

INSTRUCTIONS



INDIRECT WATER HEATERS

ST-300D, ST-200D



STAINLESS STEEL INDIRECT FIRED WATER HEATERS ST-200D, ST-300D



1. Product Description

Indirect fired water heaters ST-200D and ST-300D are designed for preparation and distribution of domestic hot water. Water is heated using a stainless steel heat exchanger, which is connected to a heat source such as a heat pump, solid fuel fired boiler, solar heating system, etc. Standard equipment of these heaters is a magnesium anode rod, which serves as a protection against galvanic and electrolytic corrosion. It is possible to directly install auxiliary electric heaters in the tanks. For proper operation of the tank, it is necessary to optimally design the entire hydraulics of the heating system, i.e. location of circulation pumps of heating sources and heating circuits, valves, check valves, etc.

1.1. Heater Tank Volume

200 and 300 litres

1.2. Thermal Insulation

The heaters are insulated with unremovable CFC-free hardened PUR foam with thickness of 55mm. The outer surface of the insulation consists of PVC cover including the top cover made of a hardened plastic.

Caution! The heater must not be operated at a higher temperature than 90°C. Operation at a higher temperature can cause permanent damage to the insulation due to loss of its shape and consistency.

1.3. General Information

This document is an integral part of the product. Please read the instructions in this document carefully, as they contain important information about safety, installation, use and maintenance of the heater. Keep this document in a safe place for future reference.

Using the heater for purposes other than stated in the documentation is prohibited and the manufacturer accepts no responsibility for any damage caused by improper or incorrect use. The installation must be done by a qualified person in accordance with applicable regulations and standards and according to the manufacturer's instructions; otherwise the warranty will be void.

2. Specifications

Heater material: stainless steel 1.4541 (AISI 321)

Heater insulation: hardened PUR foam

Heater max. pressure: 1.0MPa (10bar)

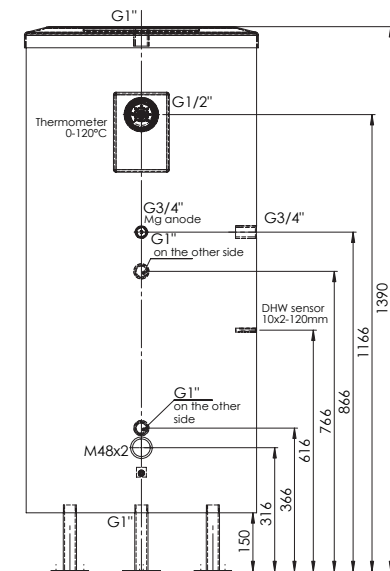
Heater max. temperature: 110°C

Exchanger material: stainless steel 1.4404 (AISI 316L)

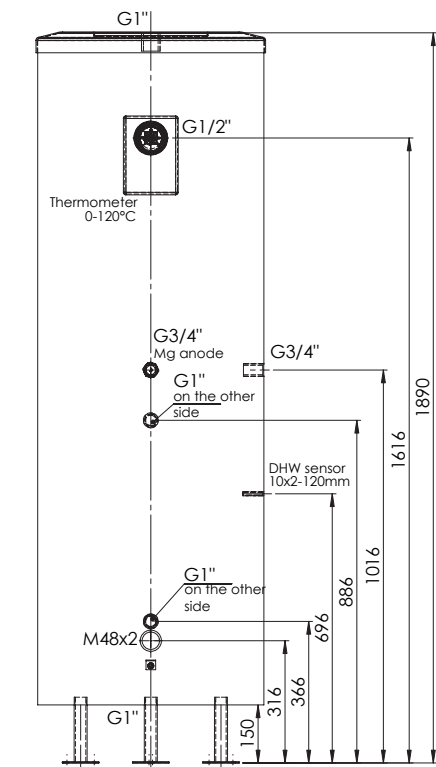
Exchanger heating surface: 3.5 m²

Exchanger max. pressure: 1.0MPa (10bar)

Exchanger max. temperature: 110°C



ST-200D



ST-300D

3. Heater Operation

This heater is designed for heating and storage of domestic hot water in a closed pressure circuit with forced circulation. Water in the tank is heated by the built-in hot water heat exchanger, which can use several heat sources, such as different types of hot water boilers or renewable energy sources (e.g. heat pumps, solar collectors). As an auxiliary heat source, an electric heater can be installed in the tank.

4. Heater Installation and Commissioning

Heater installation must comply with the appropriate regulations and standards according to ČSN 06 0310, ČSN 06 0320 and ČSN 06 0830 and must be done only by a qualified and competent person.

Defects caused by an improper installation, use and handling are not covered by warranty.

All supplied stainless steel tanks must be connected only using the brass or stainless steel fittings. If the tank is connected using the galvanized, steel or other fittings, it is not possible to apply warranty for any damage of the tank or its components (auxiliary electric heater, thermometer pocket, etc.).

4.1. Connection to the Heat Sources

Place the heater on the floor as close as possible to the heating source. Connect the heating circuits to the inlet and outlet of the hot water heat exchanger.

4.2. Connection to the Solar Heating System

This heater can also use the advantage of connection to the solar heating system. Supply of heated medium from the solar heating system is connected to the hot water inlet of the heat exchanger and outlet of the heat exchanger is connected to the return pipe of the solar heating system. All interconnecting piping between the tank and the solar heating system must be thoroughly insulated.

4.3. Installation of the Auxiliary Electric Heater

This heater tank can be fitted with auxiliary electric heaters with power up to 6kW. These heaters must have a stainless steel case with a brass or stainless steel flange. Using auxiliary heaters made of other materials may cause that warranty will be void.

Connection of the auxiliary heaters to the mains can be implemented directly (heaters with built-in thermostat) or through the controller of the entire heating system.

Caution! All electric heaters must be protected by a safety thermostat.

The electric heater must be connected only by a qualified person with certification according to the regulation 50/1978 Sb.

4.4. Connecting to the Domestic Water Distribution System

The sanitary water piping must be made in accordance with the applicable standards. Install safety 6bar valve to the cold water inlet of the heater. It is also recommended to install the pressure reducing valve. If the pressure in the water distribution system is over 6bar, pressure reducing valve is necessary. To prevent the loss of the water, it is also recommended install an expansion tank (volume of 8 l for ST-200D and the volume of 12 l for ST-300D) to the cold water inlet.

If the water is too hard, install the water softener before the stainless steel heater. If the water contains mechanical impurities, install the filter.

Warning: The quality of water entering the stainless steel heater must not exceed the following parameters:

calcium 30 mg / litre, chloride 100 mg / litre, magnesium 15 mg / litre, sodium 200 mg / litre, iron 0.2 mg / litre, pH 6.5 to 9.5

It is recommended to install the appropriate thermostatic mixing valve to the hot water outlet of the heater; this prevents superheated water to flow to the supply points.

Install the drain valve at the lowest point of the heater.

Insulate all the domestic hot water pipes.

4.5. Commissioning

Prior to commissioning, connect the heater to the earth using a CY wire with cross section of 6 mm². An earthing screw with nut M8 is located at the bottom front of the heater, under the inlet for the auxiliary electric heater. It is also necessary to earth and electrically connect (e.g. using "AB terminals") all fittings attached to the tank and connect the earthing wires to one point (see the figure at right).

All connections and earthing must be done in accordance with applicable ČSN standards and the measured value of earth resistance must conform to the technical specifications for the application. In case of failure of the supplied heater, the user is required to provide the manufacturer with valid document (building audit report) about checking out the earthing and the measured results. The manufacturer reserves the right to check the measurement on his own. If the tank earthing is connected to the electrical wiring, where the inspection was not performed or where the inspection has failed, it is serious violation of the mounting and operating conditions. In such case, the manufacturer assumes no liability for injuries resulting from the operation of such installed heater, nor for any damage to the heater.

Quality of the supplied and heating water is specified by ČSN 07 7401/1992 Sb. Quality of the sanitary water must meet the conditions specified in section 4.4. Connecting to the Domestic Water Distribution System

Fill the heating circuits with appropriate fluids and bleed the system. Make sure that all connections are tight and check the pressure in the system. Set the parameters of the heating controller according to the documentation and manufacturer's recommendations. Periodically check that all control and adjustment elements are working properly.

5. Maintenance

If the tank is equipped with the auxiliary electric heater, it is necessary to disconnect the auxiliary electric heater from the power supply before starting the tank maintenance. To clean the exterior of the tank, use a damp cloth and an appropriate cleaner. Never use abrasive cleaners, solvents, petroleum-based products, etc.

Check all connections for leaks.

During operation, it is necessary to carry out regular inspection and maintenance of the tank. This check is always performed within 6 months after commissioning. According to the state of the tank, an interval is determined for further service and maintenance. This interval should not be longer than 12 months.

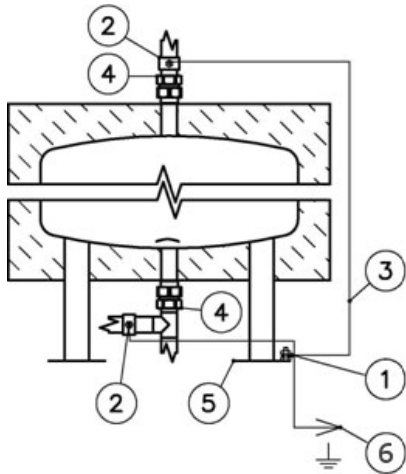
During the maintenance, it is necessary to clean the tank. Cleaning is carried out by flushing the inside bottom part of the tank with pressurized water without using any chemicals. Flushing out these impurities is carried through the cold water inlet or through the drain hole.

During the maintenance, it is also necessary to carry out a visual inspection of the magnesium anode rod, because this rod is consumed during operation. If more than 60% of the anode rod is consumed, it is necessary to replace it with a new one. The new anode rod can be purchased directly from the manufacturer or from your business partner (supplier of heater tank). Unscrew the rest of the anode rod from the brass screw and mount the new anode rod. Then slide the rod back into the heater and screw the brass screw together with the anode.

Caution! If damage to the heater is caused due to malfunction of the anode rod protection, warranty will be void.

6. Recommended protective connection

Standing design with earth screw on the foot.



1. earth screw
2. Bernard earth terminal
3. copper earth wire (6 mm²)
4. brass fittings
5. support
6. earth bus in switchboard

7. Disposal

Packaging materials must be disposed according to the applicable regulations. At the end of its service life, the product must not be treated as a household waste. It is necessary to ensure its recycling. Recycle the insulation as a plastic and the steel tank as a scrap metal.

8. Warranty

This product is warranted in accordance with the terms and conditions, which are stated in this manual and in the warranty card. Warranty card is an integral part of product delivery.

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