# INDIAN INSTITUTE OF TECHNOLOGY INDORE

**Discipline of Mechanical Engineering**

List of Equipments available in the **SOLID MECHANICS LAB (ME 251)**

## Name of the Equipment <u>Universal Tensile Tester</u>

**Model Name: H50KL**

**Technical Specifications:**

PC control via high speed RS232 using ASCII and super high speed binary modes
Load measurement accuracy: **+/- 0.5%** of indicated load from 2% to 100% capacity; extended range down to 1% capacity with accuracy of 1% of indicated load, Rapid change, low profile Z type load cells with digital encoding for automatic recognition and scaling available **– 50kN,**
Position measurement accuracy: **+/- 0.01%** of reading or 0.001 mm, whichever is greater
Speed accuracy: +/- 0.005% of set speed

**Manufacture: Tinius Olsen, Salfords England**

# Pendulum Impact Tester

**Model Name IT 406**

**Technical Specifications**

Pendulum impact testers are versatile and reliable machines designed to fully comply with the specifications outlined in ASTM E23, EN10045-2 and ISO 148.
Today basic pendulum 406j, drop height 1052m , impact velocity 5.47 , dimensions w x d x h mm 2108* x 508 x 1854 weight gross (net 736 kg)

**Manufacture: Tinius Olsen** Easton Road Horsham, PA 19044 USA

## Micro hardness Testing Machine

**Model Name VMH-002**

**Technical Specifications,** Measuring the indentation is done directly on the touchscreen, 12 steps of test force
yield more than the range required by
ASTM E-384/EN ISO 6507/EN ISO 4545.with all 3 Leica Plan objectives and enables the operator to detect the focus position very quickly Motorized turret ,
Applications Surface phenomena – surface treatment, Study of Alloys and Alloy Constitution Determination of the Effect
of Thermal Treatment Tribology Research, Metal Powder Particles

**Manufacture** Walter Uhl techn. Mikroskopie GmbH & Co.KG

## Torsion Tester


**Model Name** LO-Torque bench Model

**Technical Specifications**, Capacity 100,000NM , MAXIMUM SPECIMEN DIAMETER 38mm, MAXIMUM SPECIMEN LENGTH45mm, TEST SPEED 5 to360dgree per min, Torque Measurement Accuracy: +/- 0.5% of indicated torque from 0.2% to 100% capacity Position Measurement Accuracy: +/- 0.1% of reading or 0.05° whichever is greater Speed Accuracy: +/- .1% of set speed

**Manufacture** 1065 Easton Road Horsham, PA 19044 USA

# Universal Hardness Tester

**Model Name** LD 250 HARDNESS TESTER (UNIVERSAL ROCKWELL-VICKERS – BRINELL)

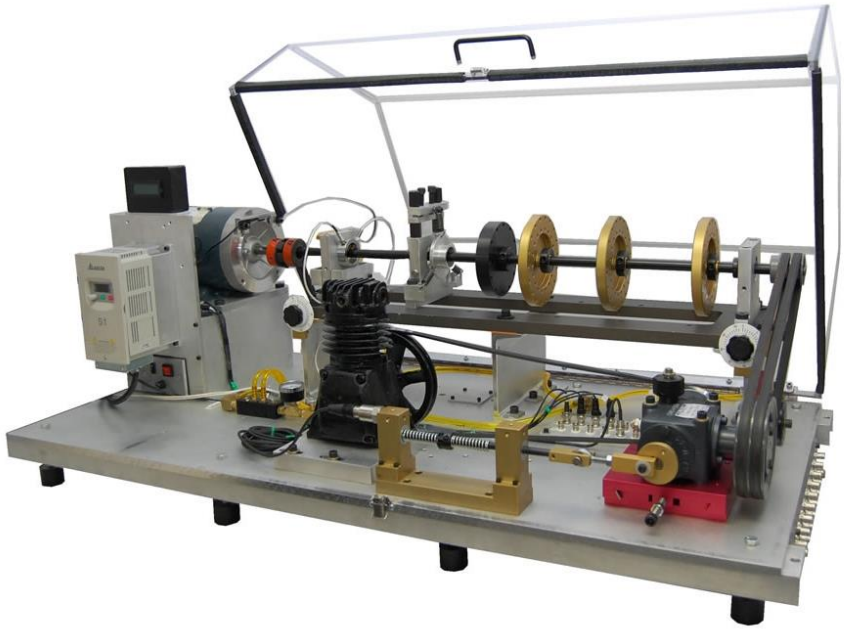
**Technical Specifications**, A single initiation runs the automatic test cycle and presents the result.
The LD 250 is a very practical and robust instrument designed to perform Vickers, Brinell, Rockwell, Super Rockwell and Knoop Hardness tests conforming to the ISO 6506,6507,6508 and ISO 2039 standards Over the load range from 9.81N to 2452 N. Automatic selection of test load, High resolution video image via camera with auto adjustment of the iris to match the surface reflection . Touch screen colour TFT and full Windows system for easy use of the machine with information on a single screen

**Manufacture**. Tagliaferro, Italy

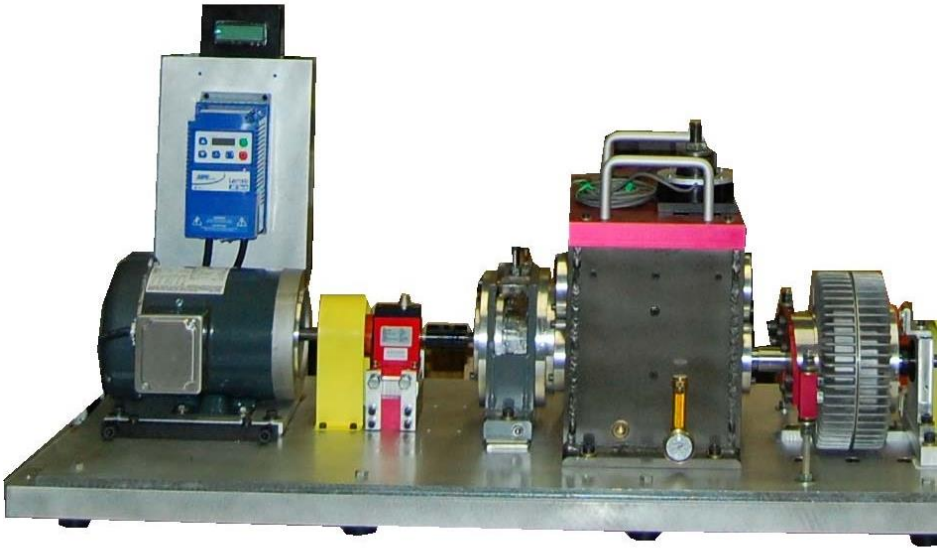
## Machinery Fault Simulator:

Machinery Fault Simulator (MFS) is an innovative tool to study the signatures of common machinery faults without compromising production schedule or profits. The bench-top system has a spacious modular design featuring versatility, operational simplicity, and robustness. Each component is machined to high tolerances so it can be operated without conflicting vibration. Then, various faults can be introduced either individually or jointly in a totally controlled environment, making the MFS the best tool available for learning machinery diagnosis.

**Manufacture:** spectra Quest USA



# Drive train Dynamics Simulator



spectra Quest Drive train dynamics simulator (DDS) is an innovative platform for studying signatures of common gearing faults without compromising factory production or profits. It is an effective tool for introducing the concepts and methodology of predictive maintenance to engineering students as well as excellent platform for gearing research and study.

**Manufacture:** spectra Quest USA