RUBINETTERIE INDUSTRIALI s.r.l.

EN	DATASHEET		rev. A
	ST00074		
art. **450**	art. **451**	art. **460**	art. **461**
art. **475**	art. **476**	art. **W28.020**	art. **W28.022**

MIXING VALVES

art.ref. **450**

art.ref. **451**

art.ref. **460**

art.ref.**461**

art.ref. **475**

art.ref. **476**

art.ref. **W28.020**

art.ref. **W28.022**

Description

Barberi® mixing valves with or without actuator are devices that allows the mixing between two fluyds (e.g.warm and cold water) to get the desired temperature.They could be used in heating and refreshing installations, in heating plants, in heat generators (hang-wall boilers, wood boilers, heating pumps).
The mixing between fluyds is obtained through a shaped rotor that regulates the fluyid's passage. This rotor can be a sectorial rotor or a Tee one, according to the valve's type. If should be necessary to use the valves as diverting, the 3ways mixing valves could be considered (art.ref. 460, 461, 475).

Article range

art.ref. **450**	***PROGRESS*** 4ways mixing valve with F threaded connections.
art.ref. **451**	***PROGRESS*** 4ways mixing valve with M threaded connections.
art.ref. **460**	***PROGRESS*** 3ways mixing valve with F threaded connections.
art.ref. **461**	***PROGRESS*** 3ways mixing valve with M threaded connections.
art.ref. **475**	***PROGRESS*** 3ways mixing valve with 22mm compression ends
art.ref. **476**	***PROGRESS*** 4ways mixing valve with 22mm compression ends
art.ref. **W28.020**	Vertical 4ways mixing valve with running nuts.
art.ref. **W28.022**	Vertical 4ways mixing valve 22mm compression ends

Barberi Rubinetterie Industriali s.r.l. • 13018 VALDUGGIA (VC) ITALY • Via Monte Fenera, 7 • Tel. 0039 0163 48.284 r.a. • Fax 0039 0163 48.287 • e-mail: barberi@barberi.it • website: http://www.barberi.it

MIXING VALVES

Technical features

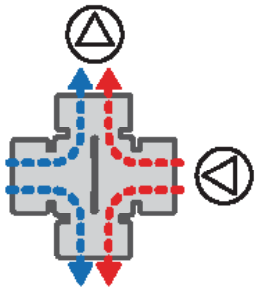
Min - max. acceptable temperature(peacks):
-20 °C *(see suitable fluids)* **– 130 °C**
Min - max. working temperature:
0 °C *(no frost)* **– 110 °C**
Max working pressure: **10 bar**
Rotor's torque: **under 5 Nm**
Rotor's rotation's angle: **90°**
Leakage: **<0,1%**
Suitable fluyds: **water for heating installation, glycoled water(max 50%)**
Installation connection:
F threaded connections UNI EN 10226-1
M threaded connections UNI ISO 228-1

Materials

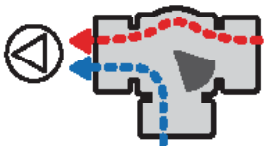
Valve's body:
brass UNI EN 12165 CW617N (from 1/2" to 1"1/4)
brass UNI EN 1982 CB753S (from 1"1/2 to 2")
Flanges: **brass UNI EN 12165 CW617N**
Rotor: **brass UNI EN 12165 CW617N**
Washers: **EPDM**
Numbered plate: **aluminum**
Handle: **ABS**

Working way

4-ways
working way during mixing



3-ways
working way during mixing

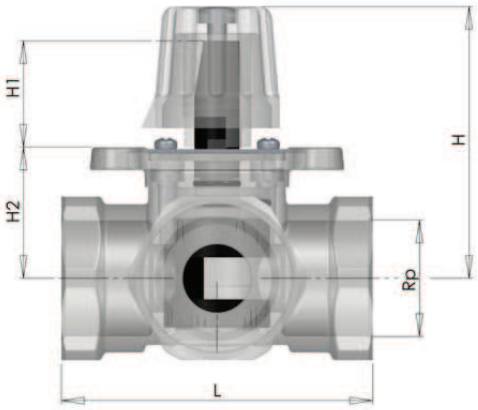


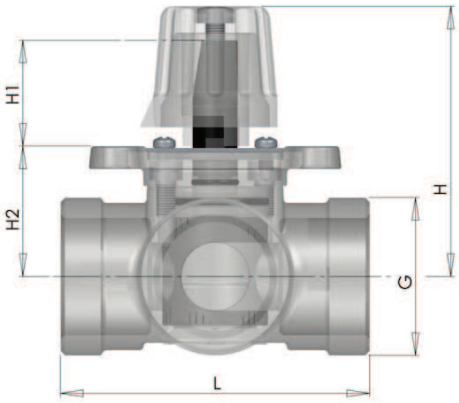
3-ways
working way during deviation

Rotary mixing valve sets the fluyd temperature of supply and/or of return. This setting is obtained by mixing a warm fluyd at higher temperature with a warm fluyd at a lower temperature within the mixing chamber. The mixing is done by a shaped rotor which allows the closure or the opening of fluyds' passage bores.
The three ways valves can be used as mixing valves (by setting the installation's temperature before the valve) or as deviator's valve (by setting the installation's flow rate before the valve).
When used as mixing valve, they are normally used to set the supply fluyd's temperature to consumer (e.g.wheather setting) or to set the inlet boiler temperature (e.g. wood boilers or oil boilers).

MIXING VALVES

Dimension





Aricle code	Rp	Kv	L	H	H1	H2	weight	N. P/B	N. P/C
45001500MA	1/2" F	2,5	80	72	28	35	736	1	10
45002000MB	3/4" F	4	80	72	28	35	812	1	10
45002000MC	3/4" F	6	80	72	28	35	812	1	10
45002500MD	1" F	8	82	72	28	35	1073	1	10
45002500ME	1" F	12	82	72	28	35	1044	1	10
45003200MF	1"1/4 F	15	85	74	28	37	1374	1	10
45003200MG	1"1/4 F	18	85	74	28	37	1250	1	10
45004000ML	1"1/2 F	26	116	80	28	42	2485	1	10
45005000MM	2" F	40	125	80	28	43	2616	1	10

Aricle code	G	Kv	L	H	H1	H2	weight	N. P/B	N. P/C
45102000MA	3/4" M	2,5	80	72	28	35	697	1	10
45102500MB	1" M	4	80	72	28	35	846	1	10
45102500MC	1" M	6	80	72	28	35	846	1	10
45103200MD	1"1/4 M	8	82	72	28	35	987	1	10
45103200ME	1"1/4 M	12	82	72	28	35	960	1	10
45104000MF	1"1/2 M	15	85	74	28	37	1414	1	10
45104000MG	1"1/2 M	18	85	74	28	37	1372	1	10

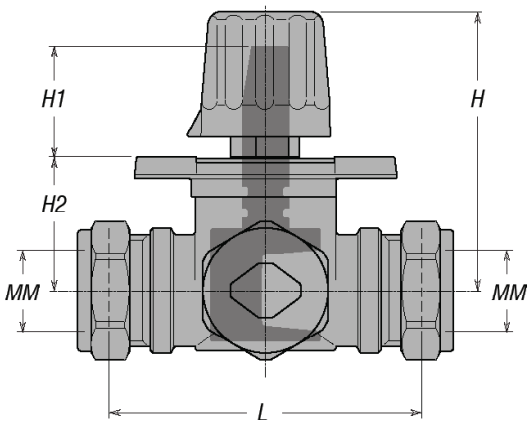
Aricle code	Rp	Kv	L	H	H1	H2	weight	N. P/B	N. P/C
46001500MN	1/2" F	1,6	80	72	28	35	661	1	10
46001500MA	1/2" F	2,5	80	72	28	35	678	1	10
46002000MB	3/4" F	4	80	72	28	35	754	1	10
46002000MC	3/4" F	6	80	72	28	35	738	1	10
46002500MD	1" F	8	82	72	28	35	906	1	10
46002500ME	1" F	12	82	72	28	35	882	1	10
46003200MF	1"1/4 F	15	85	74	28	37	1273	1	10
46003200MG	1"1/4 F	18	85	74	28	37	1246	1	10
46004000ML	1"1/2 F	26	116	80	28	42	2283	1	10
46005000MM	2" F	40	125	80	28	43	2532	1	10

Aricle code	G	Kv	L	H	H1	H2	weight	N. P/B	N. P/C
46102000MA	3/4" M	2,5	80	72	28	35	648	1	10
46102500MA	1" M	2,5	80	72	28	35	764	1	10
46102500MB	1" M	4	80	72	28	35	761	1	10
46102500MC	1" M	6	80	72	28	35	751	1	10
46102500MD	1" M	8	80	72	28	35	745	1	10
46103200MD	1"1/4 M	8	82	72	28	35	817	1	10
46103200ME	1"1/4 M	12	82	72	28	35	800	1	10
46104000MF	1"1/2 M	15	85	74	28	37	1302	1	10
46104000MG	1"1/2 M	18	85	74	28	37	1279	1	10

Weight (grams) - N. P/B: number of pieces in box, plastic bag - N. P/C: number of pieces in carton

MIXING VALVES

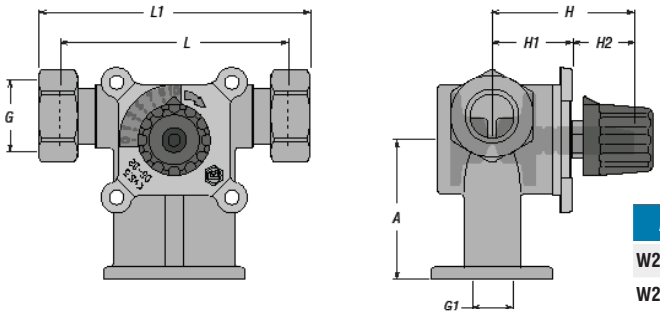
Dimension



Aricle code	MM	Kv	L	H	H1	H2	weight	N. P/B	N. P/C
475 02200 MA	22	2,5	80	72	28	35	760	1	10
475 02200 MB	22	4	80	72	28	35	760	1	10
475 02200 MC	22	6	80	72	28	35	760	1	10
475 02800 ME	28	12	82	72	28	35	810	1	12
475 03500 MG	35	18	88	74	28	37	810	1	8

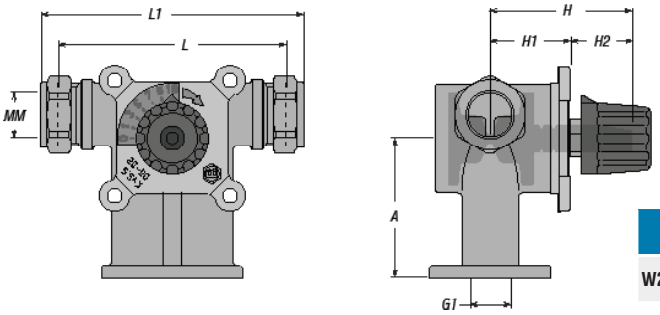
Aricle code	MM	Kv	L	H	H1	H2	weight	N. P/B	N. P/C
476 02200 MA	22	2,5	80	72	28	35	800	1	10
476 02200 MB	22	4	80	72	28	35	800	1	10
476 02200 MC	22	6	80	72	28	35	800	1	10
476 02800 ME	28	12	82	72	28	35	850	1	10
476 03500 MG	35	18	88	74	28	37	850	1	8

Weight (grams) - N. P/B: number of pieces in box, plastic bag - N. P/C: number of pieces in carton



Aricle code	G	Kv	L	L1	H	H1	H2	A	G1	weight	N. P/B	N. P/C
W28 02000 MH01	1"	5,5	105	125	65	37	28	64	1/2"	1270	1	16
W28 02000 MH02	1"	5,5	90	110	65	37	28	64	1/2"	1120	1	16

Weight (grams) - N. P/B: number of pieces in box, plastic bag - N. P/C: number of pieces in carton



Aricle code	G	Kv	L	L1	H	H1	H2	A	G1	weight	N. P/B	N. P/C
W28 02200 MH01	mm 22	5,5	105	125	65	37	28	64	1/2"	1220	1	16

Weight (grams) - N. P/B: number of pieces in box, plastic bag - N. P/C: number of pieces in carton

MIXING VALVES

Installation

PROGRESS mixing valves are supplied normally with manual setting handle and closing screw. These valves, apart from being used with actuator to authomatically set the temperature, can be installed according to installations' exigences.

Positioning

The actuated valve can be installed according to following postions (fig.3).

Fig. 3

Configuration

PROGRSS 3 and 4ways mixing valves can be configurated to satisfy different installation's needings and are preassembled in factory according to standard configuration as shown in fig.A and C (4 and 3 ways). Other configurations are shown in fig.B (4ways) and in fig.D,E,F (3ways).

4-ways

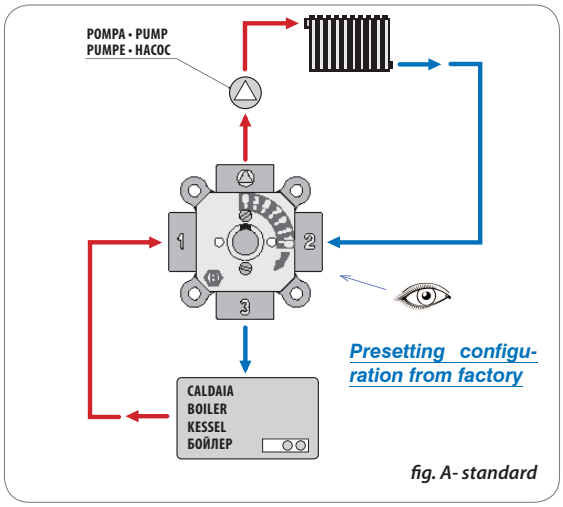


fig. A- standard

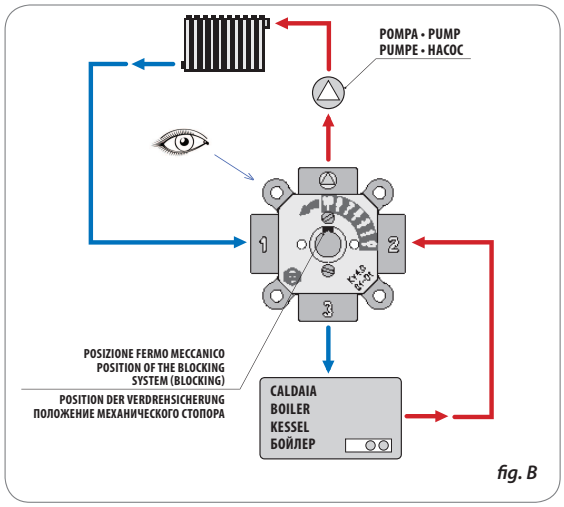
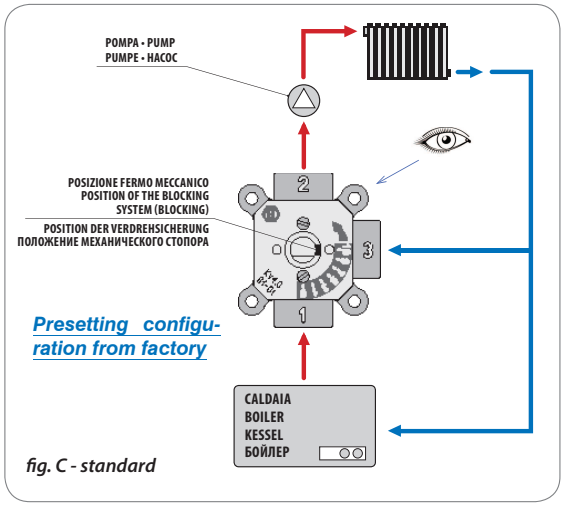
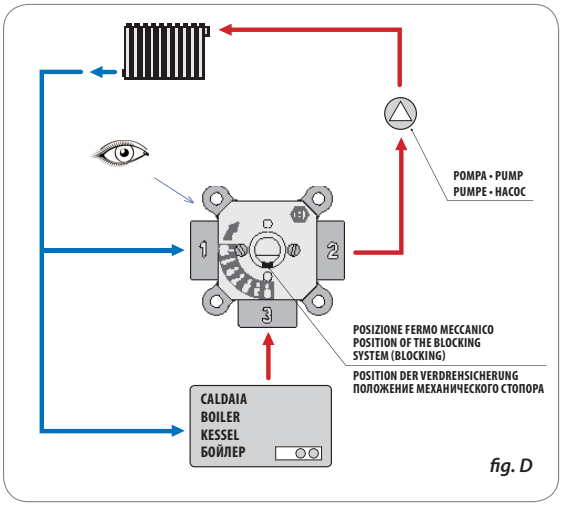


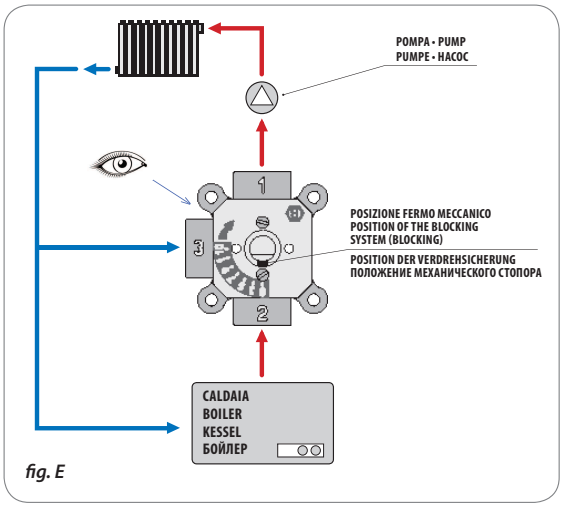
fig. B

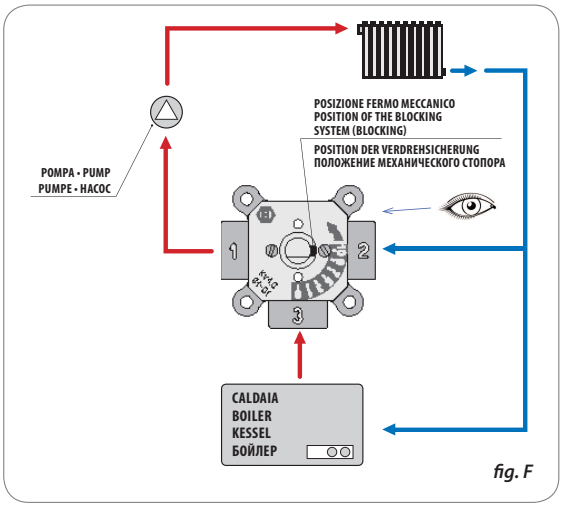
MIXING VALVES

3-ways









To configurate the valve other than the standard, it is necessary to disassemble the handle (1) (see fig.1), the numbered plate (2) and the mechanical stop device (3). The mechanical stop device is used to block the handle at the opening and closing strokend. The numbered plate is normally positioned at no.10 corresponding with the mixed water highest temperature (see fig.2). Verify the figure from A to F to choose the desired installation configuration observing the correspondance between printed numbers below the valve and printed numbers in the shown schemes.

- Insert the mechanical stop (fig.2) with the tongue position as shown in the chosen configuration of the scheme.
- Insert the numbered plate as shown in the scheme observing the arrow corresponding to no.10 and screw the two closing screws.
- Insert the handle into the rotor as shown in fig.2 and position the rotor until the handle indicator is in a position between 0 and 10, before screwing the handle.
- screw the stop screw.

NB. it is suggested to modify the valve's configuration before installing it to veify the correct working of the rotor.

MIXING VALVES

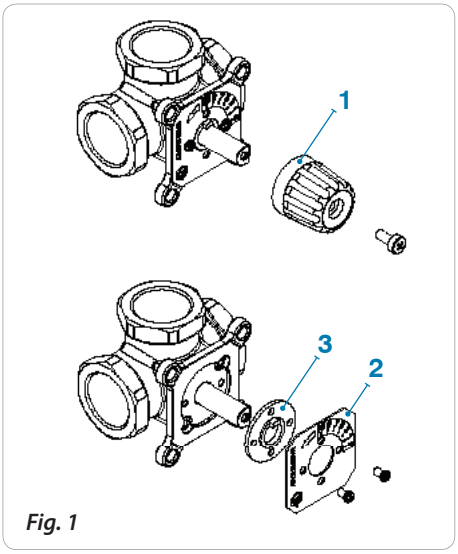


Fig. 1

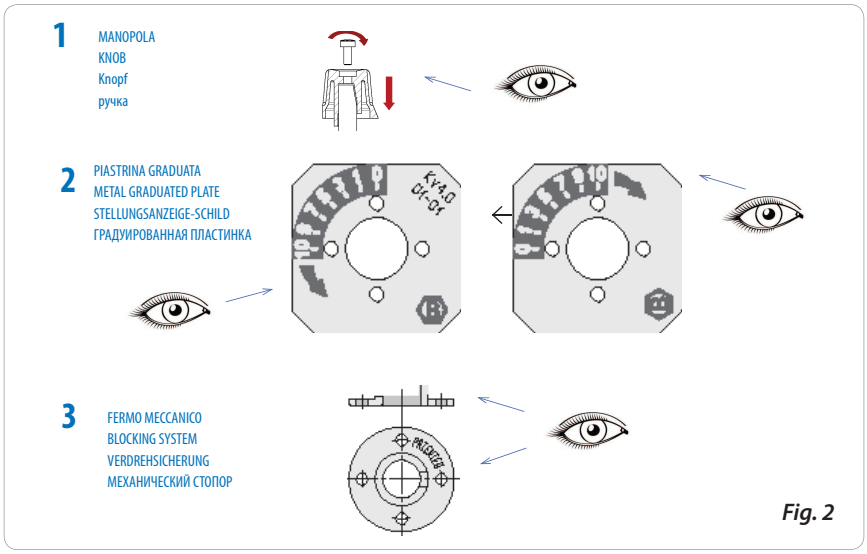


Fig. 2

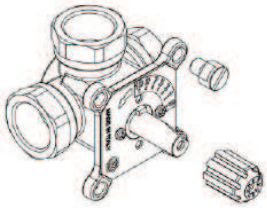
Actuator installation

PROGRESS mixing valves can be actuated with 2 or 3 points or proportional actuators. To install the actuator it is necessary to accurately read its instructions.

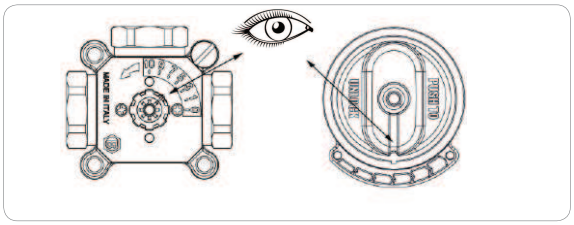
To install **Barberi®** actuator series M03 follows these important stages:


art. **M03**

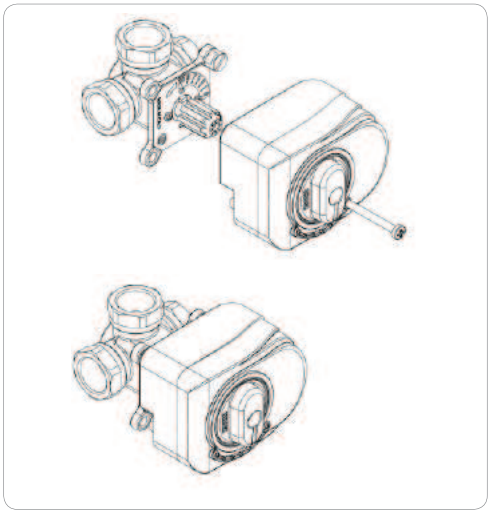
1. Disassemble the valve's handle if installed, assemble the adaptor to move the deviator, as indicated in figure and screw the mechanical stop on the valve.



2. IMPORTANT: align the adaptor indicator with position no.5 (at around 45°) and verify that the actuator's handle is in the position as shown in figure.



3. Assemble the actuator on the valve making the transmission arm with adaptor and the mechanical stop with its housing in the rear part of the actuator. Screw the supplied screw to block the actuator on the valve

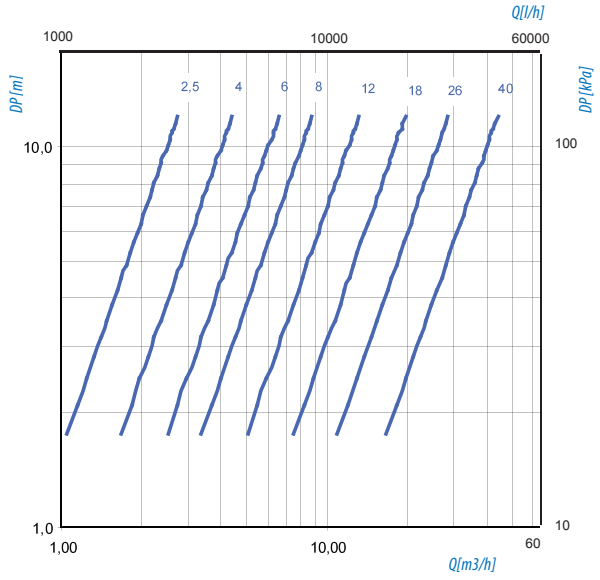


MIXING VALVES

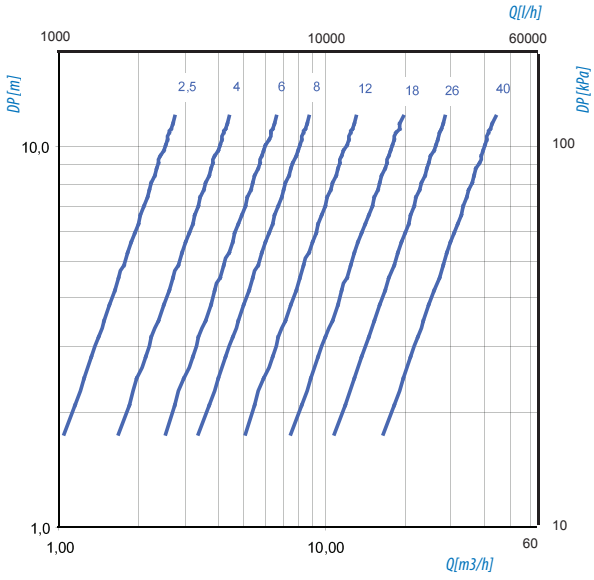
Diagrams

Pressure drop

4 way

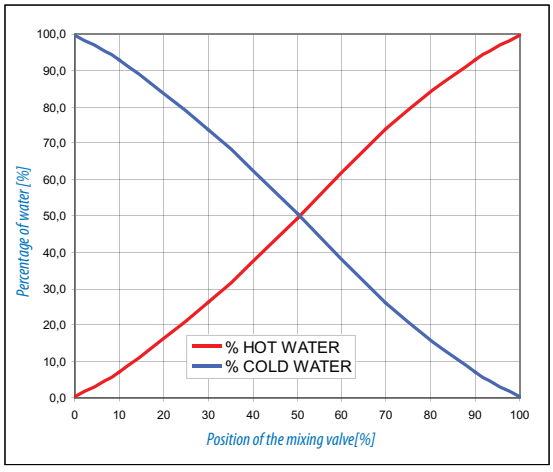


3 way

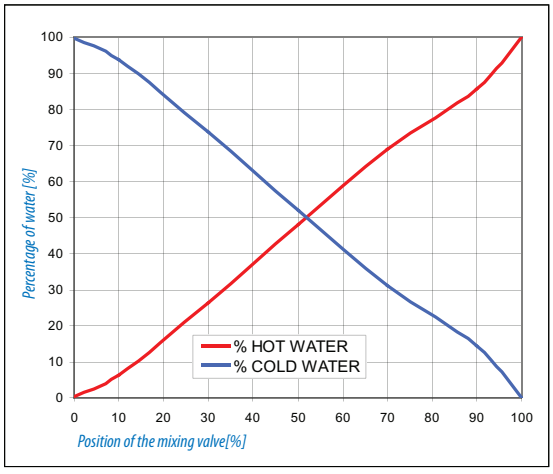


Mixing curve

4 way



3 way



MIXING VALVES

Specification

The specification is referred to a specified product reference. Each product variation obliges specification's amendement from planner' side.

Art.ref. 460 040 00ML: 3ways rotary mixing valve KV26 with handle for manual setting and possibility to assemble an actuator (stroke 90°). Threaded connections Rp1"1/2, 116 hit's distance. Body in brass material UNI EN 1982 - CP735S. Closing flange UNI EN 12165-CW617N. Epdm washers. Aluminium numbered plate. ABS handle. Max working pressure 10bar. Max working temperature 110°C. Suitable fluyds water or glycoled water (max.50%)

Accessories

Art. M03

Compact actuator for mixing valves with 3points and on/off setting

Torque: **10 Nm**
Running time: **60 s, 120 s**

article code	V	control	running time	n° wires
M030101DAB	230 V	3 pt.	120 s	3
M030101GAB	230 V	3 pt.	120 s	6
M030101DBB	230 V	3 pt.	60 s	3
M030101GBB	230 V	3 pt.	60 s	6
M030101AAB	230 V	on/off	120 s	3
M030101HAB	230 V	on/off	120 s	6
M030101ABB	230 V	on/off	60 s	3
M030101HBB	230 V	on/off	60 s	6
M030102DAB	24 V	3 pt.	120 s	3
M030102GAB	24 V	3 pt.	120 s	6
M030102DBB	24 V	3 pt.	60 s	3
M030102GBB	24 V	3 pt.	60 s	6
M030102AAB	24 V	on/off	120	3
M030102ABB	24 V	on/off	60	3

Art. P27T

Mixing valve actuator with sensor to fixed temperature setting

Torque: **10 Nm**
Rotation time: **135 s**

article code	V
P27230010T	230 V

Art. M04

Mixing valve actuator with proportional setting

Torque: **10 Nm**
Rotation time: **60 s, 90 s, 120 s**
Control: **0(2)-10V**
Feedback: **0-10V/0-40mA**

Related articles

Art. P51, P88, P52

3and 4ways flanged minxing valves

Art. M01

Actuators for flanged mixing valves