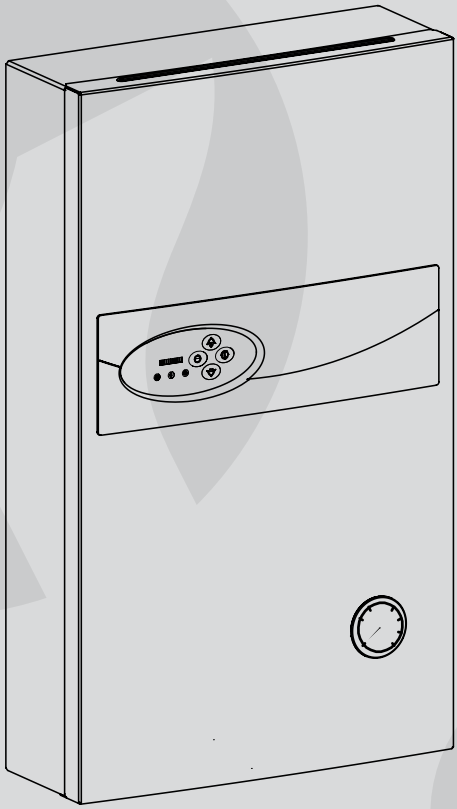
KOSPEL

Electric Central Heating Flow Boiler



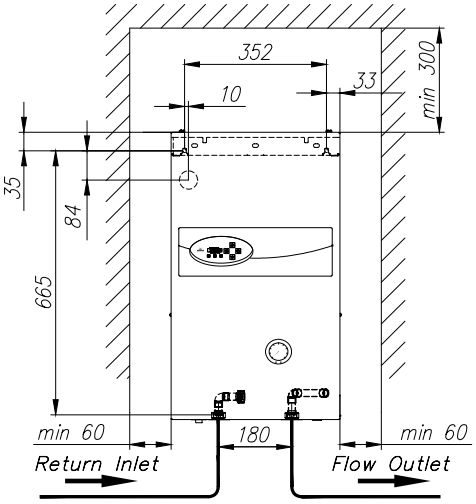
EKCO.R2

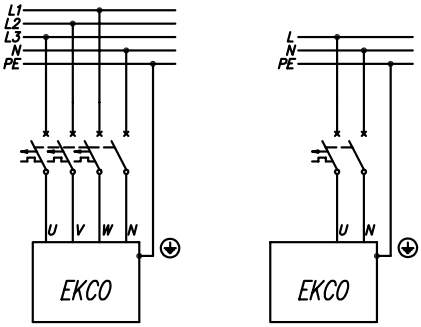
Assembly and operating manual

This appliance may be used by children at the min. age of 8 years and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge about the product, provided that they have been given supervision or instruction concerning safe usage of the appliance and that they are aware of potential dangers that might result from usage of the appliance. Children should not play with the device. Children without supervision should not complete any cleaning nor maintenance procedures.

Safety instructions

1. Read and strictly follow the installation and operating instructions to ensure a long life and reliable boiler operation.
2. An efficient electrical installation which has been completed in accordance with the binding norms of electric installation.
3. A wet central heating system equipped with appropriate expansion vessel made according to the binding norms of hydraulic installation – closed system.
4. A wet central heating system must be flushed before boiler installation.
5. Do not install any barrier fittings (e.g. valves) on the outlet of the safety valve.
6. Its recommended for CH with thermostatic radiator valves to apply the differential pressure relief valve (bypass). It allows the system to keep minimal flow of medium through the boiler and reduces a noises in installation during the thermostatic valves closing. The valve must be installed in by- pass conduit (before the boiler) according to manufacturer's instruction.
7. Boiler must not be installed in a humid place or in a place exposed to the danger of explosion.
8. Boiler installation and all electrical and hydraulic work must be performed by a qualified professional installer only.
9. All installation work must be performed when the power and water supply is cut off.
10. Electric installation should be equipped with residual current protective devices and other solutions which will ensure disconnecting the heater from the source of power (intervals between all their poles should not be less than 3 mm).
11. Do not drain the water from central heating system after the heating season.
12. Leave the controller in stand-by mode and do not cut off power supply between the heating seasons.

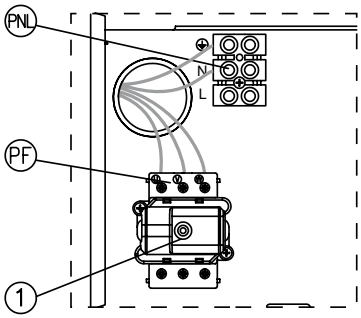




1. Hang the boiler up in a vertical position on fixing screws with the inlet and outlet pipes to the bottom, maintaining clearances from the walls and the ceiling according to the figure.
2. Connect the boiler to the central heating system equipped with cut-off valves.
3. Fill the central heating system with a treated water or ERGOLID fluid that substantially extends the life of the heating elements.
4. Vent the central heating system.
5. Connect a boiler to the electrical system.
6. Fix the room thermostat, in accordance with manual instruction.
7. Connect the room thermostat (by using two wires 2 x 0,35 mm^2) to the NA entry („Connection of external appliances on page 6”).
8. Once you have finished the above procedures, you can start the boiler. See the „start-up” section.

While applying a thermostat make sure there is no voltage on its exit!

Do not connect any voltage into NA entry! This can result in permanent controller damage.

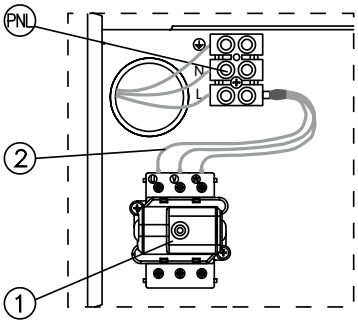


Connection to the three-phase electrical system .

PNL - points of neutral and protective conductor connection

PF - points of phase conductors connection

[1] - temperature limiter



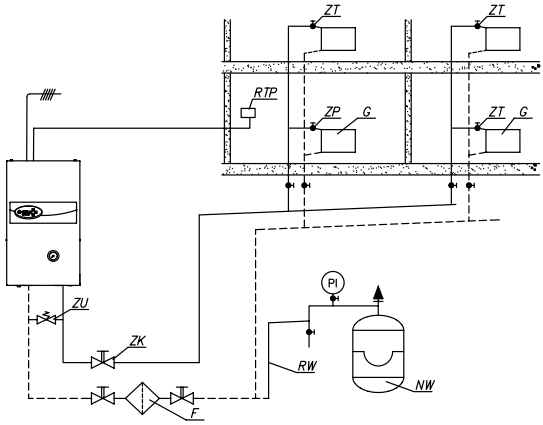
Connection to the single phase electrical system (for boilers of 4kW,6kW)

PNL - connection points of neutral, protective and phase conductors

[1] - temperature limiter

[2] - additional conductors (for single phase system only)

Boiler connection to the central heating system



PI - manometer

ZK - cut-off valve

F - magnetic filter

RW - expansion pipe

NW - expansion vessel

ZT - thermostatic valve

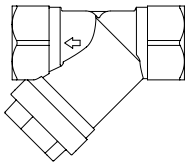
ZP - passage valve

G - radiator

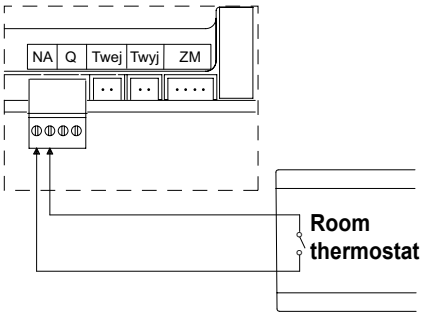
RTP - room programmed thermostat

ZU - differential pressure relief valve (bypass)

A magnetic filter must be installed on return pipe of central heating installation system (before boiler inlet). The filter must be installed in horizontal position, accordingly to flow direction (see arrow on the filter body), with the magnetic insert chamber to the bottom.

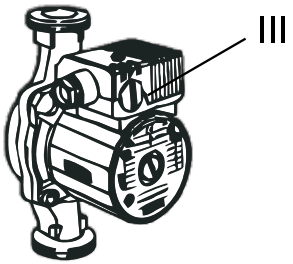


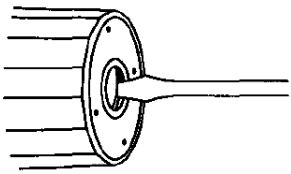
Connection of external appliances



Room thermostat (NA entry) – when the voltage free contact gets opened the boiler will stop heating. The entry is responsible for boiler control depending on the room temperature.

Start up



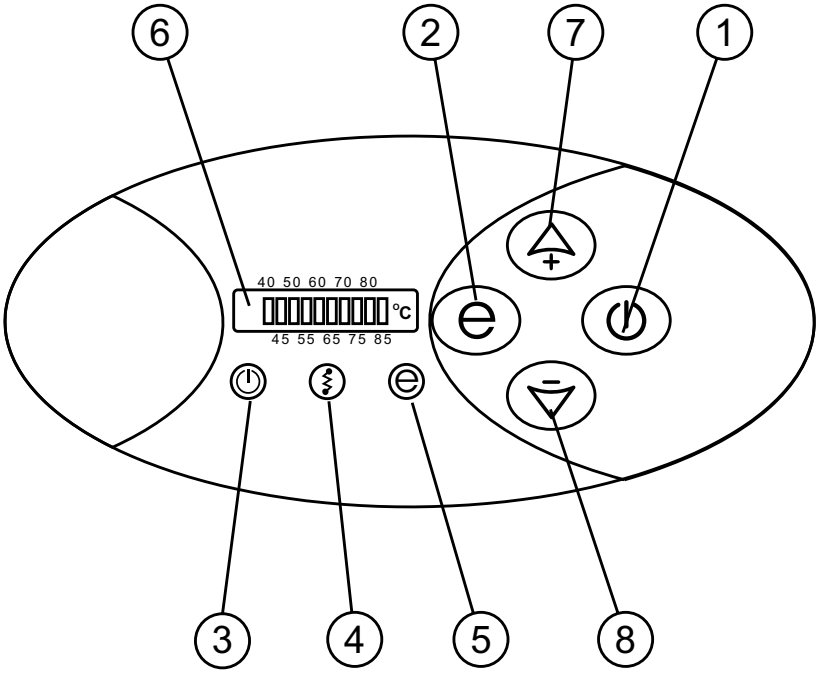


1. Disconnect the flat multi-conductor cable from ZM entry of controller.
2. Switch the boiler on (button 1)
3. Connect the NA contacts
4. Set the temp. on max.
5. Make sure that a proper flow through the boiler is reached („4" indicator is on with a constant light). The pump should self vent after a short period of running. if necessary assist the venting process in the following way;

- close the cut-off valve on the outlet,
- set the pump on the highest gear,
- undo carefully the vent plug on the pump,
- after 15-30 s. do the vent plug up,
- open the cut off plug,

6. Switch the boiler off (button 1), connect the flat multi- conductor cable into ZM entry of controller
7. Connect the programmed room thermostat or connect the NA contacts.
8. Switch the boiler on (button 1).
9. Set the temperature of the medium at required temperature.

Control panel



[1] - boiler „on" button
[2] - economy mode button
[3] - boiler „on" indicator
[4] - heating „on" indicator
[5] - economy mode „on" indicator
[6] - temperature setting indicator
[7] - increase temp.
[8] - decrease temp.

Press [1] to switch the boiler on or off. When indicator [3] is on the boiler is working. After switching the boiler off the circulation pump will still operate for 90 sec. When the indicator [4] flickers and the button [1] is on it means that the boiler haven't achieved required flow level. To start economy mode press button [2] (indicator [5] is on). It limits the power of boiler, the unit heats with 2/3 of nominal power. Indicator [4] indicates that the boiler is heating.
When the indicator [4] flickers it means that the boiler haven't achieved required flow level and the heating is off. To set the temperature press [7] or [8] button.
The display [6] shows the current setting of outlet temperature. When the indicator flickers it means that the temp. is 2,5°C below of temp. that shows other indicators.
Flashing indicator [3] sygnalizes defect of master's appliance connecting installation (open NA jumper).

Operating mode of the pump

EKCO.R2 has two operating mode of the pump (constant and automatic).
To set the automatic mode (pump is „off" when the room thermostat switch off the boiler heating operation) press [1] to switch off the boiler then press and hold [2]. A temperature setting display [6] will start to flicker after a few seconds which indicate the switching pump mode for automatic mode.
If the temp. setting display [6] doesn't flicker (constant light) it indicates that the automatic mode of pump is off. Repeat the procedure to change a pump mode.

Failures

symptom	reason	action
Indicators on the front panel do not light up	no power supply for the boiler	Check parameters of the power network and fuses.
		Contact your local authorised service.
the indicator [4] (red) is flickering the indicator [3] is on	The pump is blocked	Unblock the pump by unscrew the screw located on housing and move the pump rotor manually
	Medium does not circulate through the boiler – the boiler is blocked	Too much air in the central heating system, vent the installation, the pump and the boiler
		Check patency of central heating installation, clean the filter
	A failure of pump's power supply	Contact your local authorised service
	A failure of pump or flow sensor	Contact your local authorised service
The indicator [6] is flickering	A failure of outlet temp. sensor, the heating operation is blocked	Contact your local authorised service

In case, the boiler does not work properly after the above checks and none of the failures is present, contact an authorised serviceman.

Technical data

Max.pressure	MPa	0,3
Min.pressure	MPa	0,05
Outflowing water temp.	°C	35 ÷ 85
Max. water temp.	°C	100
Overall dimensions (height x width x depth)	mm	660 x 380 x 175
Weight	kg	~18
Water connection		G 3/4"
Safety class		IP 22

Rated power	kW	4	6	8	4	6	8
Rated voltage		220V~			380V 3N~		
Rated current	A	18,3	27,4	36,4	3x6,1	3x9,1	3x12,2
Fuse rated current	A	25	32	40	10	16	
Min. connecting wires section	mm^2	3x2,5	3x4	3x6	5x1,5		
Max. connecting wires section	mm^2	3x16			5x16		
The maximum allowed network impedance	Ω	0,27	0,17	0,15			0,27

Rated power	kW	12	15	18	21	24
Rated voltage		380V 3N~				
Rated current	A	3x18,3	3x22,8	3x27,4	3x31,9	3x35,6
Fuse rated current	A	20	25	32	40	
Min. connecting wires section	mm^2	5 x 2,5		5 x 4		5 x 6
Max. connecting wires section	mm^2	5 x 16				
The maximum allowed network impedance	Ω			0,27	0,22	0,13

Used product can’t be treated as general communal waste. Disassembled appliance has to be delivered to the collection point of electrical and electronic equipment for recycling. Appropriate utilisation of used product prevents potential negative environmental influences that may occur as a result of inappropriate handling of waste.

In order to get more detailed information about recycling this product you should contact the local government unit, waste management service or the shop where this product has been purchased.

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