



The MFA-2000L measures the magnetic field strength of magnets used inside mag rollers for electrophotographic printers. The system is computer controlled using a standard Windows computer. Measurements can be made in the axial direction to show the uniformity of magnet strength, and also radially to show peak flux magnitude and pole angle.

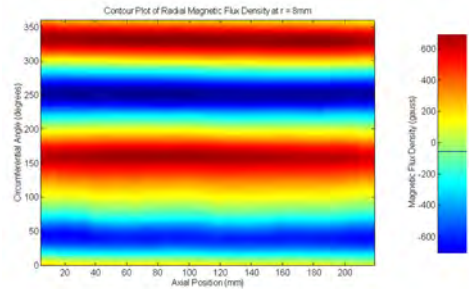
The Magnetic Field Analysis System

The magnetic roller is a critical component in magnetic development systems in electrophotography. It serves to meter and deliver a uniform layer of toner to the development zone and to control the amount of toner delivered onto the photoreceptor. To ensure good print quality, the magnetic field around the roller must be properly designed and carefully controlled otherwise poor tone reproduction and background toner development will occur.

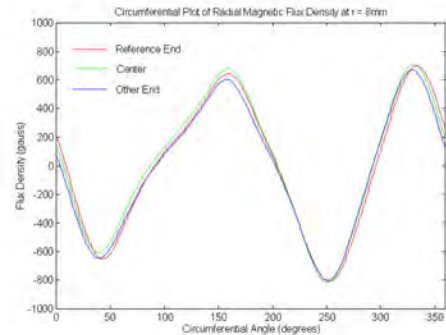
The MFA-2000L measures this magnetic flux density (Gauss) at a precise radial distance from the surface of the magnet. The system is computer controlled so that the Hall-effect probe can be positioned to any axial or angular position on the magnet. This allows the system to make both axial and circumferential scans of the magnet.

When making circumferential scans, a plot shows the magnetic pole angle (relative to the D-flat) and peak pole flux. When making axial scans, the flux uniformity can be measured along the length of the magnet.

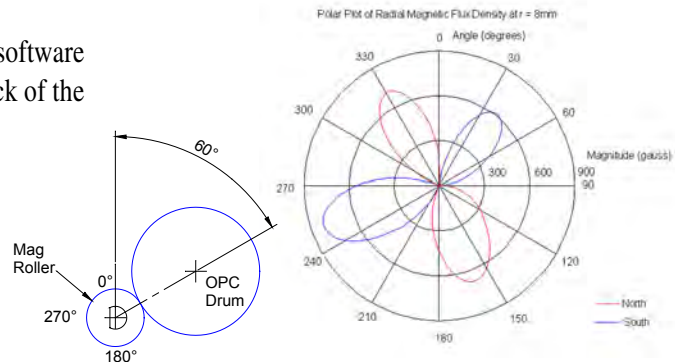
All measurements are made with an easy-to-use computer software interface with many measurements made with a single click of the mouse button.



Map of Magnetic Flux Density



Circumferential Scan, Linear Plot



Circumferential Scan, Polar Plot



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Typical Applications

- *Printer Manufacturers:* Incoming inspection of magnets
- *Printer R&D:* Aid in the design and prototyping for mag roller magnets
- *Magnet manufacturers:* Supply customers the automated QC reports demonstrating your commitment to product quality.
- *Cartridge manufacturers and remanufacturers:* Quickly qualify second (or third) sources for your magnets without sacrificing quality

Magnet Quality Attributes

- *Pole Angle:* Automatically reports the positions of the magnet poles relative to the D-flat on the magnet.
- *Peak Pole Flux:* Reports the peak magnetic flux (Guass) for each pole position.
- *Flux Uniformity:* Along the length of the magnet, report the variation in flux magnitude.
- *Flux Map:* Two dimensional false color map showing the flux intensity over the whole surface of the magnet. Allows defects to be quickly spotted.

System Hardware

- Scanner Unit
- Guassmeter
- Data acquisition and control hardware
- All necessary interface electronics, cables, and connectors

Magnet size

- Diameter from 12mm to 16mm
- Maximum Length 360mm

Computer Configuration (customer supplied)

- Pentium 4 PC
- Two free ISA slots for interface cards
- Two free slots for connector brackets (adjacent to the ISA slots)
- Microsoft Windows® 95 or 98
- Microsoft Excel® 2000

Electrical Requirements

- 110VAC±10% @ 50/60Hz or 230VAC±10% @ 50Hz

Maintenance and Operating Environment

- Requires good maintenance practices typical for laboratory equipment
- Temperature
 - Operating: 10° to 32° C (50° to 90°F)
 - Storage: 0° to 35° C (32° to 95°F)
- Relative humidity
 - Operating: 20% to 80%
 - Storage: 10% to 95% (non-condensing)

Dimensions and Shipping Weight

- Main unit 66×84×38cm (25×33×15"), 12kg
- Approximate shipping weight: 31 kg (68 lb)

Documentation

- User's Guide