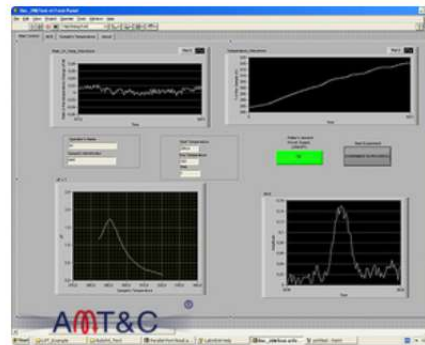


Setup for express measurement of magnetocaloric effect

Experimental setup for express measurements of the adiabatic temperature change in the room temperature range.

The setup is intended for measurements of the magnetocaloric effect (MCE), namely adiabatic temperature change (ΔT), in the temperature range from 273 to 370 K in order to get ΔT versus temperature dependences rapidly and evaluate suitability of using of the material under investigation as a working body of magnetic refrigerators. The measurements in the setup are conducted by the direct method with the help of a thermocouple. The magnetic field change is accomplished by linear movement of the permanent magnet magnetic field source along the measuring insert. The setup operates in automatic mode under control of the program written on LabView.



The setup includes:

- the desktop measuring unit,
- the desktop control unit,
- the ΔT measuring system,
- the control computer.

The enhanced algorithm of the setup operation makes possible to investigate up to 20 samples per day. The control program enables not only to monitor the measuring process in real time mode, but also to do mathematical treatment of obtained data. The software may be supplemented with additional programs for critical indexes determination and for extrapolation of measured data to the wider temperature and field interval.

Customer reviews:



Universidad de Sevilla
([open review in PDF](#))



Institute of Metallurgy and Materials Science named
after I.P. Bardeen
([open review in PDF](#))

Deputy director:
Dmitry Kopeliovich, Ph.D.
Tel: +7(495) 777-72-26
E-mail: kopel@amtc.org