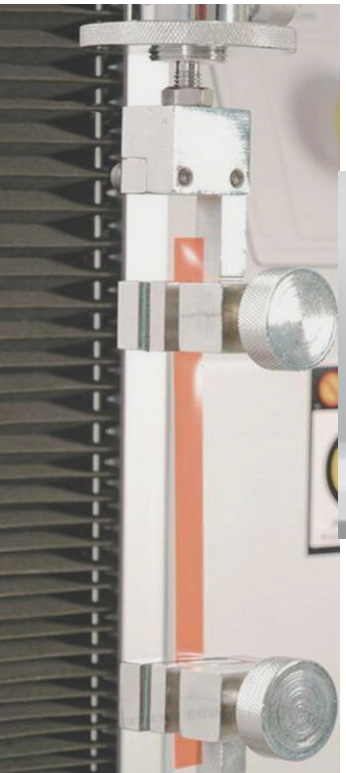
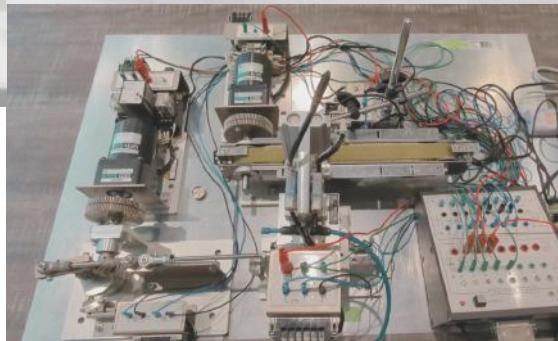
MYLABEQUIP.

2025 CATALOGUE

PRODUCT

- FLUID MECHANICS
- HEAT TRANSFER
- THERMAL DYNAMICS
- MATERIAL ENGINEERING
- MECHANISMS
- 3D SCANNER





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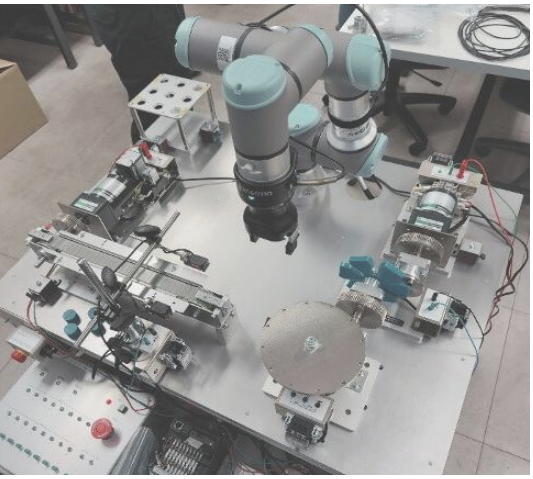
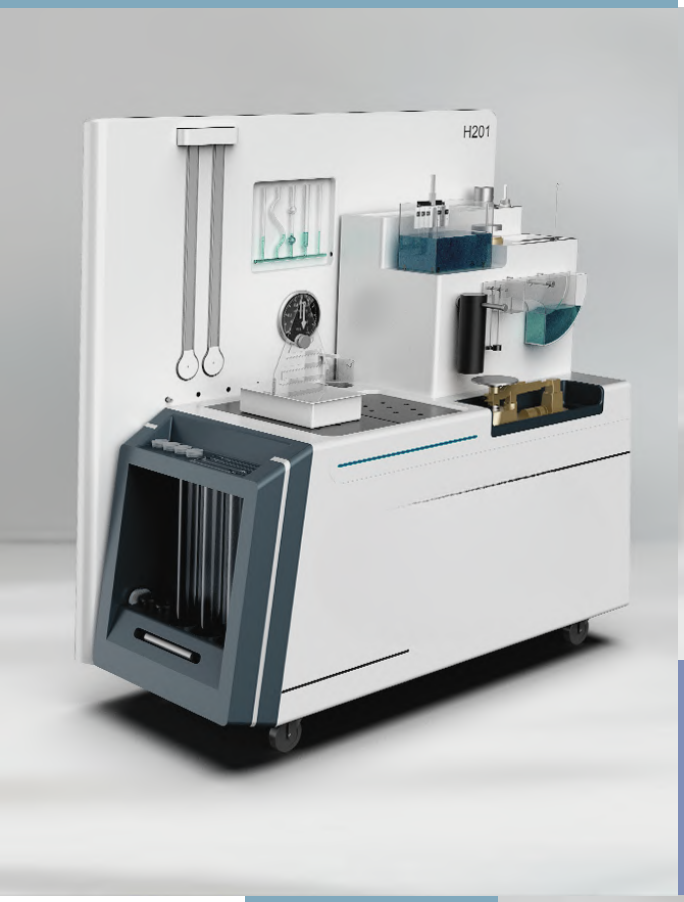
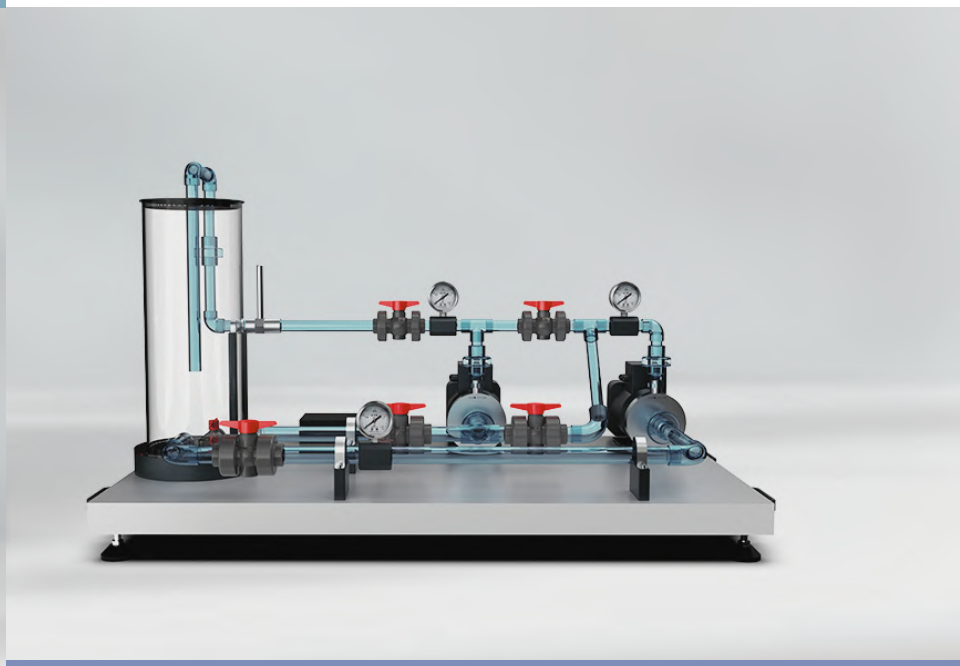






Fluid Mechanics

Bernoulli's Principle Demonstration Apparatus is designed to study the pressure distribution of a fluid as it flows through a Venturi tube. It enables precise experimental verification of the Bernoulli equation and the continuity equation.

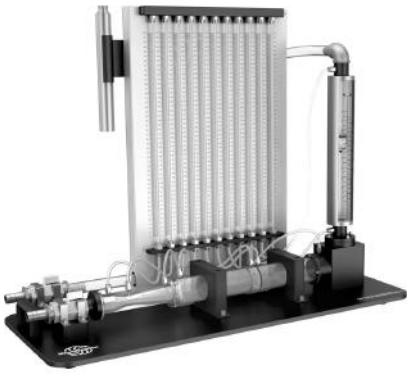
- Pressing Tappings: 11
- Manometer Tube Range: 0-450mm/0-17.72"
- Flow Control Range: 0~39 L/min
- Appratus Size: 29.13" × 11.81"× 30.71"

H101 Bernoulli's Theorem

H102 Reynolds Number

This flow experiment device is used in conjunction with a basic bench to study various flow types, including laminar, transitional, and turbulent flow.

- Visualizes different flow regimes in pipe flow
- Analyzes velocity distribution under laminar and turbulent conditions
- Determines the critical Reynolds number and flow transition
- Evaluate flow regime criteria in circular pipes
- Appratus size: 21.65" × 21.65" × 51.97"



H103 Flow Measurement

This compact experimental unit designed for use with a basic fluid mechanics bench. It enables the study and comparison of Venturi, orifice plate, and rotameter flow meters, while demonstrating the practical application of Bernoulli's equation in incompressible flow.

- Equipped with a Venturi meter, an orifice plate, and a rotameter
- Visualizes pressure head conversion and distribution
- Compares pressure losses across different flow meters
- Supports flow coefficient calibration for Venturi and orifice meters
- Enables accurate measurement of flow parameters, including velocity and pressure
- Appratus Size: 36.61; × 13.78" × 31.10"

H100 Hydraulic Bench

A mobile, self-contained workstation with a recirculating water supply, designed to support a wide range of fluid mechanics experiments.

- Compatible with multiple fluid mechanics modules, offering water circulation and flow control
- Suitable for flow visualization over various weir shapes
- Expandable for custom fluid dynamics experiments requiring adjustable flow
- Max flow rate: 60 L/min (5.85 gallons/min)
- Tank capacity: 210 L (55.48 gallons)
- Bench size: 51.18"× 31.50" × 41.73"

H105 Vortex Flow Demonstration

The vortex flow demonstration apparatus studies free and forced vortex flow. It features a transparent rotating tank, water level probe, and Pitot tube for surface and pressure measurements.

- Demonstrates free and forced vortex formation
- Surface profile mapping with level probe
- Pressure distribution measurement via Pitot tube
- Verifies vortex flow theory under variable speeds
- Tank diameter: 400 mm/15.75"
- Appratus Size: 23.62" × 15.75 "× 19.69"

H106 Pipe Surge and Water Hammer

- Demonstrate pipe surge caused by gradual deceleration of flow
- Analyze the oscillatory behavior of surge waves in a piping system
- Use of a surge shaft to attenuate pressure fluctuations
- Measure pressure profiles resulting from water hammer due to rapid flow deceleration
- Compare theoretical and experimental pressure profiles during water hammer events
- Determine the speed of sound in a fluid within an elastic pipe

- It investigates the operating principle of an impulse turbine and determines how inlet pressure, flow rate, torque, power, and speed vary with nozzle position.

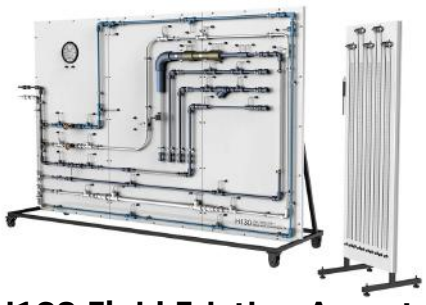
H120 Impluse Turbine System

- It is designed to study the outflow characteristics of various orifice shapes and measure the stream contraction coefficient, velocity coefficient, and discharge coefficient.

H110 Orifice Flow Apparatus

H109 Energy Loss in Pipe Fittings

- It determines the loss coefficient (K) for various pipe fittings, including bends, contraction, enlargement, and a gate valve.



H130 Fluid Friction Appratus

- Analyzes frictional losses in pipes with varying diameters, surface roughness, and materials
- Studies flow meters, including orifice plates, Venturi tubes, and Pitot tubes
- Enables calculation of local loss coefficients and friction factors
- Explores head loss behavior in steady pipe flow relative to the Reynolds number
- Appratus Size: 114.17 "× 31.50" × 76.77"

H108 Impact of Jet

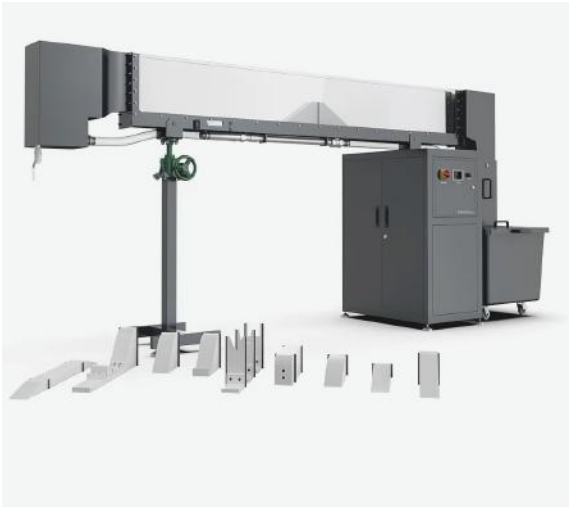
- It investigate the reaction forces resulting from fluid momentum change as a water jet strikes flat or curved surfaces, and compare experimental results with theoretical predictions using the momentum equation.

H107 Hydraulic Ram Pump

- It demonstrates the water hammer effect and study the underlying principles of the resulting pumping action.

H201 Fluid Statics

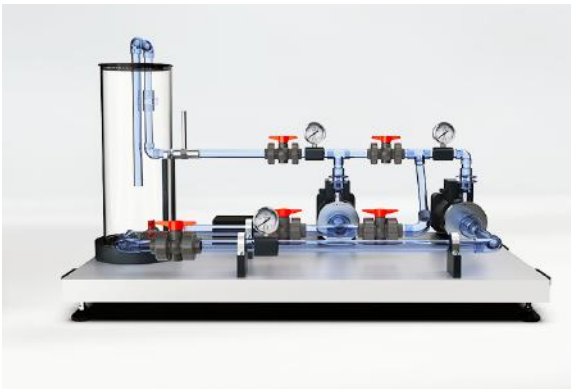
- Measure fluid density and specific gravity
- Demonstrate the principle and application of a hydrometer
- Investigate capillary action in tubes and between flat plates
- Determine fluid viscosity using the falling ball method
- Demonstrate Pascal's Law and pressure transmission in fluids
- Measure liquid levels with a hook-type depth gauge
- Verify Archimedes' principle and illustrate flotation behavior
- Analyze the stability of floating bodies and determine metacentric height



H300 2.5m Flow Channel

This flume system is designed to demonstrate different types of open channel flow seen in real engineering situations. It includes multiple modules and adjustable slope to help visualize how water flows through various structures.

- See how changing the slope affects water flow
- Observe how water flows over weirs, gates, and floodplains
- Study energy loss and flow patterns around breakwaters and bridge piers
- Try out different structures like broad-crested weirs, stepped weirs, and sill dams
- Easy to swap experiment modules and expand for more setups
- Flume size: 98.43 " x11.8 " x3.15"
- Overall size: 137.8 "× 37.4" × 59.1"



H265 Series and Parallel Pumps

The apparatus is a compact, tabletop, and fully self-contained centrifugal pump testing unit that supports three operating modes: single pump operation, two pumps in series, and two pumps in parallel.

- Study the pump performance configured in series
- Study the pump performance configured in parallel
- Investigate the suction performance testing of a single centrifugal pump
- Observe pump cavitation phenomena

H266 Programmable Centrifugal Pump

This apparatus is designed to study cavitation by quantifying head values and analyzing parameters related to its initiation and propagation. It includes a centrifugal pump, drive motor, PLC-based control system, rotor flow meter, control valves, instrumentation, cavitation strobe unit, and integrated reservoir.

- Supports analysis of Euler's equation, impeller velocity triangles, and ideal performance curves.
- Measures pump characteristics such as power, efficiency, and flow rate across variable speeds.
- Enables pump modeling, similarity analysis, and parameter selection based on speed and geometry.
- Analyzes operating points under varying pressure conditions.
- Optimizes energy use through speed and system adjustments.
- Allows custom impeller design studies to meet specific flow requirements.

Water Tunnel

Overview

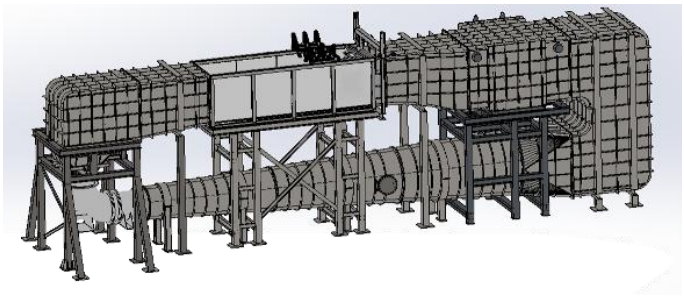
MY Lab Equipment Water Tunnels are engineered to provide ample size, precise measurements, and high Reynolds number capability for advanced research purposes.

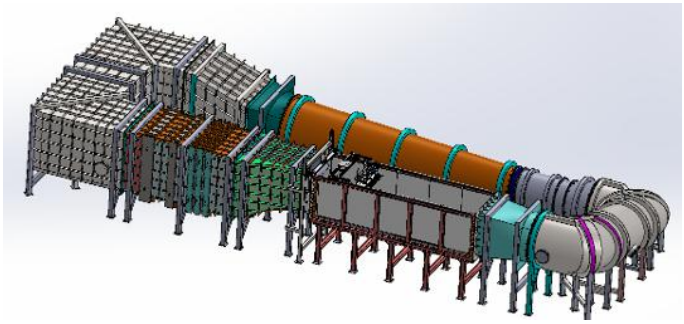
Performance Specifications

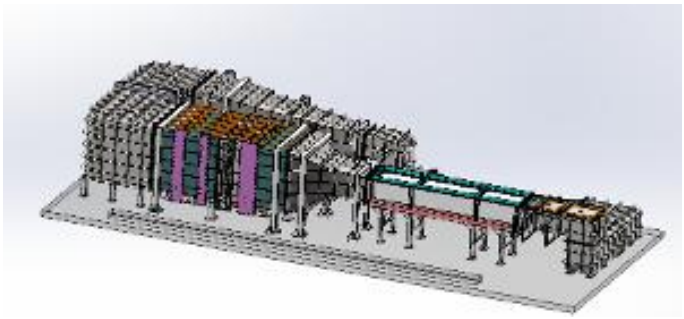
Top Speed Demonstrated: 50.2 ft/sec (15.3 m/s)

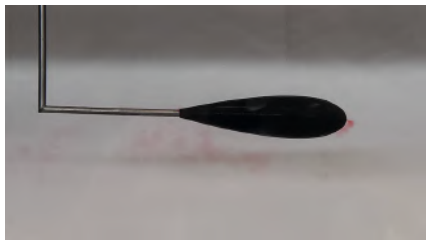
Features

- Construction - The entire shell and all water-exposed parts are made of stainless steel to ensure the circulating water remains crystal clear.
- Honeycomb Flow Straightener- Every water tunnel is equipped with a high-quality, high-aspect-ratio honeycomb flow straightener made of stainless steel.
- Fest section -They can be customized based on size, speed, and customer preferences. They are available in two configurations: fully constructed from clear acrylic or featuring stainless steel frames with removable acrylic windows.
- Dye models and additional test section features can be added to any of the standard designs, such as flat plate, airfoils, streamlined body, drag sets and cylinders.
- Steel Support Structure - Stainless steel tubular legs and crossmembers are used to support the tunnel.

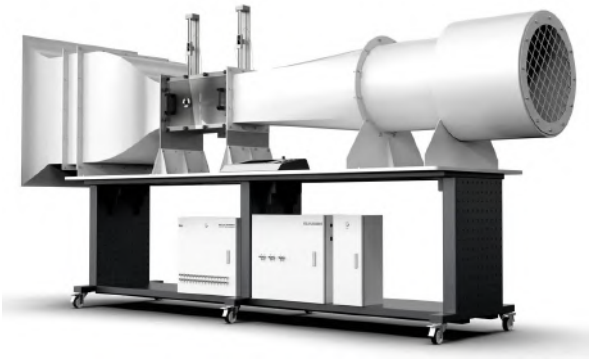




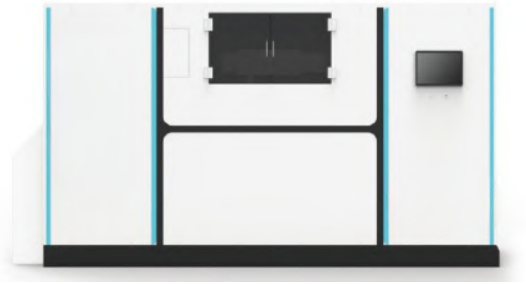




Our wind tunnel system is a comprehensive teaching and research tool designed for various aerodynamics experiments. It supports fundamental tests on differential pressure sensors, Pitot tubes, hot-wire anemometry, and sensor data acquisition and analysis. The system is ideal for airfoil experiments, including lift and drag balance, and pressure distribution. It also enables airflow visualization and is equipped for boundary layer experiments on flat plates, focusing on laminar development, transition, and adverse pressure gradients.



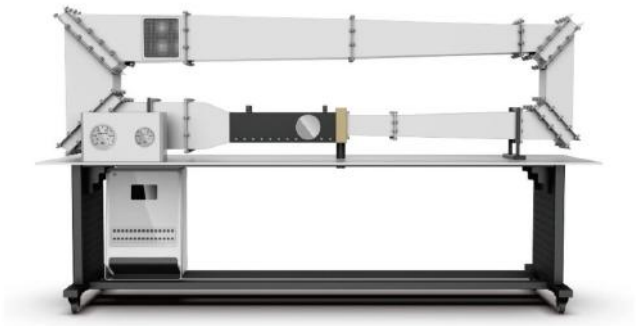
F130 Low Speed Wind Tunnel



FR150 Wind Tunnel for Extreme Environments

F504 Wind Turbine Power Generation System

F116 Airfoil Demonstration Wind Tunnel



F380 Supersonic Wind Tunnel

FR150D Low Temperature Wind Tunnel

- It features 16 measurement columns, a liquid reservoir, and an angle-adjustable frame.

F101 Multi-Tube Manometer Module

F111 Airfoil Pressure Distribution

- This module includes a clear rectangular test section with a fixed NACA2412 symmetrical airfoil. Pressure taps along the chord measure surface pressures via a multi-tube manometer, allowing analysis of the airfoil's pressure distribution. The angle of attack is precisely adjustable.

F108-A Smoke Generator

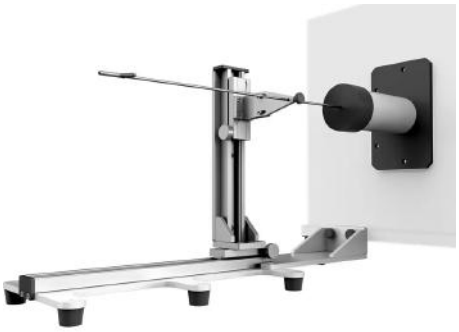
- It helps produce fine smoke for visualizing and tracing flow fields in fluid dynamics experiments.

F108 Flow Visualization

- This module features a semi-transparent rectangular flow channel with acrylic panels and a selection of test models, including flat plates, airfoils, cylinders, and triangular bodies for studying external flow behavior.

- It is designed to investigate the impact of surface roughness on boundary layer thickness and velocity distribution.

F103 Boundary Layer Flow



F104 Circular Duct Turbulent Flow

- The module supports analysis of wall-bounded turbulence, pressure losses along the flow path, and boundary layer development within a circular duct.

F100 Basic Bench

- F100 is a foundational test bench designed to supply steady airflow and control flow rate for a wide range of aerodynamics experiment modules.

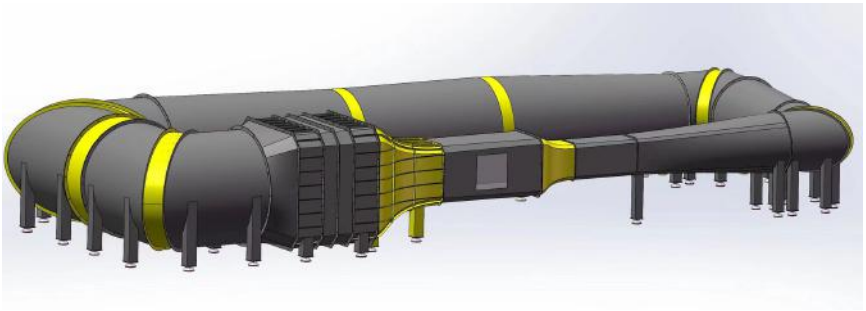
F105 Elbow Flow Module

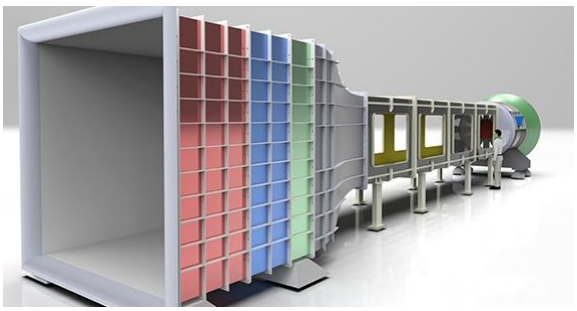
- It is a metal elbow with pressure taps evenly distributed along the inner and outer walls for analysis of internal flow behavior, determination of pressure loss, and calculation of loss coefficients for curved duct geometries.

F109 Test Modes

F106 Coandă Effect Flow Module

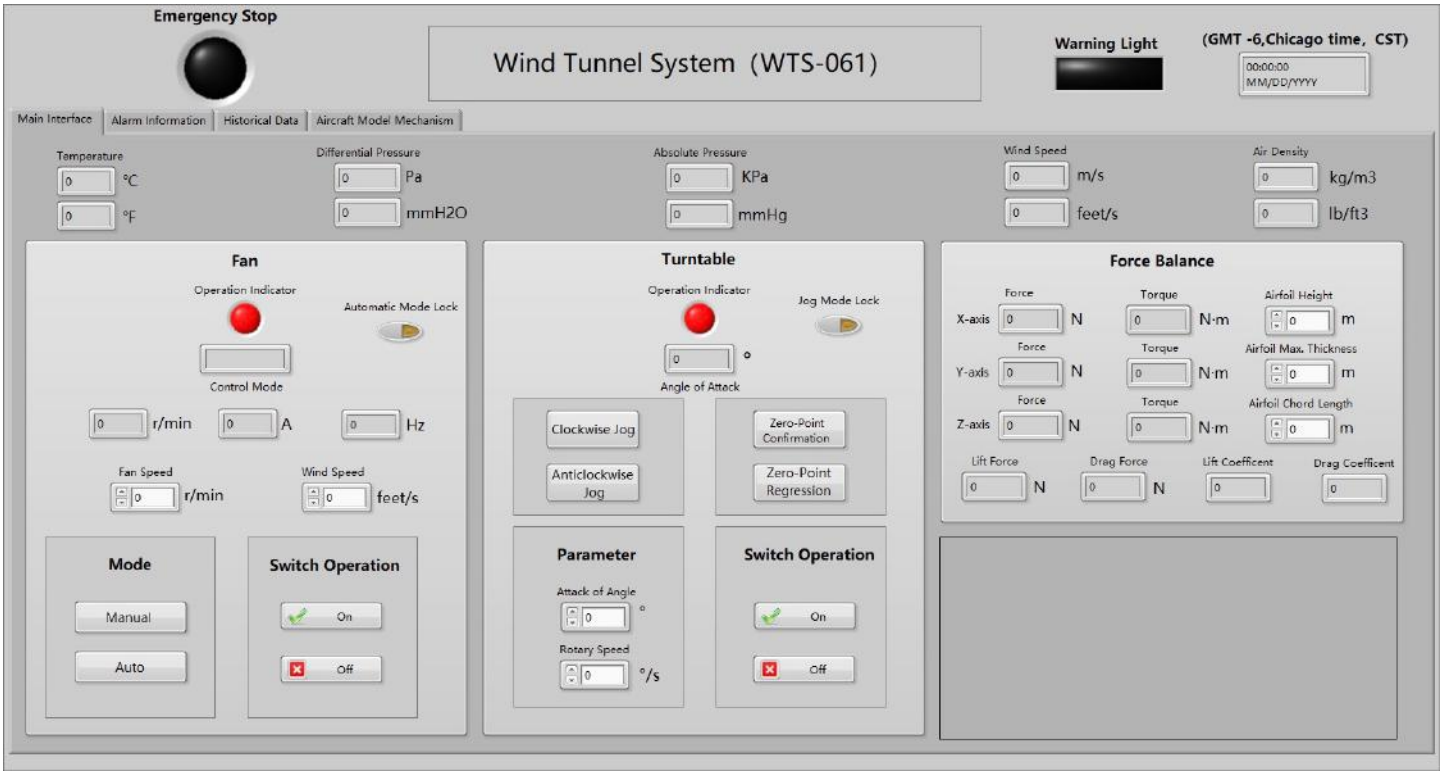
- This setup allows for detailed investigation of two-dimensional airflow, flow separation, reattachment, and wall-bound jet behavior characteristic of the Coandă effect.



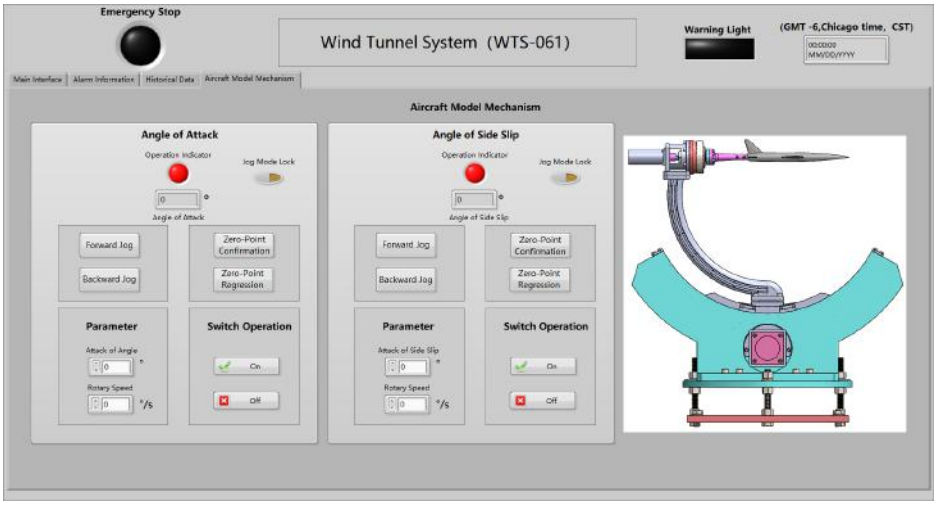


F400 Closed Loop Wind Tunnel

F406 Large Scale Wind Tunnel



Wind Tunnel Software WTS-061



Software Features

- LabVIEW–PLC Integration: Enables real-time data collection and system control
- Closed-Loop Fan Control: VFD regulates fan speed based on feedback signals
- Modular Architecture:
  - Fan Control Module
  - Turntable Control Module
  - Force Balance Control Module
- Real-Time Visualization: Dynamic plots for force, torque, speed, pressure, and aerodynamic coefficients
- Full Measurement Cycle: Covers data acquisition, display, feedback, and control adjustment

Heat Transfer

- Demonstrates Fourier's Law of axial heat conduction
- Includes copper, stainless steel, and aluminum alloy samples
- Eight thermocouple points for temperature measurement
- Constant power heater with water cooling
- Insulated to minimize heat loss by radiation and convection
- Module size: 8.3"X13.4"X13.4"

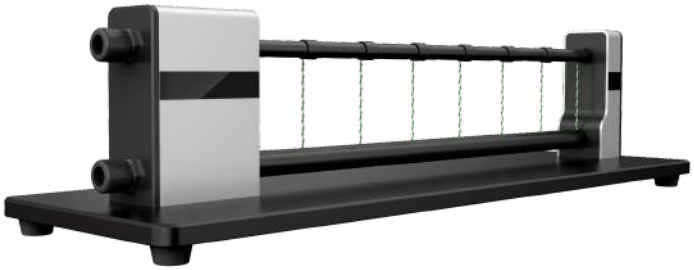
TH101 Linear Heat Conduction

TH102 Radial Heat Conduction

- Measures temperature distribution in radial heat flow through a thick cylinder
- Demonstrates the effect of varying heat input
- Calculates heat flow rate using Fourier's Law
- Determines the thermal conductivity of Brass
- Brass diameter 4.33", thickness 0.126"
- T type thermocouples: 6
- Module Size: 13.4"x8.3"x7.5" Heating power: 100W

TH103 Radiation Heat Transfer

- Includes two adjustable radiation sources: one thermal radiation source and one optical (light) radiation source
- Verifies the inverse square law with thermal or optical radiation
- Demonstrates the Stefan-Boltzmann law using thermal radiation and metal plates
- Studies the emissivity of different surface finishes
- Confirms Kirchhoff's law using thermal radiation and a radiometer
- Shows the relationship between surface temperature and radiated heat
- Demonstrates radiation exchange between surfaces
- Module size: 54.1"x 15.9"x12.9"



TH105 Extended Surface Heat Transfer

- Measures temperature distribution along an extended surface
- Compares experimental results with theoretical analysis
- Calculates heat transfer from combined convection and radiation
- Determines the thermal conductivity (k) of the rod material, brass
- Brass dia: 0.394"(10mm), effective length: 13.8"(350mm)
- Module size:19.7"x5.9"x4.7"

TH100 Basic Bench

The TH100 bench is designed to support a range of heat transfer experiment modules. The system can measure temperature, pressure, current, voltage, power, flow rate, air velocity, illuminance, and radiation intensity.

- Built-in 7-inch display
- 11 preloaded experiment module models
- Data measurement
- Dynamic curves
- Data export to Excel for analysis
- Bench size: 17.2"x14.8"x10.9"

- Visual observation and demonstration of different boiling regions inside the tube.
- Study of heat transfer and overall heat transfer coefficient during boiling at constant pressure.
- Investigation of the temperature–pressure relationship for the working fluid.
- No. of Thermocouples: 6
- Working Fluid Properties: boiling point: 18.263°C

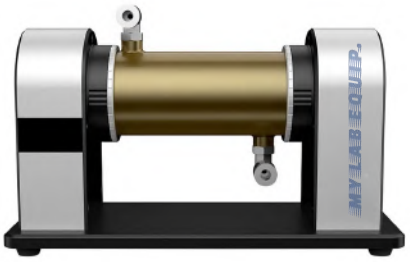
TH115 Tube Boiling Heat Transfer

- Enables observation and measurement of transient heat conduction from the surface to the core of solid specimens
- Allows determination of thermal conductivity using the transient temperature table method
- Supports analysis of unsteady heat transfer using the lumped capacitance model
- Suitable for extended studies and custom experimental designs related to transient conduction in solids
- Volume: 48L ; No of Specimen: 6
- Bench Size: 29.5” × 21.7” × 28.7”

TH110 Convection for Flat, Pinned and Finned Plates

- Enables analysis of the relationship between power input and surface temperature on flat, finned, and pinned plates under free convection conditions.
- Facilitates study of the relationship between power input and surface temperature on flat, finned, and pinned plates under forced convection conditions.
- Demonstrates the effectiveness of extended surfaces (fins and pins) in enhancing heat transfer.
- Allows measurement of temperature distribution along extended surfaces (fins and pins).
- Module size: 16.9”X11.8”X35.6”, weight 44lbs

TH106 Unsteady-State Heat Conduction



TH107 Thermal Conductivity of Liquid & Gases

- Demonstrates and analyzes Fourier’s Law in multi-layer material heat conduction
- Supports comparative and error analysis in 1D steady-state heat transfer experiments
- Enables measurement of thermal conductivity for compatible gases and liquids
- Heating Element: Precision-machined aluminum rod for uniform heat distribution
- Water Jacket: Constructed from high-conductivity brass for efficient heat exchange
- Bench Size: 11.3” × 4.6” × 7.1”

TH111 Boiling Heat Transfer

- Visual observation of convective, nucleate, and film boiling phenomena.
- Analysis of heat flux and surface heat transfer coefficient under constant pressure.
- Examination of how pressure influences critical heat flux.
- Study of filmwise condensation and evaluation of the condenser’s overall heat transfer coefficient.
- Investigation of the pressure-temperature relationship of a pure substance
- Bench Size: 10.6”x21.3”x26”

TH104 Convection and Radiation

- Measures combined heat transfer (radiation Qr + convection Qc) under varying power inputs and natural convection.
- Calculates convective heat transfer coefficient at low surface temperatures.
- Calculates radiative heat transfer coefficient at high surface temperatures.
- Evaluates the effect of forced convection on tube surface heat transfer at different airflow speeds.
- Bench Size: 17.3” × 11.8” × 38.6”

- The Jacketed Vessel Heat Exchanger features a dual-layer cylindrical glass construction with top and bottom end caps. Four connecting ports allow hot and cold fluids to circulate between the inner and outer layers. The built-in agitator improves heat transfer efficiency, while an integrated thermocouple measures the central temperature of the hot water.
- Heat Transfer Area: 0.067 m^2 (0.72 ft^2)
- Appratus Size :15.75" × 9.45" × 19.29 "

TH202 Plate Heat Exchanger

- This apparatus is composed of multiple heat transfer plates, with sealing gaskets placed between the plates to form flow channels.
- It features a high heat transfer coefficient, low resistance, and a compact design.
- Appratus Size :14.17" × 7.87" × 9.84"

TH204 Jacketed Vessel Heat Exchanger

TH201 Concentric Tube Heat Exchanger

- Demonstrates heat transfer between two fluids
- Supports energy balance calculations and evaluation of thermal efficiency
- Illustrates the differences between parallel-flow and counterflow heat exchanger operation
- Enables measurement of heat transfer coefficients and analysis of how flow rate and temperature difference affect performance
- Appratus Size :24.53" x 10.24" x 6.69"

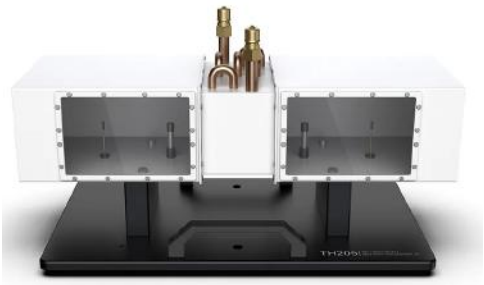
TH203 Shell and Tube Heat Exchanger

- It is a large tube (shell) that surrounds several smaller tubes (a bundle), with one fluid passing through the shell and the other passing through the tube bundle, transferring heat. Baffles around the bundle help create a turbulent mixed flow. The unit consists of 14 tube bundles arranged in an equilateral triangle, with a 5mm/0.2" pitch between the tubes. The effective length of the tube bundles is 249mm/9.8", and there are 2 baffles.
- Appratus Size : 19.69 " x 7.87 " x 6.26"

TH200 Heat Exchange Bench

The TH200 bench is designed to support five types of wall-effect heat exchanger experimental modules. Each module is equipped with quick-connect fittings for easy replacement and expansion.

- Built-in 7-inch display
- 11 preloaded experiment module models
- Data measurement
- Dynamic curves
- Data export to Excel for analysis
- Bench size: 39.57" x 15.75" x 20.98"



TH205 Water & Air Heat Exchanger

- Features a tube-fin structure where air flows through finned tubes, optimizing heat exchange performance. It includes a built-in anemometer and humidity sensor, providing real-time monitoring of airflow speed and humidity.
- Studies the principles and processes of cross-flow convection heat transfer.
- Analyzes the overall heat transfer efficiency at various flow velocities within the system.

Thermal Dynamics Engineering

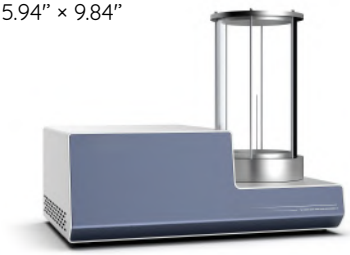
- Equipped with two transparent containers, a constant pressure pump, and a temperature and pressure collection system
- Demonstrate the ideal gas law and thermodynamic processes of adiabatic, isothermal, and constant volume gases.
- Derives and calculates the specific heat ratio (ratio of specific heat) of air
- Verifies Boyle's law
- Appratus size: 35.43"x 24.41" x 26.38"

ET101 Ideal Gas Law

ET100 Thermaldynamic Bench

The ET100 bench is designed to support a range of dynamic experiment modules. The system can measure temperature, pressure, current, voltage, power, flow rate, and air velocity.

- Built-in 10.1-inch display
- 5 preloaded experiment module models
- Data measurement
- Dynamic curves
- Data export to Excel for analysis
- Bench size: 17.91" × 15.94" × 9.84"



ET104 Air Adiabatic Index

- Understands the concept and derivation process of the air adiabatic index
- Masters the adiabatic index measurement method based on constant entropy expansion and constant volume heating processes
- Deepens the understanding of ideal gas properties and enhance awareness of key parameters of ideal gases
- Strengthens the comprehension of fundamental concepts such as constant entropy processes, entropy index, mass control, and volume control
- Appratus size: 23.62" × 14.96"× 24.02"

ET102 CO_2 P-V-T Experiment System

- Observe the critical state of CO_2 and develop a conceptual understanding of the critical point.
- Learn methods for determining the PVT relationship and experimentally analyze gas state changes.
- Strengthen understanding of thermodynamic concepts like condensation, vaporization, and saturated liquids/vapors.
- Appratus Size: 27.56" × 20.47" × 28.94"

ET103 Cp Determination System

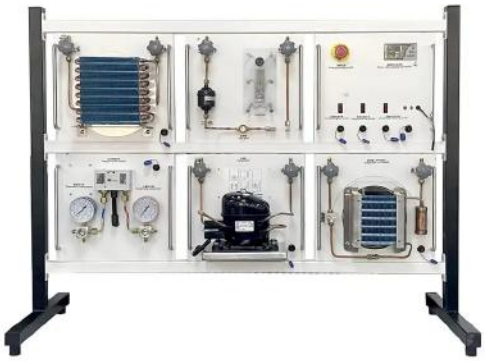
- Features an integrated design that combines components such as a blower, flow meter, heater, water tank, and calorimeter into a single unit.
- Master the measurement methods for temperature, pressure, and flow rate parameters, and learn the correct usage of related thermal measurement instruments in the experiment
- Gain a comprehensive understanding of fundamental concepts such as specific heat capacity, constant pressure specific heat, humid air, and relative humidity
- Appratus size: 23.43" × 17.80" × 23.26"

ET105 Saturated Steam P-T Experiment

- Measures the pressure and temperature of saturated water at atmospheric pressure and at up to 10 bar
- Compares measured data with standard steam tables to enhance understanding of saturated water/steam properties
- Operating Environment: Ambient temperature, relative humidity ≤ 85%
- Appratus size: 23.62" × 17.72" × 21.65"

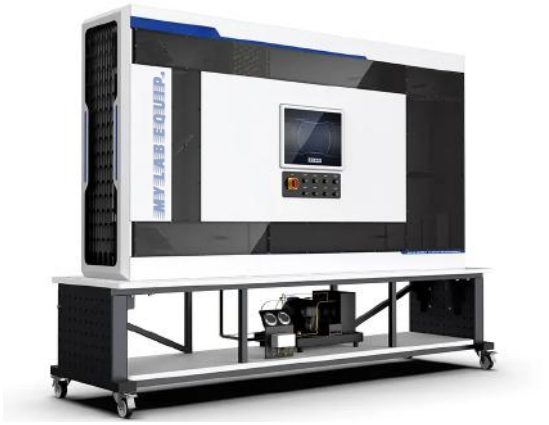
- Demonstrates the working principle of the vapor compression refrigeration cycle; allows observation of refrigerant evaporation and condensation phenomena
- Visually presents key cycle processes: compressor discharge, refrigerant condensation, expansion, evaporation, and suction
- Analyzes how evaporation and condensation temperatures affect cooling efficiency and condenser heat rejection
- Calculates the overall heat transfer coefficient of the shell-and-tube heat exchanger
- Supports interpretation and plotting of pressure–enthalpy (P–h) diagrams for real vapor compression cycles
- Apparatus size:47.24" × 19.69 "× 36.22"

ET301 Vapor Compression Refrigeration Cycle Training Unit



R105 Modular Refrigeration System

- Consists of 7 modular components of a vapor-compression refrigeration system:
- Demonstrates the operating principle of a vapor-compression refrigeration cycle
- Trains students in system piping, electrical wiring, pressure testing, leak detection, vacuuming, refrigerant charging, and system commissioning
- Appratus size:20.87" × 18.90" × 41.34"



R260 HVAC Demonstration

- Demonstrates air heating, cooling, humidification, dehumidification, recirculation, and mixing processes
- Supports analysis of humidification and dehumidification, including steam generation rate calculations
- Verifies energy balance in air conditioning processes
- Appratus size :87.36" × 16.02" × 40.16"

R360 Air-Water-Soil Triple-Source Heat Pump

- Applies electrical power to transfer heat from low-temperature sources (air, water, or soil) to a high-temperature area for heating.
- Measures electrical input, heat output, and system efficiency.
- Evaluates the compressor pressure ratio's impact on efficiency
- Calculates the overall heat transfer coefficient of the evaporator and condenser
- Appratus size: 51.18" × 25.59" × 19.69"

- Demonstrates the working principle of vapor absorption refrigeration cycles
- Investigates the relationship between generator and evaporator temperatures
- Visually illustrates key processes: absorption, generation, condensation, and evaporation
- Appratus size: 29.53 "× 17.72" × 29.53"

R216 Vapor Absorption Refrigeration

ET301 Flame Impingement System

- Consists of an air circuit, fuel gas circuit, protective circuit, and cooling water circuit.
- Modular design allows for flexible switching between different combustion gases, burners, and experimental modules
- Real-time data collection of flow rate and pressure across different gas channels for easy calculation and analysis
- Module size: 16.14"× 12.60" × 20.28"

E300 Combusion Test Bench

- Measures the position variation of impinging diffusion flame fronts with changing strain rate.
- Determines the extinction limits of impinging diffusion flames.
- Measures the position variation of impinging premixed flame fronts with changing strain rate.
- Determines the extinction limits of impinging premixed flames.
- Fuel gases: Methane, Propane, Acetylene, etc.
- Protective gas: Nitrogen
- Appratus Size: 11.81" × 11.81"× 19.69"
- Weight 22lbs

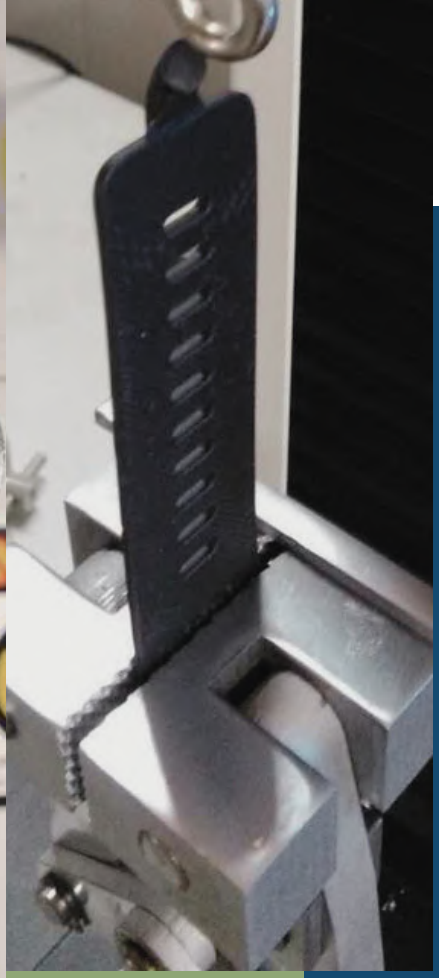
E302 Flame Propagation Device

Flame Phenomenon

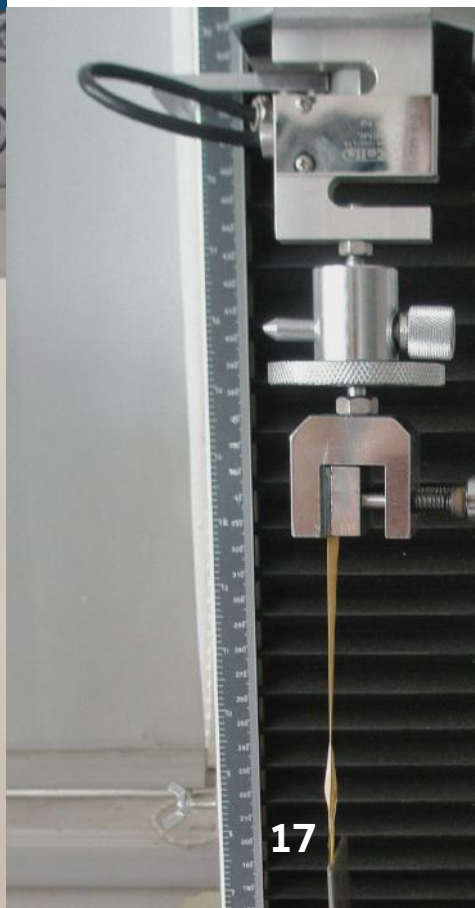
- Consists a vertical support column, quartz glass combustion tube, precision burner, stabilized base, and adjustable tube clamps.
- Measures diffusion flame height as a function of fuel flow rate to validate theoretical models.
- Determines the resonance frequency of a Rijke tube to verify thermoacoustic instability theory.
- Demonstrates laminar premixed flame propagation in straight tubes and quantifies flame speed.
- Demonstrates stable combustion and flame velocity measurement in variable-diameter laminar premixed tubes.
- Appratus size: 9.84" × 6.30" × 27.56"
- Weight 22lbs

ET303 Flat Flame Burner

- Supports non-premixed swirl combustion experiments
- Compatible with various types of pulverized coal for combustion studies
- Allows adjustment of gas-to-coal powder mixing ratios
- Swirl intensity is adjustable for precise flame control
- Generates a one-dimensional gas flame with uniform temperature distribution across the width
- Capable of burning mixed fuel gases for comprehensive combustion analysis
- Ideal for academic research and quantitative evaluation of combustion characteristics
- Cooling Medium: Water



Material Engineering



Single Column 5kN

Dual Column 20kN

Dual Column 50kN

FEATURES

- -Fully computerized system
- -USB communication between machine and computer
- -Precision leadscrew
- -Servo electrical drive system and prevision AC servo motor
- -Mechanical limit switch

STANDARDS

- ASTM D638
- ASTM E8
- ASTM D 3039/D 3039M
- ISO 6892-1

SPECIFICATION

Model	UTM-5kN	UTM-20kN	UTM-50kN
Load Capacity	5kN/1,124lbf	20kN/4,496lbf	50kN/11,240lbf
Crosshead Travel	1000mm/39.4”	1000mm/39.4”	950mm/37.4”
Test Width	445mm/17.5”	420mm/16.5”	445mm/17.5”
Test Speed	0.001~1000 mm/min /0.000039~39.3inch/min		
Dimension	24.4” x 15.7” x 52”	30” x 17” x 65”	35.8”x25.6”x80.3”
Weight	160 kg /352 lbs	230kg/506lbs	520kg/1146lbs
Power	AC 110V, 50/60Hz, Single Phase		

Universal Testing Machine

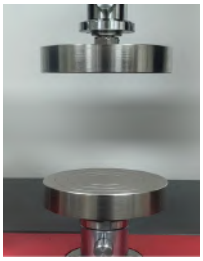
Dual Column 300kN

Dual Column 500kN

Low and High Temp.Chamber

STANDARD GRIPS

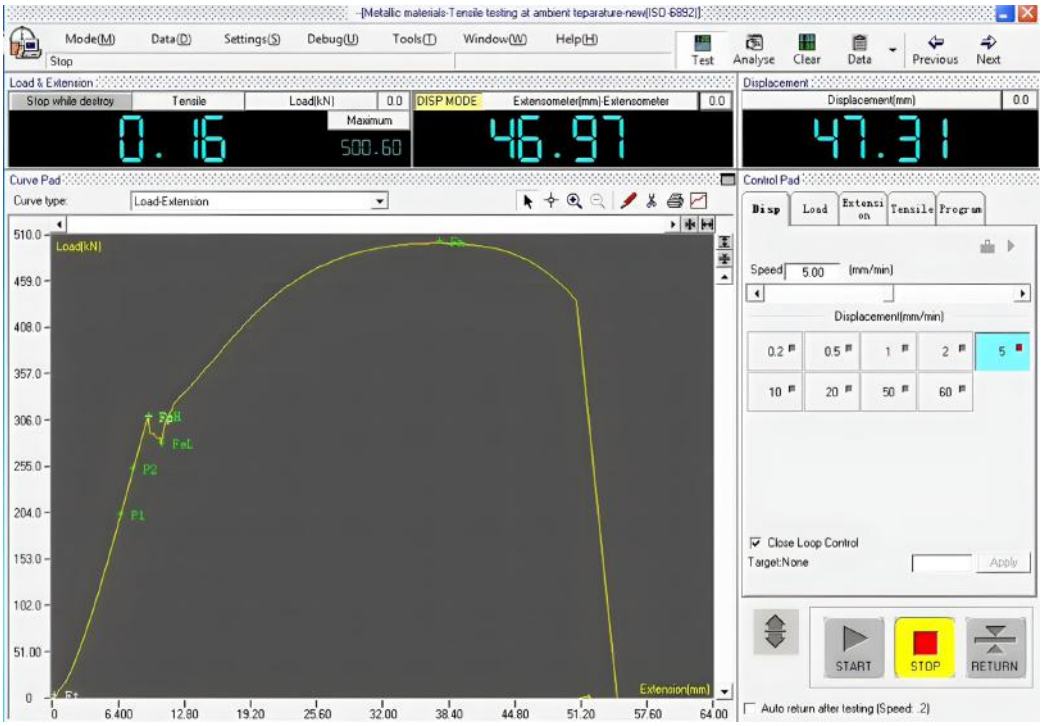
- Wedge Grip for Tensile Test
- -Compression Platen
- 3- Point Bending/4- Point Bending
- -Standard Extensometer or long travel extensometer

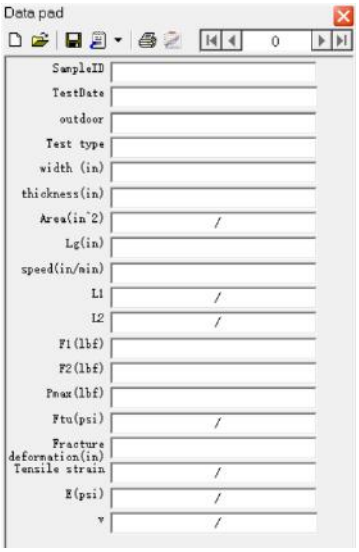


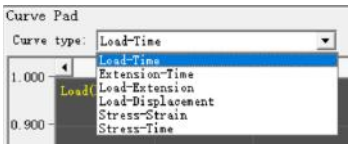
SPECIFICATION

Model	UTM-50kN	UTM-100kN	UTM-300kN	UTM-500kN
Load Capacity	50kN/11240lbf	100kN/22,480lbf	300kN/67,441lbf	500kN/112,402lbf
Calibration Standard	Class 0.5 to ISO 75001,ASTM E4			
Crosshead Travel	1100mm/43.3"			900mm/35.4"
Test Speed	0.001~1000 mm/min /0.000039~39.3inch/min	0.001~500 mm/min /0.00039~17.7inch/min	0.05~500 mm/min /0.00197~17.7inch/min	
Max. Tensile Space	770mm/30.3"	650mm/25.6"	650mm/25.6"	800mm/31.5"
Test Width	450mm/17.7"	550mm/21.7"	600mm/23.6"	700mm/27.6"
Dimension	33.46 × 21.65 × 71.81"	43.62 × 31.42 × 96.46"	43.62 × 31.42 × 96.46"	74.02 × 47.83 × 121.65"
Weight	420kg/926lbs	680kg/1499lbs	1800kg/3968lbs	4000kg/8818lbs
Power	AC 120/240V/480V/ 50/60Hz 1 Phase/3Phase			

Maxtest Software



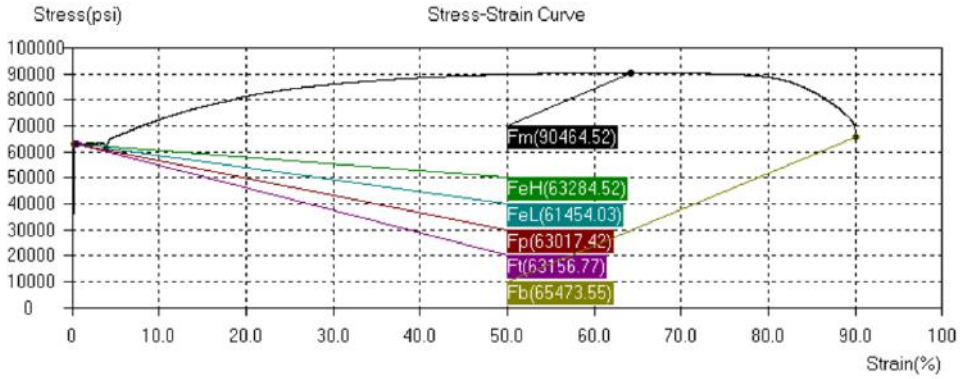




Test report

STEEL BAR TENSILE TEST

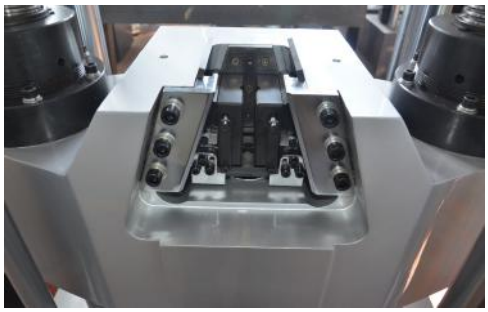
SampleID	12234	TestDate	12/23/2024
Operator		Type	Circle
Size(in)	0.63	So(in²)	0.31
Lo(in)	1.97	Lu(in)	2.32
A(%)	18.0	Su(in²)	
Z(%)	/	Fm(lbf)	28044.00
Rm(psi)	90464.5	FeH(lbf)	19618.20
ReH(psi)	63284.5	FeL(lbf)	19050.75
ReL(psi)	61454.0	Fp(lbf)	19535.40
Rp(psi)	63017.4	E(ksi)	28731.76

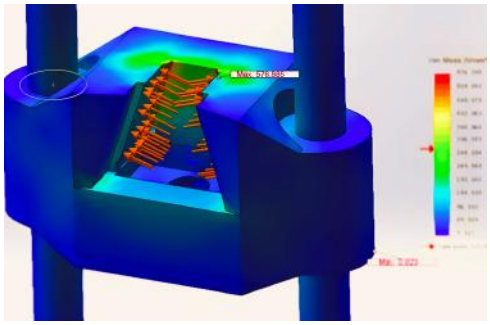


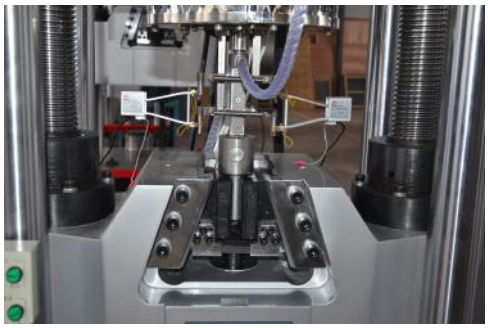
FEATURES

- -Batch and report processing program facility in doc, excel, and pdf format
- -Includes international standards like ISO, ASTM and EN.
- -Various control modes: constant force, constant displacement, constant deformation, and others like Stress-strain, force-displacement, force-time, displacement-time
- -Supports multiple load cells and extensometers
- -Supports real-time record and dynamic display test curve
- -Report output has tensile strength, yield strength, modulus of elasticity, extend rate after rupture, non-proportional extend strength, etc.

Hydraulic Testing Machine

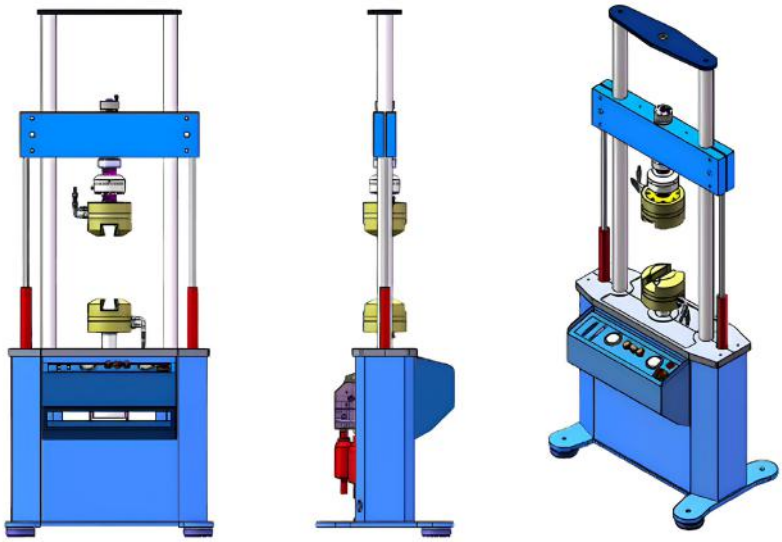






SPECIFICATION

Model	UTM-300G	UTM-600G	UTM-1000G
Load Capacity	300kN/67,443lbf	600kN/ 134,885lbf	1000kN/224,809lbf
Struture	Upper for Tension, Lower for Compression		
Max. Crosshead Speed	190mm/min(7.5in/min)		160mm/min(6.3in/min)
Max Tensile Space	600mm/23.6"	800mm/31.5"	
Max. Compression Space	500mm/19.7"	700mm/27.6"	
Round Sample	0.39"-0.79",0.79"-1.26"	0.39"-0.71", 0.71"-1.14", 1.14"-1.57"	0.39"-0.71", 0.71"-1.14", 1.14"-1.57",1.57-2.36"
Flat Sample	0.08"-0.51",0.51"-0.69"	0.08"-0.51",0.51"-1.18"	0.08"-0.51",0.51"-1.18",1.18"-1.77"
Compression Platen	diameter 120mm/4.72"		180x180mm/7.1"x7.1"
Dimension	35.4"x25.6"x80.2"	36.4"x28.5"x92.0"	38.0"x30.0"x101.3"
Weight	1800kg/3968lbs	2800kg/6173lbs	3500kg/7716lbs



Dynamic and Fatigue Testing Machine

FEATURES

- Frame/load cell sizes from 5 kN to 300 kN
- High-stiffness, precision-aligned load frame with twin columns
- Designed both dynamic and static testing on a variety of materials and components
- Help students and researchers understand the fatigue behavior, durability, and performance limits of the materials
- Frequency range from 0.01Hz to 50Hz

SPECIFICATION

Model	DS-1503	DS-1104	DS-1204	DS-1504	DS-1105	DS-1305
Max Static Force	± 5kN/1124lbf	± 5kN/1124lbf	± 20kN/4496lbf	± 50kN/11,240lbf	± 100kN/22,481lbf	± 300kN/67,443lbf
Max Dynamic Force	± 5kN/1124lbf	± 8kN/1798lbf	± 16kN/3597lbf	± 40kN/8992lbf	± 80kN/17984lbf	± 250kN/56,202lbf
Actuator amplitude	± 3.93" (travel 7.87")		± 2.95" (travel 5.91")			
Frequency	0.01-100Hz		0.01-75Hz	0.01-50Hz		0.01-35Hz
Distance between columns	440mm/17.3"		500mm/19.7"	550mm/21.7"		620mm/24.2"
Dimension	26.8" × 15.7" × 41.3"		34.3 × 22.8" × 72.8"	38.6 "× 24.4 "× 106.3"		41.3" × 29.5 "× 120.1 "
Weight	400kg/882lbs	520kg/1146lbs	800kg/1764lbs	900kg/1984lbs	950kg/2094lbs	1350kg2976lbs

Creep Testing Machine

Manual

Electrical

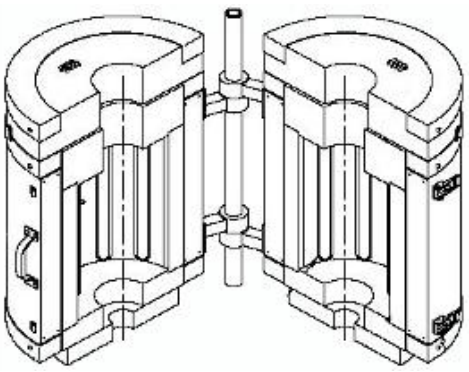
STANDARD

- ASTM E139 Standard Test Methods for Conducting Creep, Creep-Rupture, and Stress-Rupture Tests of Metallic Materials
- ISO 204 Metallic materials — Uniaxial creep testing in tension
- ISO/R 206 Creep stress rupture testing of steel at elevated temperature

SPECIFICATION

Model	CRT-50
Load Capacity	50kN/11,240 lbf
Load Mode	Eletrical motor
Displacement Range	200mm/7.87"
Displacement Resolution	0.01mm/0.00039"
Test Width	400mm/15.75"
Dimension	82.7"x28"x21.3"
Weight	700kg/1543lbs

Model	CRT-30
Load Capacity	30kN/6,744 lbf
Load Mode	Weights+lever
Rod Speed	2.5-60mm/min
Rod Speed Resolution	0.01mm/0.00039"
Test Width	400mm/15.75"
Dimension	82.7"x28"x21.3"
Weight	400kg/881 lbs



- Furnace Temperature Range:300 to 1100°C
- Continuous Operation: 5000+ hours
- Furnace Chamber Dimensions: Φ80×420mm/Φ3.15" × 16.54 "
- Overall Dimensions: Φ290×420mm/ Φ11.42 "× 16.54 "
- Temperature Fluctuation: ±2°C for 300 to 600°C
  ±3°C for 600 to 900°C
  ±4°C for 900 to 1100°C
- Long-term Service Life :≥10,000 hours at 1000°C

Compression Test Machine

300kN

600kN/1000kN

2000kN

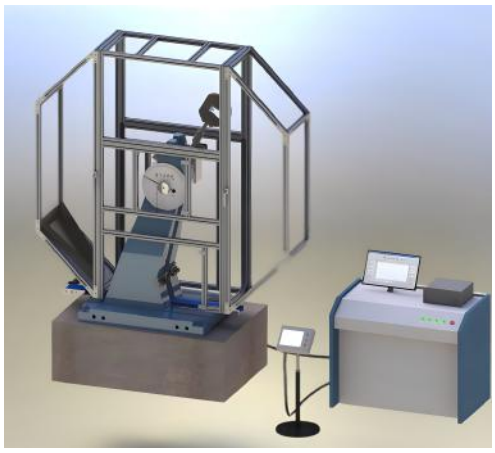
FEATURES

The CTM series Hydraulic Servo Compression Testing Machine is ideal for precise loading in compression and flexural strength testing of cement, mortar, brick, concrete, and other construction materials. The system provides real-time display of load, loading rate, and load-displacement curves. All test data is automatically processed, stored, and available for printing, ensuring accurate and efficient test reporting.

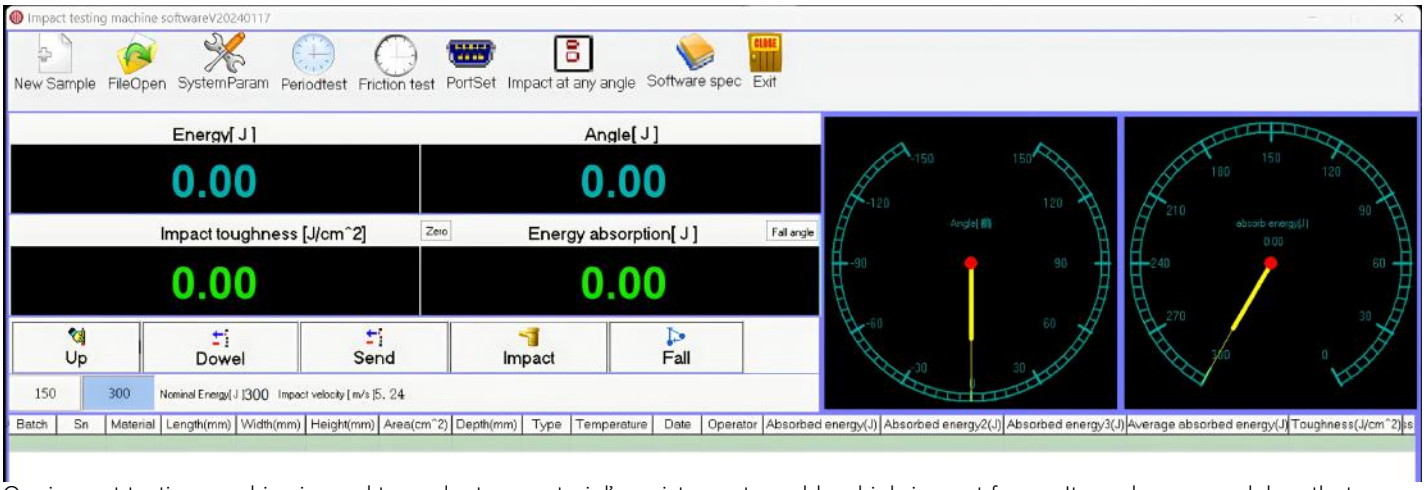
SPECIFICATION

Model	CTM-300	CTM-600	CTM-1000	CTM-2000
Load Capacity	300kN/67,443lbf	600kN/ 134,885lbf	1000kN/224,809lbf	2000kN/449,618 lbf
Compression Space	180mm/9.1"	220mm/8.7"		360mm/14.2"
Sensor type	Spoke Type			Colunm Type
Piston Stroke	80mm/3.2"	150mm/5.9"		200mm/7.9"
Upper Platen	Φ170mm/6.7"	Φ250mm/9.8"		Φ295mm/11.6"
Lower Platen	Φ250mm/9.8"			Φ295mm/11.6"
Dimension	1060×500×1400mm/ 41.73" × 19.69" × 55.12"	1150×500×1500mm/ 45.28" × 19.69" × 59.06"		640×560×1500mm 25.20" × 22.05" × 59.06"
Weight	450kg/992lbs	750kg/1653lbs		1600kg/3527lbs
Power	AC 120/240V/480V/ 50/60Hz 1 Phase/3Phase			

Impact Testing Machine



Metal Impact Test Machine

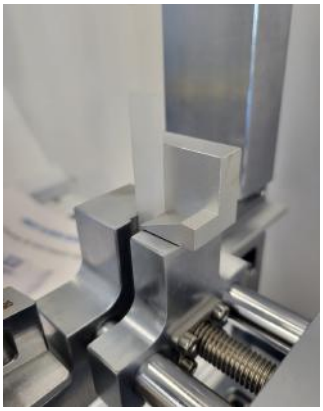


Our impact testing machine is used to evaluate a material's resistance to sudden, high-impact forces. It employs a pendulum that strikes the test specimen, and the energy absorbed during the impact is measured.
Standard: EN-ISO 148, EN-ISO 10045-1, DIN 50115, and ASTM E231.

SPECIFICATION

Model	JB-300B	JB-500B
Impact Energy	300/150J(221.3 ft-lb/110ft-lb)	500/250J(368.8 ft-lb/184.4ft-lb)
Impact Velocity	5.2m/s （17ft/s)	5.4m/s(17.72ft/s)
Pendulum Preparing Angle	150°	
Span of Specimen Seat	40mm/1.57"	
Radius of Impact Knife	R2-2.5mm/0.079"-0.098"	
Dimension	2124x600x1340mm/83.62"x 23.62"x 52.76"	
Weight	450kg/992lbs	750kg/1563lbs
Power	AC 480V/ 50/60Hz/3Phase	

Plastic Impact Test Machine



SPECIFICATION Standard: ISO 179/180 and ASTM D256

Model	Charpy	Izod
Pendulum Energy	PCI-5: 1J, 2J, 4J, 5J; PCI -15: 7.5J, 15J; PCI -50: 25J, 50J	PID: 1J, 2.75J, 5.5J, 11J, 22J
Pendulum Angle	150°	
Impact Velocity	2.9m/s,3.8m/s(9.5ft/s, 12.47ft/s)	3.5m/s (11.48ft/s)
Dimension	1160x500x990mm/45.67"x 19.69"x 38.98"	
Weight	100kg/220lbs	
Power	AC 120V 50/60Hz 1 Phase	

Test Grips

JG 25001 Wedge Grip
5kN (1120lbf)
Non metal

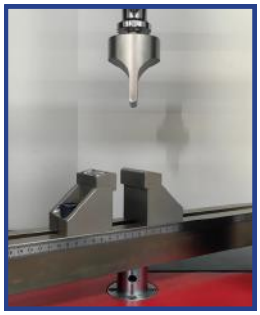
JG 25002 Wedge Grip
20kN (4,496lbf)
Soft metal and non-metal

JG 25003 Wedge Grip
20kN (4,496lbf)
Soft metal and non-metal

JG 25004 Wedge Grip
50kN (11240lbf)
Metal material, round and flat

JG 25005 Wedge Grip
50kN (11240lbf)
Metal material, round and flat

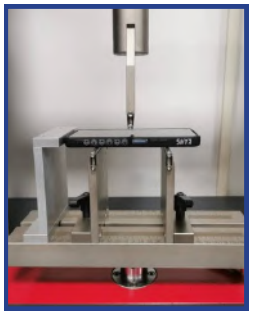
JG 25006 3 Point bending
Test adjustable span 9.8"
Total length 12.6"



JG 25007 3 Point bending
100kN (22,481 lbf)
Test adjustable span 15.7"

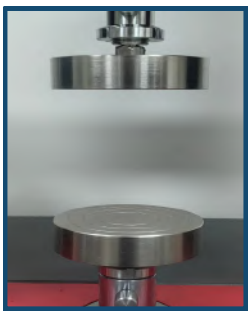
JG 25008 Shear
Polymer matrix composite
materials ASTM D2344

JG 25009 3/4 point bending
Ceramic materials
ISO 6872

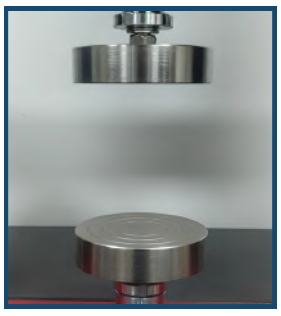


JG 25010 Glass 3 Point
Bending
Test adjustable span 9.84"

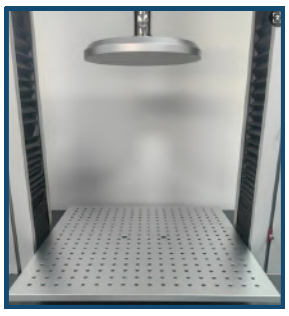
JG 25011 Compression Platen
20kN (4,496 lbf)
Non metal material



JG 25012 Compression Platen
100kN (22,481lbf)
Dia. 5.9", thickness 0.9"



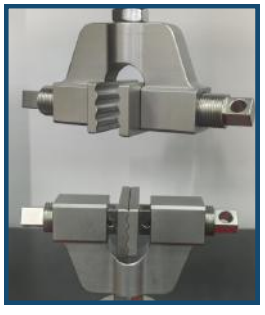
JG 25013 Compression Platen
100kN (22,481lbf)
Dia. 3.9", thickness 1"



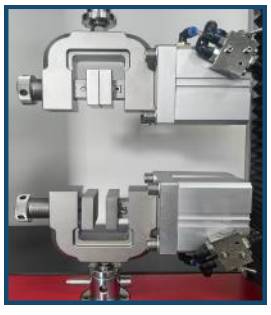
JG 25014 Foam Compression
ISO 2439 Upper Platen: D7.9x0.79"
Lower Platen: 15x15x0.4"

JG 25015 3 Point Bending
ISO 679 Cement Mortar Strength
Test span 3.94"

JG 25016 Vice Grip
2kN (450lbf)
for Fabric and leather



JG 25017 Vice Grip
2kN (450lbf)
for Fabric and leather

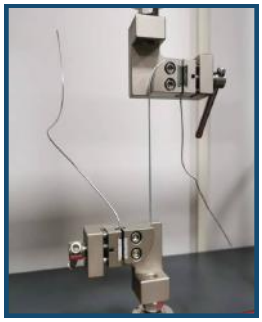


JG 25018 Pneumatic Grip
5kN (1124lbf)
Tensile and shear

JG 25019 Rubber Tensile Test Grip
1 kN (225lbf)
ASTM D412-06a

JG 25020 Rubber Tensile Test Grip
12kN (450lbf)
ASTM D412-06a

JG 25021 90 degree peel
Adhesive materials, textiles
and composite fabrics, films



JG 25022 Winding Grip
Thin steel wire
Diameter less than 3mm/0.118"

JG 25023 Winding Grip
Multi-strand steel wire rope
Diameter 0.5-5mm/0.0197" -0.197"

JG 25024 Winding Grip
Safety rope
Diameter 1-8mm/0.04" -0.3"

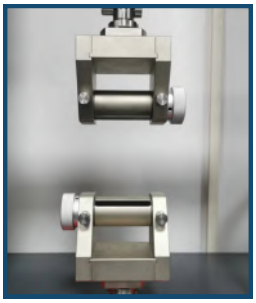
JG 25025 Winding Grip
Safety rope 20kN (4,496lbf)
Diameter5-12 mm/0.2" -0.5"

JG 25026 Beak Grip
Non metal material
Sample Size: 0.8"x0.1"

JG 25027 Beak Grip
Non metal material
Sample Size: 0.83"x0.08"

JG 25028 Strap/web Grip
1kN (225lbf)
Sample Size 2"x0.08"

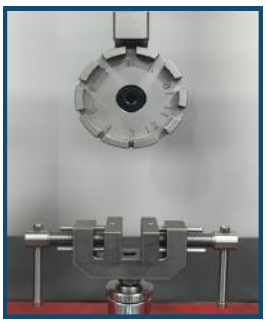
JG 25029 Strap/web Grip
5kN (1,120lbf)
Sample Size 2.36"x0.3"



JG 25030 Strap/web Grip
50kN (11,200lbf)
Sample Size 3.15"x0.24"

JG 25031 Packing Strap Grip
3kN (674lbf)
Sample Size: 0.47"x0.08"

JG 25032 Packing Strap Grip
3kN (674lbf)
Sample Size: 0.47"x0.08"



JG 25033 Wire Terminal
Pull-off Test
Diameter 3-12mm/0.118"-0.47"

JG 25034 Metal materials wire
and rivet shear test
Dia: 0.157"/0.19"/0.2"/0.236"/0.315"

JG 25035 Strip Test-Textile
Fabric ASTM D5035-2011
Sample Size: 3.93" width

JG 25036 Loop Track Test
ASTM D6195

JG 25037 Tensile Grip
for Flexible Cellular Polymeric
Materials

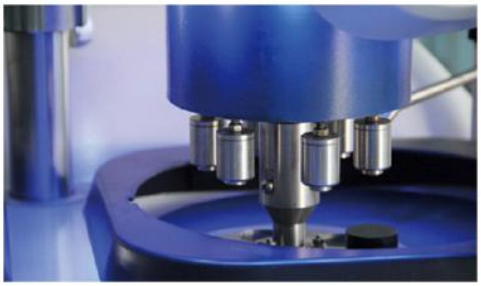
JG 25038 Double Eccentric Grip
1 kN (225lbf)
Rubber, Plastic, Alloy Foils

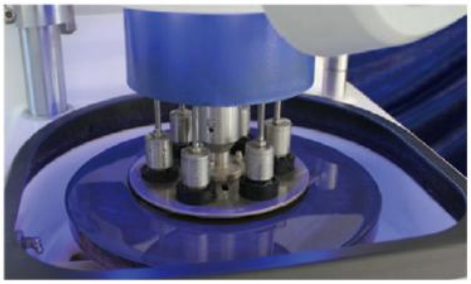
JG 25039 Pneumatic Grip
Tear resistance of flexible plastic
sheeting ASTM 1004

JG 25040 Pneumatic Grip
Tear resistance of flexible
plastic sheeting ASTM 1004

Metallographic Polishing Machine

Model	MoPao 3 single disc	MoPao 3S double discs
Wheel Diameter	Ø250mm/9.8" (standard),Ø300mm/11.8" (optioinal)	
Rotation Speed	50-600r/min VFD,150/300/600/1000r/min Fixed	
Force	5-60N	
Sample No.	6 Pcs	
Sample Diameter	Ø30mm/1.2" (standard), Ø40mm/1.6" (optional)	
Dimension	23.39" × 31.30" × 27.05"	29.92" × 27.80" × 28.23"
Weight	98kg/216lbs	128kg/282lbs
Power	AC 120V/60Hz/Single Phase	





Polishing Details

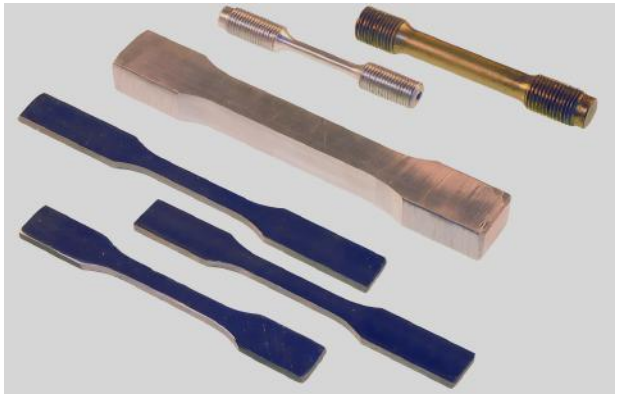
SPECIFICATION

Model	MoPao 4S
Control Panel	Touch Screen
Wheel Diameter	Ø250mm/9.8" (standard),Ø300mm/11.8" (optioinal)
Rotation Speed	50-1000r/min VFD,150/300/600/1000r/min Fixed
Rotation Direction	CW/CCW
Force	5-60N
Sample No.	6 Pcs
Sample Diameter	Ø30mm/1.2" (standard), Ø45mm/1.77" (optional)
Dimension	29.92" × 27.80" × 28.23"
Weight	128kg/282lbs
Power	AC 120V/60Hz/Single Phase

Mechanical test specimens are used to evaluate the physical characteristics of materials. Assessing the strength, ductility, and hardness of an alloy gives the engineer valuable information in determining the best materials for use in industrial applications. Specimens in a wide variety of sizes and materials are available.
These tests help predict how materials will behave under different types of stress and loading conditions. Standardized specimen shapes ensure consistency and comparability of results. The data gathered is critical for quality control, research, and product development.

Impact Specimen

Tensile Specimen



Compression Specimen and Fatigue Specimen

Hardness Tester

Model	HR-150A
Hardness Range	20-95HRA, 10-100HRBW, 10-70HRC
Priliminary Test Force	98N (10kgf)
Test Force	588.4N, 980.7N,1471N (60,100,150kgf)
Load Control	Manual
Max. Workpiece Height	170mm/6.69"
Max. Testing width	135mm/5.31"
Resolution	0.5HR
Dimension	18.3"x9.4"x24.8"
Weight	65kg/143lbs

HR-150A

Digital Dial for Option

Manual Rockwell Hardness Tester

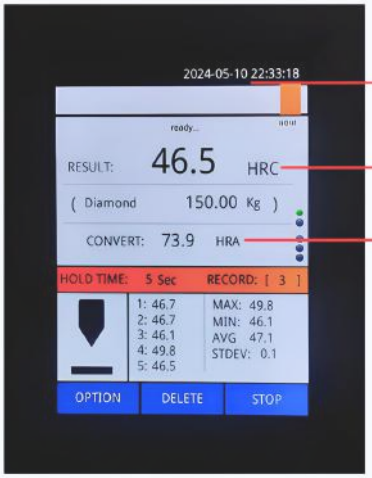
210-HR150

Model	210-HR150
Hardness Range	20-95HRA, 10-100HRBW, 10-70HRC
Priliminary Test Force	98N (10kgf)
Test Force	588.4N, 980.7N,1471N (60,100,150kgf)
Load Control	Manual
Max. Workpiece Height	100mm/3.93"
Max. Testing width	105mm/3"
Resolution	0.5HR
Dimension	18.3"x9.4"24.8"
Weight	50kg/110lbs

STANDARD ACCESSORY

5.91" Flat Anvil | 2.28" Flat Anvil | V-type Anvil | Hardness Test Block | Indenters

Rockwell Hardness Tester



Time

Conversion

Testing Value

HRS-150

HRS-150B

Digital Rockwell Hardness Tester

SPECIFICATION

Model	HRS-150	HRS-150B
Hardness Range	20-95HRA, 10-100HRBW, 10-70HRC	
Hardness Scale	HRA, HRBW, HRC, HRD, HREW, HRFW, HRGW, HRHW, HRKW, HRL, HRM, HRP, HRR, HRS, HRV	
Test Force	588.4N, 980.7N,1471N (60,100,150kgf)	
Max. Workpiece Height	150mm/5.9"	460mm/18.1"
Max. Testing width	135mm/5.31"	165mm/6.76"
Resolution	0.1HR	
Dimension	19.7"x9.8"x27.6"	21.3"x10.4"x40"
Weight	65kg/143lbs	144kg/317.5lbs

STANDARD ACCESSORY

5.91" Flat Anvil

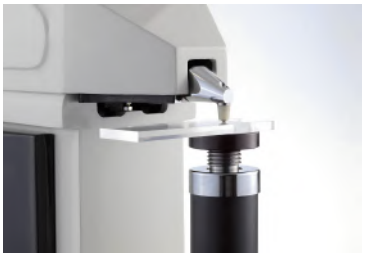
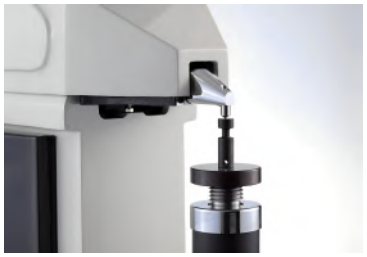
2.28" Flat Anvil

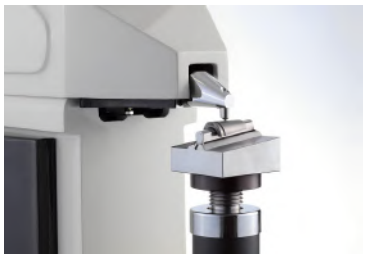
V-type Anvil

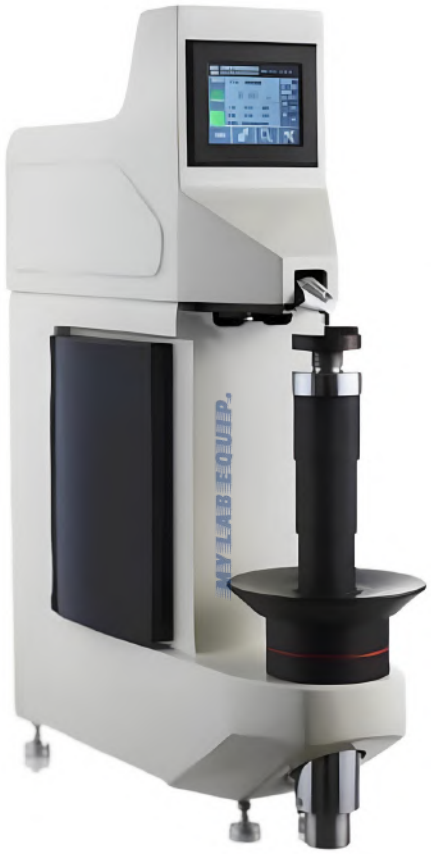
Hardness Test Block

Indenters







HRSS-150

Rockwell Hardness Tester /Superficial/ Twin

SPECIFICATION

Model	HRSS-150	HRSS-160	HRSS-170
Hardness Range	20-95HRA, 10-100HRBW, 10-70HRC	70-94HRI5N, 42-86HR30N, 20-77HR45N, 67-93HR15TW, 29-82HR30TW, 10-72HR45TW	20-95HRA, 10-100HRBW, 10-70HRC 70-94HRI5N, 42-86HR30N, 20-77HR45N, 67-93HR15TW, 29-82HR30TW, 10-72HR45TW
Priliminary Test Force	98N (10kgf)	29.42N(3kgf)	98N (10kgf) 29.42N(3kgf)
Test Force	588.4N, 980.7N,1471N (60,100,150kgf)	147.1N, 294.2N, 441.3N (15,30, 45kgf)	588.4N, 980.7N,1471N (60,100,150kgf) 147.1N, 294.2N, 441.3N (15,30, 45kgf)
Workpiece	Flat surfaces, cylindrical surfaces with a minimum outer diameter of 0.12 in (3 mm), and inner ring surfaces with a minimum inner diameter of 0.91 in (23 mm).		
Resolution	0.1HR	0.01HR	0.01HR
Dimension	715x230x870mm/28.2"x9"x34.2"		
Weight	100kg/220lbs	90kg/198lbs	120kg/265lbs

Model	HB-3000E
Brinell Test Range	8-650 HBWs
Brinell Scale	HBW2.5/187.5, HBW5/250, HBW5/750, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000
Test Force	1838.8、2451.8N, 4903.5N, 7355.3N, 9807N, 14710.5N, 29421N (187.5, 250, 500, 750, 1000, 500, 3000kgf)
Max. Workpiece Height	230mm/9"
Max. Testing width	120mm/4.7"
Dimension	700x268x842mm/27.6"x10.6"x33.1"
Weight	210kg/463lbs
Power	AC 110V, 50/60Hz, Single Phase

HB-3000E

Economical Brinell Hardness Tester

Motorized Brinell Hardness Tester

HB-3000M

Measure indentation diameter by measuring microscope, then input the diameters manually, the hardness value is shown on screen automatically.

Model	HB-3000M
Brinell Test Range	4-650 HBWs
Brinell Scale	HBW2.5/62.5, HBW2.5/187.5, HBW5/62.5, HBW5/125, HBW5/250, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000
Test Force	612.9N, 980.7N, 1225.9N, 1838.8、2451.8N, 4903.5N, 7355.3N, 9807N, 14710.5N, 29421N (62.5, 100, 125, 187.5, 250, 500, 750, 1000, 500, 3000kgf)
Max. Workpiece Height	280mm/11"
Max. Testing width	150mm/5.9"
Dimension	570x330x910mm/22.4"x13"x35.8"
Weight	160kg/353lbs
Power	AC 120V, 50/60Hz, Single Phase

Digital Brinell Hardness Tester

320HBS-3000

HBS-3000

FEATURES

- Automatic load/dwell/unload
- Manual Z axis stage elevation
- Electric loading test force, without weights
- Measure the indentation with microscope, automatically calculate the hardness value and display it on the screen
- Built-in printer for printing test result
- Model 320HBS-3000 equipped with manual or automatic turret rotation
- Standard: ISO 6506-2 and ASTM E10

SPECIFICATION

Model	HBS-3000/320HBS-3000
Brinell Test Range	4-650 HBWs
Brinell Scale	HBW2.5/62.5, HBW2.5/187.5, HBW5/62.5, HBW5/125, HBW5/250, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000
Test Force	612.9N, 980.7N, 1225.9N, 1838.8、2451.8N, 4903.5N, 7355.3N, 9807N, 14710.5N, 29421N (62.5, 100, 125, 187.5, 250, 500, 750, 1000, 500, 3000kgf)
Max. Workpiece Height	280mm/11”
Max. Testing width	150mm/5.9”
Load Dwell Time	1-99s
Dimension	570x330x910mm/22.4”x13”x35.8”
Weight	160kg/353”
Power	AC 120V, 50/60Hz, Single Phase

STANDARD ACCESSORY

4.37” Flat Anvil

3.07” Flat Anvil

V-type Anvil

Hardness Test Block

Φ2.5/5/10mm (0.0984”/0.197”/0.394”) Carbide Ball Indenter

20X Measuring Microscope

Micro- Vicker Hardness Tester

HVS-1000Z

HV-1000Z

SPECIFICATION

Model	HVS-1000Z/HV-1000Z
Test Range	1-3065HV
Test Force	0.09807N,0.2452N, 0.4904N, 0.9807N, 1.961N, 2.942N, 4.903N, 9.807N (10, 25, 50, 100,200，300，500，1000 gf)
Hardness Scale	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
Max. Workpiece Height	75mm/2.95”
Max. Testing width	110mm/4.3”
Resolution	0.0625μm for HVS-1000Z 0.25μm for HV-1000Z
Dimension	18.5”x12.6”x19.7”
Weight	40kg/88.2lbs
Power	AC 120V, 50/60Hz, Single Phase

FEATURES

- Automatic Turret & Frictionless Spindle – Ensures high precision and smooth operation
- Advanced Measurement System – Optical system, coordinate test anvil, ARM processor, and 5.6″ LCD touchscreen for HVS-1000Z and 4.3” for HV-1000Z
- Real-Time Dynamic Display – Shows test status, force, indentation length, hold time and count in real time
- Automated & Error-Free Testing – Full process automation with surface correction (concave/convex)
- Data Management – Database storage, export via USB/RS232, and built-in micro printer
- Optional Knoop & CCD System – Supports Knoop testing and image-based auto measurement/reporting
- Standards Compliance ISO 6507-2, ASTM E384
- HVS-1000Z can be equipped with an image measuring system that enables full PC control, automatic image capture, and hardness measurement.It generates hardness-depth curves, calculates hardened layer depth, and exports reports with images and data.

STANDARD ACCESSORY


Cylinder Holder


Vice


V-Block


Slice Holder


XY Platform


Hardness Test Block


Indenters

Automatic Micro-Vicker Hardness Tester

FEATURES

- Full System Linkage – Real-time control via RS232: brightness, turret, lens, load, and direct reading
- Automated Testing – Auto loading, focusing, measuring, and switching objectives/indenters
- Smart Platform Control – Auto movement, path planning (linear, curve, edge), and drag-to-move via mouse
- Auto Focus & Lifting – Motorized lead screw, no manual adjustment needed
- Flexible Measurement Modes – Automatic, diagonal, or four-point manual measurement
- Real-Time Image Processing – Live display, zoom, storage, printing, and image export
- Hardness Conversion – Real-time Brinell, Rockwell, Vickers, Knoop conversion per standards
- Data Output & Reporting – Auto-generated WORD/Excel reports, stats, curves (depth & hardness)

SPECIFICATION

Model	FHV-300		
Test Force	0.09807N,0.2452N, 0.4904N, 0.9807N, 1.961N, 2.942N, 4.903N, 9.807N (10, 25, 50, 100,200，300，500，1000 gf)		
Hardness Scale	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1		
Max. Workpiece Height	75mm/2.95"	**Dimension**	18.5"x12.6"x19.7"
Max. Testing width	110mm/4.3"	**Weight**	40kg/88.2lbs
Resolution	0.0625μm	**Power**	AC 120V, 50/60Hz, Single Phase

STANDARD ACCESSORY

- Automatic Coordinate Test Platform: 1 PC
- Bench Control Box: 1 Set
- Measurement Software And Dongle: 1 Set
- Digital Camera And Dedicated Interface: 1 Set
- Special Data Connection Cable: 1 Set
- Brand Computer: 1 Set
- Thin-Shaft Test Anvil: 1 PC
- Thin Plate Test Anvil: 1 PC
- Flat Jaw Vice: 1 PC
- Large V-Shaped Block: 1 PC
- Small Y-Shaped Block: 1 PC
- Diamond Pyramid Indenter: 1 PC
- Standard Microhardness Block: 2 PCS
- Mini Printer: 1 PC

X-Y AUTOMATIC COORDINATE TEST PLATFORM

- Table Size: 120 × 130 mm (4.72 × 5.12 in)
- X-Axis Travel: 50 mm (1.97 in)
- Y-Axis Travel: 50 mm (1.97 in)
- Minimum Step Length: ≤ 2.5 μm (0.000098 in)
- Repeatability: < 2 μm (0.000079 in)
- Moving Speed: Five Adjustable Speeds
- Power Supply: AC220V, 50/60Hz
- Communication Interface: RS232 Serial Port
- Weight: About 4 Kg (8.82 lbs)

BRINELL/ROCKWELL/VICKERS HARDNESS TESTER

HBRVD-187.5

HBRV-187.5

APPLICATION

--Brinell:

- Suitable for ferrous and non-ferrous metals
- Ideal for bearing alloys (lead-based, Babbitt, tin-bismuth)
- Can test hard plastics and bakelite
- Used for cast, forged, and rolled parts

--Rockwell:

- Ideal for hard alloys and heat-treated ferrous and non-ferrous metals
- Also used for plastics and bakelite

--Vickers:

- Tests metals, coatings, and laminated materials
- Suitable for hard materials like carbide, glass, ceramics, agate, and gemstones
- Measures depth and gradient of hardened layers (carburized, nitrided)
- Ideal for thin sheets and small components

SPECIFICATION

Model	HBRV-187.5	HBRVD-187.5
Test Range	4-650 HBW, 5-3000HV, 20-95HRA, 10-100HRBW, 10-70HRC	
Rockwell Test Load	588.4N, 980.7N,1471N (60,100,150kgf)	
Brinell Test Load	612.9N, 1839N (62.5, 187.5 kgf)	294.2N, 306.5N, 612.9N, 980.7N, 1838.8N (30, 31.25,62.5, 100, 187.5kgf)
Vicker Test Load	294N (30kgf)	294.2N, 980.7N (30, 100kgf)
Load Control	Manual	Motorized
Max. Workpiece Height	200mm/7.87"	210mm/8.3" for Rockwell and 140mm/5.5" for Brinell and Vicker
Max. Testing width	160mm/6.3"	165mm/6.5"
Dimension	18.9"x9.8"x30"	20.6"x10.4"x28.7"
Weight	95kg/209lbs	100kg/220lbs
Power	AC 120V, 50/60Hz, Single Phase	

STANDARD ACCESSORY

V-type Anvil Hardness Test Block 20X Measuring Microscope

Model	PHB-3000H
Brinell Measuring Range	32-650HBW
Test Force	3000kgf (1000, 750, 500kgf optional)
Indenter	Ø10mm Carbide Ball (Ø5mm optional)
Test Size (HXD)	350x100mm/13.8"x3.93"
Load	a manual hydraulic applied load
Dimension	16.5"x28.3"x17.7"
Weight	13.8kg/30.4lbs

PHB-3000H

Hydraulic Portable Brinell Hardness Tester

Hydraulic Brinell Hardness Tester Chain-Mount

PHB-3000HA

Model	PHB-3000HA
Brinell Measuring Range	32-650HBW
Test Force	3000kgf (1000, 750, 500kgf optional)
Indenter	Ø 10mm Carbide Ball (Ø5 mm optional)
Test Pipe Diameter	150-550mm/5.9"X21.7"
Application	Steel pipe, bearings, gas cylinders
Dimension	16.5"x28.3"x17.7"
Weight	14.5kg/32lbs

STANDARD ASSEMBLY

- Main Unit and Load Handle
- Chain measuring Frame
- 1300mm/51.2" chain
- Brinell Hardness Block
- 20X Reading Microscope
- Ø 10mm Carbide Ball

Brinell Indentation Measuring System

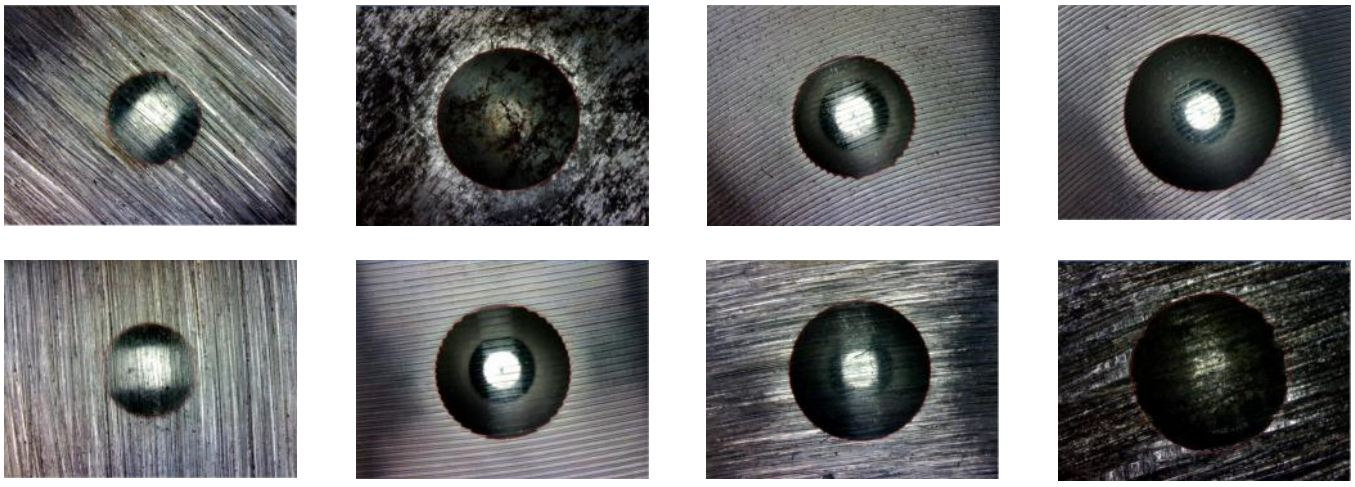
MS-2a/2c

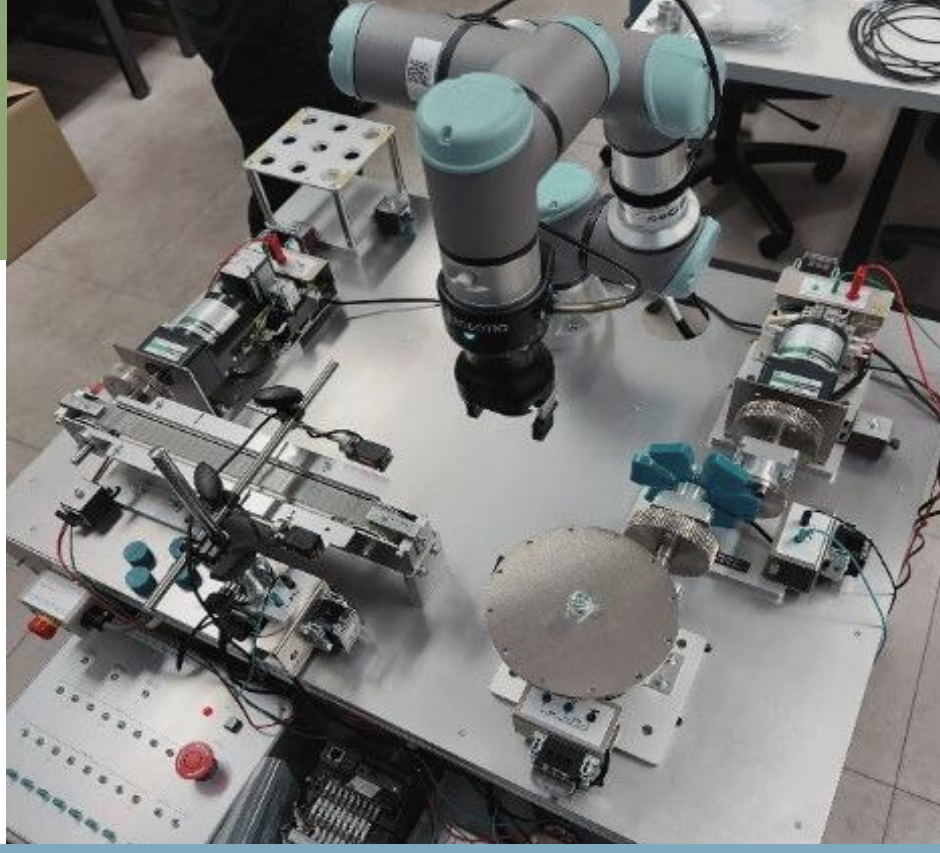
MS-3a

SPECIFICATION

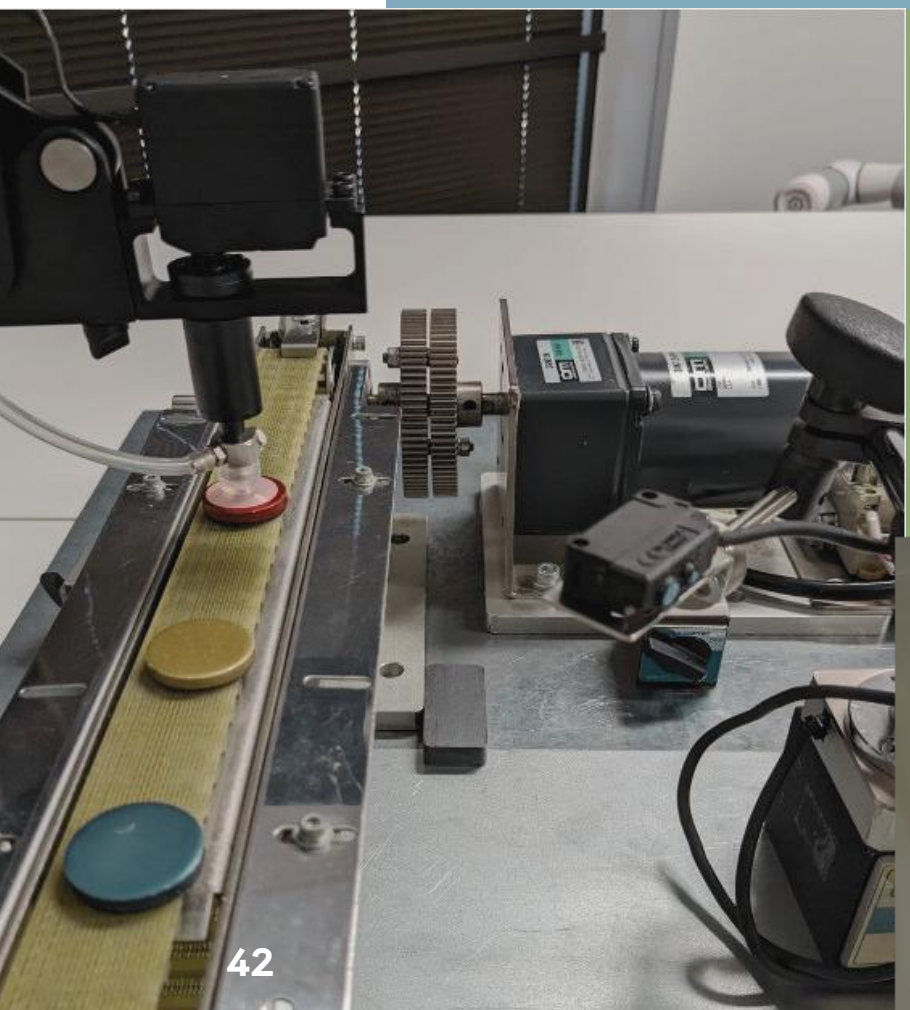
Model	MS-2a	MS-2c	MS-3a
Hardness Range	16~650 HBW	16~650 HBW	
Resolution	1 μm	1 μm	
Indenter	2.4-6mm (10mm/0.394" ball indenter) 1.2-3mm (5 mm/0.197" ball indenter) 0.6-1.5mm (2.5/0.098"mm ball indenter)	0.6-1.5mm (2.5/0.098"mm ball indenter)	2.4-6mm (10mm/0.394" ball indenter) 1.2-3mm (5 mm/0.197" ball indenter) 0.6-1.5mm (2.5/0.098"mm ball indenter)
Accuracy	±0.4%(10mm/0.394" ball indenter) ±0.8%(5mm/0.197" ball indenter) ±1.2%(2.5mm/0.098 ball indenter)	±1.2%(2.5mm ball indenter)	±0.4%(10mm ball indenter) ±0.8%(5mm ball indenter) ±1.2%(2.5mm ball indenter)
Dimension	370x420x300mm with tablet/4.57"× 16.54"× 11.81"		
Weight	385g/0.846lbs	385g/0.846lbs	375g/0.827lbs Wireless

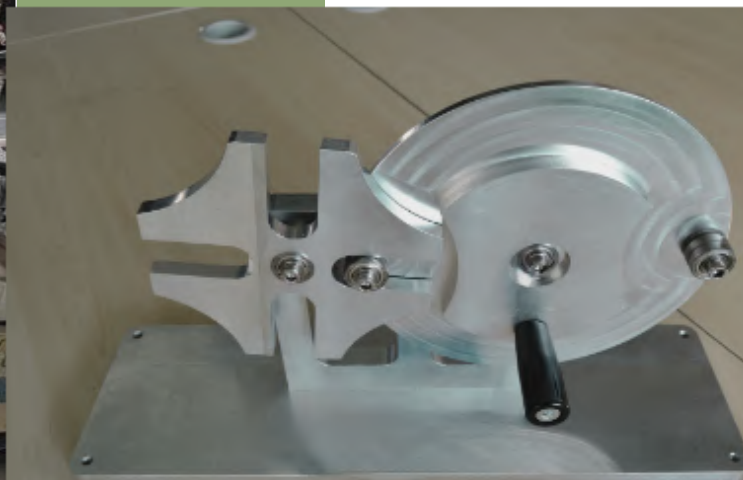
SAMPLE SURFACE





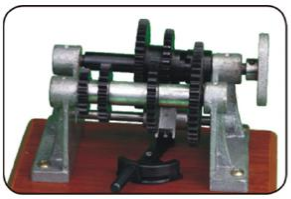
Mechanisms & Machatronics





Basic Mechanims 50 sets

MY LAB EQUIPMENT provides a selection of 50 essential mechanisms, such as the Geneva stop, slider-crank, quickreturn, and more. These mechanisms are crucial components in mechanical systems, as they facilitate the desiredtransfer of motion and offer specific functionalities. By showcasing the ingenuity and adaptability of mechanicalengineering, these mechanisms serve as fundamental building blocks for motion control in various applicationsStudents can harness these mechanisms to develop innovative solutions and gain a deeper understanding ofmotion control principles.



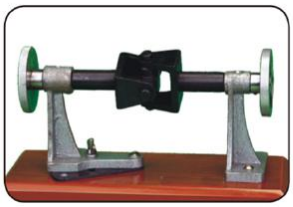
(1)Three-speed gear

(2) Reverse-epicyclic gear train

(3) Differential gears

(4) Crank rocke

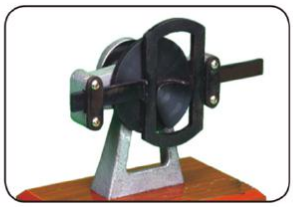
(5)Osicillating-guide bar quick return



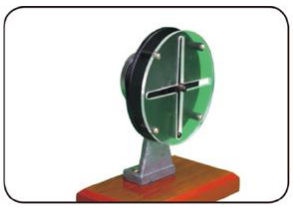
(6) Crossed shaft universal coupling

(7) Reducer

(8) Involute gear

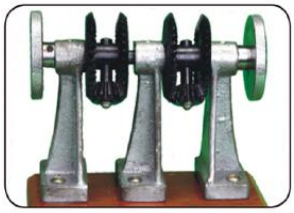


(9) Constant (with cam)



(10) Double-slider ellipsograph

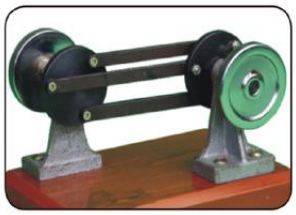
(11) Straight-tooth bevel gear



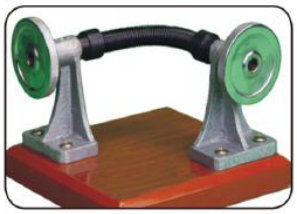
(12) Motion synthesis

(13) Pole-climbing robot

(14) Super position



(15) Tri-parallel bar transmission



(16) Fixable shaft transmission

(17) Eccentric reciprocating motion

(18) Quick return

(19) Double-punch pin

(20) Linear-channel grooved wheel

(21) 90° staggered screw gear

(22) Fan-shaped gear

(23) Safety clutch

(24) Friction wheel

(25) Swinging Slide

Basic Mechanims 50 sets

MY LAB EQUIPMENT provides a selection of 50 essential mechanisms, such as the Geneva stop, slider-crank, quickreturn, and more. These mechanisms are crucial components in mechanical systems, as they facilitate the desiredtransfer of motion and offer specific functionalities. By showcasing the ingenuity and adaptability of mechanicalengineering, these mechanisms serve as fundamental building blocks for motion control in various applicationsStudents can harness these mechanisms to develop innovative solutions and gain a deeper understanding ofmotion control principles.

(26) Planetary

(27)Worm Gear

(28) Fan-shaped gear

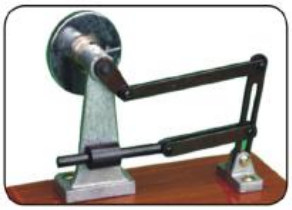
(29) Disc cam and roller

(30) Geneva Stop

(31) Double crank

(32) Elliptical gear crank slide

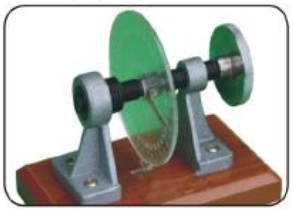
(33) Internal gear transmission



(34) Linear motion

(35) Feedback

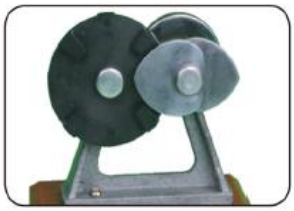
(36)Sarrut



(37) Differential screw

(38) Slideway cardo

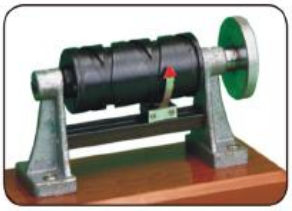
(39) 45 screw gear



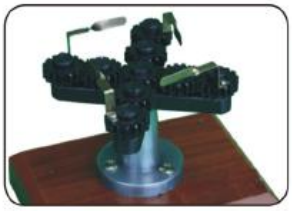
(40) Disc cam intermittent

(41) Helical cylinder gear

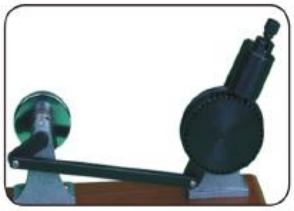
(42)Inner gear intermittent



(43) Cam reciprocating motion

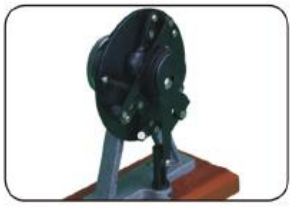


(44) Planetary II



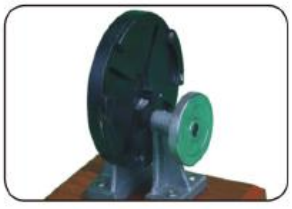
(45) Ratcheting geared linkage

(46) Geared linkage



(47) Eccentric speed governor

(48) Constant width cam



(49)Inner grooved wheel

(50) Sine

Mechatronics Training System MM-3000V

Main Units

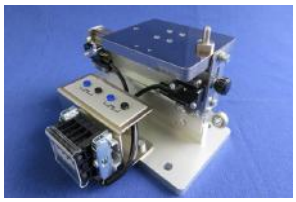

Pneumatic Cylinder


Speed Control Induction Motor

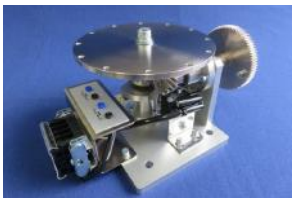

Reversible Motor


Rotary Pneumatic Actuator


Feed Screw


Slide Table

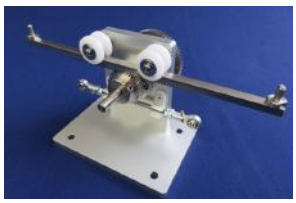

Belt Conveyor


Rotary Table


Pneumatic Z-Axis Robot Arm


2-Way Photo Electric Sensor

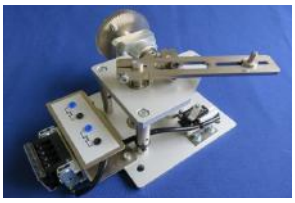
Practical Mechanisms

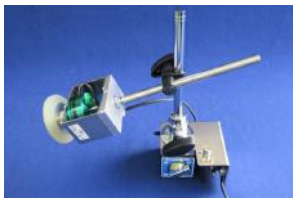

Rack & Pinion

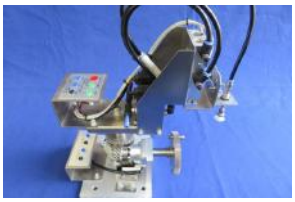

Spur Gear


Plate Cam

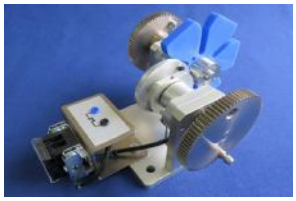

Crank Arm

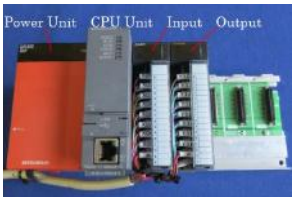

Lever Slider


Potentiometer


Rotary Robot Arm with Z-axis

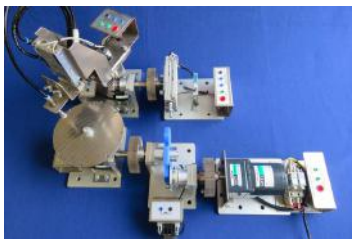

Toggle

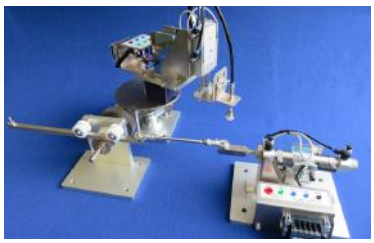

Double Pin Geneva

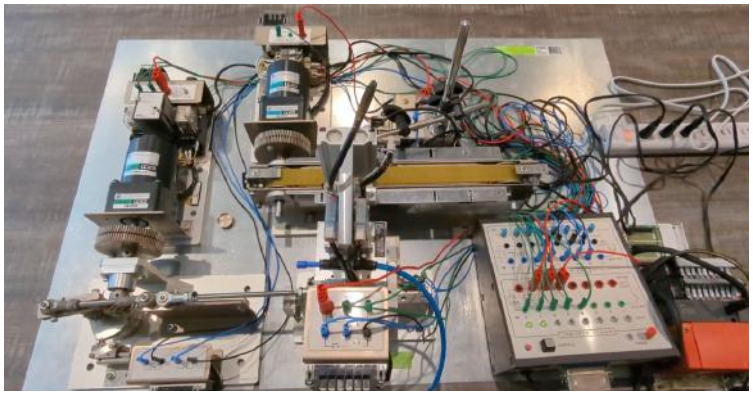


PLC Box

Features



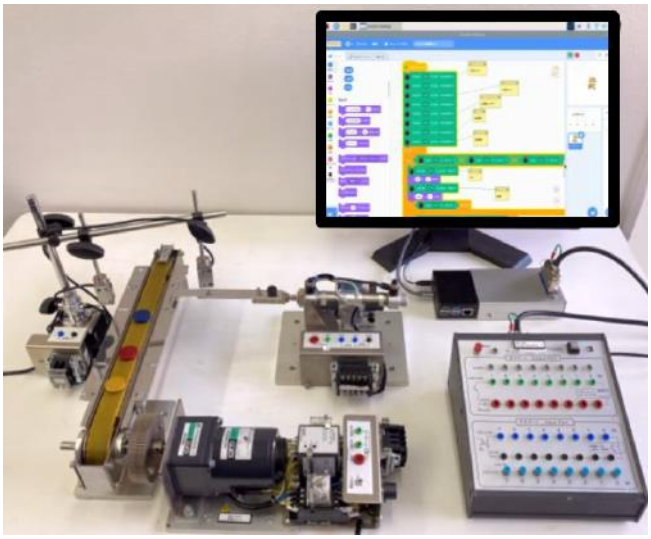




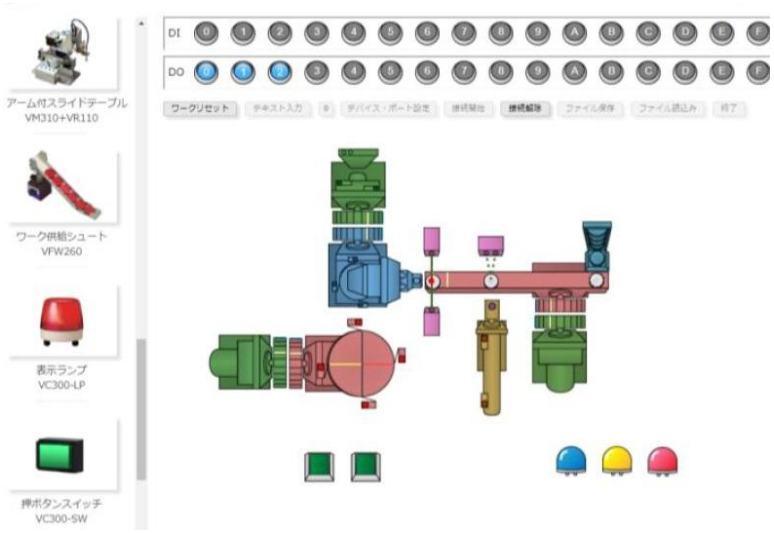
The MM-3O00v series is an innovative mechatronics training system that slmplifies machinscomponents into llghtwelght, compact modules for ease of handling and flexible combinationsEach component, from mechanisms and actuators to sensors, controllers, tools, and robots, ismodularized to allow versatile experimentatlon and trainingin mechatronics.

- , Each component is designed to fit comfortably in one hand, minimizing space requirements.The small and modular design of the components enables effortless portability and theconstruction of more than 300 distinct systems.
- . Users can assemble an FA line system on a tabletop without the need for tools. The systemsupports comprehensive learning in mechatronics, from foundational principles in machines andcontrol to practical applications.

Raspberry Pi Training Device MM-VC404 RBPI



Practical Mechanisms



Main Units

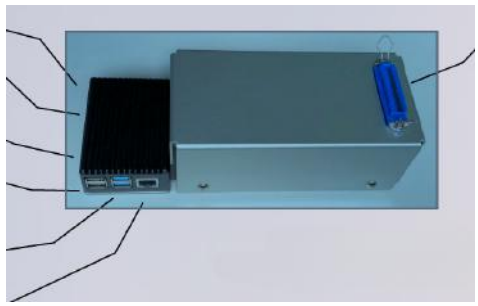
Features

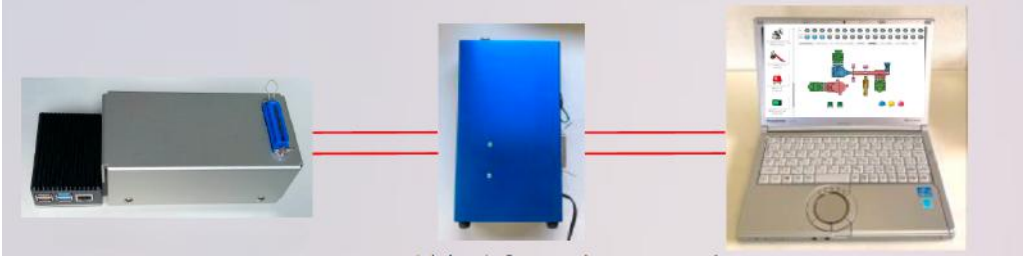
- The MM3000 module connects to the Raspberry Pi via a terminal I/O interface box.
- Module control is supported through the Scratch and Python programming languages.
- The system includes the OpenPLC Editor, enabling instruction and practice in ladder logic programming.
- When a mechatronics simulator is connected to the Raspberry Pi training system, conveyor belts and cylinders on the simulator screen can be controlled through Scratch or ladder logic programs.
- Programming can begin immediately by connecting a monitor, keyboard, and mouse directly to the Raspberry Pi training device. Remote access is also supported via wired LAN or wireless LAN (WiFi).

Standand Configuration

- Raspberry Pi Training Device
- VC 300 Terminal I/O Box
- VC 190 Connection Cable
- VA310 Variable Speed AC Motor
- VM320 Belt Conveyor
- VS310 Photoelectric Sensor Unit
- VA110 Linear Solenoid Actuator

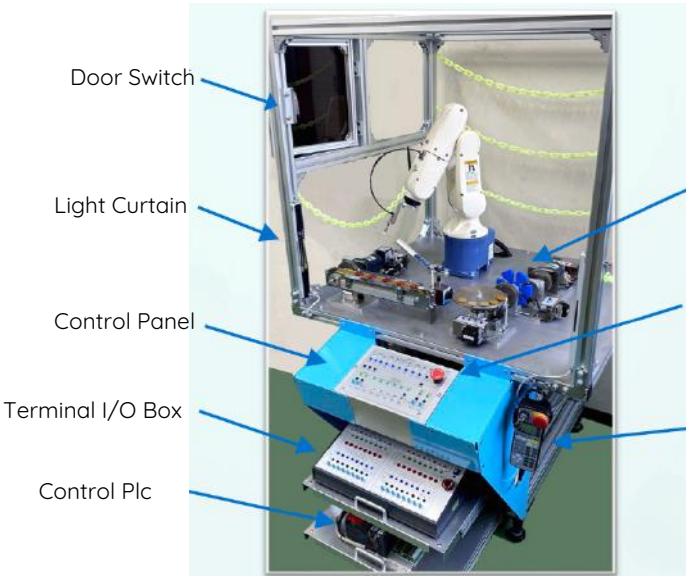
Training Device

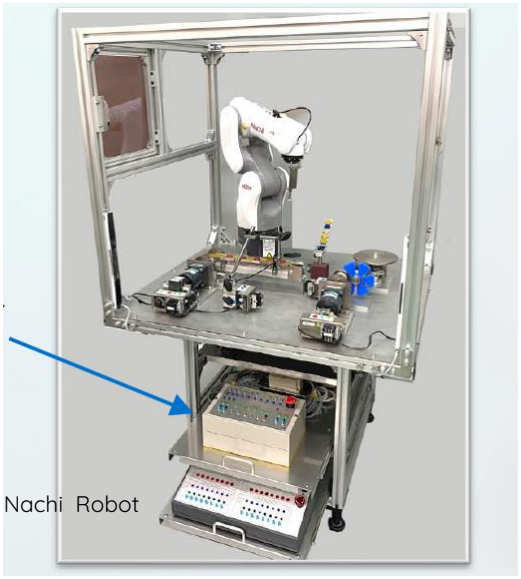




Training Device Interface Box PC for Programming and Monitor Use

6-axis Articulated Robot: MM3000-RVR1000

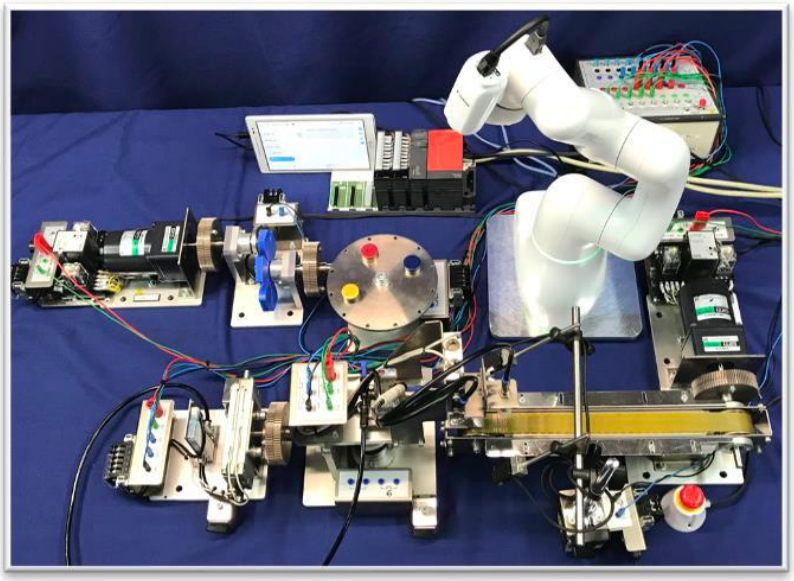




The MM3000-RVR 1000 is a versatile training system that integrates a 6-axis robot with a practical training platform, a robot control panel, and a dedicated PLC for seamless operation. It allows upgrading the main robot unit to a collaborative robot. For efficient control, it includes a standard terminal I/O box and PLC conveniently housed on a retractable table beneath the apparatus, facilitating easy storage after wiring.

By arranging Mechatronics module units from the MM3000V series on the base, users can achieve synchronized control with the robot using either the robot's or PLC's I/O interfaces. The robot's mounting position can be adjusted as per layout requirements, while the overall dimensions of the system can be tailored to specific needs. For reference, its dimensions are approximately 1000 x 900 x 649 mm/ 39.37 x 35.43 x 25.55 inches. Robot options available include models from Denso (RVR1000), Mitsubishi (RVR1200), Nachi RVR1300, and Fanuc (RVR1400 offering flexibility to meet diverse educational and training needs.

Robot Training Device MM3000-RVR2000



Experience advanced robotics training without the need for bulky or complicated installations. The MM3000-RVR2000 delivers a high-quality, compact, and efficient tabletop solution designed for seamless learning and hands-on application.

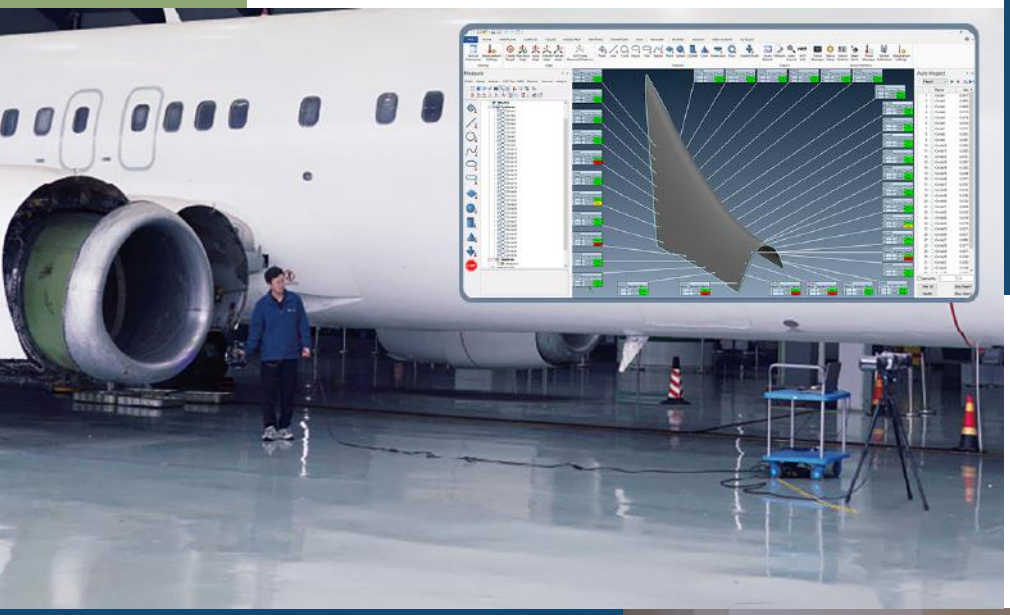
Professional Robot Programming Tools include essential programming cables and powerful software, giving learners and professionals alike a deep, practical understanding of robot programming techniques.

Enhance and tailor your training setup with an extensive selection of compatible components, including:

- Belt conveyor
- Motors and sensors
- Pneumatic cylinder with pusher
- Horizontal rotating pick & place unit
- Rotary air actuator
- Rotary table
- Geneva mechanism
- Programmable PLC controller
- Communication and PLC connection cables
- Terminal I/O box

Manufacturing & Engineering
Aerospace & Automotive
Healthcare & Medical

3D Scanner



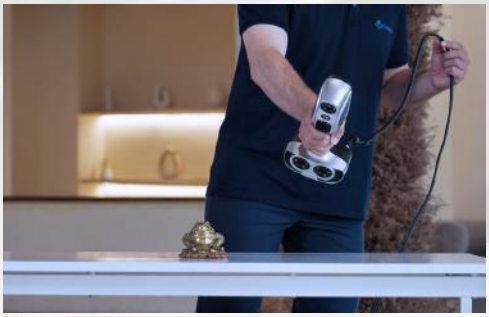
Education & Research
Art & Cultural Heritage
Entertainment & Media
Architecture & Construction

Application

Color 3D Scanner Ireal M3

Appealing Design

Art and Design



Multi-industry Applicatioin

Adaptability to Dark and LIght Colors

Human Body Scanning

Better Material Adaptability

SPECIFICATION

Light Source	Infrared Parallel Laser Lines	Infrared VCSEL Structured Light
Technology	7 Infrared Parallel Laser Line	Infrared Linear-array Structured Light (Speckle)
Hyperfine Scan	7 Blue Parallel Laser Line	
Basic Accuracy	Up to 0.1 mm/0.00394"	
Volumetric Accuracy	Up to 0.25mm/m (0.00025 inch/inch)	
Scanning Rate	Up to 2,600,000/s	Up to 2,200,000/s
Scanning Area	Up to 500x600mm/19.7"x23.6"	
Safety of LED Lighting	EN 62471 Photobiological Safety Certificate	
Laser Class	EN 60825 Class I Certificate (Eye-safe)	
Resolution	up to 0.02mm/0.0008"	
Hole Position Accuracy	0.050 mm/0.002"	
Camera pixels of E-Track	25 megapixels	
Stand-off Distance	300mm/11.8"	
Depth of Field	400mm/15.7"	
Output formats	.stl, .ply, .obj, .igs, wrl, .xyz, .dae, .fbx, .ma, .asc or customized	

3DeVOK MT

Fast and Stable Scanning

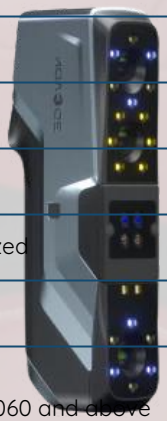
Reverse Engineering

Human Digitization

Artistic Design

SPECIFICATION

Light Source	34 Blue Laser Lines	22 Infrared Laser Lines	Infrared VCSEL Structured Light
Laser Glass	CLASS II (eye-safe)	CLASS I (eye-safe)	
Scan Mode	Crossed Blue Lasers	Crossed Infrared Lasers	Infrared Linear-array Sctructured Light-Speckle
Accuracy	Up to 0.025mm/0.00098"		
Scanning Rate	Up to 3,300,000 Points/s	Up to 2,450,000 Points/s	Up to 4,500,000 Points/s
Scanning Distance	150-1000mm/5.91-39.37"		150-1500mm/5.91-59.1"
Object Size	100 –8000 mm/3.94-315"		
Resolution	up to 0.02mm/0.0008"		
Power Source	DC:12V,5.0A		
Output formats	.stl, .ply, .obj, .igs, wrl, .xyz, .dae, .fbx, .ma, .asc or customized		
Dimension/Weight	215x73x53mm/8.46x2.87x2.09" 620g/1.37lbs		
PC Configuration	OS: Win10/Win 11, 64-bit; CPU: i7-13650HX and Above; RAM: 32GB and above; Graphic Card: NVIDIA discrete, NVIDIA RTX3060 and above		

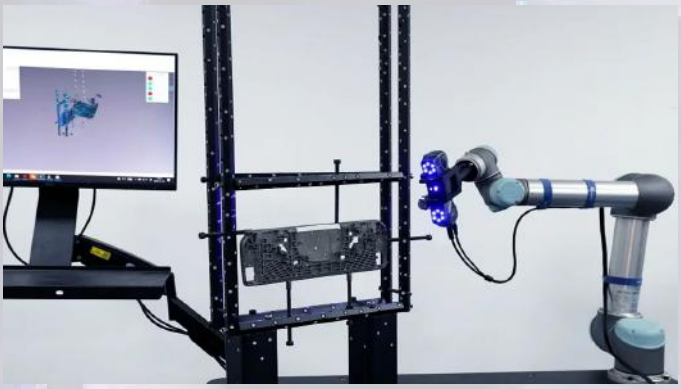


Palm-sized Smart 3D Scanner SIMSCAN

Single-handed Control

Accuracy 0.020 mm

Narrow-space Measuring Booster

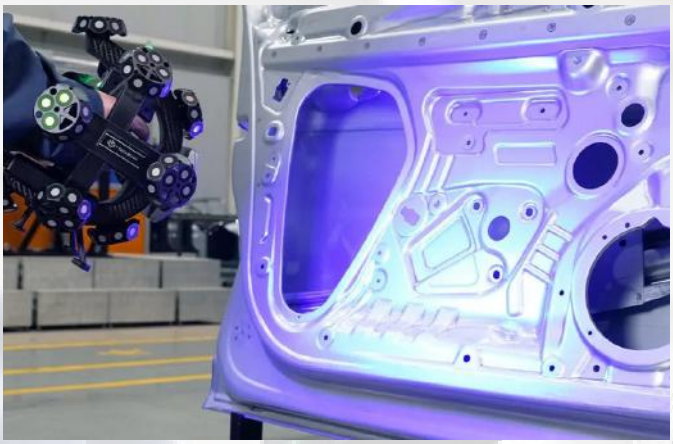


Automated 3D Measurement

SPECIFICATION

Model	SIMSCAN 42	SIMSCAN 30	SIMSCAN 22
Ultra Fast Scan	17 Blue Laser Crosses	11 Blue Laser Crosses	7 Blue Laser Crosses
Hyperfine Scan	7 Blue Parallel Laser Line		
Deep Hole Scan	1 Extra Blue Parallel Laser Line		
Accuracy	Up to 0.02mm/0.00079"		
Scanning Rate	Up to 2,800,000/s	Up to 2,020,000/s	Up to 1,250,000/s
Scanning Area	Up to 700x600mm/27.6"x23.6"	Up to 650x550mm/25.6"x21.7"	
Laser Class	CLASS II (eye-safe)		
Resolution	up to 0.02mm/0.0008"		
Stand-off Distance	300mm/11.8"		
Depth of Field	550mm/21.7"		
Dimension	203mmx80mmx44mm/7.99" × 3.15" × 1.73 "		
Weight	570g/1.26lbs		

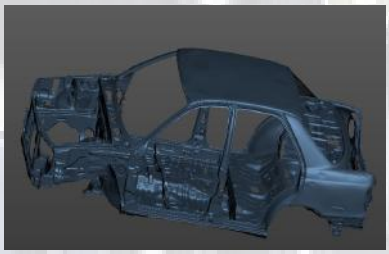
TrackScan- Sharp



Ultra-high Pixels for Intricate Details

M-Track

Adaptability



Edge Computing & Impressive Performance

T-Probe

Large-volume Measurement

SPECIFICATION

Model	TrackScan-P550	TrackScan-P542
Ultra Fast Scan	21 Blue Laser Crosses	17 Blue Laser Crosses
Hyperfine Scan	7 Blue Parallel Laser Line	
Deep Hole Scan	1 Extra Blue Parallel Laser Line	
Accuracy	Up to 0.025mm/0.00098"	
Scanning Rate	Up to 2,600,000/s	Up to 2,200,000/s
Scanning Area	Up to 500x600mm/19.7"x23.6"	
Object Size	100 –8000 mm/3.94-315"	
Laser Class	CLASS II (eye-safe)	
Resolution	up to 0.02mm/0.0008"	
Hole Position Accuracy	0.050 mm/0.002"	
Camera pixels of E-Track	25 megapixels	
Stand-off Distance	300mm/11.8"	
Depth of Field	400mm/15.7"	
Output formats	.stl, .ply, .obj, .igs, wrl, .xyz, .dae, .fbx, .ma, .asc or customized	

OUR CUSTOMER

composites

insight Polymers & Compounding

SUU SOUTHERN UTAH UNIVERSITY

Sam Houston State University

INDIANA WESLEYAN UNIVERSITY

TEXAS A&M UNIVERSITY Engineering

SOUTH DAKOTA MINES
An engineering, science and technology university

SOUTHEASTERN LOUISIANA UNIVERSITY

ILLINOIS COLLEGE
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AXIS FASTENING SYSTEMS

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