



Magscan

IMI's MagScan magnetic field scanner from Redcliffe Magtronics is a sophisticated new instrument for analyzing magnetic fields of permanent magnets. Controlled by PC, it uses robotic engineering systems to measure the magnetic field over a plane surface just above the sample magnet. The result is a 3-D contour map of the magnetic field drawn in full color graphics display that is easy to read and allows for experimental analysis of permanent magnets in a 200 mm X 200 mm area in 0.2 resolution in about 15 minutes.

See more about the MagScan in our blog here: <https://magnetsim.com/blog/magscan-instruction-video>

This innovative and unique instrument will be invaluable to anyone involved in permanent magnet design, production or quality control due to its versatility by allowing non-destructive material investigation. At a press of a button, the MagScan 3D mapping system provides visual confirmation and density of the magnetic field, and is able to be saved, printed, or sent by email to interested parties. Call us today for your own MagScan!

Features

Easy to use:

The MagScan is controlled by a Personal Computer with a high resolution color graphics display. All user interaction is mouse/menu driven which is intuitive to use and very quick to learn.

Flexible:

Virtually any shape and size magnet can be analysed since the MagScan can scan areas from as small as 10 mm square right up to 400 mm square. The area scanned can be positioned anywhere within a 400 mm square arena. The resolution is variable from 0.1 mm(100 microns) to 10.0 mm.

Fast:

A typical scan of 20 mm x 20 mm at maximum resolution(0.1 mm) takes less than 90 seconds.

High Precision:

The robot assembly steps at 0.1 mm intervals and an array of Hall Effect sensors measure field strengths from +/- 0.1 mT to +/- 200.0 mT in 0.1 mT steps. The computer can store up to 1,000,000 samples of 3-D field strength data.

Reliable:

The robot assembly is of a proven, reliable, low maintenance design that is suitable for use in either a laboratory or a production environment.



Software

The MagScan is equipped with a set of sophisticated software facilities for displaying and analysing the magnetic field information:

Field Vector Direction:

By making measurements of magnetic field in all three dimensions, both the magnitude and direction of the field can be displayed. Three facilities are provided for displaying vector direction including one which superimposes magnetic lines of force onto field maps.

Scaling:

Field maps are scaled automatically but can be selectively rescaled to highlight areas of interest.

Zoom:

Field maps can be examined in closer detail at scales of magnification from x 2 to x 10.

Cross Section:

A line graph of field magnitude can be drawn for any cross section of field maps.

Data Storage & Retrieval:

Individual pictures, configuration information or data for entire scans can be saved/loaded to and from disk or exported to Microsoft Excel.

Auto Zero:

The MagScan automatically zeroes itself at start-up to compensate for offsets in the Hall Effect sensors.

Colors:

Field maps are displayed in 10 colors which are user selectable from a choice of over 250,000.

Printout:

Hardcopy output is available from a color printer.

Help:

Help is available online through the menu system.

Applications

Design:

Computer Aided Engineering for permanent magnets, magnetic components and magnetising fixtures. Sputtering devices and targets, magnetostrictive materials.

Quality Control:

Automated quality control of magnetised materials.



NOTE: These are real measurements of the actual magnet or magnet circuit.
