Heat Transfer and Fluid Flow Laboratory
Brno University of Technology, Faculty of Mechanical Engineering

NETME Centre

Testing of heating and cooling elements

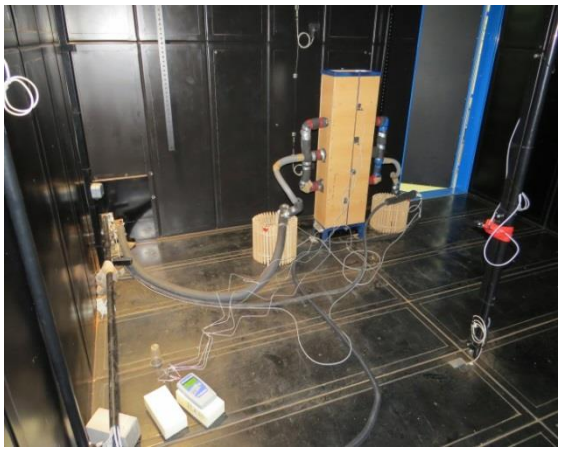
Services offered and collaboration opportunities:

- **Thermal characteristics measurement of heating or cooling elements**
- **Product design optimization**
- **Evaluation of thermal comfort using a thermal manikin**
- **Noise measurements for objects with fans**
- **Consulting services supported by an extensive experimental and computational base**

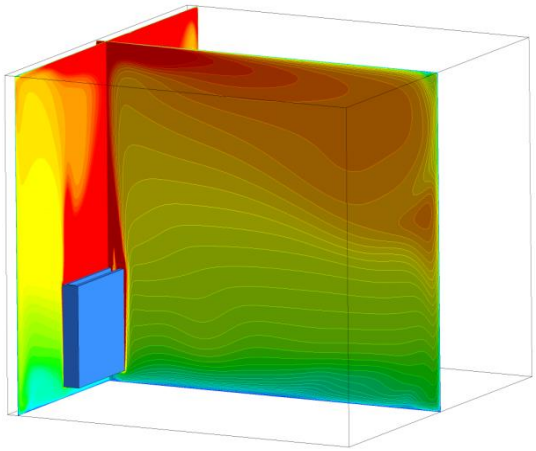
The test chamber allows for testing in accordance with DIN EN 442-2 „Radiators: Testing and evaluation“.

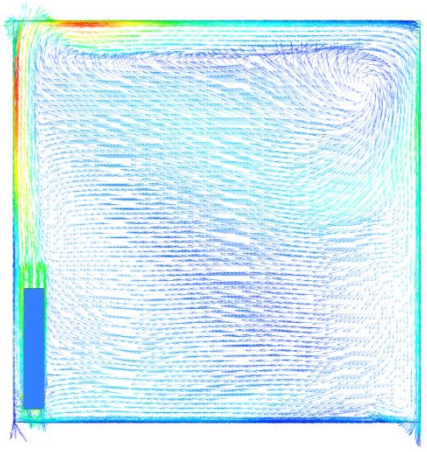
It has internal dimensions of 4x4x3 meters and allows for measurement of capacity from between 200 W to 4 kW.

In addition, it is possible to work in cooling mode and measure cooling capacity, and to solve problems of condensation and their influence on heat exchanger performance.

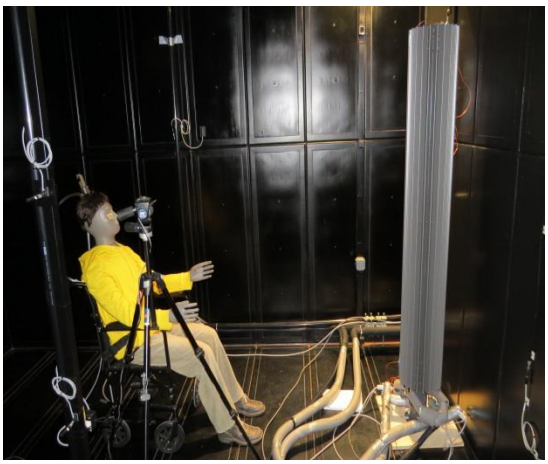


Measurements in the chamber allow for the rapid acquisition of information, characterization of the tested heat exchanger, and the ability to easily change operating parameters.

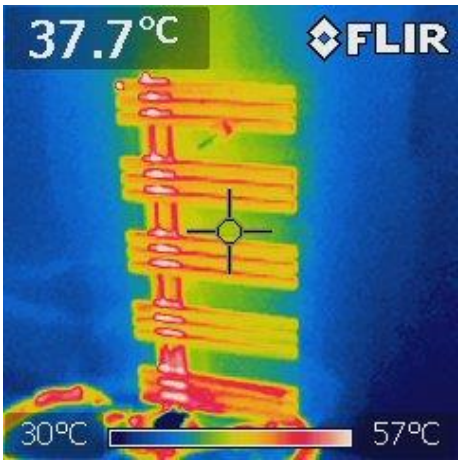


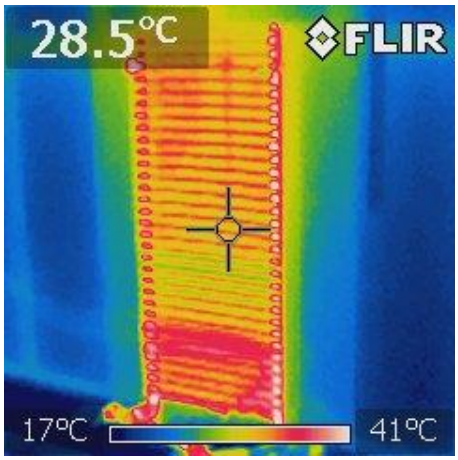


If necessary, a numerical simulation can be used to achieve optimal parameters. The laboratory has the necessary hardware and software at its disposal.



The evaluation of thermal comfort can be performed with the help of a special device called a thermal manikin, which is a life-sized dummy used to measure heat loss by convection, radiation and conduction. This device can be used to determine the efficiency of radiant heat panels or other types of radiators, to evaluate the insulating ability of clothes, or to analyse the influence of climate on the human body.





A thermovision camera can be used to quickly determine the temperature distribution on a tested surface.

Contact:
Technická 2896/2, 616 69 Brno, Czech Republic
Phone +420 541 143 246, Fax +420 541 142 224, E-mail: heatlab@lu.fme.vutbr.cz, www.heatlab.cz

Miroslav Raudenský
Professor
E-mail: raudensky@fme.vutbr.cz
Phone: +420 541 14 3 274