

Installation and operation manual

Hydrobox for monobloc heat pump



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1. Introduce

Hydrobox is a module designed for installation inside the building, accelerating the installation of an air-to-water monobloc heat pump system, a buffer tank and a domestic hot water tank. The compact form and well-thought-out design make the whole installation take up less space, while providing easy access for maintenance.

Due to the company's philosophy of continuous product improvement, we reserve the right to change the user manual and any specifications in this document without notice.

2. Hydraulic diagram

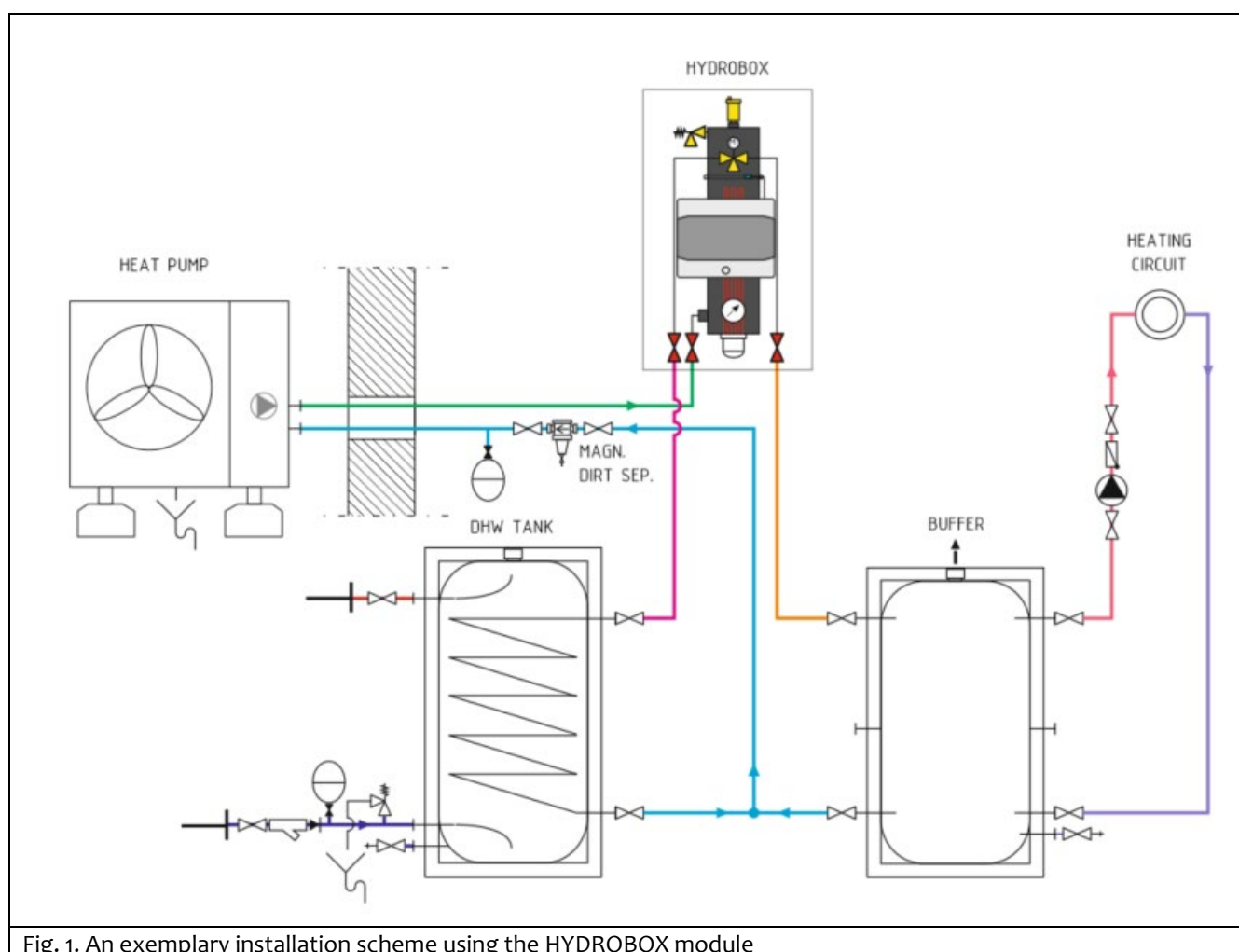


Fig. 1. An exemplary installation scheme using the HYDROBOX module

3. Precautions and recommendations

Precautions:

- Any assembly work may only be performed by a qualified and trained installer. Improper installation carries the risk of fire, flooding, electric shock or damage to the unit and the heat pump.
- The device is not intended for use by children.
- For safety reasons, check the technical condition of the device regularly.
- Atmospheric discharges can damage the device, so during a thunderstorm it should be disconnected from the mains.

- The device must not be used for purposes other than those intended.
- Do not touch the device with wet hands - risk of electric shock!

Electrical recommendations:

- Live electrical device. Before performing any activities related to the power supply (connecting cables, installing the device, etc.), make sure that the device is not connected to the mains.
- The electrical connection must be made taking into account the electrical parameters of the device and in accordance with applicable regulations. The used elements of the electrical installation, such as electric wires and apparatus, must be properly selected.

Hydraulic recommendations:

- The device can be filled with water with a low oxygen content, preferably with the use of dedicated corrosion inhibitors for heating systems.
- The device should be installed taking into account the use of the necessary pressure and thermal protection in accordance with the PN-EN 12828+A1:2014-05 standard or newer.
- It is not allowed to run the heater and the circulation pump dry.
- Do not block the trigger of the safety valve. Do not install ball valves, non-return valves, filters or other shut-off devices in the section from the safety valve to the heat pump!
- If the device is used for installations operating in cooling mode, it is necessary to additionally insulate the hydraulic components with a vapor barrier to reduce the effect of condensation.

4. Technical data

Zone valve	DN25
Electric heater	3 x 2 kW (3-step)
Safety valve	3 bar
Size of hydraulic connections	Rp 1"
Dimensions HxWxD	690 mm x 450 mm x 290 mm
Weight	20 kg
Power supply recommended	min. 3 x 16A, 230V AC, 50Hz
Power cord recommended	5 x 2,5 mm ²
Suggested cable to control contactors and zone valve	5 x 1 mm ²

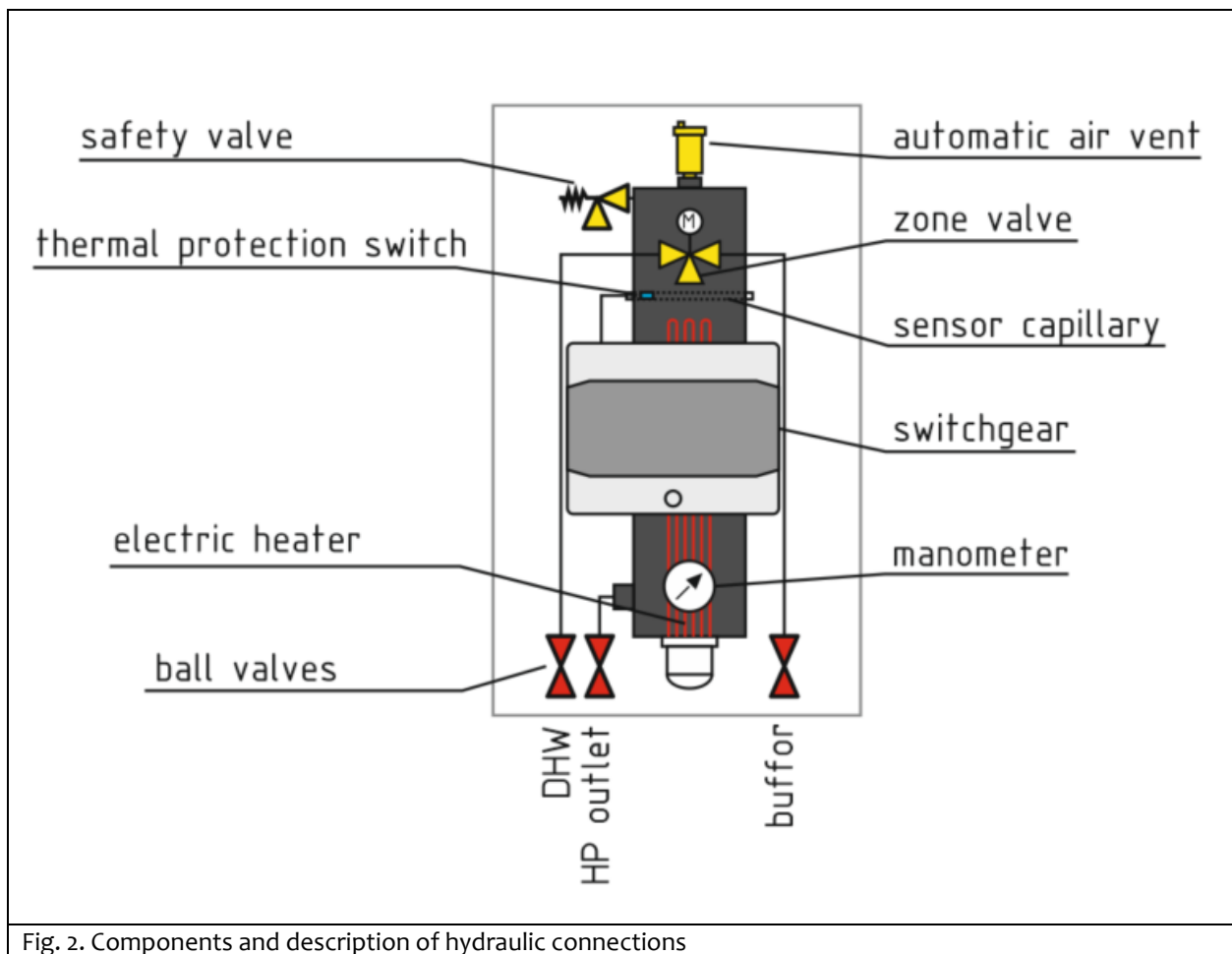


Fig. 2. Components and description of hydraulic connections

5. Transportation and storage

- Store the device in a dry and dust-free place.
- Do not store the device below 0°C or above 40°C.
- It is not recommended to transport the device unpacked from the delivered package.
- Moving the device requires at least two people or the use of a transport cart.
- When lifting the device, be careful not to accidentally open the cover. Do not lift by grabbing the connectors.

6. Wall mounting and service distances

Installation of the device should be carried out on a wall or a structure that allows vertical hanging. Observe the minimum distances from obstacles in accordance with Fig. 3. Hang the device by fixing the two upper M8 screws in accordance with Fig. 4. For installation, you can use the supplied set of screws and plugs or use other ones adapted to the technical condition of the wall/or structure. The choice of appropriate anchoring elements is the responsibility of the installer. Then additionally fix the device using the lower mounting holes.

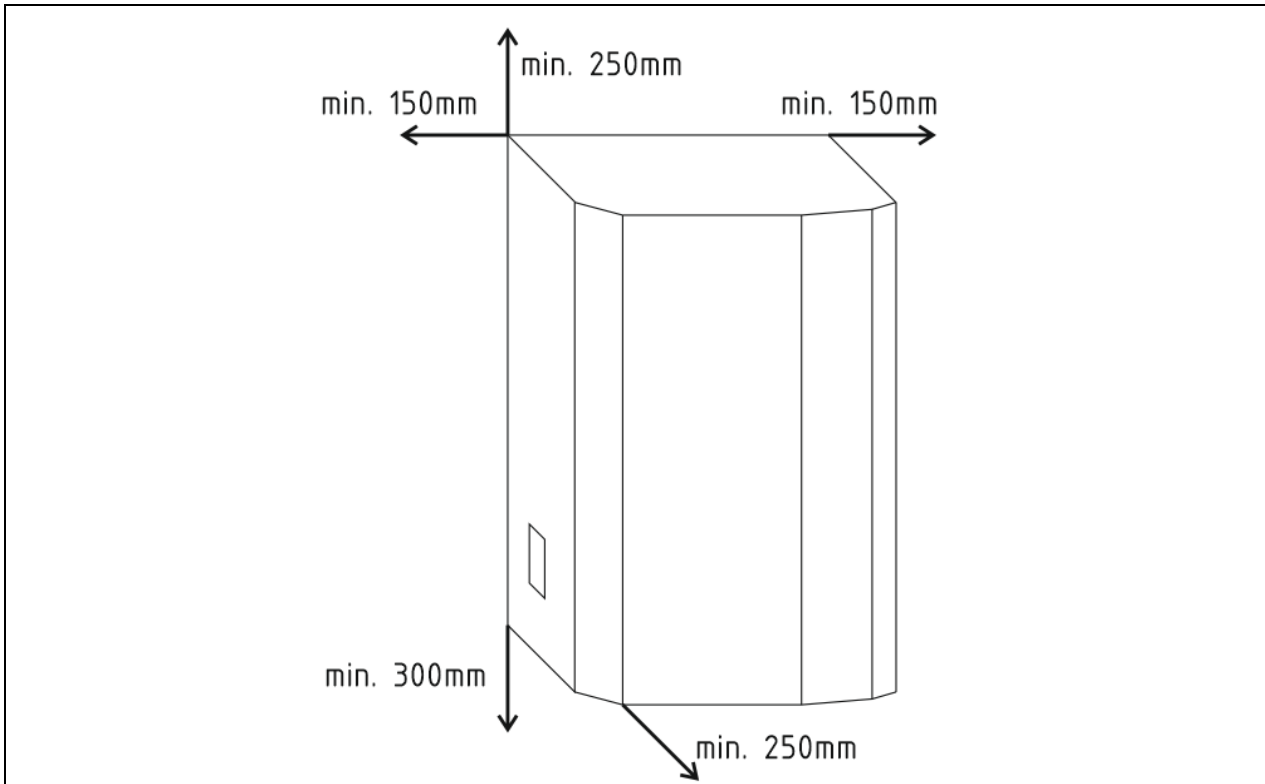


Fig. 3. Minimum distances from obstacles

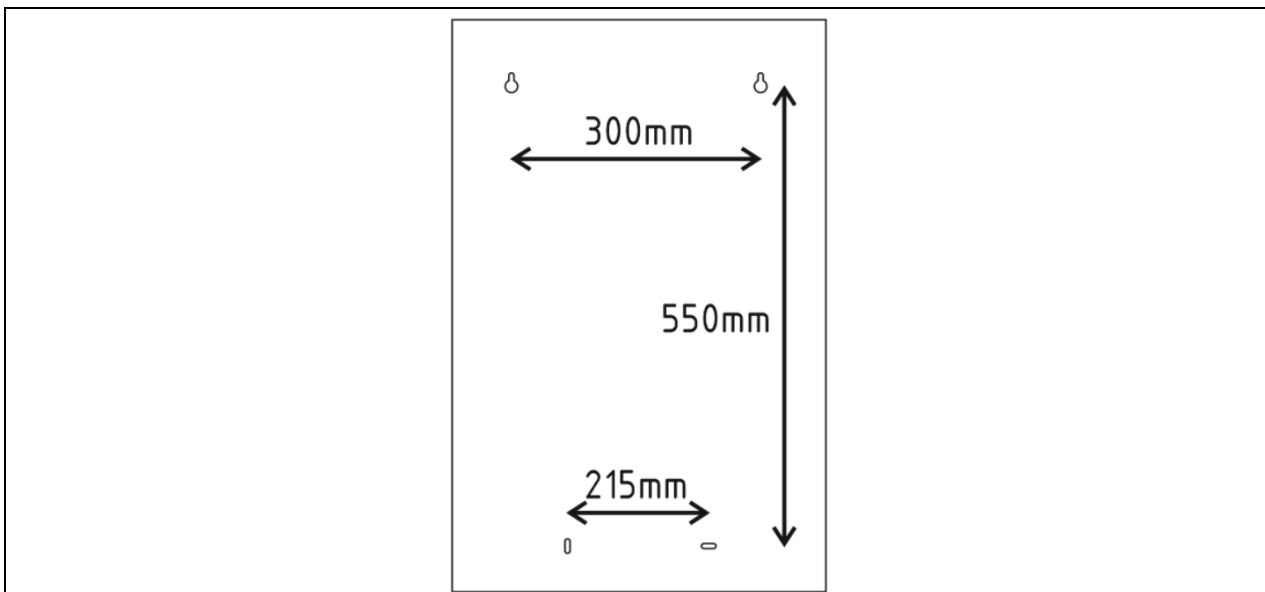


Fig. 4. Mounting holes

7. Electrical connections

The basic electrical connections as part of the HYDROBOX assembly include:

- Connecting the heater's power supply wires to the rail connectors (inputs 1, 2 and 3) and to the N and PE rails.

Connecting the zone valve wires (A - actuator power supply 230VAC/50Hz, B - control signal for changing the valve position 230VAC/50Hz). The neutral wire is already

connected. Both the power supply to the actuator and the control signal must come from the same phase! Connecting from two different phases may result in a phase-to-phase short circuit and damage to the actuator.

- Connecting the wires controlling the step heater to the A2 inputs in the built-in contactors (inputs 4, 5, 6).

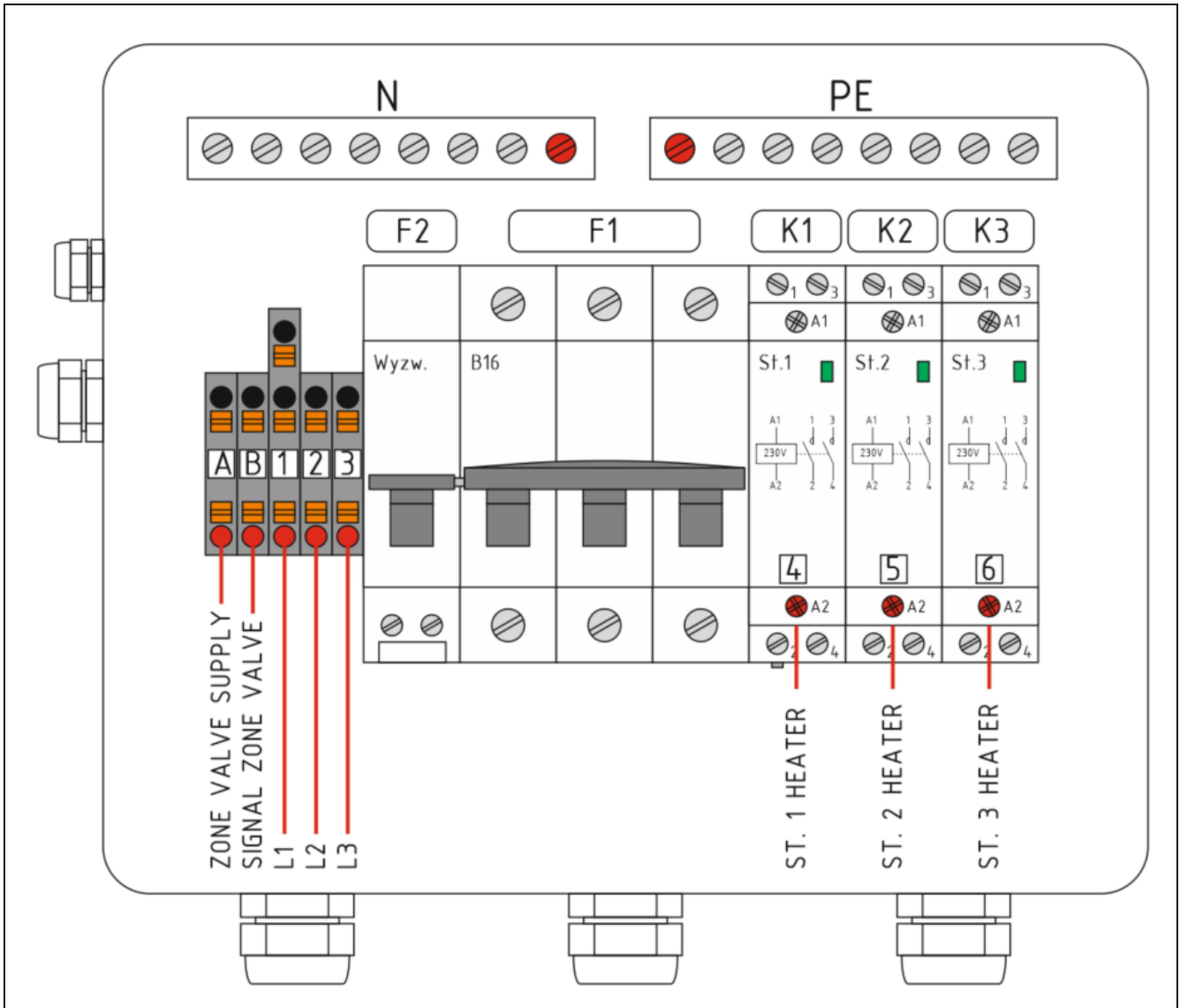


Fig. 6. Connections in the electrical box (marked places to plug in)

F1 – heater protection	1 - L1
F2 – shunt release	2 - L2
K1 – contactor of the first stage of the heater	3 - L3
K2 – contactor of the second stage of the heater	4 - signal to the contactor coil (A2) of the first stage heater
K3 – contactor of the third stage of the heater	5 - signal to the contactor coil (A2) of the second stage heater
A – permanent actuator power supply (turn to CH mode)	6 - signal to the contactor coil (A2) of the third stage heater
B – actuator control signal (turn to DHW mode)	

8. Heater thermal protection

The built-in heater has thermal protection, which cuts off the electric power supply to the heaters by means of a trigger in the event of exceeding the critical temperature of 80°C. In the event of its

activation, after the heater body has cooled down, the heater fuse must be turned on again, having previously verified the cause of overheating of the system.

Make sure that the thermal protector is in place in the capillary and adheres properly to the metal body of the heater! The location is shown in Fig. 2.

9. Maintenance

Basic maintenance activities include:

- Cleaning the housing with a damp cloth and possibly a mild detergent,
- Cleaning the inside of the housing,
- Checking the condition of electric wires,
- Kontrola stanu połączeń hydraulicznych,
- Checking the condition of hydraulic connections,
- Checking the operation of the thermal protection.

10. Utilization

Care for the natural environment is of paramount importance to us. Being aware that we manufacture devices containing electronics, batteries and many other complex components, we are obliged to dispose of used elements and devices in a way that is safe for nature. The crossed-out wheeled bin symbol on a product indicates that the product must not be disposed of in normal waste. By segregating waste for recycling, we help protect the environment. It is the user's responsibility to take the used equipment to a designated collection point for the recycling of electrical and electronic waste.



11. Warranty conditions

The warranty for the device is 24 months from the date of sale, but not longer than 30 months from the date of production.

The warranty conditions for the battery installed in the device are in accordance with the manufacturer's warranty conditions and are described in detail in the battery warranty section.

Free warranty repairs of devices are carried out only at the RedGrey service center.

The devices under complaint are delivered to RedGrey by the Recipient - it is possible to order a courier to pick up the prepared shipment for a fee.

RedGrey does not provide field intervention services, including commuting, device replacement and other service activities necessary to remove the failure.

I. The condition for initiating the complaint process is:

- sending to the e-mail address serwis@redgrey.pl a completed complaint protocol by the reporting person;
- sending a copy of your proof of purchase;
- sending photo documentation of the device under complaint.

II. Complaints process

- providing RedGrey with data related to the complaint;
- contact of the RedGrey service with the installation company or the Distributor in order to determine the legitimacy of the complaint, the costs, the method and date of warranty

replacement and the place of delivery of the device components sent from the RedGrey warehouse;

- shipment of new elements of the device to the agreed address together with the issuance of an FV for the part sent - if the part is sent before the expert opinion of the complained element is made;
 - information from the installation company or Distributor about the warranty replacement;
 - returning the replaced elements to RedGrey from the installation company or Distributor;
 - verification by RedGrey of the legitimacy of the complaint:
JUSTIFIED COMPLAINT - information for the complainant
 - correction of the invoice for the replaced part (the condition for issuing the correction is to send back the damaged part).
 - shipment of a new part - if it has not been done before.
 - closing the complaint.
COMPLAINT - information for the complainant and:
 - if the complaint is unjustified, issuing an invoice by RedGrey to the company/person who submitted the complaint, in accordance with the price list for the delivered elements, shipping costs and expertise costs,
 - closing the complaint.
- III. The warranty does not cover:
- damage resulting from assembly not in accordance with the manufacturer's recommendations;
 - damage resulting from improper transport;
 - damage caused by the user, mechanical damage, overvoltage.