

ASSEMBLY AND OPERATION MANUAL

***Pressurized flow through water heater
PERFECT 3500, 4000, 4500, 5000, 5500***

Advantages of pressurized flow through water heaters “PERFECT”

- Serious electric power saving comparing to boiler
- Instant and permanent warm water consumption
- Installed electronic power switch prolongs significantly heater's life
- Possibility to use the heater with very low water pressure (ca 0,06 MPa)
- Thanks to installed electronic control system the most unreliable mechanical parts such as membrane, traditional electrical contacts are eliminated. Significant prolongation of the appliance life and improved reliability is reached in result.

1. Application

Pressurized flow through water heater PERFECT is designed for instant delivery of warm water to sanitary equipment as wash basins, sinks. In order to economical use the heater should be installed as close as possible to the served equipment.

This appliance is fully designed to be used in moisture environment. However splashing with water is prohibited. Maximum delivered water temperature should not exceed 30°C.

One should remember that heater output depends on:

- its electric power;
- water stream flowing through the appliance. The bigger flow, the lower water temperature on exit (table 1);
- voltage drop in electrical system. For instance: voltage drop by 10% results in lowering heating output by 19% (table 2). Voltage drop below 185V causes blockage by electronic system possibility of appliance switching on;
- supplied water temperature.

Table 1. Supplied water temperature 15°C

Water flow	[l/min]	1,5	2	2,5	3	3,5
Perfect 3500	[°C]	48	40	35	32	–
Perfect 4000	[°C]	53	43,5	38	34	–
Perfect 4500	[°C]	59,5	48,5	41	37	–
Perfect 5000	[°C]	62,5	50,5	43,5	39	35
Perfect 5500	[°C]	–	54	46	41	37,5

Table 2. Heater power depending on voltage in electric system

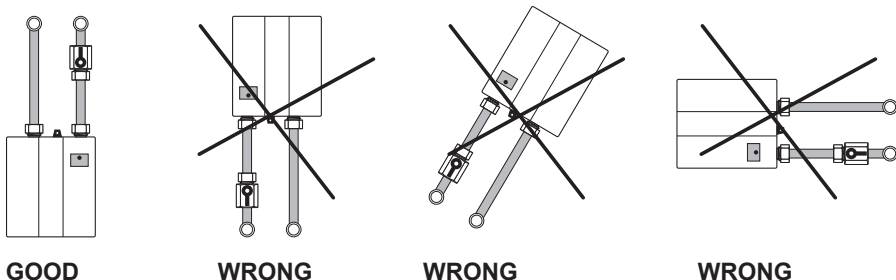
Voltage	[V]	230	220	210	200	190
Perfect 3500	[W]	3500	3200	2917	2646	2390
Perfect 4000	[W]	4000	3640	3320	3024	2720
Perfect 4500	[W]	4500	4095	3735	3400	3060
Perfect 5000	[W]	5000	4550	4150	3780	3400
Perfect 5500	[W]	5500	5030	4585	4158	3753

CAUTION!

It is strictly forbidden to assembly, disconnect and incline the heater on sides while power is switched on.

The device can only work in position showed on drawing below.

Trying to start the device in position other than proper one will result in damaging a heating element and deprivation of guarantee.



GOOD

WRONG

WRONG

WRONG

2. Safety regulations

Fig.1

- Heater can be installed by authorized person only.
- Heater must permanently be connected to electrical system equipped with earthing connector and differential switch.
- Heater can work in position showed on drawing 1 only.
- Never exchange earthing wire with live wire.
- Heater can only work using perfectly working safety devices.
- Heater must not be installed in rooms where temperature drops below 0°C.
- If there is a non-return valve installed on the water supply pipe the safety valve must be fitted between unit and non-return valve.
- The unit must never be exposed to temperatures below 0°C.
- The unit can only be connected to the cold water supplies.
- Electric installation must 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).
- Heater should not be installed in aggressive or subject of explosion environment.
- Heater can only be used when is in perfect technical condition.

- In case of heater's defect immediately cut off water and power supply.
- All service and maintenance works can be completed only with power switched off
- Only original spare parts can be used for repair
- Casing should never be disassembled while power is on
- Avoid electronic system to be splashed with water
- In case of heater's defect or improper work switch off power and shut off water supply using stopping – suppressing valve.
- Water tap drain tube sprinkler (strainer) should be cleaned regularly.
- Power supply system should be periodically checked up (voltage drops), particularly electrical connections.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

3. Wiring system

- The heater can only be used previously connected to earthing system.
- Wiring system should be equipped with differential switch.
- Minimum wire cross section and fuse value should be selected according to table 3.
- Before heater's installation check state of wiring system and particularly terminal.
- After heater's connection to wiring system measure voltage drop under load.

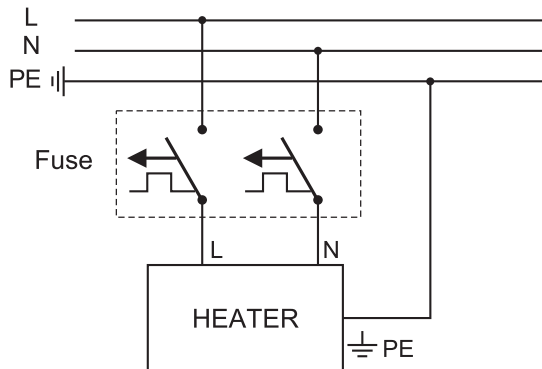
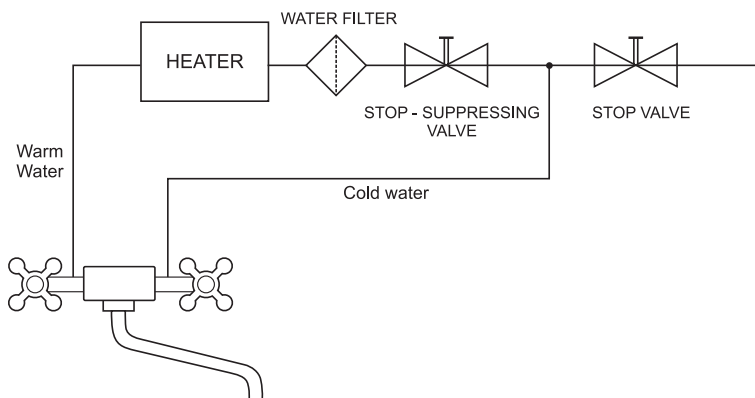


Fig.2

Type	Perfect 3500	Perfect 4000	Perfect 4500	Perfect 5000	Perfect 5500
Minimum wire cross section [mm ²]	1,5	2,5	2,5	2,5	2,5
Current intensity [A]	15,2	17,4	19,6	21,7	23,9

Table 3

4. Water system



5. Assembly

CAUTION!

The device can only work in position showed on drawing No 1. Heater's installation in position other than proper one or without water filter can damage heating element and cause deprivation of guarantee.

Do not screw connecting hoses with high power in order to avoid threads damage.

Do not seal stub pipe thread with tow or Teflon™ sealing tape.

Save electronic system against water splashing.

1. Apply pattern on place the heater will be installed. Mark places for drilling holes for anchoring pegs and cable.

Cable can be connected to the heater in two ways as presented on drawings 3 and 4.

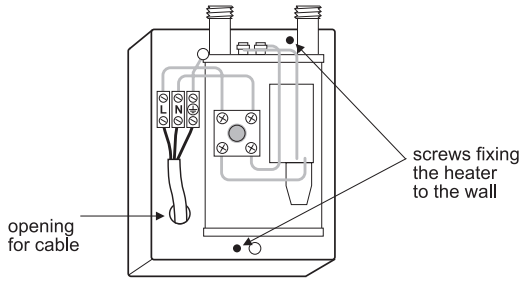


Fig. 3

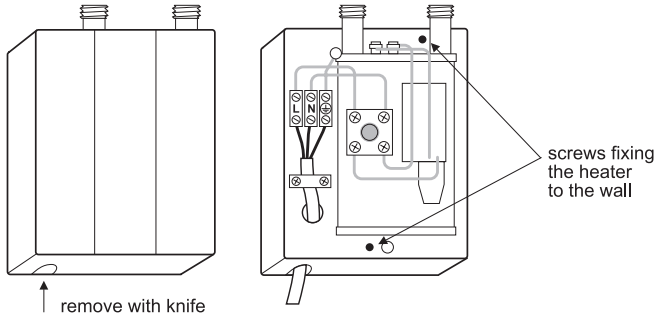


Fig. 4

2. Screw heater on.
3. Connect heater in a way showed on fig. 6. Remember to fit water filter as showed on fig. 5. Use flexible hoses designed for pressurized system with rubber gaskets. Do not exchange heater outlet (red colour) with intake (blue colour).

Caution! Do not screw up hoses nuts too tightly in order to avoid heater's pipes thread damage. Water filter removal voids guarantee. Filter must be installed as showed on drawing No 5.

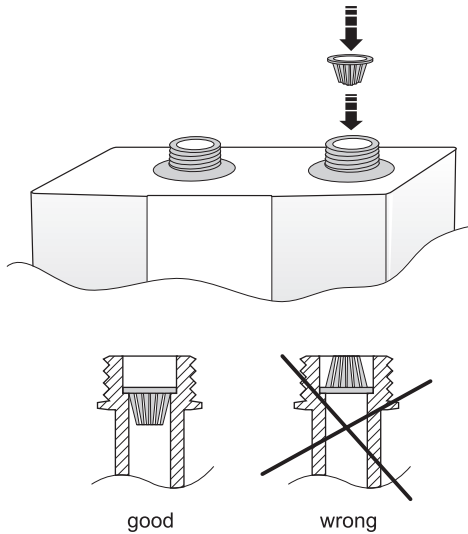
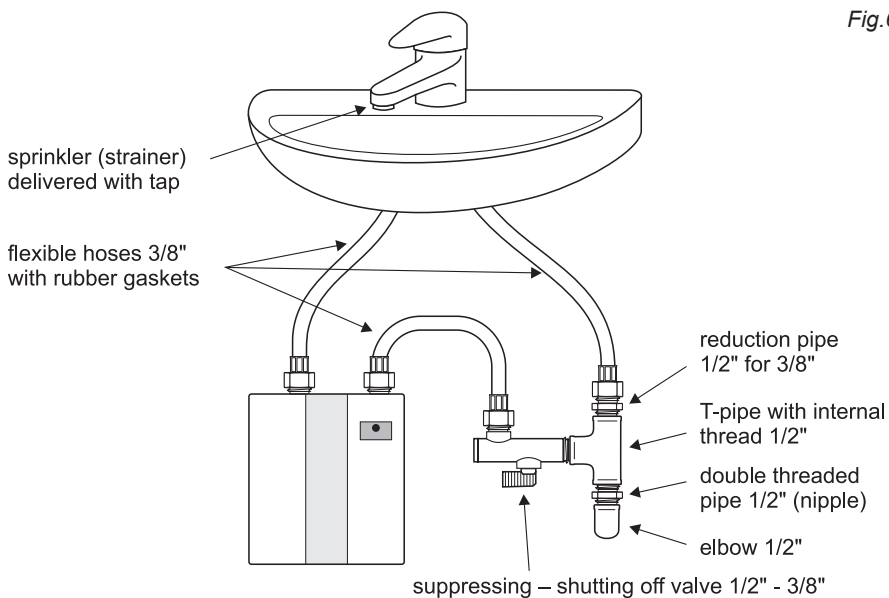


Fig. 5

Fig. 6



Heater connection to tap assembly with hoses 3/8"

4. Open water valve and check all connections tightness. In case electronic system is splashed with water, remove it by blowing with compressed air.
5. Open full water flow through the heater in order to deaerate heating element.
6. Connect heater to the power installation.

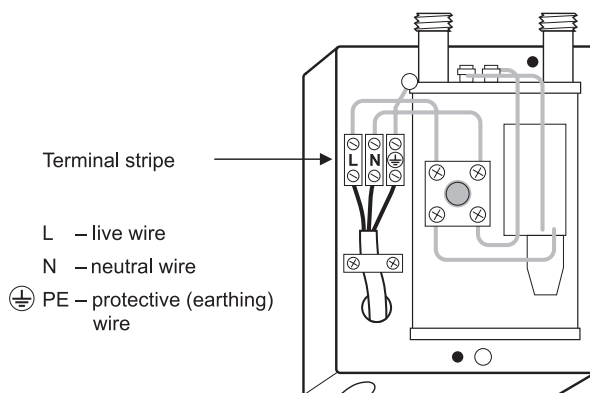


Fig. 7

Caution!

Every single time after re-installation of the housing it is necessary to check carefully whether blue and red gaskets on pipe ends fit close to the heater's housing nests.

7. Change sprinkler (strainer) mounted on drain pipe for the one delivered by heater manufacturer.
8. Adjust heater according to chapter 6.
9. Remember to clean strainer periodically from dirt.

6. Adjustment

Caution!

Water temperature in flow through heater depends on water flow. The higher flow, the lower temperature.

Too high water temperature can cause thermal protection device to stop heater work. Unlock by pressing thermal protection button

1. Open warm water tap.
2. Using suppressing – shutting off valve reduce water flow carefully in order to reach water temperature ca 42°C.

7. Water filter cleaning

1. Turn off water inflow to suppressing – shutting off valve and disconnect from power line.
2. Disconnect hose from heater intake.
3. Take out filter (using small screw driver – see fig. 8).

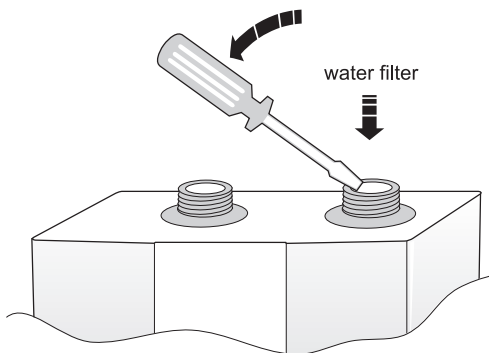


Fig. 8

4. Remove dirt from filter.
5. Install filter into heater intake with basket bottom down (Fig. 9)

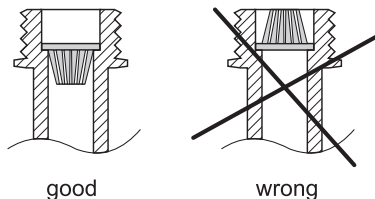


Fig. 9

6. Connect hose to the heater.
7. Open water valve and check tightness.
8. Before power switching on check electronic system is not splashed with water – if so, blow up with air to remove water from electronic circuit board.
9. Adjust according to chapter 6.

8. Cleaning drain tube sprinkler (strainer)

1. Unscrew sprinkler from drain tube.
2. Unscrew bolt from sprinkler.
3. Push out rings from sprinkler.
4. Clean up rings' ducts.
5. Reinstall sprinkler

9. Defects and repair

Water flow too low

- blocked water filter (clean it out according to chapter 7)

Heater does not start

- heater's inlet exchanged with outlet
- water flow suppressed too much
- blocked water filter (clean it out according to chapter 7).
- water pressure in system too low
- lack of power because of blown fuse.

Heater does not warm up water but control lamp lights

- voltage too low (power installation overloaded)
- temperature of entering water too low
- water flow too high (adjust water flow according to chapter 6)

Water temperature on heater exit too low

- water flow too high (adjust water flow according to chapter 6)
- temperature of entering water too low
- high voltage drop (see item 1, table 2)

Water temperature on heater exit too high

- water flow suppressed too much by control valve (adjust water flow according to chapter 6)
- blocked water filter (clean it out according to chapter 7)
- water pressure in water system too low

Heater is switching on and out automatically

- water pressure oscillation in water system
- water flow suppressed too much by shut off – suppressing valve

Stepwise changes of water temperature on exit

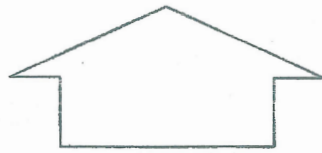
- voltage rush in power supply system
- changes of water flow in result of pressure changes in water system

10. Technical data

Type	Perfect 3500	Perfect 4000	Perfect 4500	Perfect 5000	Perfect 5500
Power [kW]	3,5	4,0	4,5	5,0	5,5
Current intensity[A]	15,2	17,4	19,6	21,7	23,9
Voltage [V]	230	230	230	230	230
Minimum switching water flow [l/min]	1,1	1,25	1,4	1,5	1,6
Maximum water pressure [MPa]	0,65	0,65	0,65	0,65	0,65
Splash-proof class	IP24	IP24	IP24	IP24	IP24
Minimum water resistivity at 15°C	1300	1300	1300	1300	1300

11. Specification

- | | |
|--|-------|
| 1. Heater | 1 pc |
| 2. Shutting off – suppressing ball valve 1/2” – 3/8” | 1 pc |
| 3. Water filter | 1 pc |
| 4. Self – blocking peg Ø6 | 2 pcs |
| 5. Pattern to drill holes | 1 pc |
| 6. Sprinkler (strainer) | 1 pc |



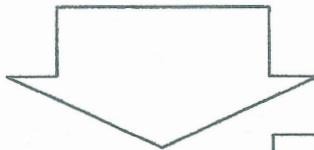
TOP



Ø6mm

Pattern

DOWN



Ø6mm



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 the 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.

