

OPERATING AND MOUNTING INSTRUCTIONS TANK HEATERS

INDICATIONS

Before initial operation, the installation instructions must be read carefully to ensure a trouble-free and safe operation. Installation, operation and maintenance must only be carried out by qualified and authorized personnel. The safety instructions in this operating manual and the safety regulations for the installation and operation of electrical systems must be observed. The tank heaters must only be used according to their technical data. Structural modifications are not permitted without prior permission of the manufacturer and will result in the loss of warranty.

APPLICABLE STANDARDS AND REGULATIONS

HBE tank heaters are designed and tested according to EN 60518-1 and EN 60519-2. The regulations applicable in the particular country must be observed. In Europe for example VDI, DIN, ÖVE, VDE.

MAIN COMPONENTS OF THE HBE TANK HEATERS

HBE tank heaters essentially consist of the components heating surface and connection housing. The heating elements of HBE electrical flange heaters are prewired ready for connection. Optionally, the supply line can be jacketed with a stainless steel hose.

The product-specific technical details can be found in the data sheet and in the connection diagram.

TEMPERATURE CONTROLLERS, TEMPERATURE LIMITERS

In the standard version, temperature controllers and temperature limiters are installed in the connection housing. The corresponding sensors are located in the tank heaters.



ASSEMBLY

HBE tank heaters can be positioned either horizontally or vertically in the storage tank. The connecting cable is led to the outside through a wall of the storage tank or a suitable opening and secured with a cable gland. In steel tanks, the tank heater can be attached with magnets, which are included in the standard version. The magnets additionally act as tank cleaner. They bind metallic elements in the storage medium and thus protect your system against technical faults. With plastics and stainless steel tanks, the tank heater can be hung with a chain in the tank.

In order to heat the medium in the suction area, HBE tank heaters should be positioned near the suction pipe. The suction pipe in the storage tank must be shortened so that the HBE tank heater is always covered with the medium (please observe the applicable regulations).

The minimum height above the tank heater is 50 mm. To keep the remaining amount of the medium in the storage tank as low as possible, the horizontal installation position is preferred. Depending on the type of the tank heater, the additional screw connection between the stainless steel protective hose and the tank heater connection housing must be checked for tightness before operation and retightened if necessary.

ELECTRICAL CONNECTION

The electrical connection must only be carried out by authorized personnel and according to the wiring diagram. The supply voltage must comply with the information on the type label. The wire cross-section and the protection must be selected according to the applicable regulations.

The terminals must be tightened with the required torque. After one month, it must be secured that the connections have not relaxed. If the connections have loosened, the terminals have to be retightened to avoid increased transition resistance. These resistances can damage the terminals and the tank heater.

COMMISSIONING

Before switching on the power supply, the tank must be filled with the medium. The tank heater must never be operated without sufficient heat dissipation of the medium. Non-compliance may result in damage to the heater as well as personal injury and machine damage.

MAINTENANCE

At appropriate intervals, it is necessary to check the tank, in which the tank heater is installed, for contaminations and debris. Any sedimented sludge must be removed to ensure heat dissipation of the heating surface to the medium. If the sludge is not removed, a heat accumulation may cause a burn out of the heating elements. Sludge which has settled at the lower part of the tank can be rinsed. Debris which cannot be removed by rinsing must be mechanically removed or dissolved. Indications for removing the debris can be found in the VDI guidelines 2035 sheet 1 paragraph 6.

When cleaning the tank, make sure that the heating elements are not mechanically damaged. In case of mechanical damage or damage caused by corrosion, the warranty is void.

REMOVAL OF THE TANK HEATER

If it is necessary to remove the tank heater from the tank e.g. for cleaning purposes, the following points should be observed:

- The power supply must be disconnected.
- The electrical connection cables must be released from the terminals and pulled out of the cable entries on the connection side.
- The cable connection on the tank heater is sealed and must not be loosened.
- The tank heater must be cooled down to a safe temperature.
- The optional screw connection of the stainless steel protective hose must be checked for tightness.

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