Photovoltaic

AD-HST 35 SO

Description

The AD-HST 35 SO is a cascaded electric heating element for use in domestic hot water or heating water storage tanks to heat the water. The three different heating coils (500W, 1000W and 2000W) can be controlled in steps of 500W up to a maximum value of 3.5 kW (star connection) by means of three relays. Due to the electrically insulated design and the high quality metal alloy of the heating elements, corrosion damage is to be expected in water storage tanks. The AD-HST 35 SO is therefore perfectly suited for PV self-consumption optimization in combination with Adamczewski photovoltaic optimizers.The screw-in heating element is supplied with connection housing and a controller/limiter combination.

The AD-HST 35 SO is a commercial product of the company Türk+Hillinger Elektrowärme GmbH (Türk+Hillinger Art-Nr. 1105405).

Application

Heating of domestic or heating water with PV surplus power

Caution: In the case of calciferous water, check for possible limescale buildup after three months at the latest, decalcify the radiator and redefine the maintenance interval.

Specific characteristics

- three heating coils
- 500W, 1000W and 2000W
- 3,5 kW maximum power
- suitable for 1,5" screw-in connections
- integrated temperature controller
- integrated STL (safety temperature limiter)
- electrically insulated heating elements

Business data

Order number	AD-HST 35 SO

Technical specifications

Wiring data

Voltage	230 VAC / 400 VAC
Power total	3,5 kW
Number of pipe heaters	3
Power L1	500 W
Power L2	1000 W
Power L3	2000 W
Connection design	Screw connection M20x1,5
Internal wiring	three-phase - star wiring

Surface load

Pipe heater 1	500 W - 2,8 W/cm²
Pipe heater 2	1000 W - 5,3 W/cm²
Pipe heater 3	2000 W - 10 W/cm²

Mechanical data

Immersion depth L	480 mm
Unheated zone (LU)	100 mm
Unheated length from sealing flange	100 mm
Max. water pressure	10 bar
Material screw head	MS 58
Werstoff housing	Polycarbonat
Material pipe radiator	2.4858
Protection level	IP64
Mounting position	horizontal
Screw head	G 1 1/2 DIN ISO 228
Wrench size	SW 60

Temperature control

Setting range controller	5°C bis 85°C
Shutdown temperature STB	110°C - 8K

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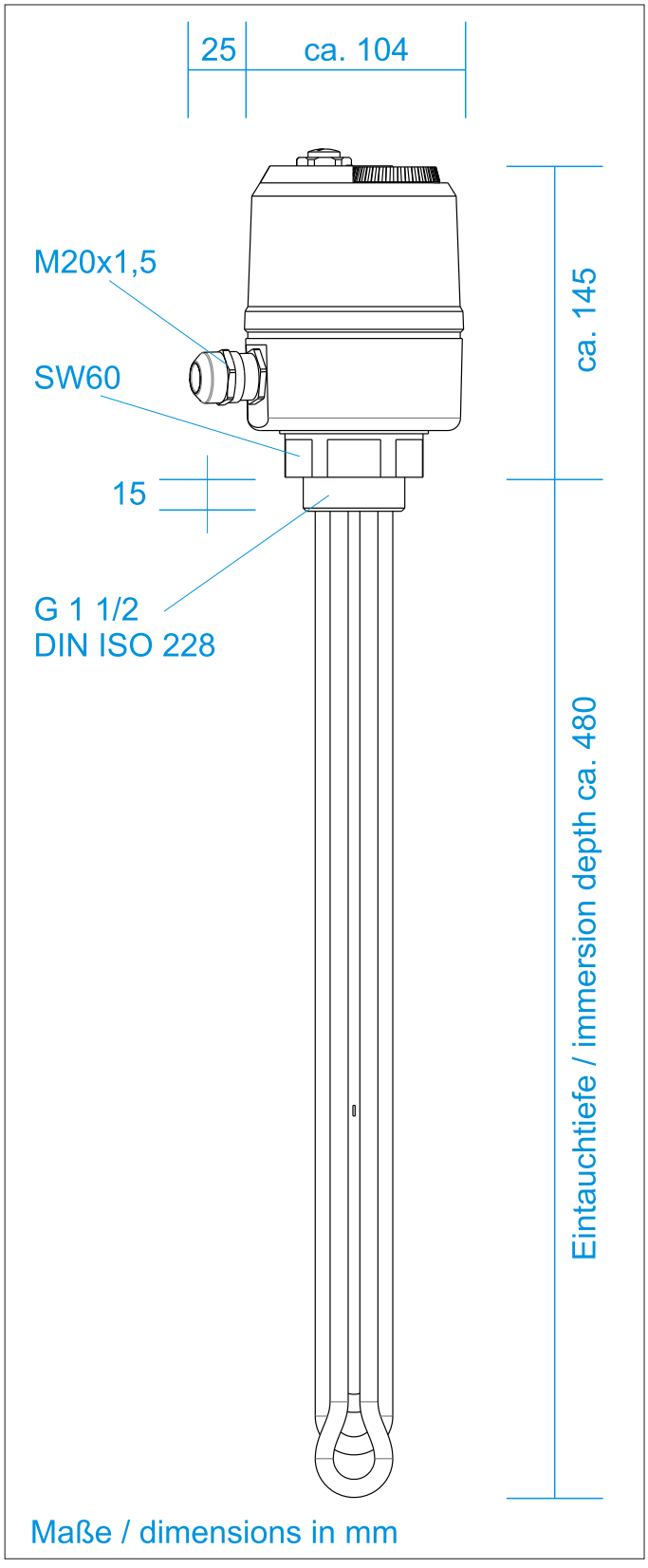
Dimensions


25
ca. 104
M20x1,5
SW60
15
G 1 1/2
DIN ISO 228
ca. 145
Eintauchtiefe / immersion depth ca. 480
Maße / dimensions in mm

Mounting instructions

1. Application area
Closed water heating systems with a nominal pressure up to 10 bar. For glass lined or coated tanks with protective anode, an insulated version must be used. APPLICABLE TO INSULATED VERSION ONLY: To prevent corrosion damage to glass lined or coated vessels enameled or coated tanks, the tubular heating elements of the screw-in heating element are electrically insulated the vessel and are connected in a defined conductive way via a resistor. This increases the service life of the protective anode and the screw-in heating element.

2. Function
The sensors of the controller and the safety temperature limiter are located in a protective tube between the tubular heating elements. They detect the liquid temperature. The setpoint temperature can be adjusted. In the event of a fault, the safety temperature limiter switches the radiator off permanently.

3. Mechanical installation
The installation is carried out in threaded sockets G 1 ½ with suitable sealants. The length of the threaded sleeve must always be smaller than the unheated zone (LU). The LU is indicated on the type plate. The thermally induced water circulation in the vessel must not be obstructed, e.g. by baffles.

4. Electrical connection
The screw-in heating element must be connected in conjunction with an RCD (FI) circuit breaker. The electrical connection may only be done by an authorized specialist, the VDE 100 and the regulations of the local power supply company must be observed. To open, the controller knob must be pulled forward to the front / carefully lever it off. Then remove the two fastening screws of the cap. - Wiring see circuit diagrams

5. Operating notes
Start-up should not be done until the tank is completely filled. If the STB responds, the cause of the fault must be determined. After the cause of the fault has been eliminated, the STB can be reactivated by pressing the red button firmly after it has cooled down and the upper part of the housing has been removed. Attention ! After professional installation, the STB provides sufficient overtemperature protection, e.g. if the heating element runs dry. However, the STB is not a protection against dry operation. For this other protection systems such as level control systems or similar must be installed.

6. Additional functions (not existing in all heating elements)
- Signaling device: the light emitting diode signals that the device is heating - External reset of the STB: after disconnection from the mains, the STB can be reset by removing the slotted screw in the upper part.

7. Maintenance
Before maintenance work, make sure that the mains supply is completely disconnected! The heating element must be kept free of deposits and sediment. If the water contains lime, lime deposits can malfunctions or even complete destruction of the screw-in heater due to lime deposits. Regular inspection and decalcification is recommended.