



# Innotech

Engineering Devices Pvt.It

**Make -IEDPL  
Model No. IHHM-500KN**

## Horizontal Hydraulic Testing Machine – 500 kN



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# 1. TECHNICAL SPECIFICATION

## 1. Load Frame

- Type : Horizontal, rigid welded steel frame
- Capacity:500 kN (50 tonnes)
- Test Space
- Adjustable up to 2000 mm (customizable)
- Crosshead Adjustment
- Motorized with precision lead screw.
- Alignment
- Self-aligning load train for axial load application.
- Deflection:<1/10000 of full-scale load
- Finish:Powder-coated, corrosion-resistant

## 2. Loading System

- Actuator Type:Servo-controlled hydraulic actuator
- Actuator Capacity:500 kN
- Stroke:±150 mm
- Hydraulic Pressure:Up to 210 bar
- Hydraulic Power Pack:Integrated, low-noise type with oil filtration
- Control Mode:Load, displacement, or strain control
- Response Time:<10 ms.

## 3. Load Measurement

- Load Cell Type:Strain gauge-based, precision class 0.5
- Capacity:500 kN
- Accuracy:±0.5% of indicated load
- Overload Protection:150% of rated capacity
- Calibration:Traceable to national/international standards

## 4. Displacement Control

- Transducer Type:LVDT (Linear Variable Differential Transformer)
- Range:±150 mm
- Resolution:0.001 mm
- Accuracy:±0.5% of reading
- Control Mode:Closed-loop servo control

## 5. Deformation Measurement

- Extensometer Type:Clip-on or non-contact (optional)
- Gauge Length:10–200 mm (interchangeable)
- Accuracy:±0.5% of reading
- 1. Resolution:0.001 mm
- Compliance:ISO 9513 Class 1

## 7. Grips and Fixtures

- Standard Grips: Wedge-type hydraulic grips for round and flat specimens
- Round Specimen Range :Ø10–Ø40 mm
- Flat Specimen Range:Up to 40 mm thickness
- Optional Fixtures:Compression platens, bending jigs, shear fixtures, coupler test fixtures
- Grip Pressure:Hydraulically actuated, adjustable

## 8. Control System and Software

- Control Type:Closed-loop digital servo control
- Controller:High-speed DSP-based controller
- Control Modes:Load, displacement, strain, or combined
- Data Acquisition Rate:Up to 1000 Hz
- Software Interface: Windows-based, user-friendly GUI
- Functions:Real-time graphing, data logging, test sequencing, report generation
- Data Export:CSV, PDF, Excel formats
- Remote Operation: Ethernet or USB connectivity

## 9. Electrical Requirements

- Power Supply :3 Phase, 415 V  $\pm$ 10%, 50 Hz
- Installed Power:Approx. 5 kW
- Control Voltage:24 V DC
- Protection:Overload, short circuit, and emergency stop

## 10. Safety Features

- Emergency stop push buttons on control panel and frame
- Hydraulic pressure relief valve
- Overload and over-travel protection
- Safety interlocks for actuator movement
- Transparent protective shields (optional)
- Automatic system shutdown on fault detection

## Compliance Standards

- ISO 7500-1: Verification of static uniaxial testing machines
- ASTM E4: Force verification of testing machines
- ISO 6892-1: Tensile testing of metallic materials
- EN 10002-2: Verification of testing machines
- CE and ISO 9001 compliant manufacturing





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## **Innotech Engineering Devices Pvt. Ltd.**

**(AnISO 9001:2015& CECertified Co.)**

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