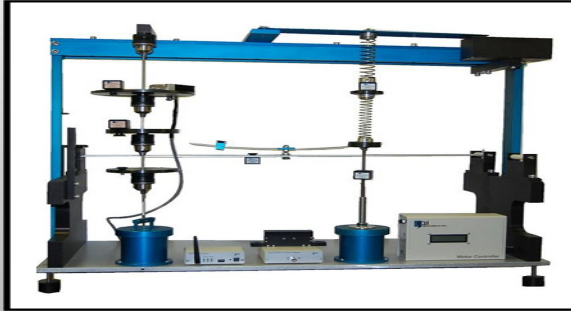


Facility Available:

1. Vibration Fundamental Training System (VFT)
2. High Temp Macro Indentation Test Setup.
3. Electro Dynamic Vibration Shaker System.
4. High Velocity Gas Gun.



Key Specifications: Pendulum Vibration Module, Spring Mass Vibration Module, Torsional Vibration Module, Vibration Control Module.

VFT is capable to Take wide range of Vibration Experiments.

1. Lumped Systems Experiments.
2. Continuous Systems Experiments.
3. Vibration Control Experiments.

Man hr rate - 5000 for complete experimental demonstration



Key Specifications: To determine brinell hardness of specimen at different temperature.

Max Load - 250 kgf to 3000 kgf in stage of 250 kgf

Max Test Height - 350 mm

Max Test Sample width and length - 350mm X 350 mm

Indenter Ball Diameter - 10 mm

Temperature Range - room temp to 1200 deg. Cent.

Job Rate - Room Temp - 1000 per indentation , High temp 5000 / indentation

Man hr rate - 500 per hrs



DEPARTMENT OF MECHANICAL ENGINEERING

Stress analysis & Vibration Laboratory Brochure

This laboratory is mainly focused towards the experiments in the field of Vibration Analysis of Continuous Systems, Vibration Control by the use of various types of tuned mass damping, Provide familiarity to a wide range of sensors, Classical Control of Various first and second order systems ex problems,

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Key Specifications:

Max weight of sample 15 kg with structure

Frequency - 5 Hz to 2000 Hz.

Displacement - ± 25 mm

Force - 3000 N

Three test are carried out on electro dynamic shaker

1. Frequency Test
2. Shock Test
3. Random Test

Job Rate - 2000 per Sample

Man hr rate - 500 per Sample



Key Specifications:

High velocity gas gun is used for study of dynamic indentation behaviour for metal and alloys.

The main property which is evaluated from crater diameter is dynamic hardness.

Max pressure up to 150 bar

Job Rate - 3000 per Indentation

Man hr rate - 500 per hrs

Facility Available:

1. CNC Turn Mill Centre
2. 3D Printer



DEPARTMENT OF MECHANICAL ENGINEERING

Precision Machining Laboratory & Workshop Brochure

Develop a practical understanding of basic manufacturing processes, extend basic knowledge to solve manufacturing processes related problems, emphasize the problem solving process and application techniques, analyze data from experiments to performed and reach solution.

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Key Specifications:

Capacity - Swing over bed - 500mm

Chuck Diameter - 250 mm

Spindle nose - A2 – 6

Turret - 12 stations

Tailstock Quill diameter - 90 mm

Accuracy - positioning - 0.010 mm

Repeatability - 0.005 mm

Job Rate - rate as per drawing & complexity of job to done

Man hr rate - 1000 per hr



Key Specifications:

Build Volume (LWH) - 300 X 300 X 300 mm

Print Technology - fused filament fabrication (FFF)

Layer resolution - 50 to 250 microns

Nozzle diameter - 0.6 mm

Filament diameter - 1.75 mm / up to 10 kg of spool

Supportive material - PLA ABS HIPS

Print speed - more that 100 mm/sec

Extruder - 2

Connectivity - MicroSD Card, Ethernet, Wi-Fi, USB

Job Rate - rate as per drawing & complexity of job to done

Man hr rate - 500 per Sample

Facility Available:

1. Micro Hardness Tester (Knoop & Vickers)
2. Pin on Disc (Wear & Friction Test Rig)
3. Tool Makers Microscope
4. Aluminium Stir Casting Furnace
5. Salt Spray Chamber (Fog test)
6. Surface Roughness Tester
7. Muffle Furnace



Key Specifications:

Hardness Scale - HV & HK
Table Size - 100 mm X 100 mm
Travelling Dist - 25 mm X 25 mm
Eye Piece - 10 X digital Eyepiece
Objectives - 5X, 10X & 50X
Job Rate - 100 per Indentation
Man hr rate - 500 per hr



Key Specifications:

Pin Diameter - 5 mm to 12 mm
Pin Length - 25 mm to 40 mm
Load Range - upto 150N
Disc speed - 100 to 1500 rpm
Disc track dia - 10 mm to 140 mm
Specimen Holder - Circular, Rectangular, Square
Job Rate - 1000 per Sample
Man hr rate - 1000 per hr



Key Specifications:

Stroke - 200 mm X 200 mm
Min Resolution - 0.1 μ m
Measuring Objective - 5X, 10X, 20X
Eye Piece resolution - 10 X
Job Rate - 1000 per Sample
Man hr rate - 500 per hr



DEPARTMENT OF MECHANICAL ENGINEERING

Precision Engineering and Manufacturing Laboratory Brochure

To provides an introduction to precision engineering and manufacturing with an emphasis on the design and performance of precision machines and machine tools, metrology, tooling elements, machine structures, precision machining processes and planning.

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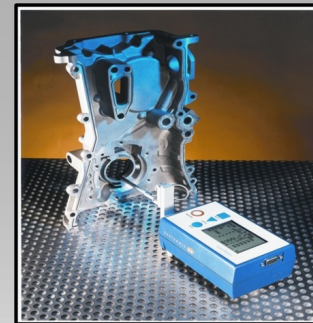
Key Specifications:

Capacity - 2 Kg of Aluminium
Maximum Temp - 900 deg Cent.
Thermocouple - K Type
Casting Type - Gravity Casting, Squeeze Casting, Rotary Casting
Job Rate - 5000 per Casting
Man hr rate - 1000 per hr



Key Specifications:

Chamber Capacity - 920 X 920 X 500 (LWH) mm, 400 L
Fog Creation - 1 to 2 ml / hr
Timer range - 999 hrs
Resolution - 0.1 hr.
Job Rate - 200 per hrs
Man hr rate - 500 per sample



Key Specifications:

Gauge Range - 300 μ m
Resolution - 0.01 μ m
Stylus Type - Diamond, radius 5 μ m
Traverse Length - 0.25—2.5 mm
Cut of Value - 0.25, 0.8, 2.5 mm
Job Rate - 1000 per Sample
Man hr rate - 500 per hr



Key Specifications:

Maximum Temperature - 1100 °C
Dimension - 12"X 6"X 6"
Insulation - High temp crewool insulation
Job Rate - 500 per hrs
Man hr rate - 200 per Sample



3 D Particle Image Velocimetry System

Dual Cavity Laser with 2x200mJ/
Pulse at 15Hz ,2Nos Dual Frame
PIV Cameras: 2MP, 12bit atleast
15Hz, Camera Filter (532nm)
System computer with 8 Dual core
Processors and 12 GB RAM

Man hr Rate - Rs 5000 Per Hr



Thermal Imaging Camera

Temperature Measurement Range- -
40C to 2000C
Accuracy - +/- 2% of Reading,
Image Display - High resolution
Colour LCD

Man Hour Rate - Rs 1000 Per Hr



Air Flow Experimental Unit

16 Tube Manometer
20 Pressure Measuring points
Internal Pitot Tube Sliding
External Pitot Tube in the Free Jet
Iris Diaphragm/Orifice Plate/ Nozzle/
Boundary Layer Attachment/ 3Pipe
Fittings

Man Hour rate - Rs 1000 Per Hr



Exhaust Gas Analyzer

Model - AVG 500,
Brand - Airvisor
Weight- 5Kgs
Fuel Type - Petrol, Diesel, LPG,
CNG

Man Hour rate - Rs 1000 Per Hr



**DEPARTMENT OF MECHANICAL
ENGINEERING**

**Fluid and Thermal Engineering
Laboratory Brochure**

The objective of the thermal engineering laboratory is to introduce to students the fundamental theories and the industrial applications of thermodynamics, heat transfer and fluid mechanics. This laboratory also supports the advanced research in the area of Fluid & Thermal Engineering

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Boiling Heat Transfer Unit

This Boiling Heat Transfer Unit
Allows the student to see the processes taking place inside a glass cylinder and measure temperatures and heat flux under steady state conditions , Demonstration purpose Only

Man Hour rate - Rs 1000 Per Hr



Cross Flow Heat Exchanger

Attachments -
Plain Tube and Tube Bundle in
Cross Flow
Finned Tube Bundle in Cross Flow
Water to Air Heat Exchanger
Heat Pipe Investigation

Man Hour rate - Rs 1000 Per Hr



Metacentre Apparatus

Experimental Capabilities-
Condition of Buoyancy
Metacentric Height
'Stability of End Sections
Center of Gravity of Mid Section
Center of Thrust

Man Hour rate - Rs 1000 Per Hr



Micromanometer

Range - -50 Pa to 2500Pa
Accuracy of the Readout - 0.04FS
Resolution - 0.1 Pa
Max Static Pressure - 100Kpa
Measuring Liquid - Demineralized
water with wetting agent

Man Hour rate - Rs 2000 Per Hr