AGICO Advanced Geoscience Instruments Company

CS-3 FURNACE APPARATUS

for use with KLY- 4S / KLY-3S Kappabridges

Designed for Measurement of Thermal Magnetic Susceptibility Changes of Weakly Magnetic Rocks and Synthetic Materials

The CS-3 Furnace Apparatus is designed for measurement of the temperature dependence of low-field susceptibility in weakly magnetic minerals, rocks, and synthetic materials, in co-operation with the KLY-4S or KLY-3S Kappabridges.

General Description

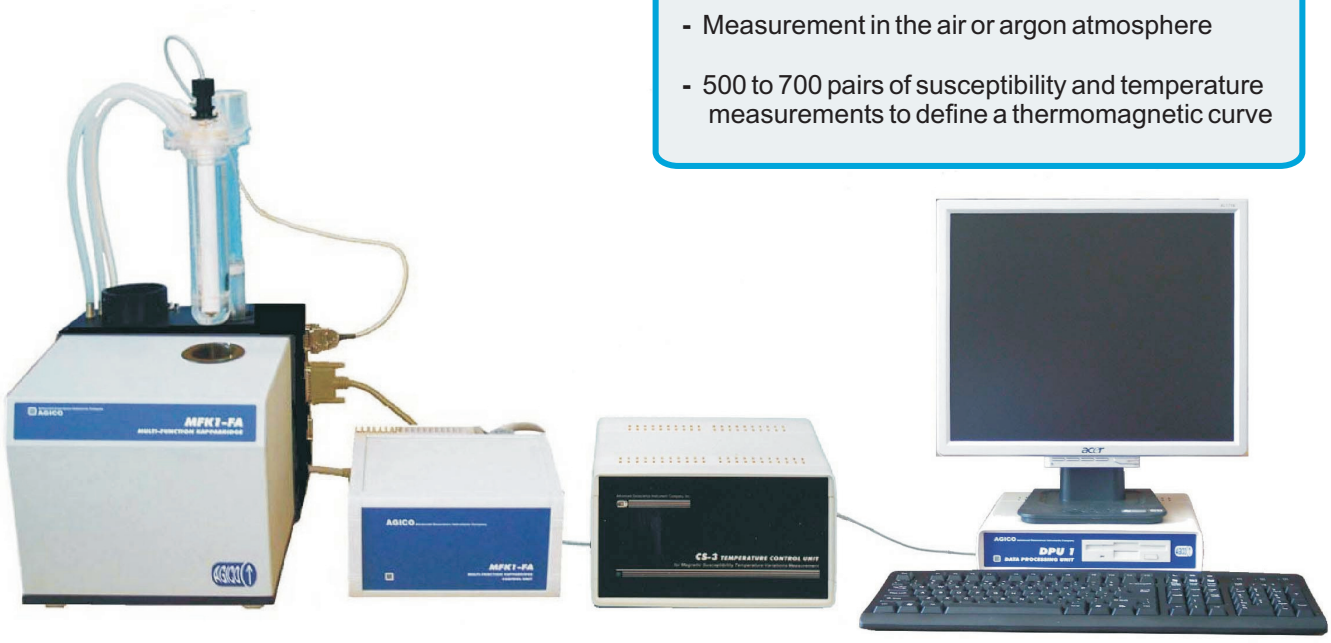
The apparatus consists of a non-magnetic furnace with a special platinum temperature sensor, a temperature control unit, and a cooling water reservoir. The specimen (up to 0.25 cm^3 in volume) is placed in a silica glass vessel, heated by a platinum wire, and the temperature is measured by the temperature sensor.
To perform the susceptibility measurement at a given temperature, the equipment automatically moves the furnace into and out of the pick-up coil of the KLY-4S(3S) Spinner Kappabridge. The quasi-continuous process is fully automated, being controlled by the CS-3 Temperature Control Unit and PC computer.
The CS-3 apparatus includes a supplement which may be used to measure temperature variations of susceptibility in argon atmosphere, in order to prevent oxidation of measured specimen.

Several parameters of temperature changes may be preset:
- Maximum and minimum temperatures.
- Rate of heating and cooling.
- Time of a specimen annealing at the maximum temperature.

The temperature variation of susceptibility of the specimen is displayed continuously on the monitor. The results are also written into a data file (in ASCII format) which can be (off line) interpreted and evaluated by included special software package CUREVAL.
The standard measured curve of temperature variation of susceptibility consists of about 500 to 700 pairs of susceptibility and temperature determinations. If a weakly magnetic specimen has been measured, the curve can be resolved into paramagnetic hyperbola and complex ferromagnetic curve.

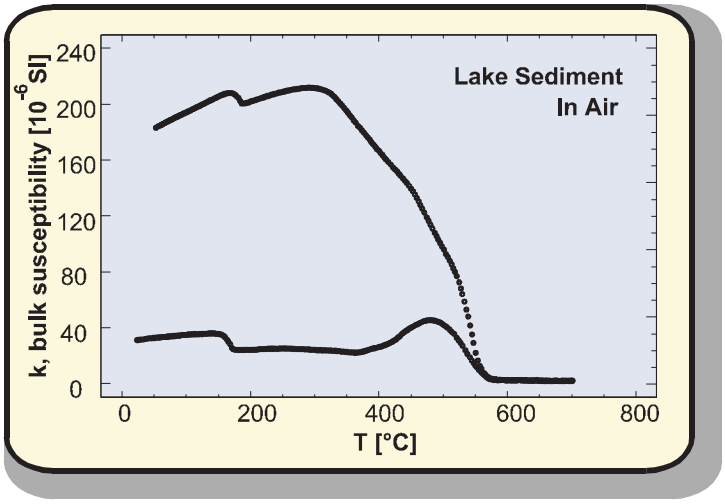
Main Features

- Software controlled heating and cooling modes
- Lowest detectable susceptibility change $1x10^{-7}$ (SI)
- Measurement at high temperatures up to 700 °C
- Measurement in the air or argon atmosphere
- 500 to 700 pairs of susceptibility and temperature measurements to define a thermomagnetic curve



LABORATORY INSTRUMENTS FOR MEASUREMENT OF MAGNETIC PROPERTIES OF ROCKS

AGICO Advanced Geoscience Instruments Company

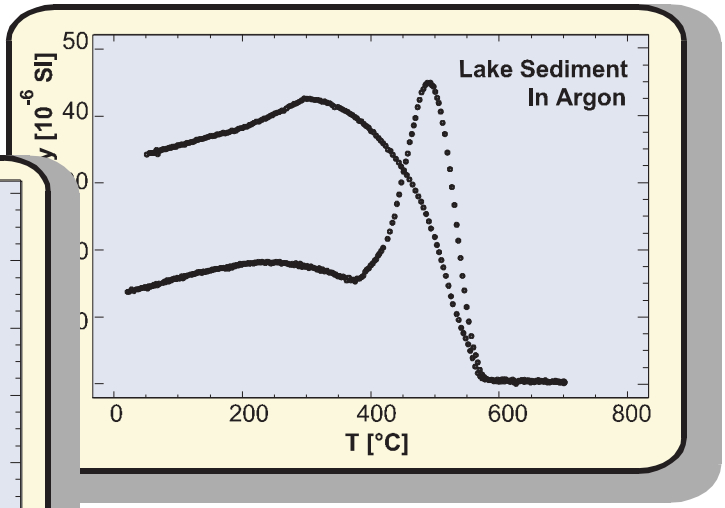


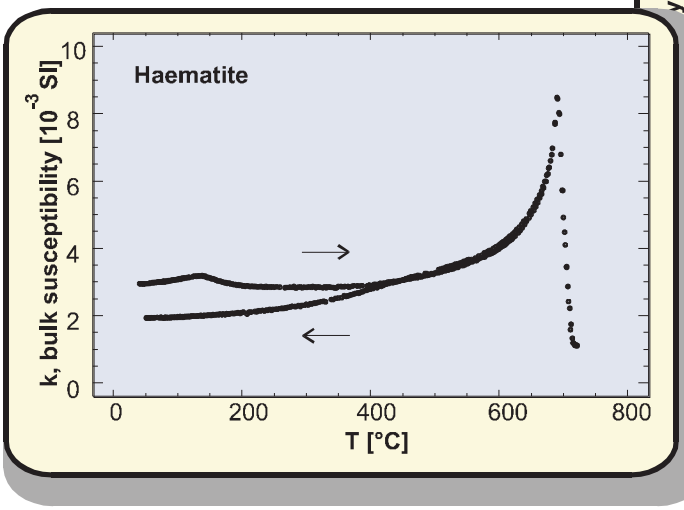
SPECIFICATIONS

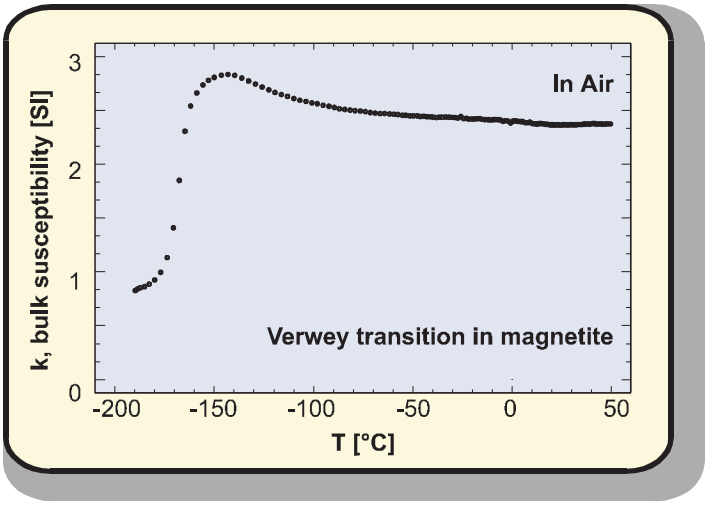
Nominal specimen volume: (fragments or powder)	0.25 cm^3
Inner diameter of measuring vessel:	0.6 cm
High temperature measurement:	up to 700 °C
Accuracy of temperature determination:	± 2 °C
Sensitivity to susceptibility changes:	1 x 10^{-7} (SI)

Dimensions, Mass:

Temperature control unit:	26 x 16 x 25 cm, 9 kg
Furnace:	diameter 6 cm, length 22 cm, 0.5 kg
Water container 50 l:	70 x 38 x 38 cm, 2 kg (empty)







Ordering Information

CS-3 Furnace Apparatus
Comprising:

- CS-3 Temperature Control Unit
- Furnace
- Water Cooling Reservoir
- Temperature Sensor
- Argon Gas Flowmeter
- Specimen Vessels
- Set of Interconnecting Cables
- Measuring Software
- CUREVAL Software
- User's Manual

AGICO, Inc.

Advanced Geoscience Instruments Company
Ječná 29a * CZ - 621 00 Brno
Czech Republic
Tel: + 420 511 116 303 * Fax: + 420 541 634 328
E-mail: agico@agico.cz * http://www.agico.com

LABORATORY INSTRUMENTS FOR MEASUREMENT OF MAGNETIC PROPERTIES OF ROCKS