

Operating Instructions for Cartridge Heaters

Preparation and Installation

- The mounting hole for the cartridge heater must be made with an H7 tolerance, which ensures proper heat distribution and safe operation.
- Heaters should be installed in holes with clean, undamaged surfaces, free from burrs and contamination.

Use of Assembly Grease

- Ceramic grease should be used solely to improve heat transfer and facilitate disassembly. It must not be used to compensate for dimensional inaccuracies or mounting gaps.

Operating Parameters of Lead Wires

- PFA wires with Teflon insulation: operating range from -200°C to +260°C.
- WS wires with fiberglass insulation: operating range from -50°C to +400°C.

Power Connection

- The heater must be connected to the supply voltage according to the device specification. Connecting it to a voltage higher than designed may cause the nominal power to be exceeded, potentially leading to heater damage and safety hazards.
- Heaters may be connected and operated only by persons with appropriate electrical qualifications.

Structural Characteristics

- Cartridge heaters have two non-heating zones:
 - at the end cap side (approx. 10 mm),
 - at the point where the lead wires connect to the heating coil (approx. 15 mm).The length and position of the non-heating zones may vary depending on the model.
- The highest operating temperature of the heater occurs in its central zone, resulting from the distribution of the resistance winding.

Operation After Storage

- In the case of long-term storage (over 3 months), it is recommended to preheat the heater at 100°C for about 1 hour before first use. This procedure removes moisture from inside the heater and prevents malfunctions.

Sensors

- Heaters equipped with a built-in temperature sensor (thermocouple, PT100) have two additional compensating wires. If the device is not equipped with an appropriate temperature controller, these wires do not need to be connected — this does not affect the operation of the heater itself.

Safety

- Installation, connection, and operation of the heaters must be performed by qualified personnel authorized to work with electrical equipment.
- Before performing any maintenance work, the heater must be disconnected from the power source and allowed to cool down completely.
- Heaters must not be used in aggressive environments (chemicals, conductive dusts) without proper protection.

Maintenance and Final Notes

- Regularly check the condition of the lead wires and the cleanliness of the contact surfaces.
- Self-repair of heaters is not permitted.
- The instruction manual should be kept near the point of use to ensure quick access for operating personnel.