

**Accurate and quick determination of magnetic susceptibility for magnetite and hematite**

MAGNASAT® Benchtop Mark V Analyser measures the magnetic susceptibility of a sample by measuring the changes to an alternating current magnetic field caused by a sample placed in the analysis chamber.



The magnitude of these changes is dependent on; magnetic and electrical properties, Sample geometry and quantity of the material presented for measurement.

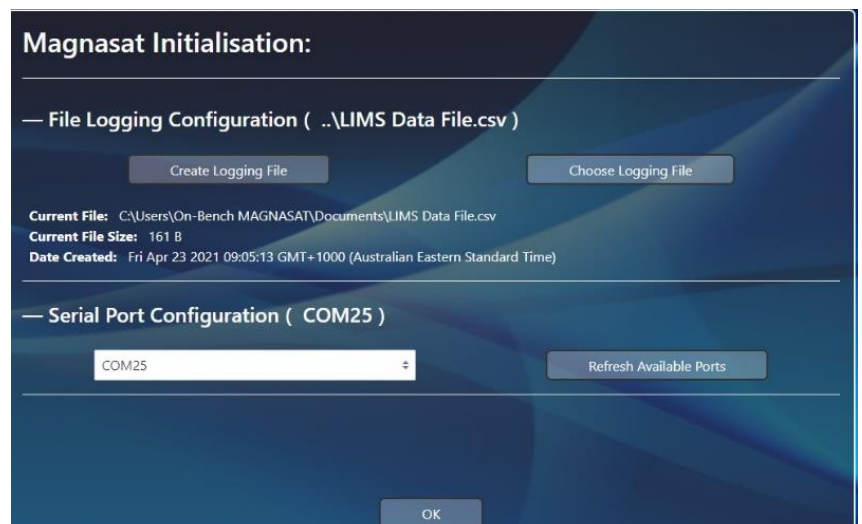
MAGNASAT® provides a measurement of the magnetic susceptibility in absolute terms, i.e.,  $m^3/kg \times 10^{-7}$ . It can be used to replace time-consuming Davis-tube measurements and does not rely on high accuracy mass balances like other competitor systems. As a result of this, MAGNASAT® is not sensitive to vibration and can be located in any convenient part of the lab.

The system connects to a windows PC via USB and uses the application software to interface with the measurement unit. Results are provided in a matter of seconds. A number of process parameters of interest can also be derived such as: Davis Tube results, weight % magnetite, % magnetics etc.

**Applications include:**

- Iron Ore Processing
- Diamond Processing
- Mineral Sands Processing
- Dense media (Magnetite / Ferro Silicon)
- Jigging plants for improved metals recovery
- Geological field mapping
- Stone Soil and vegetation analysis
- Archaeological investigation
- Hydrology and sedimentation
- Pollution studies
- Building material analysis
- University research

The system operates under PLC control and carries out the analysis automatically. The sample to be analysed is weighed, placed in a sample container and is then inserted into the analysis chamber. On screen prompts confirm the system status as well as guiding the operator through the analysis procedure. The results are stored in Excel compatible format on a PC or laptop as well as a remote PC. This means that the results are available for graphical display or tabular configuration remotely.



# MAGNASAT<sup>®</sup> Benchtop Analyser Mark V

## MAGNASAT<sup>®</sup> System Standard Scope of supply

- Measurement coil, Reference coil and electronics
- Mains power supply and lead
- 20 Sample bottles
- One calibration standard
- MAGNASAT<sup>®</sup> PC applications software
- Operation and maintenance manual
- USB cable
- One PC running Windows 10

## Features and Benefits

Easy to use, PC controller operation	No need for highly qualified labour
State of the art electronics	Ultimate precision of better than $1 \times 10^{-7}$
Measurement of absolute magnetic susceptibility	Basic result reported as $m^3/kg \times 10^{-7}$
Up to 10 calibration equations available	Can be used for multi-source material
"LIMS" capability	Optimised data availability
Data stored in Excel compatible format	Easy data manipulation and display
Up to 4 times competitor sample size	Unparalleled sampling representation

## Technical Specifications

### Sample Presentation

Sample holder size	Approximately 20mm diameter and 50mm long.
Sample size required	Typically, 10g – 20g
Sample preparation	Typically pulverised to minus 0.1mm

Measurement Resolution	Better than $1 \times 10^{-7} m^3 / kg$
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### Electrical

Power supply	240V AC Single phase, 2 Amp
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### Computer Software requirements

Windows 10

LIMS Capability	Dependent of user LIMS specifications
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### System Physical Specifications

Mass	2 Kg
Dimensions	259mm wide, 160mm high, 190mm deep

### Shipping

Mass	5 Kg (approximately)
Dimensions	300mm x 200mm x 200mm (approximately)

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