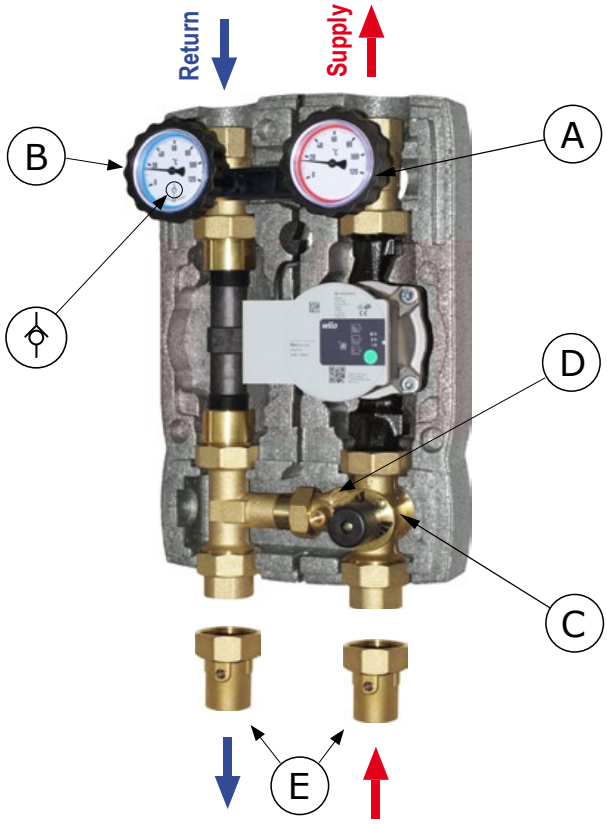
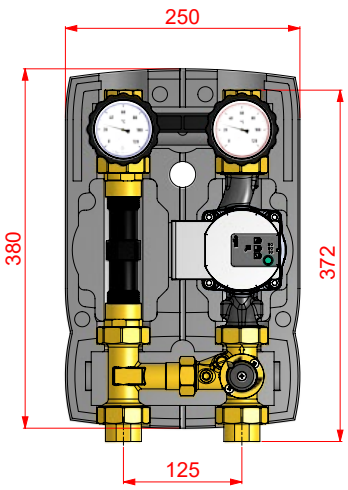
# M2 MIX3/MIX33 Energy DN25 Series to meter the energy

## Installation instructions




## DIMENSIONS

**EPP insulation box:** the insulation covering includes a central inside part that hugs the circulating pump and that allows the passage of the cable of the circulating pump. Outlets for the passage of the cables towards the upper part and the lower part of the insulation box. The central part must be removed to allow housing of the meter. *Dimensions: 250x380x170 mm.*

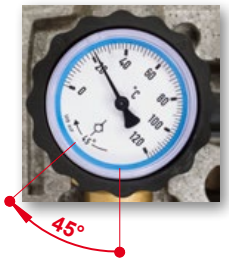



## SERVICE

For a possible maintenance/replacement of the components of the pump unit and during the step of installation of the energy meter we recommend to mount two isolation ball valves **(E)** (optional) before the pump unit. In this case close the valves **(A)**, **(B)** and **(E)** by rotating the respective handles clockwise. Once the service is over open again the ball valves and restore the pressure of the installation.

## 20 mbar CHECK VALVE

It is always inside the ball valve **(B)** of the return way, it prevents the natural circulation of the fluid (thermosiphon effect). The check valve can be excluded by rotating the handle by 45° clockwise from the opening position.




## TECHNICAL FEATURES

**PN 10. Maximum temperature 90°C (*).**
**Available external connections: 1" F.**
*(*) Data calculated without the energy meter installed.*

## FIELD OF USE

**M2 MIX3 Energy pump units:**
**For power up to 35 kW (with Δt 20 K) and maximum flow 1500 l/h.**
**Kvs value: 6.0.**

**M2 MIX33 Energy pump units:**
**For power up to 31 kW (with Δt 15 K) and maximum flow 1800 l/h.**
**Kvs value: 7.0.**

Approximate data calculated with a 6 m head circulating pump. For an accurate measuring or higher flows, please refer to the curve of the circulating pump.
*Data calculated without the energy meter installed.*

## ENERGY SERIES

**Energy pump units are made to meter the energy of centralized heating and cooling installations.** These pump units allow an easy mounting of the energy meter. The second sensor has to be placed directly into the isolation valve in the supply way, without any adapter or any sensor holder pit.

This special 3 port ball valve, positioned downstream of the circulating pump, allows the probe to be sealed and its possible replacement without emptying the system: it is enough to close the valve to isolate the sensor from the hydraulic circuit. In this way the installation of the meter, after cleaning the circuit and its maintenance or replacement, is simplified.

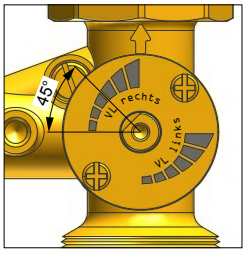
## HEATING AND COOLING

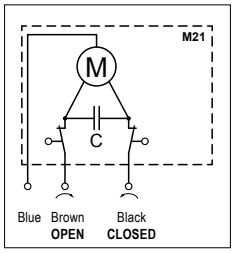
**Energy** pump units are made for heating, cooling and combined systems.

**CAUTION: please be sure that the model of energy meter you are going to mount is suitable to the installation.**

## INSTRUCTIONS TO CONNECT A SERVOMOTOR

Turn the knob placing it with an angle of 45° as shown in the illustrations at right side; remove the knob (taking care not to turn the rod) and mount the servomotor by means of the special kit included in the package.



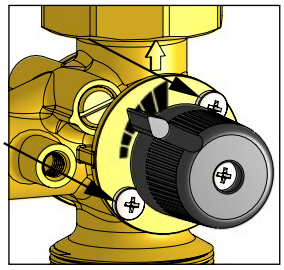




## BY-PASS

**M2 MIX33 Energy** pump units have an adjustable by-pass **(D)** integrated into the mixing valve **(C)**. By means of the control rod (front side adjustable) it is possible to mix to the supply way a quantity of water coming from the return way.

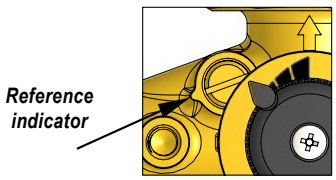
## BY-PASS SETTING DIRECTIONS (M2 MIX33 ENERGY MODELS)

**M2 MIX33 Energy** pump units are supplied with the recirculation by-pass fully open. To adjust the quantity of recirculation through the by-pass you must move the regulation rod, that can be turned clockwise or anti clockwise indifferently. Follow these steps:

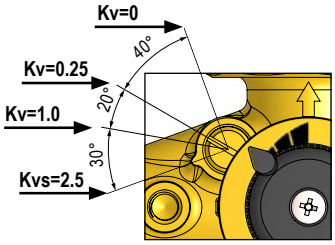


***Arrows show the fixing screws of the handle stopper and of the adjustment rod.***

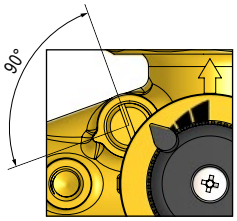
1. *Loosen the fixing screws of the handle stopper (indicated by the arrows in the image to the left) to unlock the adjustment rod of the by-pass;*
2. *Select the desired position of the adjustment rod:*




The by-pass is **fully open** and it allows the maximum recirculation. *The screwdriver slot is lined up to the reference notch.*




The by-pass is in **an intermediate position** and it allows a partial recirculation. *As reference you can take the **Kv** values indicated in the picture.*

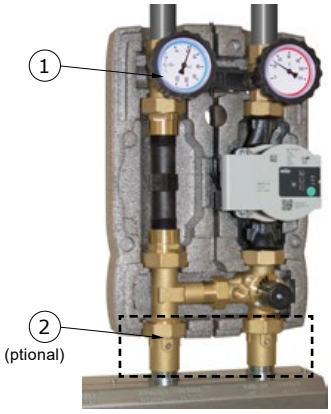



The by-pass is **fully closed** and there is no recirculation. *The screwdriver slot is in orthogonal position (90°) as to the reference notch.*

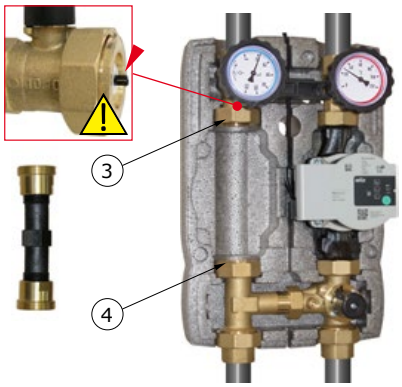
3. *Screw again the fixing screws of the stopper to lock the adjustment rod.*

## MOUNTING OF THE ENERGY METER

To safeguard the good working of the energy meter it is recommended to clean the circuit before mounting it. The **Energy** modules are provided with a pre-assembled spacer piece which replaces the meter in the circuit cleaning phase. In this step, by placing into the circuit an appropriate filter *(f.e. Art. 514)*, the working of the installation is possible both in pressure and in temperature. **When the cleaning is over** you can remove the spacer piece and replace it with the energy meter.

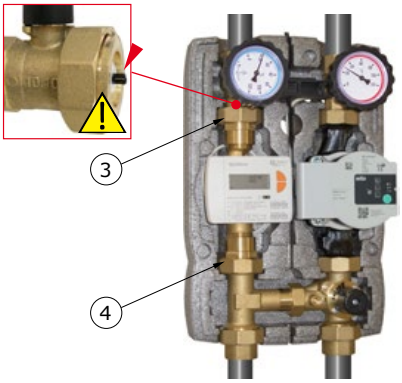



***1.** - Close the valve ① before the spacer piece on the return way. Cut off the tract after the spacer piece by closing the valve ② if present, otherwise you must stop the system and to empty it partly.*




***2.** - Unscrew the nuts ③ and ④ and remove the spacer piece with its connections. This operation is easier if you remove the base of the insulation box, if possible.*
***CAUTION: please pay attention to the protrusion of the check valve inside the flange (see the illustration).***

***3.** - Unscrew the connections of the spacer piece and screw them on the body of the energy meter.*
***CAUTION: respect the flow direction indicated on the body of the energy meter.***

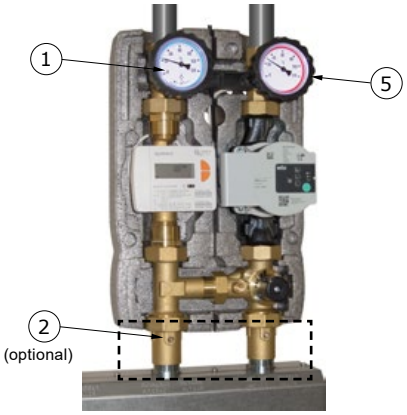



***4.** - Place the energy meter and screw the nuts ③ and ④ previously unscrewed. The sensor cable of the return way can be wrapped under the body of the energy counter.*
***CAUTION: please pay attention to the protrusion of the check valve inside the flange (see the illustration).***

***5.** - Place the cable of the supply sensor into the special passage on the center of the insulation box, in order that it comes out through the back hole near the 3-way ball valve (supply way).*


***6.** - Close the ball valve ⑤ of the supply way (red thermometer).*

***7.** - Remove the plug and the washer from the third way of the ball valve and place into the special seat the supply temperature sensor with its packing gland and the seal o-ring (please refer to the manual of the energy meter manufacturer). This operation is easier if you remove the base of the insulation box, if possible.*




***8.** - Open again the ball valves ① and ⑤, and, if any, also the shut-off valve ②, and restore the pressure of the installation.**The metering will start automatically as soon as the requirements of flow and temperature difference between the supply and the return are satisfied.***


***9.** - Please refer to the manual of the manufacturer of the energy meter as regards the directions concerning the lead sealing, the details of the use and the configuration.*