High-Performance Vibrating Sample Magnetometer (VSM) for Advanced Magnetic Research

Model **MSDXV1751.6TSWISS** | Brand **Master Science**



Vibrating Sample Magnetometer

Laboratory researchers and equipment purchasers face a common challenge: a need for a single, versatile, and highly accurate instrument that can quickly and reliably characterize the magnetic properties of a wide range of materials. Traditional methods are often manual, time-consuming, and lack the precision required for cutting-edge research.

KEY HIGHLIGHTS

- Comprehensive Data Analysis
- How It Works

AT A GLANCE

Low-Temp Furnace
TEMPERATURE CONTROLMODEL

Request a Quotation
Contact us for pricing, configuration options and delivery details.

support@themsci.com
www.themsci.com

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Overview

Our Vibrating Sample Magnetometer (VSM) is engineered to solve these pain points. It provides automated, high-precision magnetic measurements, eliminating manual errors and significantly reducing the time required for data acquisition. This allows you to focus on your research, not on the tedious process of measurement.

Measure magnetic moments from 10−2 emu down to an industry-leading 10−5 emu sensitivity. With a relative accuracy and repeatability of better than ±1%, you can trust your data for critical research applications.

Characterize a diverse range of materials, including powders, films, particles, bulk solids, and liquids, making it the perfect all-in-one solution for your lab.

Our VSM features a modern, user-friendly interface that controls all aspects of the measurement, from phase locking to data acquisition. Get results faster with minimal user intervention.

Instantly generate and display key magnetic parameters like coercive force, saturation magnetization, remanence, and susceptibility on-screen or print them for your records. The system automatically plots essential curves, including hysteresis loops, magnetization curves, and temperature-dependent magnetic changes.

Key Benefits

FULLY AUTOMATED OPERATION

Comprehensive Data Analysis

KEY FEATURES

How It Works
The Science of VSM

The VSM's principle is based on electromagnetic induction. A sample is placed in a strong, stable magnetic field and made to vibrate at a high frequency (185 Hz). This cyclic motion induces a proportional voltage signal in a nearby detection coil. This signal, which is directly related to the sample's magnetic moment, is then amplified and analyzed by the system's advanced electronics and software to provide highly accurate and repeatable magnetic measurements.

SAFETY AND OPERATION

For optimal performance and safety, always follow the operational guidelines provided in the comprehensive user manual. The system features multiple built-in protections, but always ensure proper installation and avoid contact with high-voltage connections during operation.

Interested in learning more about how our VSM can elevate your research? [Contact us today].

Technical Specifications

GENERAL

General	The ChallengePrecise & Efficient Magnetic Measurement
General	Magnetic Moment Range10−2 emu to 300 emu
General	Sensitivity1×10−5 emu
General	Magnetic Field Range± 1.6 T
General	Relative Accuracy (30 emu)Better than ±1%
General	Repeatability (30 emu)Better than ±1%
General	Variable Temperature77K to 400K via included Low-Temperature Furnace
Specifications	2GB RAM, 500GB HDD, 17" LCD monitor
Temperature ControlModel	Low-Temp Furnace
Specifications	77K to 400K
Cooling UnitModel	Lab Chiller
Specifications	For water-cooled electromagnet
General	Built for Your Lab
General	Stability (30 emu)Better than ±1% over 24 hours of continuous operation (after 24-hour preheating)
ElectromagnetModel	MSDXV1751.6TSWISS
Specifications	±1.6 T field range, water-cooled
Specifications	High-stability DC power, 0-8.1 kW, with built-in protection
Vibration SystemModel	Custom
Specifications	185 Hz vibration frequency, >50W output power
Control SystemModel	VSM Cabinet
Specifications	Steady flow power, vibrating source, lock-in amplifier, Gauss meter
Power SupplyModel	Custom

DISPLAY & DATA

Data & AnalysisModel	Lenovo PC
PrinterModel	HP-1018