

ASSEMBLY- AND OPERATION INSTRUCTION FOR CSN-SCREW-IN RADIATOR

1. USAGE

CSN-screw-in radiators are designed for heating of liquid and gaseous mediums.

2. SAFETY INSTRUCTIONS

Before opening of the appliance, it has to be strictly safeguarded that it is free of voltage.

The electric installation should only be made by an approved electrician.

It has to be adhered to the local EVU-prescriptions as well as the appliance-specific VDE, DIN and TÜV prescriptions. In case of non-adherence to these prescriptions, failures in function with sequence-damages and endangering of persons may occur.

3. GENERAL

Before beginning of the assembly works and before the first commissioning of the radiator, the assembly and operation instructions have to be read.

If a fitting position or direction of flow to the heated medium is given, it has to be considered accordingly.

Please check whether the radiator shows transport damages.

The radiator must be stored in dry condition (see page 3, point 9).

4. ELECTRIC CONNECTION

Check whether the connection voltage is in accordance to the voltage of the power rating plate.

Connection protecting-hood of the radiator has to be opened.

By executions with aluminium-hood and rotary-disk, the cable screwing can be turned into the desired position by unloosen the three headless screws situated in the hexagon of the screwing.

Insert cable through cable gland and connect the cable to the provided clamps according to the wiring scheme attached in the hood.

The wire cross sections and the protection must be adapted to the electric power of the radiator and must comply with the relevant provisions – see DIN VDE 0100 part 523 and part 430.

After the electric connection has been installed, it has to be safeguarded that the IP protectionclass indicated on the type-plate is adhered to.

5. THERMOSTATS (OPTIONAL)

If the radiator is equipped with a regulator, the adjustment of the desired temperature can be made by turning of the regulator spindle.

If provided with a limiter, the adjustment of the desired limiting temperature can be made by turning of the limiter spindle.

The triggered limiter can be reset by actuation of the reset button. The limiter of the three-pole regulator-/ limiter combination is firmly adjusted on 100°C. The regulator can be adjusted manually in the range of 30°C to 80°C.

3-pole thermostats can be applied for direct control up to 9 kW (with 400 V 3 ~). 1-pole thermostats are admissible up to 3 kW (with 230 V ~).

When using rotary current and 1-pole thermostats, a control valve must be provided on site.

As dry run protection, a 3-pole limiter from Stiebel is available. This one is provided for direct switching up to 12 kW (with 400 V 3 ~). When mounting in horizontal position, it must be considered that the sensor will be fixed at the above lying tube radiator.

The regulation and limitation is also electronically possible by a PT 100 or NiCrNi thermal element.

In particular cases, a readjustment of the regulator or limiter has to be made after the heating phase.

In order to protect the radiator against overheating, we additionally recommend security measures as for example to install a level control (float switch) or a water flow indicator into the system.

6. COMMISSIONING AND DECOMMISSIONING

Adjust thermostats (if available) to the desired temperature.

The radiator must only be switched on under operating conditions – the medium to be heated must encircle the radiator thoroughly. With continuous flow heater, the indicated volume flow must be achieved.

Due to residual heat, it must be safeguarded with continuous flow heater that the medium flows on for some time after switch off of the radiator.

7. MAINTENANCE

Fixing screws have to be tighten up after the first heating up and must be checked regularly for tightness.

Sedimentations on the tube radiator may destroy the radiator and must be removed. The cleaning must be made carefully in that way that the tube surface will not be damaged.

Occasionally, the thermostats and the whole wiring should be tested for a proper function.

8. PROBLEMS AND SOLUTIONS

Problem

The radiator does not achieve the necessary power – the nominal temperature is not reached.

Solution

- Test the fuses
- Control the connecting voltage
- Thermostats and wiring (control) must be tested
- Resistance of the tube radiator should be measured

Problem

The nominal temperature is significantly exceeded.

Solution

- Adjustment and function of the regulator must be checked.
- Required medium throughput has to be tested.

Problem

The temperature limiter does not actuate.

Solution

- Adjustment and function of the regulator must be checked.
- Adjustment of the limiter and function must be checked.
- Required medium throughput must be tested

9. STORAGE

Due to system performance, it must be expected that the insulation resistance decreases when storing over a longer period of time (several months). The radiator may only be put into operation when it has been safeguarded that the insulation resistance is bigger than R_{min} .

$$R_{min} = \frac{2M\Omega}{\text{Number of installed tube radiators}}$$

We recommend to store the radiators in dry condition and to add a suitable drying agent if necessary.