 1K2, max. humidity 95% non condensing**

Certification: **CE**

Materials

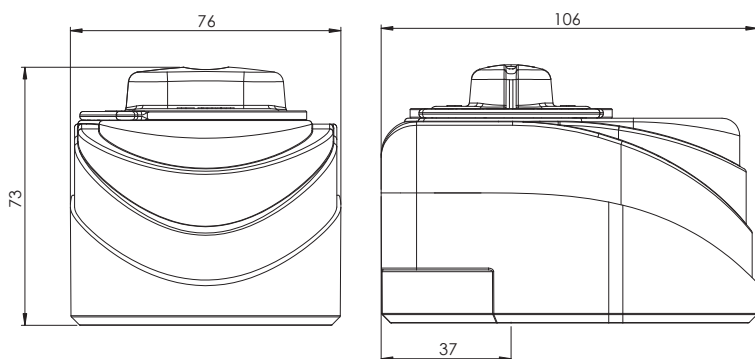
Case: **Bayblend FR**
 Gear: **polyamide - Zama**

Components

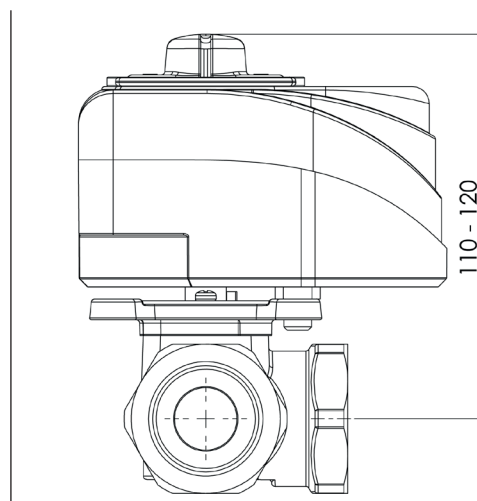


M03.3-M03.2-M03.4	
1	Actuator
2	Anti-rotation pin M8
3	Mixing valve adaptor
4	Knob
5	Reference ring
6	Locking screw

Dimensions



Max. dimensions with mixing valves

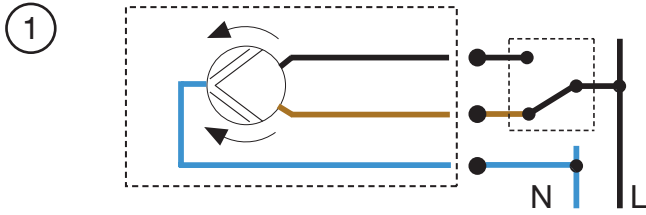


Code	Electric supply [V]	Type	Running time [s]	Torque [N·m]	Nr. poles	Cable [m]	Cable connection	Weight [g]	N. P/B	N. P/C
M03 010 1DA B	230	3 points	120	10	3	1,5	Integrated	480	1	16
M03 010 1GA B	230	3 points	120	10	6	1,5	Integrated	540	1	16
M03 010 1DB B	230	3 points	60	10	3	1,5	Integrated	480	1	16
M03 010 1GB B	230	3 points	60	10	6	1,5	Integrated	540	1	16
M03 010 2DA B	24	3 points	120	10	3	1,5	Integrated	480	1	16
M03 010 2GA B	24	3 points	120	10	6	1,5	Integrated	540	1	16
M03 010 2DB B	24	3 points	60	10	3	1,5	Integrated	480	1	16
M03 010 2GB B	24	3 points	60	10	6	1,5	Integrated	540	1	16
M03 010 1AA B	230	2 points	120	10	3	1,5	Integrated	480	1	16
M03 010 1HA B	230	2 points	120	10	6	1,5	Integrated	540	1	16
M03 010 1AB B	230	2 points	60	10	3	1,5	Integrated	480	1	16
M03 010 1HB B	230	2 points	60	10	6	1,5	Integrated	540	1	16
M03 010 2AA B	24	2 points	120	10	3	1,5	Integrated	480	1	16
M03 010 2AB B	24	2 points	60	10	3	1,5	Integrated	480	1	16
M03 005 1DD D	230	3 points	22	5	3	0,15	Rapid	480	1	16
M03 005 2DD D	24	3 points	22	5	3	0,15	Rapid	480	1	16
M03 010 1RA B	230	3+2 points	120	10	3	1,5	Integrated	480	1	16

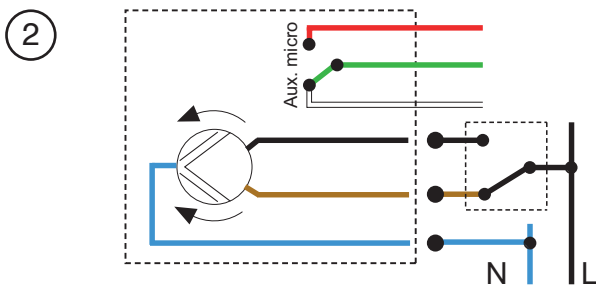
N. P/B: number of pieces in box - N. P/C: number of pieces in carton

Wiring diagrams

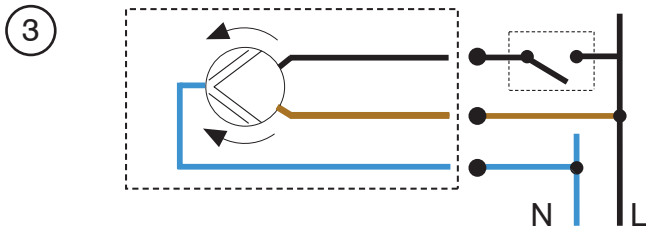
The electric connection between actuators and suitable control devices (thermostats, controllers etc) should be performed by specialized/ authorized technical personnel. The M03.4 actuator can work in 3 or 2 point mode, simply by connecting it according to the specific wiring diagram: diagram 1 for 3 point mode, diagram 3 for 2 point mode.



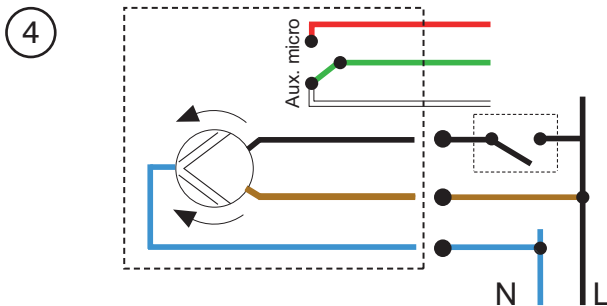
M03.3-M03.4: 3 point		
Colour		Indication
BN		Live for clockwise rotation
BU		Neutral
BK		Live for anti-clockwise rotation
L	-	Live
N	-	Neutral



M03.3: 3 point + auxiliary microswitch		
Colour		Indication
BN		Live for clockwise rotation
BU		Neutral
BK		Live for anti-clockwise rotation
RD		The contact gets closed after 10° of clockwise rotation
GN		Common
WH		The contact gets closed at the end of the anti-clockwise rotation
L	-	Live
N	-	Neutral



M03.2-M03.4: 2 point		
Colour		Indication
BN		Live for clockwise rotation
BU		Neutral
BK		Live for anti-clockwise rotation
L	-	Live
N	-	Neutral



M03.2: 2 point + auxiliary microswitch		
Colour		Indication
BN		Live for clockwise rotation
BU		Neutral
BK		Live for anti-clockwise rotation
RD		The contact gets closed after 10° of clockwise rotation
GN		Common
WH		The contact gets closed at the end of the anti-clockwise rotation
L	-	Live
N	-	Neutral

Features

Advantages

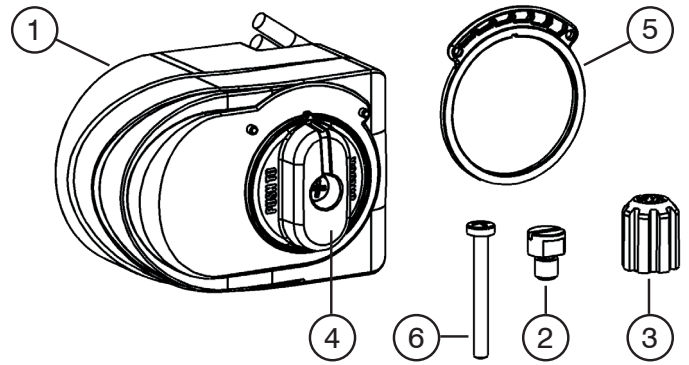
Wide range: the actuator is available, according to the models, with 3 point, 2 point and multifunction 3+2 point type, 230 V and 24 V electric supply, with and without auxiliary microswitch, with 120, 60 and 22 s rotation to be applied to several system needs.

Wide compatibility: the 3 point actuators (M03.3 and M03.4 connected as 3 point mode) are compatible with all threaded 3- and 4-way mixing valves as well as all DN 20, DN 25 and DN 32 motorizable regulating groups. The 2 point actuators (M03.2 and M03.4 connected as 2 point mode) are compatible with all 3-way threaded mixing valves (to be used in on-off mode as diverting valves). This allows to use one only actuator type with the consequent reduction of product code management and necessary spaces in the warehouse.

Reversibility: the reference ring (5) shows the opening degree of the hot water inlet port through arrows with increasing size. By reversing the ring and supplying the actuator in the correct way, it is possible to adapt it to different ways of using the valve ports (i.e.: 3-way valve with hot water inlet at the right or left).

Relay technology. In the multifunction M03.4 actuator the electric contacts are protected by relay. In this way, the actuator is isolated from possible electric noise or current peaks which could arrive from outside, for example from the electric network, the controller or other devices installed in the system.

M03.4 with immediate mode setting. The M03.4 actuator can work in 3 or 2 point mode, simply by connecting it according to the specific wiring diagram: neither tools nor switches are needed for the operating mode selection.



Installation

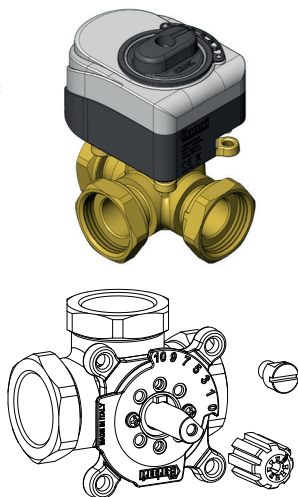
The actuator can be installed according to the following positions. The upside down installation is not allowed.



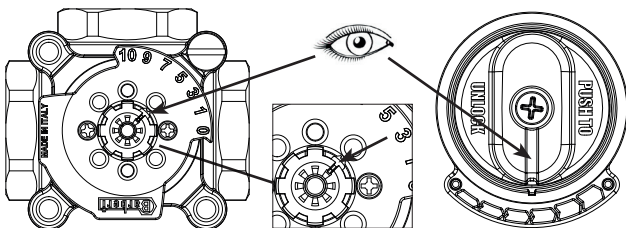
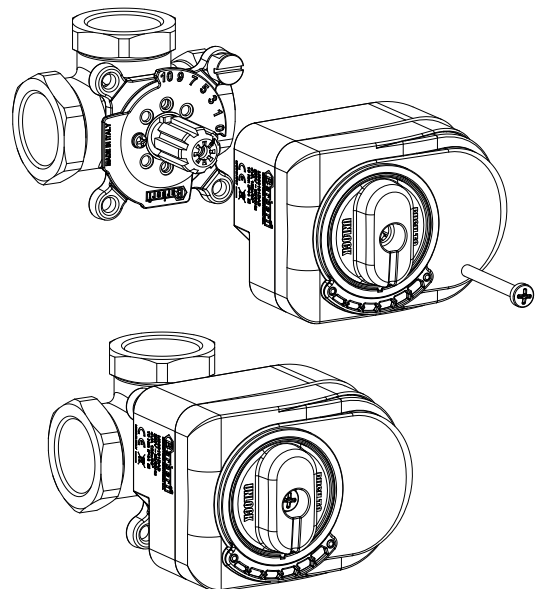
To install Barberi® actuator M03 series follow these steps:

1. Disassemble the valve knob, if installed; assemble the adaptor to move the rotor, as indicated in the figure, and screw the anti-rotation pin on the valve.

2. IMPORTANT: align the adaptor indicator to the position 5 (at about 45°) and verify that the actuator knob is in the shown position in the following figure.



3. Apply the actuator onto the valve body by aligning the shaft with the adaptor and the anti-rotation pin with the slot on the rear part of the actuator. Slightly screw the supplied screw to lock the actuator to the valve (do not fully tighten the screw).

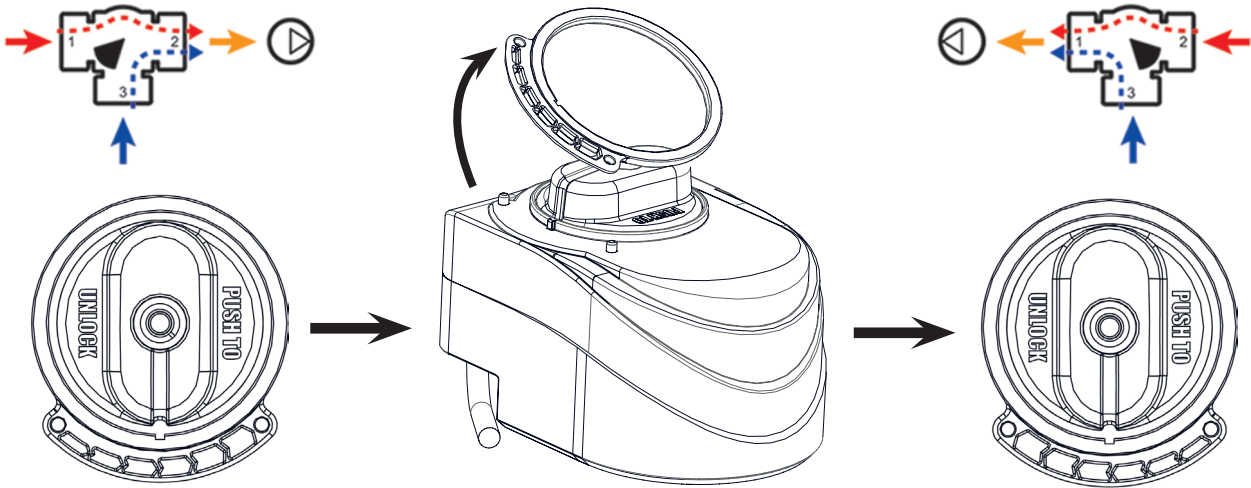


Reversibility

The reference ring (5) shows the opening degree of the hot water inlet port through arrows with increasing size:

- small arrow = port for hot water inlet fully closed, port for system return cold water inlet fully open
- big arrow = port for hot water inlet fully open, port for system return cold water inlet fully closed.

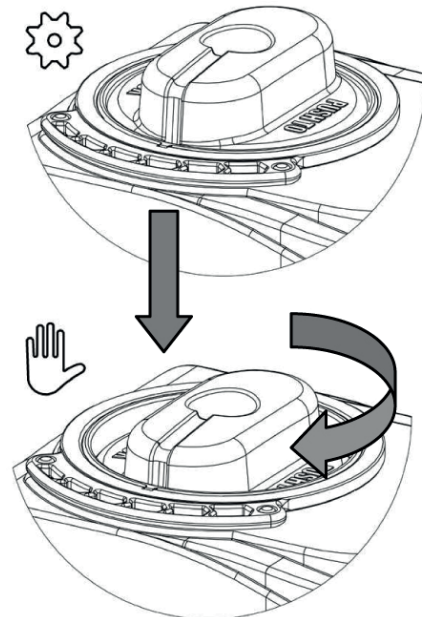
By reversing the ring and supplying the actuator in the correct way, it is possible to adapt it to different ways of using the valve ports (i.e.: 3-way valve with hot water inlet at the right or left).



Automatic/manual mode

If necessary, it's possible to pass from the automatic to the manual operating mode:

- press the frontal knob (4) as indicated by the writing on the knob "PUSH TO UNLOCK"
- keeping the knob pressed, rotate the knob to place the actuator and, as a consequence, the valve obturator in the desired position.
- release the knob to return into the automatic operating mode.



Accessories

M03.K

Spare part kit for M03.4, M03.3 and M03.2 actuators. Complete with knob, indicator, blocking screw, mixing valve adaptor, anti-rotation pin.



Code

		
M03 000 000 K	1	-

Specifications

Series M03.3

3 point actuator for 3- and 4-way threaded mixing valves and DN 20, DN 25, DN 32 motorizable regulating groups. Running time 120 s (and 60 s, 22 s). Rotation angle 90°. Rotation torque 10 N·m (and 5 N·m). Electric supply 230 V/50–60 Hz (and 24 Vac). Number of poles 3 (and 6 for the version with auxiliary microswitch), 1,5 m integrated cable (0,15 m with rapid connector). Protection class IP 44, protection class II. Auxiliary microswitch contact rating (6 pole versions) 6 (1) A. Complete with adaptor for valves and M8 anti-rotation pin.

Series M03.2

2 point actuator for 3-way threaded mixing valves, to be used in on-off mode as diverting valves. Running time 120 s (and 60 s). Rotation angle 90°. Rotation torque 10 N·m. Electric supply 230 V/50–60 Hz (and 24 Vac). Number of poles 3 (and 6 for the version with auxiliary microswitch), 1,5 m integrated cable. Protection class IP 44, protection class II. Auxiliary microswitch contact rating (6 pole versions) 6 (1) A. Complete with adaptor for valves and M8 anti-rotation pin.

Series M03.4

Multifunction 3+2 point actuator for 3- and 4-way threaded mixing valves and DN 20, DN 25, DN 32 motorizable regulating groups. With relay technology. Running time 120 s. Rotation angle 90°. Rotation torque 10 N·m. Electric supply 230 V/50–60 Hz. Number of poles 3, 1,5 m integrated cable. Protection class IP 44, protection class II. Complete with adaptor for valves and M8 anti-rotation pin.