

Laddomat A-Mix

Directions for installation



SAFETY: Please read carefully the mounting and setting up directions before setting the system going, in order to avoid accidents and failures of the installation caused by an improper use of the product. Keep this manual for future consultations.

List and basic technical features of the main components

(B) Isolating ball valve.
Isolating ball valve mounted on the three connections. Operating stem with allen screw.

Bypass
(Recycling)



(C)

(C) Thermometers.

Thermometers showing the temperature, with scale 0-120°C. They can be moved to the opposite side of the body, in accordance to the orientation of the pump unit in the installation.

Users'
return way

(A) Circulating pump.

Asynchronous *Wilo Star RS/7* circulating pump or synchronous high efficiency *Wilo Yonos Para RS/7-RKC* circulating pump with progressive speed control. The label on the circulating pump shows the standard hydraulic scheme and the features of the model.

Supply to the
heating source

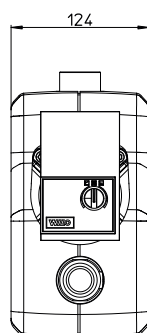
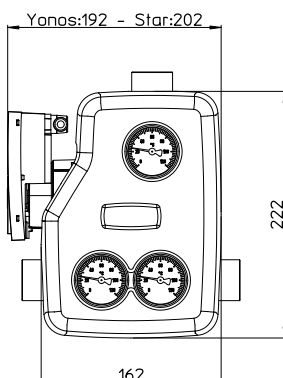
(D) Operating rod.

External control rod of the internal clapet valve. It can be kept working or not working according to the installation specifications.



TAKE CARE

The piece is supplied with the clapet valve rod in stop position.



EPP insulation box. Measurements: 162 x 222 x 124 mm.

Technical features

Maximum working pressure: **10 bar with Star RS/7**
6 bar with Yonos Para RS/7
Maximum temperature: **100°C**
Nominal opening temperature: **setting temperature + 10 K**

Field of utilization

For a maximum working power up to:
100 kW (with Δt 30 K) with Star RS/7 circulating pump.
80 kW (with Δt 30 K) with Yonos RS/7-RKC circulating pump.

Available setting temperatures: **45°C, 55°C, 60°C and 72°C**
External connections: **1" and 1 1/4 F, 28 mm for copper pipe.**

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Employment

The anti-condensing pump unit allows to connect directly the solid fuel heating source to the heating system or to the buffer tank without any additional device. As a matter of fact the pump unit includes into a compact and nice insulation box the circulating pump, the anti-condensing thermostatic valve, the on/off natural circulation clapet valve, the isolating valves and thermometers. It automatically adjusts the return water temperature to the heating source to the selected setting value of the thermostat

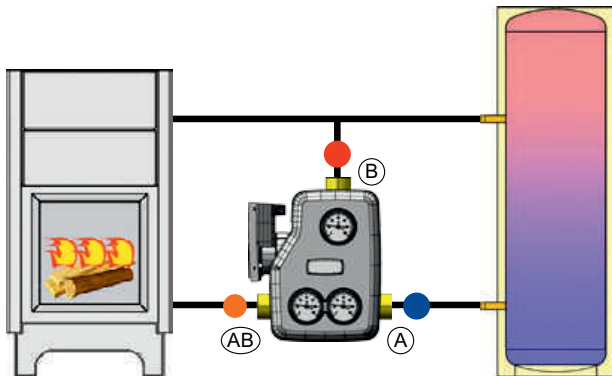
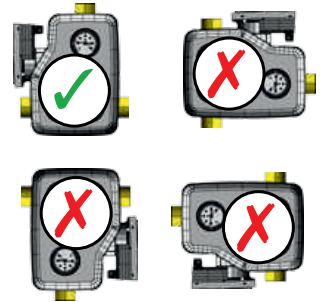
The device keeps the heating source at a high temperature level (always higher than the condensation one) in every possible condition of use, so avoiding deposits both into the boiler and into the chimney flue, in this way improving the efficiency and the life of it. Therefore also corrosion problems of the heating source or dangerous fires of the chimney are avoided.

Installation

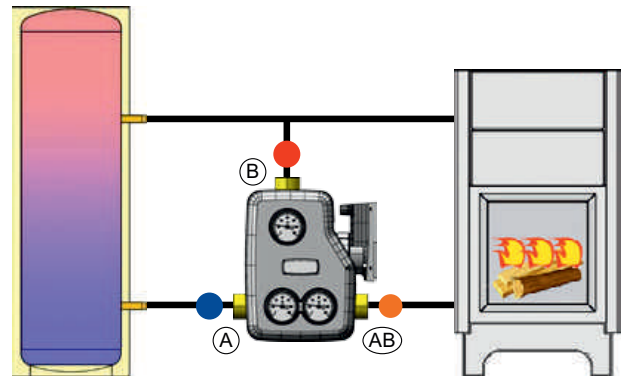
The anti-condensing recycling pump unit can be placed on both sides of the heating source, following these directions:

On the return pipe to the boiler in mixing mode, following the flow directions shown on the body
In vertical position (horizontal circulating pump axis) to allow the hydraulic working of the natural circulation clapet valve.

In order to optimize the anti-condensing control, we recommend the installation of the component on the return way to the boiler.



Scheme 1: Installation placed on the right of the heating source



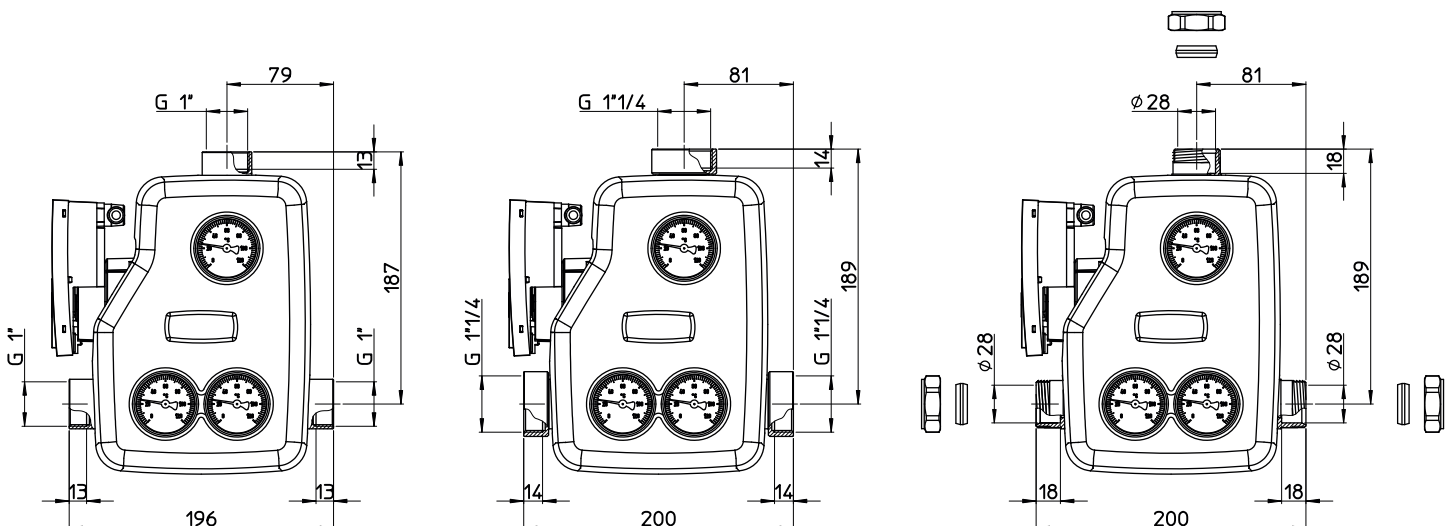
Scheme 2: Installation placed on the left of the heating source

The standard model is set up for the installation on the right of the heat source (*scheme 1*). To install it on the left (*scheme 2*) it is enough to put the three thermometers on the opposite side of the insulation box:

Open the insulation box and remove the three thermometers from the seats;

Pierce the other half of the shell in the centre of the seat of the thermometer, the thickness is very thin and it is giving way easily;

Close again the two shells on the body and place the three thermometers into the holes previously prepared, taking care that they're placed into their seats on the brass body and that they're not protruding from the insulation box.



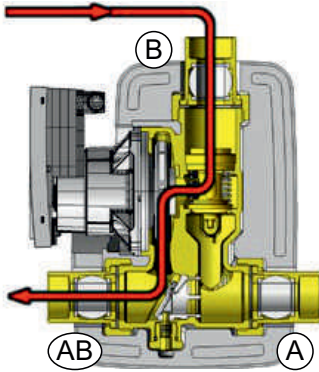
Dimensions and sizes of the available connections

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Working mode

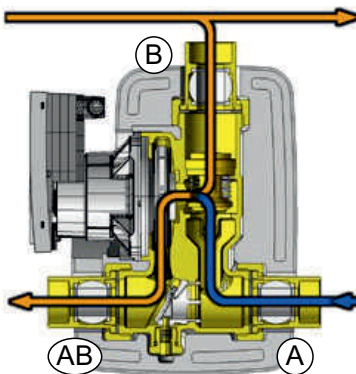
The schemes shown below represent the different working phases of the anti-condensing pump unit.

Please note that: the pictures have to be considered just as an indication and they have no completeness pretention.



①

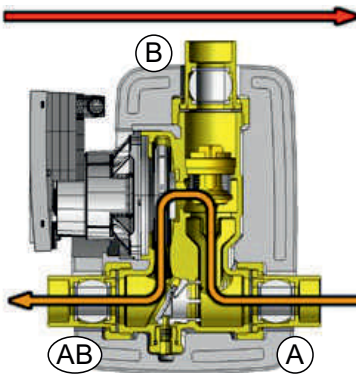
After the starting of the boiler, the thermic valve is fully closed towards the user's return (**gate A**) and this condition remains until the fluid, warmed up by the heating source, gets the opening temperature of the thermic valve (corresponding to the setting value, f.i. 55°C). During this step the fluid sent by the boiler fully recycles through the by-pass (**gate B**) and the boiler temperature rises very quickly.



②

Loading of the installation (tank warming up)

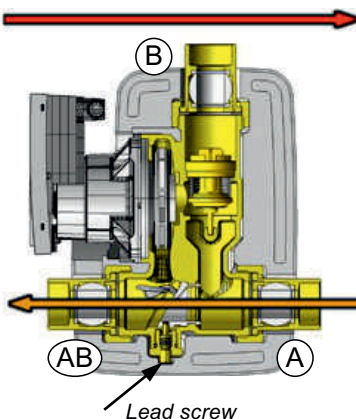
At the achievement of the opening temperature (f.i. 55°C) the users' return way (**gate A**) proportionally starts to open, meanwhile the by-pass (**gate B**) is going to be closed. The boiler temperature slowly rises giving energy to the user, but in any case the return temperature will not decrease anymore below the setting temperature (f.i. 55°C).



③

Working installation

Starting from the condition of point 2, the supply temperature progressively rises up to the full opening of the thermic valve (**gate A**) and up to the corresponding shutting of by-pass (**gate B**). This happens at about 10 K more than the opening or setting temperature (therefore in the example in hand, at about 65°C). Now the installation is on working and the supply fluid temperature can rise up to the set value.



④

Natural circulation

The natural circulation of fluid through the clapet valve starts as soon as the circulating pump stops and the remaining energy of the heating source is transferred to the water tank.

This function starts as a security device, when the pump stops due to blackout or failure, so avoiding that the temperature of the heating source can reach high levels of danger.

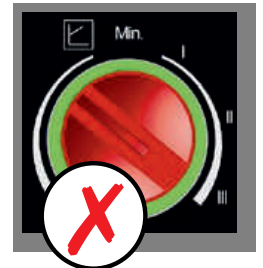
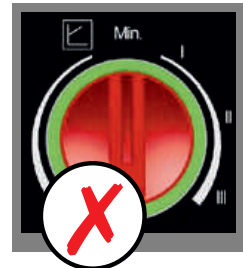
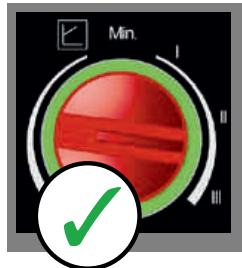
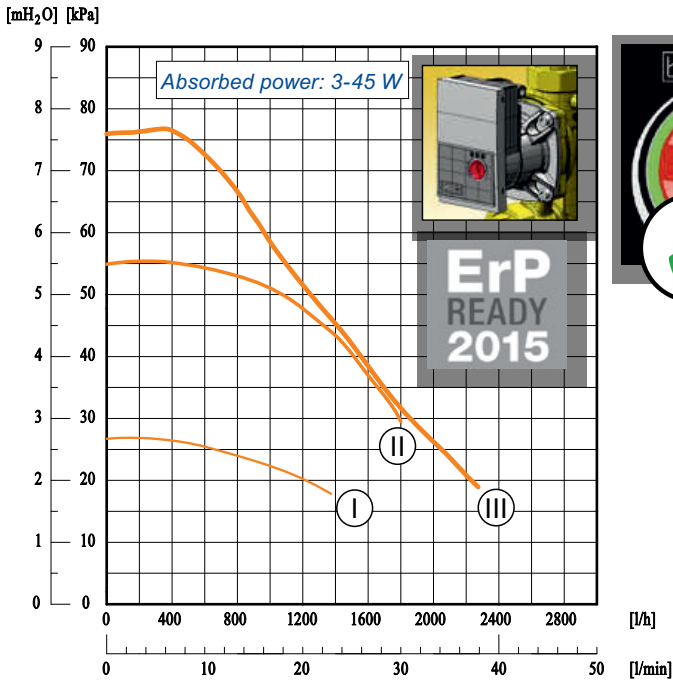


TAKE CARE

To turn on the natural circulation function please turn the control screw anti-clockwise. You can lock the clapet valve any time, turning the screw clockwise (this operation has to be done when the pump is working).

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Synchrone high efficiency circulating pump Wilo Yonos Para RS/7-RKC



TAKE CARE

The Wilo Yonos Para circulating pump must be set in manual speed adjustment mode, that is to say that the red selector must be set on the scale from I to III as shown in the picture. Other possible solutions are not recommended in this application.

The manual speed adjustment is progressive: all the intermediate positions of the selector are also managed, within the sector of use, from position I up to III.

Control selector with state LED

The led indicator, placed by the side of the selector, indicates the working state or the presence of a problem.

Continuous green led:

Regular working.

Intermittent green and red led:

Irregular working, the circulating pump will start again as soon as the anomaly is worked out (f. i. excessive temperature).

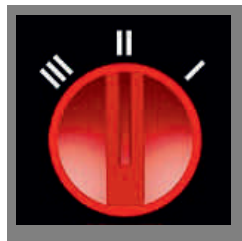
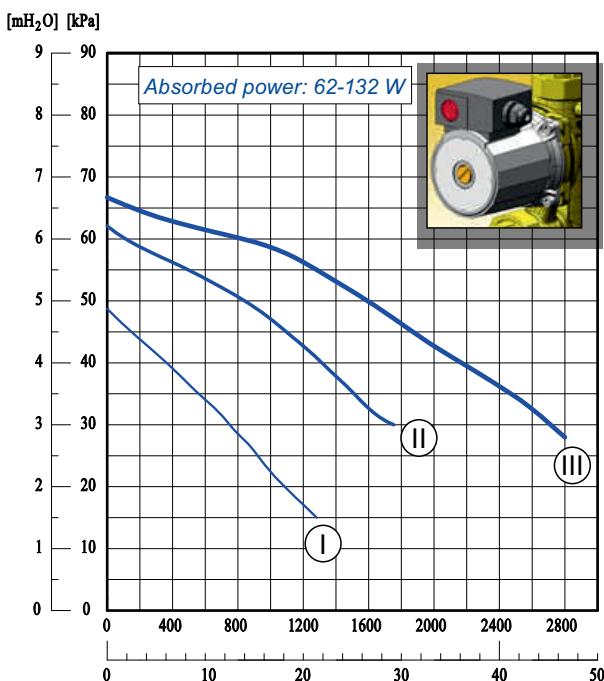
Intermittent red led:

Stopping problem, circulating pump stopped.

Switched off led:

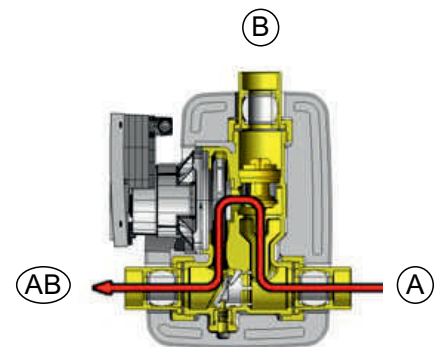
No power supply or electronics failure.

Asynchrone circulating pump Wilo Star RS/7



Hydraulic performances

The hydraulic performances of the pump units, represented in the diagrams on the left, are related to circulation A towards AB



These performances are quite the same even in case of recycling flow (B towards AB).

Wilo Yonos Para RS/7-RKC	Wilo Star RS/7
Maximum speed	
Medium speed	
Minimum speed	