

Dated: 18-06-2026
Letter No. IIITDMJ/SKS/FIG/2026/01

To,

Email:

Phone:

Sub: Inviting quotation for purchasing of Load Frames/Support Structures, Linear/Rotary Stage (Motorized) automatic, Ball Holder Assembly, Sample Holder for Flat Specimens, Test Balls (Steel, WC, Ceramic etc.)

Dear Sir/Madam,

The Institute intends to procure the following items as given in Table 1 (as per the specification provided in Annexure-I) for the faculty initiation grant project. You are invited to participate in this bidding process and submit your quotation with the following terms and conditions.

Table 1

Sl. No.	Name of item
1.	Load Frames/Support Structures
2.	Linear/Rotary Stage (Motorized) automatic
3.	Ball Holder Assembly
4.	Sample Holder for Flat Specimens
5.	Test Balls (Steel, WC, Ceramic etc.)

Please submit your lowest offer by 29-06-2026, subject to the following terms and conditions.

- Interested Firms/Parties should submit documentary proof (photocopy) of the following:
 - Valid Registration Certificate of the firm.
 - GSTIN and PAN Number.
 - Experience in supplying the items to Government/Educational Institutions/Reputed Organisations.
 - A certificate from the OEM (Original Equipment Manufacturer) confirming that the bidder is an authorised dealer/distributor for the product or is authorised to submit a quotation for the said equipment in response to this invitation.
- The rates quoted should be for the destination. inclusive of all applicable taxes/statutory levies (GST or any other applicable central/state government taxes, transportation, installations etc.). No additional charges shall be entertained by IIITDM Jabalpur.
- The supplier must ensure **technical support** (email/phone/online) for installation and operation issues for a **minimum of 2 years** from the date of installation.
- To ensure the warranty period of two years, the Institute shall deduct 3% of the amount from the final invoice at the time of payment. The deducted amount will be released after successful completion of the warranty period, i.e. 24 months from the date of installations.
- Sealed quotation through speed post/register post should reach on or before **3.00 PM, 29/06/2026**, to the **AR (Purchase), PDPM-IIITDM Jabalpur, Dumna Airport Road, Mehgawan, Jabalpur-482005 India**.
- The Institute reserves the right to reject any or all bids without specifying any reasons thereof.
- For any technical queries regarding the indented item or its specification or compatibility, please refer to Annexure-I or contact the undersigned at: sachink@iiitdmj.ac.in.
- Any delay or failure in delivering the items due to administrative or technical issues will be the responsibility of the supplier.
- All disputes will be subject to jurisdiction in Jabalpur, Madhya Pradesh.

Thanking you,



(Dr. Sachin Kumar)
Project Investigator

Detailed specifications**1. Load Frames/Support Structures**

Parameter	Specification
Structure Type	Heavy-duty precision welded steel frame with vibration damping
Material	Titanium IS 2062 Grade-B
Frame Construction	Welded box-section frame with stress-relieved fabrication
Base Dimensions	Approx. 1000 mm × 800 mm × 1200 mm
Section Size	60 mm × 60 mm × 5 mm square tube
Static Load Capacity	≥ 300 kg
Dynamic Load Capacity	≥ 100 kg
Top Platform	Grade-1 Granite Surface Plate
Granite Size	600 mm × 600 mm × 80 mm
Surface Flatness	≤ 5 μm
Vibration Isolation	Yes
Leveling System	Precision leveling feet (±10 mm adjustment)
Natural Frequency	< 10 Hz
Deflection under Full Load	< 20 μm
Frame Finish	Epoxy powder-coated, corrosion resistant
Mounting Provisions	T-slot mounting arrangement for sensors, stages and holders
Cable Management	Integrated cable tray and sensor routing
Safety Features	Grounding provision and enclosure mounting points
Future Expandability	Compatible with heating stage and vacuum chamber integration

2. Linear/Rotary Stage (Motorized) automatic

Parameter	Specification
Type	Motorized Linear Stage with Rotary Drive Assembly
Motion Configuration	Programmable reciprocating linear motion
Actuation	Servo Motor Driven Ball Screw Mechanism
Number of Axes	Single-axis linear motion (expandable to dual-axis)
Stroke Length	1–10 mm (programmable)
Working Stroke for Experiments	1–5 mm
Positioning Accuracy	±5 μm
Repeatability	±2 μm
Maximum Velocity	300 mm/s
Operating Frequency	5–20 Hz
Resolution	≤1 μm
Drive Mechanism	Precision Ground Ball Screw
Guideway Type	Cross Roller Linear Guide
Motor Type	AC Servo Motor
Servo Power	100–200 W
Encoder Resolution	≥17-bit Absolute Encoder
Load Capacity	≥20 kg
Controller Interface	USB/Ethernet/RS-485
Control Modes	Position, Velocity, Frequency Control

Feedback Control	Closed-loop Servo Control
Mounting Arrangement	T-slot compatible
Operating Temperature	10–50°C
Power Supply	230 V AC, 50 Hz

3. Ball Holder Assembly

Parameter	Specification
Type	Modular Precision Ball Holder Assembly
Material	Hardened Stainless Steel (SS 440C) / Tool Steel
Ball Diameter Compatibility	1–12 mm
Standard Test Ball Sizes	1, 3, 5, 8, 10, 12 mm
Ball Materials Supported	Steel, WC, Si ₃ N ₄ , Alumina, Zirconia
Mounting Configuration	Vertical loading arrangement
Alignment Accuracy	±5 μm
Holder Runout	≤3 μm
Interchangeability	Quick-change ball mounting system
Clamping Mechanism	Precision collet/chuck type
Load Capacity	Up to 50 N
Operating Temperature	Ambient to 500°C
Thermal Isolation	Ceramic spacer integrated
Wear Resistance	Hardened contact surfaces (>55 HRC)
Surface Finish	Ra ≤ 0.4 μm
Adjustment Capability	X-Y-Z fine alignment provision
Compatibility	Force sensor and load cell integration
Mounting Interface	Standard M6/M8 and T-slot compatible
Corrosion Resistance	Suitable for vacuum and elevated-temperature operation

4. Sample Holder for Flat Specimens

Parameter	Specification
Type	Modular Flat Specimen Holder
Material	SS 316L / Tool Steel (Vacuum Compatible)
Specimen Size Compatibility	10 × 10 mm to 50 × 50 mm
Specimen Thickness Range	1–10 mm
Mounting Configuration	Horizontal platform
Clamping Mechanism	Quick-release mechanical clamping
Alignment Accuracy	±10 μm
Surface Flatness	≤5 μm
Surface Finish	Ra ≤ 0.4 μm
Load Capacity	Up to 50 N
Operating Temperature	Ambient to 500°C
Thermal Expansion Compensation	Floating clamp arrangement
Heating Stage Compatibility	Integrated mounting provision
Vacuum Compatibility	Suitable up to 10 ⁻⁹ bar
Position Adjustment	X-Y fine positioning (±5 mm)
Corrosion Resistance	High-temperature oxidation resistant
Mounting Interface	Standard T-slot and threaded mounting

5. Test Balls (Steel, WC, Ceramic etc.)

Parameter	Specification
Numbers	20 of each one
Type	Precision Tribological Test Balls
Standards	ASTM G99 / ISO 7148 Compatible
Diameter Range	4 mm – 12 mm
Standard Sizes	6 mm, 8 mm, 10 mm, 12 mm
Sphericity	$\leq 0.25 \mu\text{m}$
Surface Finish	$Ra \leq 0.025 \mu\text{m}$
Dimensional Tolerance	Grade G5–G10
Hardness Range	700–2200 HV
Operating Temperature	Ambient to 500°C
Application	Friction, wear, contact mechanics, stick-slip studies