PFM 12 Pulsed Field Magnetometer

For industrial Magnetic Material Measurements

High speed full loop characterisation

High Speed PASS/FAIL

FEATURES

- No pre magnetisation
- Demagnetises
- Industrial Shapes
- Large sample size range
- Eddy current correction*
- Non contact
- Open loop

Hirst Magnetic Instruments PFM 12 Pulsed Field Magnetometer is one of the range of Pulsed Field Magnetometers suitable for non destructive testing of industrial permanent magnets.

Designed for industrial use, the PFM 12 offers fast, non contact full loop measurements of all industrial magnets, in industrial shapes, with un-paralleled speed and precision.

The PFM 12 can measure manually loaded virgin permanent magnets, measure their full loop characteristic and deliver a demagnetised magnet in a fraction of the time taken by any other technique. The results are immediately available at the PC (including PASS/FAIL information). The PFM21 extracts key magnetic data automatically.

The PFM 12 system is controlled via a comprehensive and extensive windows based application with extensive data base facilities storing full data on every single measurement. Data can be exported in a variety of formats.
Hirst Magnetic Instruments PFM 12 is a pulsed field magnetometer capable of the non destructive testing of permanent magnet materials to measure their full loop characteristic in a rapid, non contact open circuit process. The process needs no premagnetisation of magnets, (unlike permeameters/hysterisographs) and delivers a demagnetised magnet at the end of the measurement process.

Suitable for all materials including bonded and sintered:- Ferrite, NdFeB, Sm2Co17 and SmCo5.

**Operation**

The magnet to be tested is loaded into the sample holder and inserted into the PFM measurement chamber. At the press of a button The PFM 12 then proceeds to measure the full loop characteristics and displays the results immediately with all critical parameters automatically extracted.

**Specifications**

**Measurement parameters**

- Maximum Field (H) 7.5 Tesla (5.97 MA/m)
- Reverse field 6.5 Tesla (5.17 MA/m)

**Sample**

- Maximum sample diameter/width 30 mm
- Maximum Sample height 30 mm
- Sample loading Manual

**System parameters**

- Maximum system energy 20 K Joules
- Maximum working voltage 3 kV
- Cycle time 15 seconds

**Accuracy (Traceable)**

- J Measurement +/- 1%
- H Measurement +/- 1%
- BH Product +/- 2%

**Repeatability**

- J Measurement +/- 0.8%
- H Measurement +/- 0.5%
- BH Product +/- 1%

**Measurement method**

- J channel Pickup coil +Integrator
- H channel Pickup coil +Integrator
- Data rate Up to 2.5 Mega samples per second
- Resolution 14 bits inc. sign
- Integrator type Differential with auto drift correction.

Software selectable gains.

A PC running Microsoft windows and our own PFM control and acquisition software will be supplied with the system. Please contact the sales office for the current computer specification.

- Weight 800kg approx.
- Input Voltage 110/240 volts
- Frequency 50/60Hz
- Phases 1
- Power <3000VA

Due to a process of continual improvement, Hirst Magnetic Instruments Ltd. Reserve the right to change any specifications without notice.