

# Automated measuring system for testing magnetic parameters

LLC "AMT&C" offers automatic measuring system (AMS) for measurements of the magnetocaloric effect and other magnetic parameters.



AMS includes:

- Halbach-type magnetic field source with changing magnetic field based on permanent NdFeB magnets,
- liquid nitrogen cryostat,
- the set of measuring inserts,
- data acquisition and measurements control system guided by a control computer.

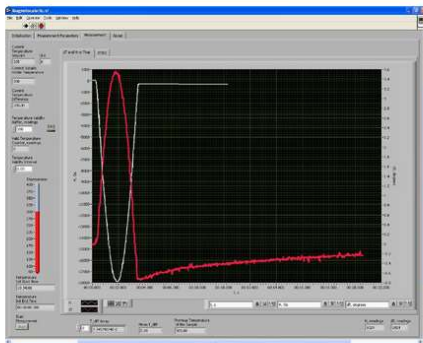
AMS has the following working parameters:

- variable magnetic field strength - from -1.85 to +1.85 T,
- variable frequency of the magnetic field change from 0.1 to 1.8 Hz (magnetic field change rate from 0.05 to 6 T/s),
- dimensions of the magnetic field area with heterogeneity no more than 1 % - diameter 20 mm, length 20 mm,
- working temperature region – 80 ÷ 365 K,
- automatic and manual measuring modes.

The basic option of AMS is the magnetocaloric effect measurement.

- sample dimensions (min-max) (1-2)×(2-5)×(8-10) mm,
- measurement accuracy of magnetocaloric effect: 0.1 K.

**More details can be found in brochure (view PDF)**



**Magnetocaloric effect (MCE) is the change of magnetic entropy and temperature of a magnetic material under its magnetization and demagnetization by external magnetic field. Magnetocaloric effect is observed in any magnetic material and can be used for creation of a highly effective magnetic refrigerator, in which magnetic material is a working body instead of refrigerators used today with gas compression – vaporization working cycles.**

Automated measuring system can also be used with changeable inserts, allowing to measure magnetization (with the help of inductive magnetometer insert), heat capacity, thermal conductivity, magnetoresistance, magnetostriction and other magnetic and thermal values depending on the magnetic field.



## Customer reviews:



Universidad de Sevilla  
(open review in PDF)



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

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