

EN

INSTRUCTIONS FOR ASSEMBLY AND OPERATION

***Flow pressure water heaters
type POW 12H, 15H, 18H, 21H***

Before using the heater please read the instructions carefully. In the future it will pay off in the form of failure-free operation for a long time. Flow water heaters series POW 12H, 15H, 18H, 21H with two-degree hydraulic switch are designed for heating utility water. Warm water can be provided to a couple of water drawing points located in different rooms. These heaters are equipped with heating spirals that are directly washed by water. This direct heating process prevents limescale from settling and ensures high efficiency and quick heating of water. The electronic system of the heater is equipped with an air block sensor that decreases to a minimum the possibility of damage to immersion heaters due to air blocking of the water supply installation. It also gives bigger possibilities in the selection of power for different degrees of switching on depending on the amount of flowing water.

Safety recommendations

- The manufacturer does not take any responsibility for the damage resulting from non-compliance with the operating instructions.
- The appliance cannot be installed in the rooms where the temperature drops below 0°C and where there is a danger of explosion.
- The unit must never be exposed to temperatures below 0°C.
- This device may be used by children over three years old and people with limited physical, sensory or mental abilities, or with no experience and knowledge if they are supervised or were provided with instructions regarding the use of the device in a safe way and understand possible dangers.
- The heater cannot be installed in an aggressive environment
- The power supply must be securely cut off before the housing of the heater is taken off.
- The heater must be securely connected to the electrical wiring equipped with an earth clamp and a circuit breaker.
- Water resistivity cannot be lower than the one indicated on the rating plate.
- Immediately switch off the breakers and cut off the water supply in case of malfunction of the heater or its leakage. The damage can be removed only by the manufacturer or in the authorised service centre.
- The appliance cannot be used for industrial purposes. It is only intended for heating drinking water.
- Maximum feed water temperature cannot be higher than 28°C.
- The appliance can only be used when it has been installed properly and it is in perfect technical condition.
- It is forbidden to make any technical changes in the heater construction.

- The heater does not have any electronic temperature control unit what may cause the temperature rise as a result of lower water flow or the rise of the temperature of the water fittings.

Instructions for assembly

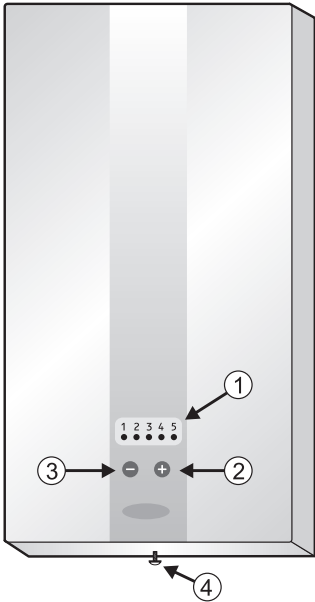
Installation as well as start-up of the POW-H heater should be done by an authorized person in accordance with the instructions included in the Instructions. Any installation works should be done with disconnected power and water supply.

Electric installation of the heater should be made pursuant to the binding regulations. The device should be permanently connected to an electrical installation with an earth terminal. Electrical installation should be equipped with a residual circuit breaker with the protection against electric shock, as well as a breaker ensuring the disconnecting of the device from the source of power supply in which the distance between contacts should be not less than 3 mm.

1. To the place in which the heater is to be installed, electrical as well as water installation should be supplied using the assembly template for that.
2. Drill holes and insert expansion plug.
3. After supplying cold water, install the control valve with a filter (pict. 3).
4. Unscrew the located at the bottom of the heater casing screw fastening the casing (pict. 1), take off the cover and disconnect the belt cable by taking out the plug from the socket marked "KEYBOARD" (pict. 2).
5. Screw the heater to the wall with the fastening screws, having previously led the supply cable through the hole.
6. Check the turning on of the pressure switch.
7. Remove blanking plugs from water connections.
8. Connect the heater to water installation (pict. supply connection marked 9, outlet marked 10)
9. Switch on the water feeding the heater and check the watertightness of connections.
10. Reduce the maximum water flow with the control valve to the value given in the chart.

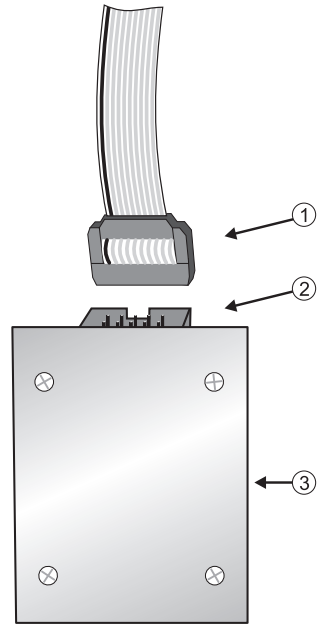
Fixed power of the heater	Maximum water flow l/min
21 kW	7 - 9
18 kW	6 - 8
15 kW	5 - 7
12 kW	4 - 6

11. Connect the heater to the electrical installation as shown on pict. 4.
12. Connect the belt cable by plugging the plug to the socket "KEYBOARD"(pict.2).
- 13 Place the casing and screw with the fastening screw.



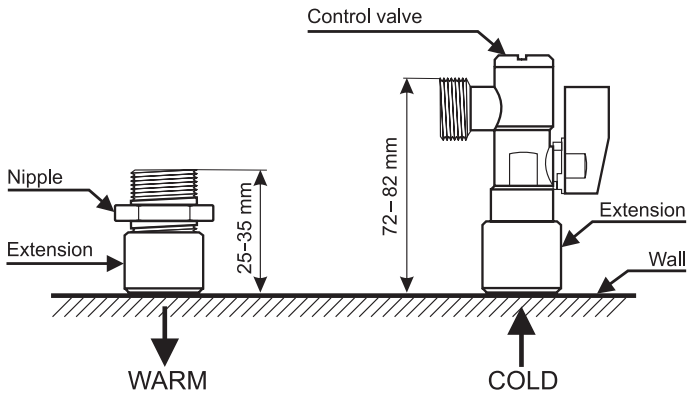
Pict. 1. Casing of the heater

1. Power indicator
2. Button increasing the heating power
3. Button decreasing the heating power
4. The screw fastening the casing



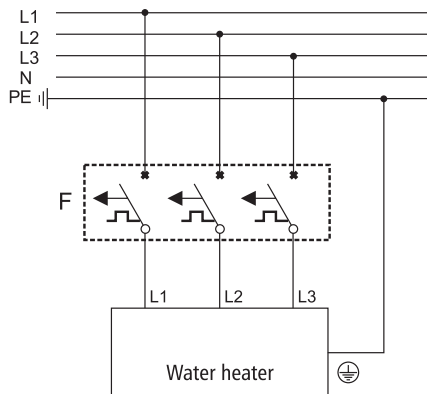
Pict. 2. Display plate with belt cable

1. Plug
2. "KEYBOARD" socket
3. Keyboard plate



Pict. 3.

Pict. 4. Diagram of electrical installation



Start-up

In order to remove air from the water installation and the heater prior to turning on electric power, open warm water valve for about 20 seconds. Then turn on the power. After turning on the power all indicators will light. Warm water valve should be opened again. The indicators will go out for about 10 seconds. After that time the device will be in standby. Pulsating light on the power indicator will signal the start of the water heating process, as well as the chosen power. Close warm water valve. The heater will turn off heating signalling that state with the change of the pulsating light of the indicator to continuous. By means of “-” or “+” buttons, the desired power on the power indicator can be set.

Use

Setting the heating power is done by pressing one of the buttons on the casing marked with “-” or “+” signs.

Detecting by the heating system bigger flow than the minimum for 1 power degree will result in switching it on what is signalled with pulsating red light on the power indicator. The drop of the flow below the switching point will result in the switching the heating off, and the pulsating light will change into continuous. Adjustment of temperature of outlet water may be done by changing the heating power. Heating power 1 – low temperature of outlet water with low, economical power consumption. Heating power 5 – high. As well as by increasing or decreasing the water consumption.

Decreasing the water consumption results in the increase of temperature. Increasing - its drop. Depending on the season of the year, the temperature of water feeding the heater will change. Colder water in winter will require stronger heating which will require the setting of higher heating power.

Efficiency of warm water depends on the temperature of inlet water.

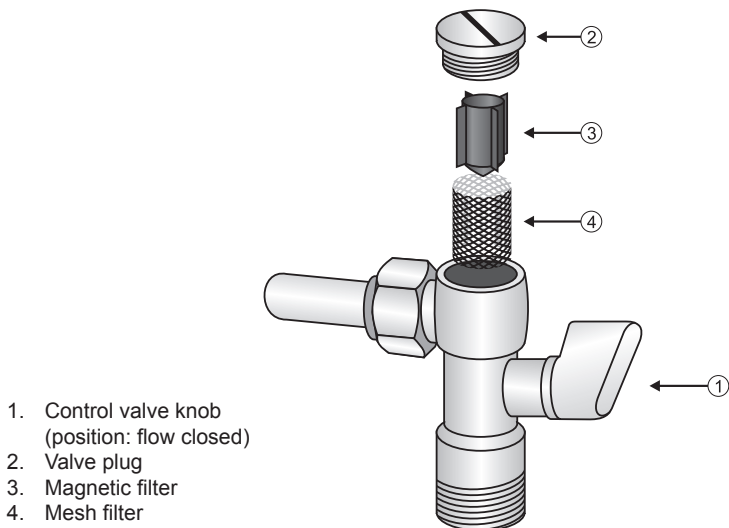
Water temperature at the inlet	Water temperature at heater outlet 40°C				Water temperature at heater outlet 50°C			
	POW 12H	POW 15H	POW 18H	POW 21H	POW 12H	POW 15H	POW 18H	POW 21H
5°C	4,9	6,2	7,4	8,7	3,9	4,8	5,8	6,7
10°C	5,8	7,2	8,6	10	4,3	5,4	6,5	7,6
15°C	6,9	8,7	10,5	12,1	4,9	6,2	7,4	8,7

Adjusting the heating power	POW 12H	POW 15H	POW 18H	POW 21H
	Power I/II degree	Power I/II degree	Power I/II degree	Power I/II degree
1	4/6 KW	5/7,5 KW	6/9 KW	7/10,5 KW
2	4/8 KW	5/10 KW	6/12 KW	7/14 KW
3	6/8 KW	7,5/10 KW	9 /12 KW	10,5/14 KW
4	6/12 KW	7,5/15 KW	9/18 KW	10,5/21 KW
5	8/12 KW	10/15 KW	12/18 KW	14/21 KW

Cleaning the water filter

In a situation when the filter is partially or fully blocked, follow the steps:

1. Disconnect the power supply
2. Unscrew the fastening screw located at the bottom of the casing (pict. 1), then take the casing off holding it in such a distance from the heater so that the belt cable connecting the keyboard with the heater was not stretched, and then disconnect the cable by taking out the plug from the socket marked "KEYBOARD" (pict. 2).
3. Close the control valve (marked 1)
4. Open the plug of the control valve (marked 2)
5. Take out mesh and magnetic filters (marked 3, 4)
6. Remove dirt
7. Insert filters
8. Close the valve plug.
9. Open the flow on the control valve and check the watertightness of connections.
10. Connect the belt cable to the keyboard plate (pict. 2).
11. Close the casing
12. Perform the air relief of the heater, and then start it according to chapter "Start-up".



Pict. 5. Control valve with a filter

Multifunctioning of the heater

Removing the given below causes of malfunctioning of the heater is not included in manufacturer's warranty. In case when none of the causes occurs, please contact a service point.

The indicator of set power does not light:

- not connected belt cable connecting driver plate with keyboard plate (pict.)
- defect of the power supply installation of the heater.

Too low water flow:

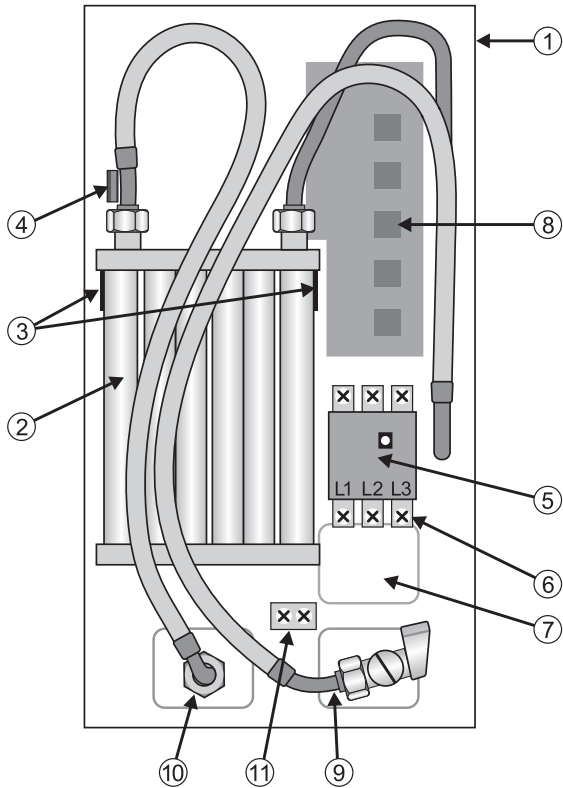
- blocked water filter
- too low water pressure
- control valve closed too much
- not fully opened main valve.

The heater does not heat or barely heats.

- wrong hydraulic assembly, defect of the electric installation powering the heater
- too strong flow of water – turn down the control valve in the heater.

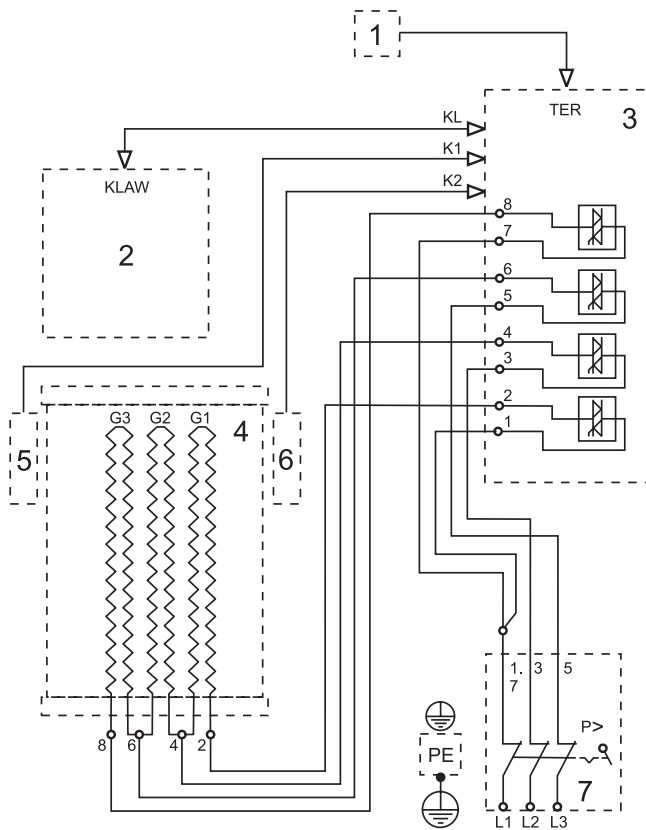
Internal structure of the device

Pict. 6.



1. Lower casing
2. Heating unit
3. Air block and flow sensors
4. Thermal switch
5. Pressure switch
6. Network terminals being parts of the pressure switch
7. Hole for inserting the supply cable
8. Power plate with a driver
9. Connection of feedwater (cold)
10. Connection of feedwater (warm)
11. Terminal of the protective cable

Pict. 7. Schematic diagram POW 12H, 15H, 18H, 21H



- 1 – thermal switch
- 3 – driver plate
- 4 – heating unit
- 5, 6 – air block and flow sensors
- 7 – pressure switch
- PE – terminal of the protective cable
- G1, G2, G3 – immersion heaters

Technical data

POW heater		12H	15H	18H	21H
Rated power	kW	12	15	18	21
Supply voltage		400 V 3~			
Frequency	Hz	50			
Maximum power consumption	A	17,3	21,6	26	30,3
Minimum cross-section of connection cables	mm ²	4 x 2,5	4 x 2,5	4 x 4	4 x 4
Maximum cross-section of connection cables	mm ²	4 x 10			
Rated current of the circuit breaker	A	20	25	32	40
Minimum electrical resistivity of water at 15°C	Ωcm	1100			
Splash-proofness		IP24			
Pressure of feedwater	MPa	0,2 – 0,6			
Minimum flow switching on I degree of power	l/min	3	3,6	4	4,6
Minimum flow switching on II degree of power	l/min	4,2	5,1	5,7	6,8
Maximum temperature of feedwater	°C	20			
Water connection		G ½"			
Dimensions (height x width x depth)	mm	447 x 235 x 104			
Mass	kg	3,7			

Contents of the packaging

POW-H heater	1 pcs.
Control valve	1 pcs.
Fastening screws with expansion plugs	3 pcs.
Gaskets	2 pcs.
Template	1 pcs.
Instructions manual	1 pcs.
Warranty card	1 pcs.

IMPORTANT INSTRUCTIONS CONCERNING THE DETERIORATED DEVICE

Pursuant to the provisions of the Act dated 29 July 2005 on waste electric and electronic equipment, it is forbidden to put together with municipal waste the deteriorated equipment marked with the symbol of crossed out bin.

A user who intends to get rid of the product, should take the waste electric or electronic equipment to the point collecting the waste equipment. Collection points are run, among others, by wholesalers or retailers of such equipment as well as by gmina organizational units conducting the activity in the scope of collecting waste.

The above statutory obligations have been introduced in order to limit the amount of waste created from deteriorated electric and electronic equipment, as well as to ensure the proper level of collecting, recovering and recycling the waste equipment. In the equipment there are no dangerous elements which have a particularly negative effect on health and the environment.

The materials used in the device are re-usable. Thanks to re-use, re-use of materials, or other forms of use of the deteriorated devices, you contribute significantly to the protection of our environment.

