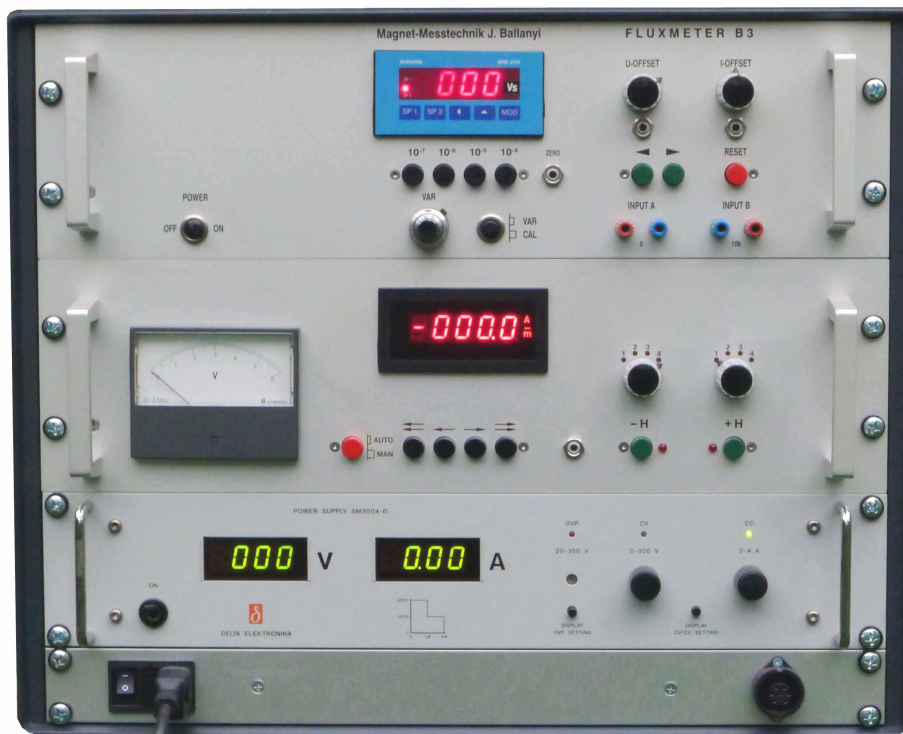


Coercimeter KO 3.1

The coercimeter KO 3.1 is an instrument to ascertain the coercitive field strength of soft ferromagnetic materials.



Features

- measurement of coercivity
- result of measurement at a digital display
- field coil with wide homogeneous range
- adjustable measuring period
- 19" compact instrument
- measurement in small samples

Applications

- measurement of coercivity for goods inward inspection
- measurement of coercivity in material labs
- material control for relays and contactors
- control of heat treatments

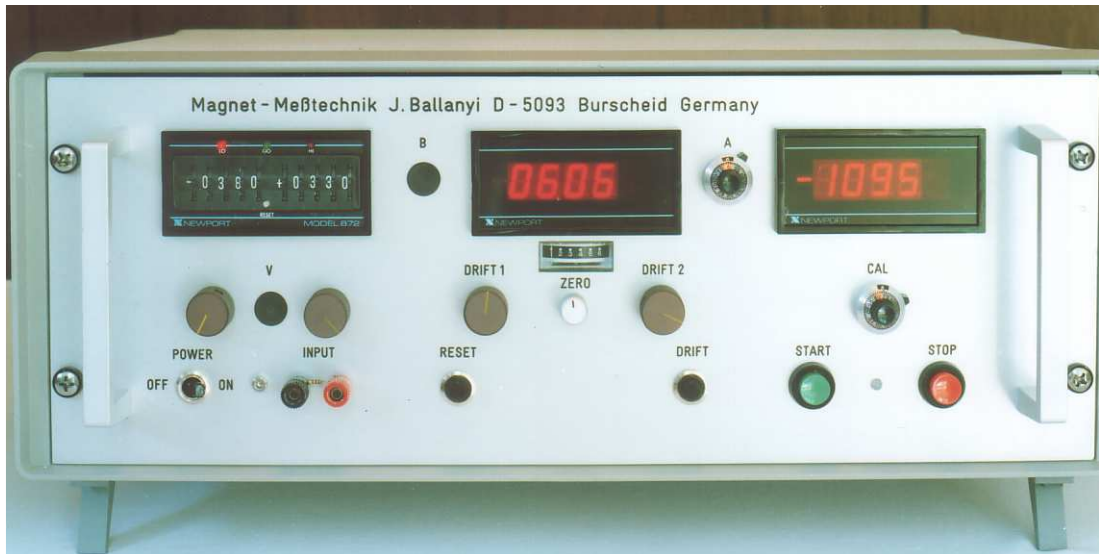
The coercitive field strength is a physical size stating much information about the characteristics of ferromagnetic materials. It is dependent on the kind of the material, but not on form and size. Therefore, the coercitive field strength can be used to ascertain important material properties.

Mode of Operation

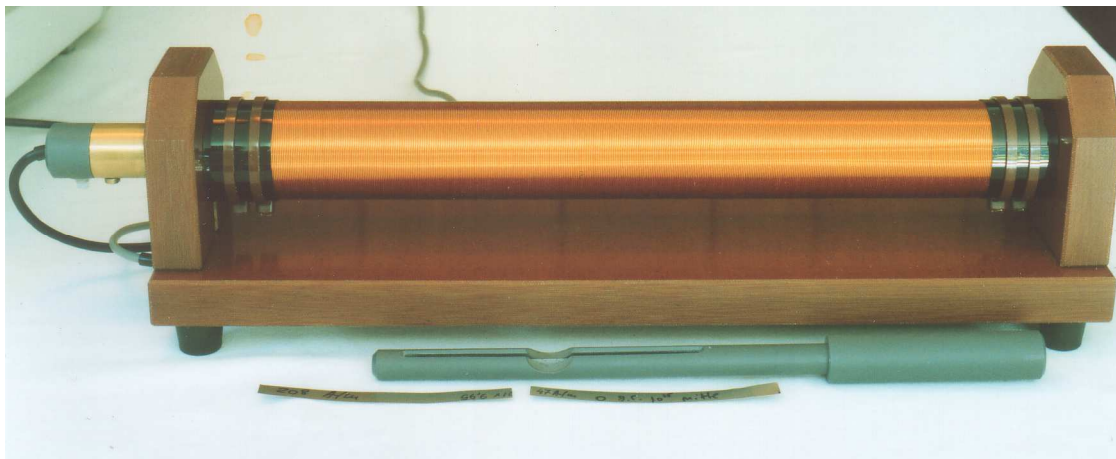
To ascertain the coercitive field strength the sample to be measured is clamped on a test holder and is led with this into a nonferrous cylindrical coil. The sample is magnetized in an increasing and decreasing magnetic field within the coil.

The saturated sample is exposed in a continuously increasing field of opposite direction to such an extent until the remaining magnetism comes down to zero. The size of this opposite field strength is called the coercitive field strength BH_c . The level of the counterfield strength is dependent on the coil constant and on the coil current and can be displayed digitally.

During the increase of the counterfield strength there is measured continuously the coil current and, hence, the level of the counterfield. The display will be stopped and the measured value is transferred to the memory as soon as the remaining polarization gets zero. The level of the remaining polarization is surveyed continuously by a fluxmeter which is transferring by means of a switch-outlet in zero crossing the appertaining coercitive field strength to the memory in a "sample-hold" function. The measured value remains in memory as long as the next measuring cycle is getting started.



Control- and measuring unit (version KO2.1)



Field coil, specimen holder and samples for KO2.1 and KO3.1

Technical Data

Power supply	230 V, 50 Hz
Permissible power voltage fluctuations	± 10 %
Permissible power supply frequency	± 5 Hz
Power consumption	while magnetization 600 VA
Magnetisation field strength	maximum 700 A/cm
Realisation of measurement	semi-automatic
Measuring range of coercive field strength	up to 100,0 A/m up to 200,0 A/m up to 1000,0 A/m up to 1999,9 A/m
Display accuracy of coil field	± 1 % in addition ± 1 digit
Maximum resolution	0,1 A/m
Display	digital 0...19999
Coercive field strength-measurement time	variable
Dimensions of samples	length: 10...150 mm diameter maximum: 20 mm Further dimensions on enquiry
Permissible ambient temperature	15...35 ° C
Dimensions of central unit	504 x 600 x 300 mm (W x H x D)
Weight of central unit	approx. 30 kg
Dimensions of coil	420 x 120 x 120 mm (W x H x D)
Weight of coil	approx. 10 kg