

Name of the instrument	MFK2-FA KAPPABRIDGE
Make- Advanced Geoscience Instruments Company (AGICO), Czech Republic	



General Description	
<p>The MFK2-FA series of Kappabridges is used for measuring bulk magnetic susceptibility and anisotropy of magnetic susceptibility (AMS) in weak variable magnetic fields (field range from 2 A/m to 700 A/m). The instrument is capable of measuring the magnetic susceptibility at three different frequency values of 976 Hz, 3904 Hz and 15616 Hz.</p> <p>Spinning specimen method uses 3D rotator or classic rotator for easy, rapid and precise AMS measurements. The instrument is attached with furnace (CS4) and cryostat (CS-L) unit to enable measurements of temperature variation of bulk susceptibility from -192°C up to 700°C.</p>	

Main Features

- High Sensitivity 2×10^{-8} SI
- Fully automatic zeroing system
- Three operating frequencies
- Field variation of magnetic susceptibility
- Rapid AMS measuring
- Autoranging
- Temperature variation of susceptibility (liquid Nitrogen to 700 °C)
- Sophisticated software for advanced diagnostics
- 3D rotator for AMS measurement

Principle of measurement

In principle the instrument represents a precision fully automatic inductive bridge equipped with automatic zeroing system and automatic compensation of the thermal drift of the bridge unbalance as well as an automatic switching to appropriate measuring range. Special diagnostics was embedded in MFK2 Kappabridges, which monitors important processes during measurement with MFK2 and also with CS4 or CS-L unit. The main advantage of the MFK2-FA models compared to the older Kappabridges is measurement of frequency variations of magnetic susceptibility and anisotropy of magnetic susceptibility. The auto-ranging and autozeroing works over the entire measuring range. Automatic zeroing compensates real and imaginary components, The output signal from pick-up coils is amplified, filtered and digitized, raw data are transferred directly to the computer which controls all the instrument

Specimens to be measured

Cylinder (regularly shaped specimens)

Diameter- 25.4 ± 1 mm

Length- 22.0 ± 1 mm

Cube 23×23×23 mm

Measurement/analysis

1. Magnetic Susceptibility (Both Low and High Frequency)
2. Field variation of susceptibility (2 A/m to 700 A/m)
3. Anisotropy of magnetic susceptibility
4. Temperature Dependence of Magnetic Susceptibility (χ -T Curves) - Curie Temperature from liquid nitrogen to 700°C

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:

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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 तात्त्विक 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.	Anhyseretic 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 ⁰ c to 800 ⁰ c	Rs.3000/- (All TD Steps) 40 ⁰ c to 800 ⁰ c	Rs.5000/- (All TD Steps) 40 ⁰ c to 800 ⁰ c
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

(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/
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