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| https://lh7-rt.googleusercontent.com/docsz/AD_4nXdkpG9kyj65TnonKdaartw5u37y_uGqK1D4WQ44OAIdWCoqko7JUSbVarkjB-rPNO3_b1nLVQFRztLPO2VGS9v6zES3qY0g8kVD1Em8fE-mHJRiQzjsYld1-dPVQJtQna-9VKrbHH4zGZrSU_hS4mY?key=-5YTTQWrOVSvxFErm9L0jMKG**NANO INDENTER** | **Name of the equipment:** NANO INDENTER**Make & Model:**HysitronTI Premier**I-Stem Registration ID-** **3229300****Category of Instrument**Manufacturing technology**Types of Analysis / Testing**Testing of material properties **Application:** Nano Indentation, Nano Scratch, Measure reduced young’s modulus and hardness, etc.**Description of Instrument**This system performs indentation, scratch and wear studies capable of studying mechanical properties of thin films, soft samples, metals, etc. |

**Booking Details**

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| **Book through I-STEM:** <https://www.istem.gov.in/>**Slot Booking Link**[I-STEM Slot Booking link for External User](https://www.istem.gov.in/equipment-info/29300/Nanoindenter) | **Booking available for**Internal and External Both**Requisition form for** InternalsExternals |

**Contact Details**

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**Features, Working Principle and Specifications**

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| **Features of the equipment*** Observation of post-test deformation behavior, Custom-engineered enclosure with an integrated anti-vibration system to provide nanoscale characterization capabilities in non-ideal environments
* Intelligently designed software with enhanced automated testing routines and an intuitive user interface
* Easily adaptable system to meet specific research needs, from soft polymers to ceramic thin films. Etc
 | **Unique features/Measurement capabilities, if any*** High-resolution in-situ SPM imaging that enables precise test positioning accuracy (±10 nm)
* Sensitive force and displacement noise floors (75 nN, 0.2 nm) for unprecedented accuracy
 |
| **Instrument Technical Description and Major Specifications (This Specifications Limited to Major 5)*** Maximum force up to 10mN
* Minimum Contact Force <100nN
* Stage Travel 50mm x 150mm
* Z-travel -50mm

  | **Measurement/Sample specifications:** * Maximum size usually limited 10mm x 10mmx10mm
* Surface roughness must be less than 500 nm. Porous material cannot be tested
 |

**Type of Sample Required for Analysis / Testing (Quantity, Pre-Preparation, State etc.) Guidelines for Sample Submission – User Instructions**

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| --- |
| * Quantity: Maximum size usually limited 10mm x 10mmx10mm
* Sample Type: Metallic/composite/alloys/biological sample etc.,
* Pre-preparation: Surface roughness must be less than 500 nm. Porous material cannot be tested.
* Maximum No. of Samples Accepted at a Time- 2
* Minimum No of Days Required for Analysis – 1
 |

**User Charges Rs. (GST Extra)**

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| **Internal** | **External Academic Institutes** | **National R&D Lab** | **Industry** |
| 2000/- per slot | 4000 + 18%GSTPer slot | 4000 + 18%GSTPer slot | 5000 + 18%GST Per slot |

 \* 1 slot= 20 indentations or 3 hr