

Case study: **Preheater system for sensors in the vehicle seats**



Accurate temperature control for functional testing of the sensors

For the American market, sensors are required to be installed in vehicle seats to determine whether someone is sitting on the seat, how heavy he or she is and whether they are belted in, so that, in the event of an accident, the airbag can be deployed in a defined manner. To check the function of the sensors, they must be heated to exactly 82 °C +/- 1K and this temperature must be maintained steady. In addition, tremendous accuracy is required for the transport of the sensors.

The unit consists of five nested heating chambers, each with its own hot air supply and temperature control. The LE-R 109 air heaters (with 9 kW capacity), fans, temperature sensors and a control cabinet have been installed. An upstream feed section has been included in which the sensors are heated to 82 °C before they are transferred to the heating chambers for the actual test. The overall length of the unit is approx. 14 m.



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in the vehicle seats**



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Technical data of the installation

Air heater

HAPRO LE-R 109

Output: 9 kW

Blower

HAPROVENT H SCL

Thermocouple

Pt 100

Controller

Switch cabinet

 **HAPRO**
Thermodynamic Engineering.

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