

**Application**

The heater Type HF-... \*) serves for the heating of water, lubrication oil, fuel oil and other liquids inside open or closed systems.

**Degree of protection**

min. IP54\*) according DIN 40050 / IEC 529

**Class of protection**

class of protection I (DIN VDE 0721 part 1)

**Thermal safety\*)**

Class 1 (DIN VDE 0721 part 2, section E)

**Technical Data**

All technical data can be obtained from the belonging to documentation n: Specification, Dimension sheet and Connection Diagram.

**Mechanical Design**

The heating bundle made of tubular heating elements  $\varnothing 8,5$  mm, resp. cartridge pipes with exchangeable ceramic heating elements together with the protection pipes for the temperature probes, is tightly connected to the mounting flange by brazing or welding. The heating element connection are leaded via a flange bushing to the connection box; where also the thermostates and the connecting terminals are located in a clear and easy to maintain manner. The required medium temperature can be set at the regulator with corresponding scale. In case of disturbance, that means temperature too high, the safety temperature limiter cuts -out and remains interlocked. So far a thermostatic limiter is fitted, hand -resetting must be done at the heater, in this case the reason for the fault must be detected and eliminated. In case of using a Pt100 or a thermo-couple in conjunction with an electronic temperature regulator / limiter device installation, high temperature trip must be reset at the location of that monitoring device.

**Storage Instructions**

Our storage instructions (enclosed to each heater at delivery) must be strictly observed in all cases when the heater will not be installed and operated immediately after delivery.

**Erection**

For the erection and operation the respective valid regulations must be observed. In Germany count: DIN VDE 0100, 0105 part 1 as well as directions of the Employer's Liability Insurance. Optional fuel oil see also VbF and TRbF.

The electric supply must be done with cable resp. harmonized standards, in case be observe the cross -section at the terminal in the connection box acc. the nominal power supply. The contacts of the built -in temperature limiter and regulator must be interlocked with the power contactor to be erected on site. When the heater is internally wired according to diagram S02 (series connection of limiter contact and heater resistance) the power contactor is not necessary.

**Maintenance**

Cleaning of the heating bundle must be done in suitable intervals. Checking the functions of control and limiter equipment to be done approximately 6 -12 month. Repairs to be executed only by manufacturer or by the specialist electric staff on the operator, with used of original spare parts. Ceramic heating elements of cartridge type heaters\*) can be exchanged when necessary. Before starting of replacement all element and terminal connections must be detached. Insertion of ceramic heating elements are secured by means of a spring. The spring has to be lifted with a suitable tool so that the heating element can be with drawn from the cartridge pipes.

\*) see belonging to apparatus documentation