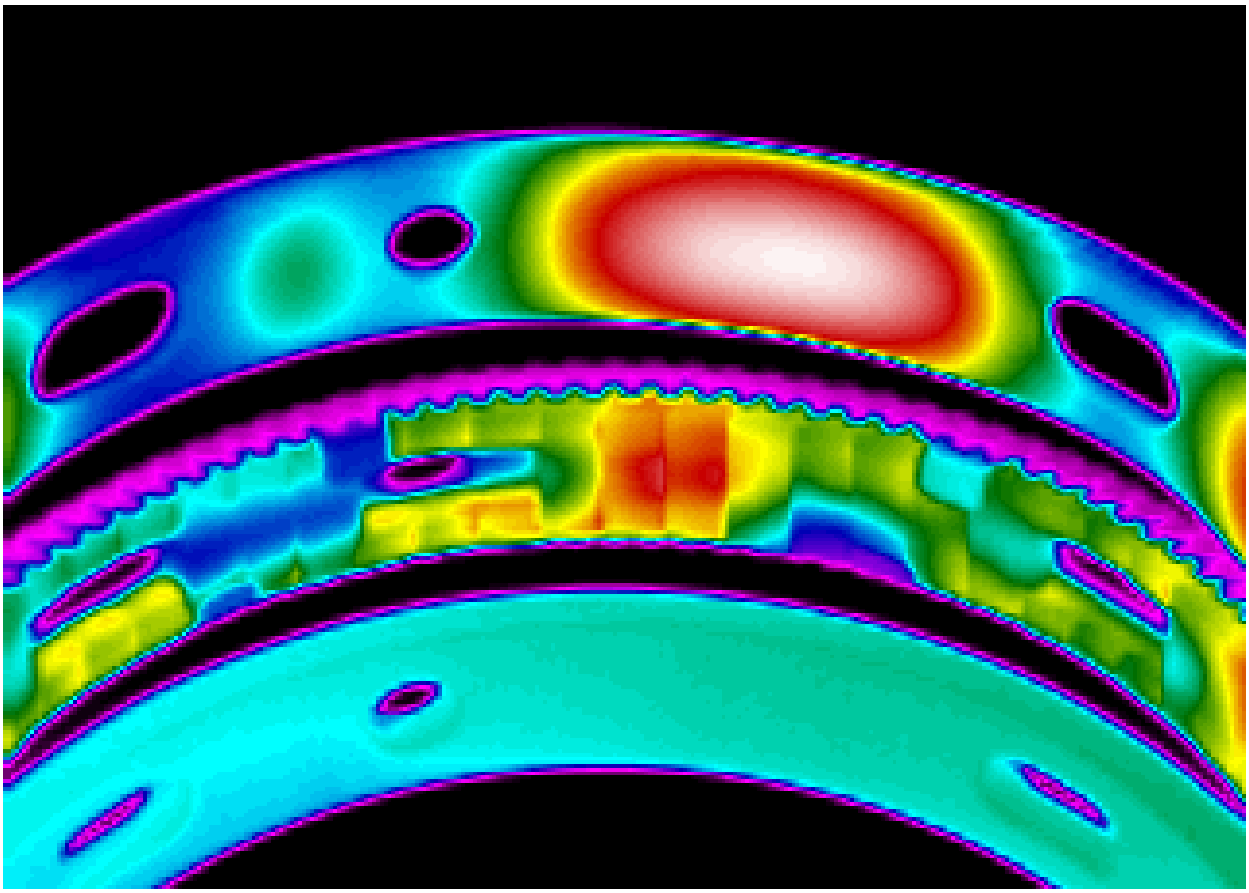
TECHNICAL COMPARISON
BAND HEATERS



GROUP OF COMPANIES

IHNE & TESCH
ELEKTRO-WÄRMETECHNIK

KELLER IHNE + TESCH
ELEKTRO-WÄRMETECHNIK

CELTIC

KIT ELECTROHEAT

Aluminium compact Band Heater type ZAK with savings potential

According to the current state of knowledge, aluminium compact Band Heaters offer surface-area dependent savings potential compared to conventional Band Heaters. Comparisons have clearly shown that the aluminium heating achieved optimal heat distribution up to the boundary areas through its compact and stable design and precise fitting.
A Temperature Sensor can be installed, which enables precise regulation of the heating.

Test procedure:

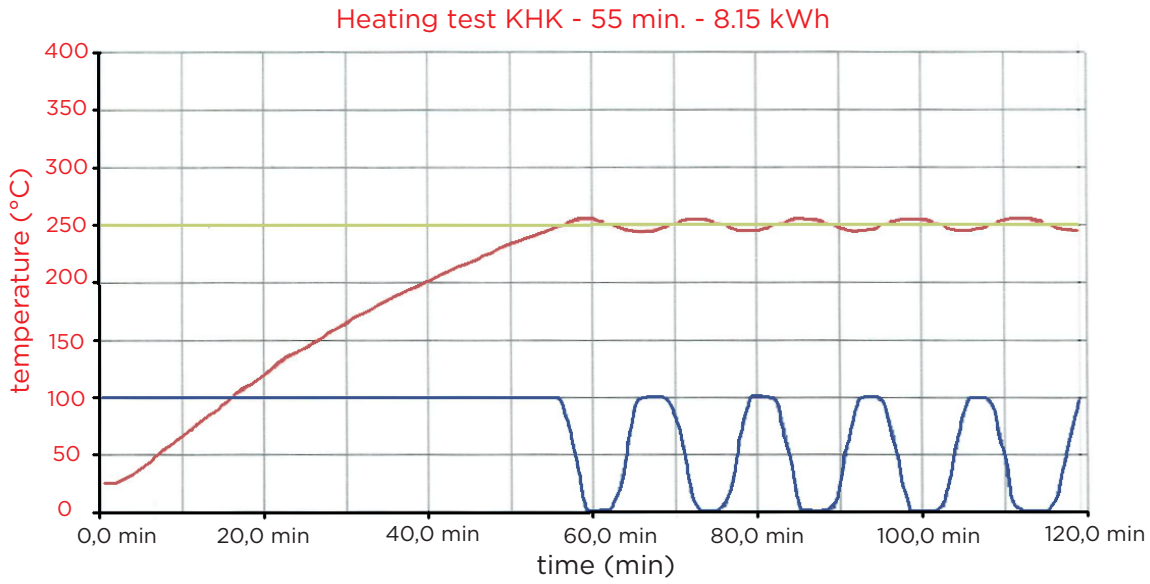
Test 1: Savings potential

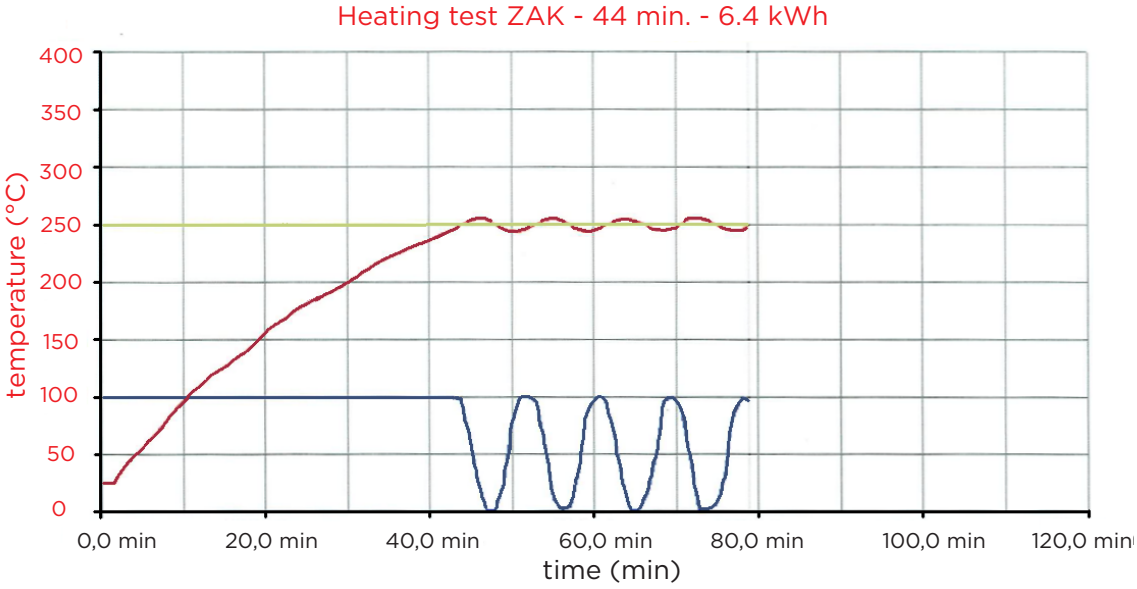
1. Comparison: Ceramic-insulated Band Heater KHK 302D 201 L 230V 9000W
   Aluminium compact Band Heater ZAK 302D 200 L 230-250V 9000W
2. Heating to a cylinder temperature of 250 °C
3. Long-term measurement

Test 2: Heat distribution

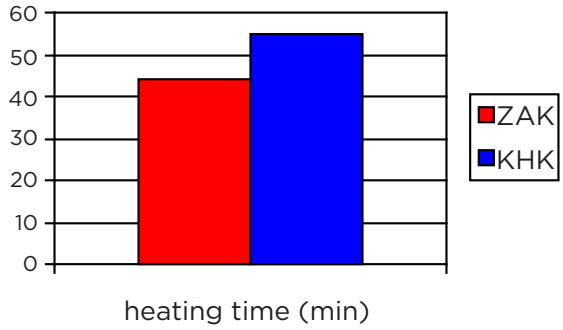
1. Comparison: 230D 36L 230V 600W
   Mica-insulated Band Heater type Z
   Ceramic-insulated Band Heater type KHK
   Aluminium compact Band Heater type ZAK
2. all Band Heaters were heated to 200 °C

Results for test 1: Savings potential

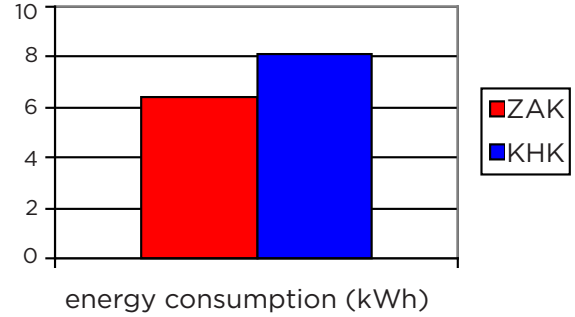




subject to technical change

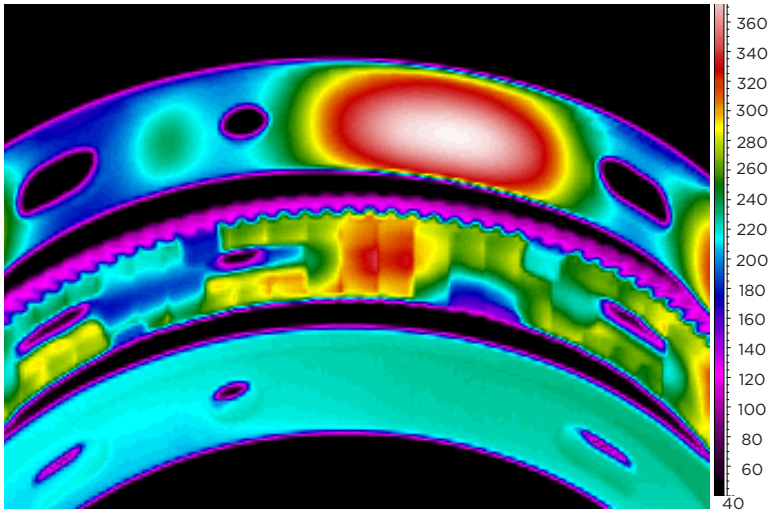


The compact design of the Band Heater ZAK and the good heat-conducting material aluminium reduced the heating time in comparison to the ceramic insulated Band Heater by 11 minutes.



Also in the continuous use/ maintaining 250 °C setting, over a specified time period, the aluminium compact variant displays strongly reduced surface temperature compared to the ceramic-insulated variant. The measured power usage in kWh shows a significant increase of efficiency, which leads to a reduction in the time it is in use.

Test 2: Heat distribution



Heat jam areas and cold areas are shown clearly in the picture at the boundary areas and in cracks and holes for conventional Band Heaters.

Mica Band Heater type Z

Ceramic Band Heater type KHK

Aluminium compact Band Heater type ZAK

Benefits of aluminium compact Band Heaters:

- **compact, closed heating**
- **heat distribution in the border areas through total surface contact**
- **fast heating of the object**
- **short heating and evening-out and maintaining of temperature**
- **robust, energy efficient, economical**

Summing up the benefits, there is an energy-savings potential of up to 30% of conventional consumption values as well as nearly 100% heat distribution.

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Locations

HB technical comparison 10/19

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