Bartington MS2WFP Susceptibility Meter

Make: Bartington, UK

Model: Dual frequency Magnetic Susceptibility Meter (MS2WFP)

Description:

MS2 sensor is used to measure the magnetic susceptibility of soil, rock and sediment samples, and is widely recognised as a standard instrument in the characterisation of the magnetic properties of soil. The dual frequency facility permits identification of superparamagnetic magnetic grains, which helps characterise the processes that affect the sample. The sensor is connected to the MS2 via a 50-ohm TNC cable. Power is supplied to an oscillator circuit within the sensor. This generates a low intensity (80 A/m) alternating magnetic field. Any material brought within the influence of this field will bring about a change in oscillator frequency. The frequency information is returned in pulse form to the MS2 where it is converted into a value of magnetic susceptibility. The sensor subjects the sample to a non-saturating field and this has the advantage of measuring initial susceptibility without destroying any sample magnetic remanence.

Specification	
Calibration accuracy	1% (10ml calibration sample provided)
Measurement period (MS2)*: x 1 range x 0.1 range	1.5s SI (1.2s CGS) 15s SI (12s CGS)
Operating frequencies: LF HF	0.465kHz ±1% 4.65kHz ±1%
Amplitude of applied field	250µT peak ±10% (LF & HF)
Maximum resolution	2 x 10^{-6} SI (vol) (2 x 10^{-7} CGS) (LF & HF)
HF/LF cross calibration	0.1% worst case (can be adjusted using calibration sample)
Drift at room temperature	<2 x 10^{-5} SI (<2 x 10^{-6} CGS) in 3 minutes (after 5 minute warm-up)
Dimensions (W x H x D) Sample cavity internal diameter	110 x 145 x 210mm 36mm
Weight	0.7kg
Enclosure material	High impact ABS

Susceptibility vs. Temperature - Curie temperature estimation (MS2WFP)

This system measures the magnetic susceptibility of samples over the temperature range -200°C to +850°C. It is used in the investigation of the magnetic properties of minerals and for the determination of Curie transition temperatures. The system comprises: the MS2 Meter; MS2W Water Jacketed Sensor; MS2WF Furnace; MS2WFP Power Supply Unit; and a self-contained water coolant supply, fully interlocked to prevent the MS2WF Furnace operating without coolant flow. The Geolabsoft software package (running under Windows) collects data and displays the results during the measurement sequence.

User Instructions:

1. Each requisition should be addressed to **Director, BSIP** for allotment of analysis date
2. Payment is to be made in advance through bank draft in favour of "**Director, BSIP, Lucknow**". Kindly visit our website for the updated rate-list
3. Data generated will be provided on CD or DVD
4. Sediment/Soil samples should be fully packed in 10 cc plastic bottles

Contact Us:

Dr. Binita Phartiyal: binita_phartiyal@bsip.res.in; 9411856391(Lab Head)

Dr. Md. Arif: arif@bsip.res.in; 7652015189 (Lab incharge)

Dr. Prasanta Kumar Das: pkdas@bsip.res.in; 9930114468 (Technical support)

Analysis cost: See analytical cost list as attached below

बीरबल साहनी पुराविज्ञान संस्थान, लखनऊ
BIRBAL SAHNI INSTITUTE OF PALAEOSCIECES, LUCKNOW

बी.सा.पु.सं / वै.ग./परामर्शता/2023-24/ L – 1200

दिनांक

No.BSIP/SA/Consultancy/2023-24

Dated: 19.10.2023

अधिसूचना/NOTIFICATION

विषय : पैलियोमैग प्रयोगशाला हेतु वैश्लेषिक प्रभार (Analytical Charges for (Palaeomag Lab)

अध्यक्ष, शासी मंडल, बी.सा.पु.स. के अनुमोदन से उपर्युक्त प्रयोगशाला में तत्काल प्रभाव से तात्विक प्रभार निम्नवत हैं:-

Sl.No.	Analysis	Instrument(s)	Charges/specimen (Revised since 16/08/2023)			
			Students		Govt. Body (Univ./Institute)	Private Sector/Industry
1.	Magnetic Susceptibility (MS) (xIf, xhf, xfd%)	Bartington MS2B Sensor	Rs.50/-		Rs.65/-	Rs.130/-
2.	Magnetic Susceptibility (xIf, xhf, xfd%)	MFK2-FA-Kappabridge	Rs.75/-		Rs.100/-	Rs.200/-
3.	Field variation of MS (2A/m to 700A/M)	MFK2-FA-Kappabridge	Rs.175/-		Rs.250/-	Rs.500/-
4.	Temperature variation of MS(40-700 °C and cooling)	Bartington MS2WFP Sensor	Rs.500/-		Rs.750/-	Rs.1500/-
5.	Anisotropy of magnetic susceptibility (AMS)-Manual Mode-15 Direction	MFK2-FA-Kappabridge	Rs.250/-		Rs.350/-	Rs.700/-
6.	Anisotropy of magnetic susceptibility (AMS)-Auto mode with 3D rotator-64 Direction	MFK2-FA-Kappabridge	Rs.400/-		Rs.600/-	Rs.1200/-
7.	Magnetic Susceptibility whole core scanning (without splitting)	MS-2C sensor (Bartington)110 mm dia	Rs.1000/- Every 1 m of core		Rs.1500/- Every 1m of core	Rs.3000/- Every 1m of core
8.	Magnetic Susceptibility split core scanning	MS-2E sensor (Bartington)25 mm dia	Rs.1500 /- Every 1 meter core		Rs.2500/- Every 1meter core	Rs.5000/- Every 1meter core
9.	Natural Remanent Magnetization (NRM)	AGICO JR-6 Spinner Magnetometer	Rs.50/-		Rs.75/-	Rs.150/-
10.	Anhysteretic Remanent Magnetization (ARM)	AGICO JR-6, ASC AF Demagnetiser	Rs.75/-		Rs.100/-	Rs.200/-
11.	Isothermal Remanent Magnetization (IRM)	AGICO JR-6 & ASC Impulse Magnetiser	3 step*	Rs.225/-	Rs.300/-	Rs.600/-
			8 step*	Rs.525/-	Rs.700/-	Rs.1400/-
			13 step*	Rs.975/-	Rs.1300/-	Rs.2600/-
12.	Alternating Field Demagnetisation (AFD)	AGICO JR-6, ASC AF Demagnetiser	Rs.1800/- (All AF Steps) (0 to 200 mT)	Rs.2500/- (All AF Steps) (0 to 200 mT)	Rs.5000/-(All AF Steps) (0 to 200 mT)	

13.	Thermal Demagnetisation (TD)	AGICO JR-6, ASC AF Demagnetiser	Rs.2000/- (All TD Steps) 40^0c to 800^0c	Rs.3000/- (All TD Steps) 40^0c to 800^0c	Rs.5000/- (All TD Steps) 40^0c to 800^0c
14.	Rock drill for palaeomag sample preparation	Laboratory Lapidary core drill LB-01 (ASC scientific)	Rs.500/- Each block	Rs.1000/- Each block	Rs.2000/-Each block
15.	Rock cutting for palaeomag specimen	Dual Blade Rock Saw S1-220 (ASC Scientific)	Rs.100/- for each core	Rs.200/- for each core	Rs.400/- for each core
16.	Magnetic vial sample preparation	10 cc sample bottles, cling films, agate, tissuepaper, isopropyl alcohol etc	Rs.40/-	Rs.50/-	Rs.100/-

* steps IRM involves 1000 mT

** 8 steps IRM involves 20 mT, 1000mT, -20mT, -30mT, -60mT, -100 mT, -300 mT

***13 steps IRM involves (20, 100, 300, 500, 800, 1000) mT, -20 mT, -30 mT, -40 mT, -60 mT, -100 mT, -300 mT

19/10/2023

(संदीप कुमार शिवहरे /Sandeep Kumar Shivhare)
रजिस्ट्रार /Registrar

प्रतिलिपि/Copy to:

1. संबंधित व्यक्ति (यों)/Person (s) concerned
2. निजी सचिव/रजिस्ट्रार कार्यालय/अनुसंधान योजना एवं समन्वय प्रकोष्ठ/PS/Registrar's Office/ RDCC
3. परियोजना समन्वयक/Project Coordinator
4. लेखाधिकारी/अनु.अधि.(स्थापना)/(भंडार एवं क्रय)/अनु.अधि. (निर्माण एवं भवन)/हिंदी अनुवादक/संयोजक ज्ञान संसाधन केन्द्र/ Accounts Officer/S.O.(E)/S.O. (S&P)/S.O. (W&B)/ Hindi Translator/ Convener, KRC
5. कार्यालय प्रति/Office Copy
6. अतिरिक्त प्रति/Spare Copy
7. everyone@bsip.res.in / Convener, Web-site Committee