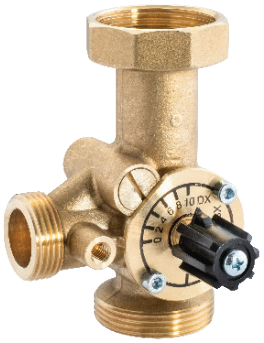
Variable point mixing group

782

Description

The ICMA motorized mixing unit is a device that allows mixing between two fluids in order to obtain a desired temperature. It is used in heating and cooling systems, in thermal power stations and heat generators (wall boilers, wood boilers, heat pumps).
The mixing of fluids takes place through a shaped bush that regulates the passage.
The mixing groups can be adjusted manually or with an electric servomotor (Art.787).



Products

ART.	SIZE	DELIVERY SIDE	CODE
782	DN20	RIGHT	93782AED05
782	DN20	LEFT	93782AES05

Technical Features

TECHNICAL DATA

Fluid of use:	Water and glycol solutions
Maximum percentage of glycol:	50%
Maximum working pressure:	10 bar
Operating temperature:	0°C (freeze excluded) - 110 °C
Rotation torque:	<5Nm
Rotation angle:	90°

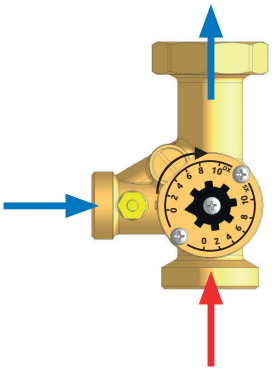
CONNECTIONS:

Boiler Connections:	G 1”1/2 M
System Connection:	G 1”1/2 F - 1” M

MATERIALS

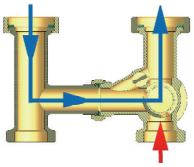
Body:	Brass CW617N - EN 12165
Shutter	Brass CW617N - EN 12164
By-pass shutter:	Brass CW617N - EN 12164
By-pass cap:	Brass CW617N - EN 12164
Silkscreen shutter plug:	Brass CW617N - EN 12164
O-ring:	EPDM Peroxide
Friction plate:	PTFE
Screw ISO 7045 M5x10:	Stainless steel
Seal:	EPDM Peroxide
Cap:	Brass CW617N - EN 12165
Knob:	ABS

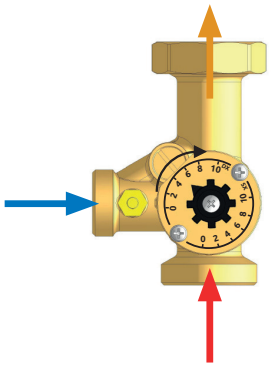
Mixing valve functioning



FULLY CLOSED POSITION:

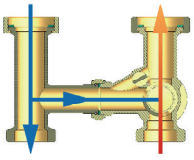
Position 0.
The delivery is completely excluded.
The heat transfer fluid from the return circuit is recirculated into the system.

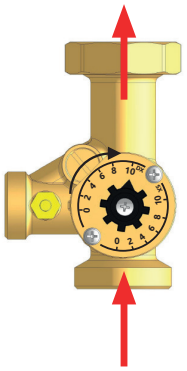




MIXING POSITION:

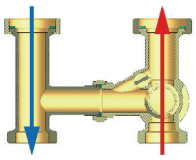
Position 5.
The heat transfer fluid from the boiler is mixed with the return fluid from the system.



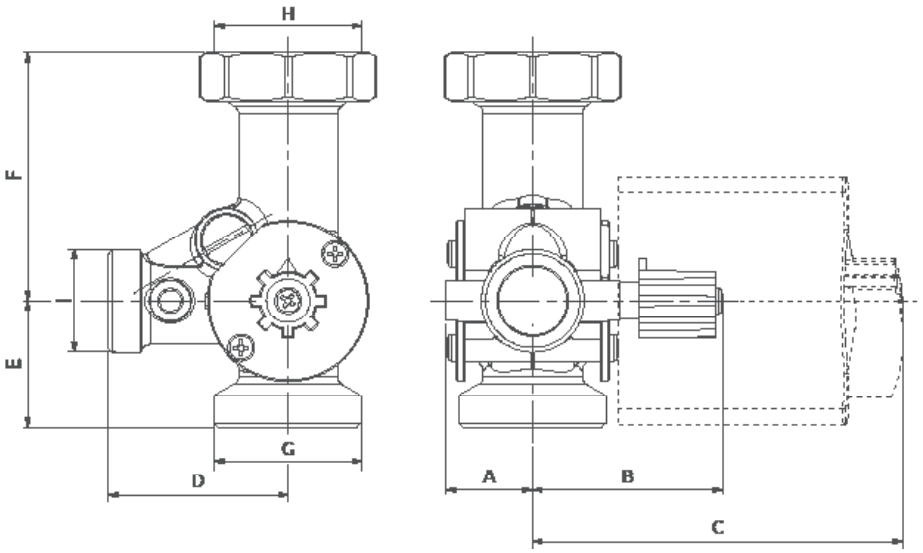


FULLY OPEN POSITION:

Position 10.
The mixing valve is completely open.
The heat transfer fluid from the boiler is sent directly to the system.



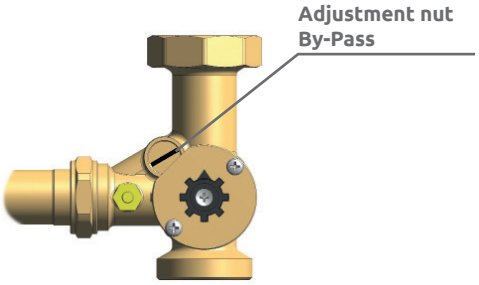
Dimensions

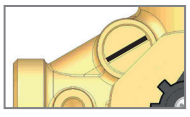


CODE	A	B	C	D	E	F	G	H	I
93782AED05	28	61,5	120	58	41	80,5	G1"1/2 M	G1"1/2F	G1"M
93782AES05	28	61,5	120	58	41	80,5	G1"1/2 M	G1"1/2F	G1"M

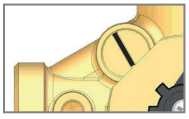
By-Pass setting

The mixing valve is equipped with a By-pass duct which allows to reduce the temperature of the water in the underfloor system by mixing the lukewarm water of the return branch with the water of the discharge branch reducing any damage.
The by-pass regulation is made by means of the brass screw indicated in the drawing below (use a slotted screwdriver). For the OPEN / CLOSED positions, see the diagrams shown alongside. When starting the system, it is advisable to keep the by-pass fully open (adjust it later)





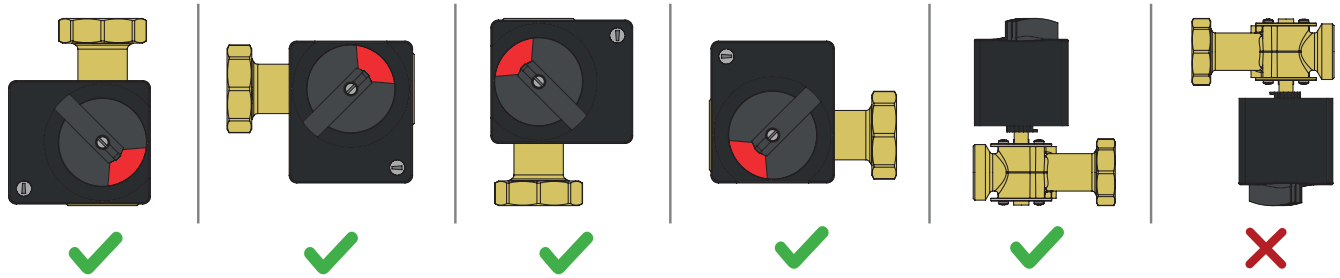
OPEN BY-PASS



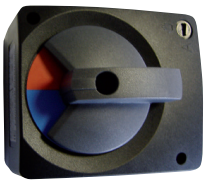
CLOSED BY-PASS

Installazion

The mixing group is supplied with a manual adjustment knob. For automatic configuration see Art. 787. (electric servomotor).



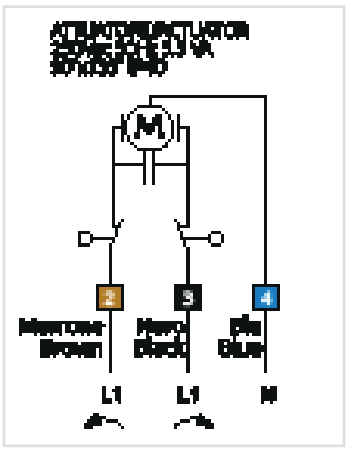
Servomotor Art. 787



TECHNICAL FEATURES

Power supply:	230V - 50Hz
Current max current consumption:	3,5 VA
Running time on 90 °:	135 sec
Rated load torque:	10 Nm
Operating temperature:	-10 / +50 °C
Degree of protection:	IP 40
Outer shell material:	Polycarbonate

ELECTRICAL CONNECTION

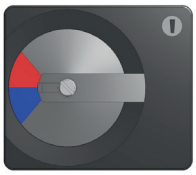


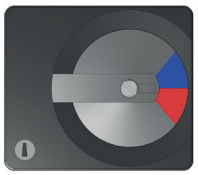
PRODUCT RANGE

82787BI53	230 volt
82787BI54	24 volt AC

Servomotor Configuration

The servomotor can be configured in the two ways shown below according to the type of group on which it will be mounted.

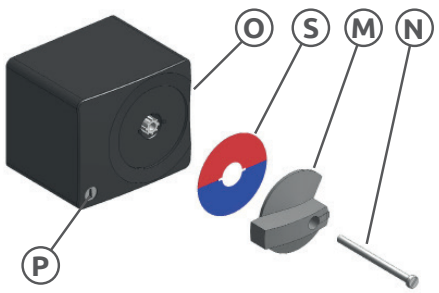




To change the configuration of a servomotor it is necessary to disassemble the article as indicated in the diagram below and replace it in one of the two configurations shown in the images above. During these operations pay attention to the position of the RED / BLUE “S” disk.
WARNING: In both configurations the “S” disk must be mounted with the RED part facing up. The coupling of the “M” knob on the motor body “O” instead, can be carried out in only one position, this is constrained by the shape of the toothed shaft on the motor body and by the relative seat in the knob.

Automatic/Manual Operating

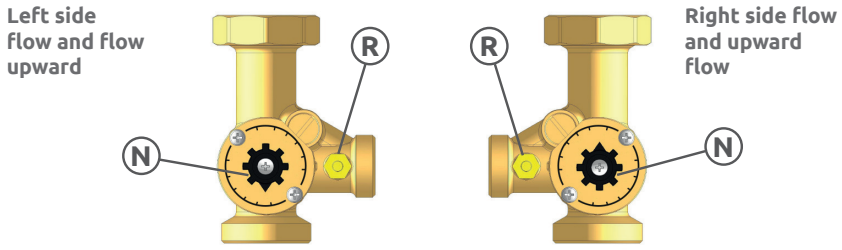
The servomotor has two operating settings: AUTOMATIC and MANUAL.
To set the servomotor in “AUTOMATIC” mode it is necessary to press the “P” button with a flathead screwdriver and turn it by moving the reference mark towards the letter “A”, in this way the handwheel is linked to the internal servomotor mechanism. it will only move automatically.
To set the servomotor in “MANUAL” mode, instead, it is necessary to press the “P” button with a screwdriver and rotate it by moving the reference mark towards the “hand” symbol, in this way the handwheel is free and can be rotated manually in the desired position.



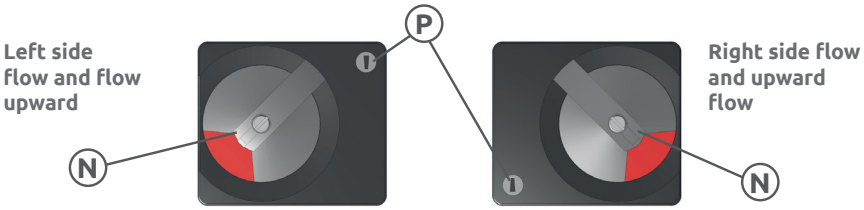
Servomotor assembly instructions on the variable point mixing valve

After choosing the desired setting for the relay unit and after having carried out all the necessary operations described in the previous paragraphs, it is now possible to mount the servomotor on the mixing valve.
The servomotor must be mounted in a specific position, following the operations to be carried out for its correct installation on a mixing valve with "LEFT" and "RIGHT" configuration.
ATTENTION: installing the servomotor on the mixing valve in the wrong position compromises the correct one operation of the whole relaunch group.

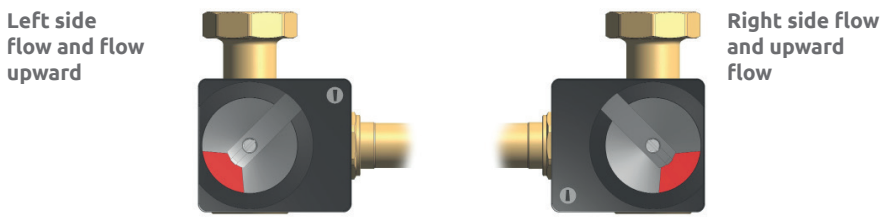
Mixing valve setting: position the black handwheel "V" with the reference arrow pointing upwards or downwards according to the configuration of the selected group (refer to the two diagrams below). Remove the screw that fixes the handwheel to the valve, taking care not to rotate it (it must stay in the set position). Fit the reference pin "R" on the same side of the valve body where the handwheel is mounted.



Servomotor Setting: set the servomotor in automatic operating mode (see the indications in the previous paragraph). Keeping the "P" button pressed, turn the "M" knob to one of the two positions shown below (only the RED color of the disk must be visible), releasing the button the knob will remain locked in the correct position.

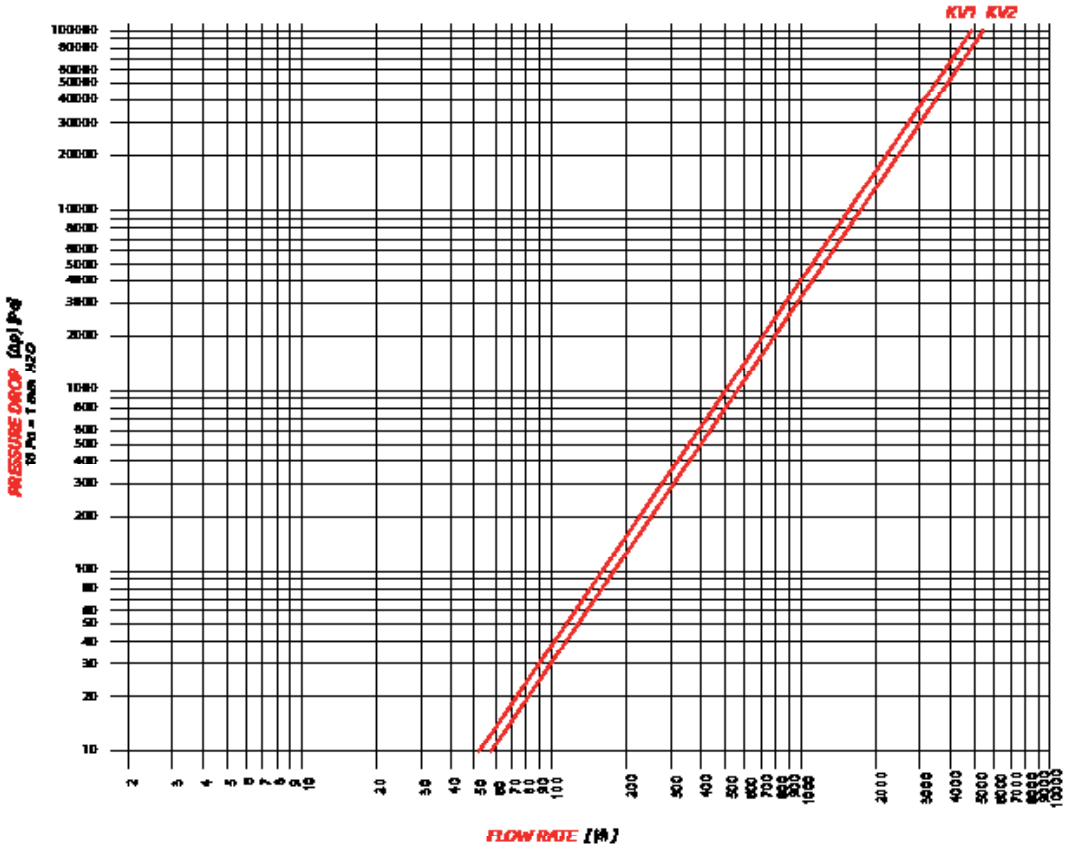


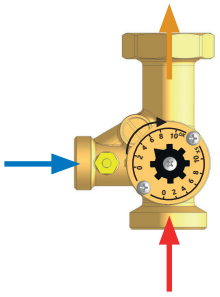
Mounting the servomotor on the mixing valve: Place the servomotor on the valve paying particular attention to its coupling with the black "V" handwheel and with the reference pin "R" (the pin goes into the horizontal slot). Fix the servomotor to the valve using the supplied M5x70 screw, detail "N" (page 8). The assembly will now have to show up as one of the two images below and it will be ready to be installed in the group.



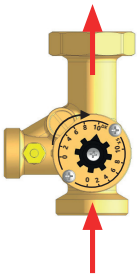
Pressure Loss

PRESSURE DROP DIAGRAM





KV1 m3/h Angled way	5.2



KV2 m3/h Straight way	5.85