



# Dimensional Metrology and Testing Equipments for QC and Metallurgy Lab

- Value
- Versatility
- Performance



THE PRECISION MEASUREMENT PEOPLE



## THE PRECISION MEASUREMENT PEOPLE

Banbros Engineering Pvt. Ltd. is a name which has given new dimensions to the testing and dimensional metrology. We are a leading manufacturer, exporter, supplier, importer and distributor of the widest possible range of Measuring instruments.

Our testing and dimensional metrology testing catalogue include products like Profile Projectors, Tool Maker Microscopes, Stereo Zoom microscopes, measuring software, image analysis system, specimen preparation machines, hardness testers, UTM, salt spray chambers, environmental chambers.

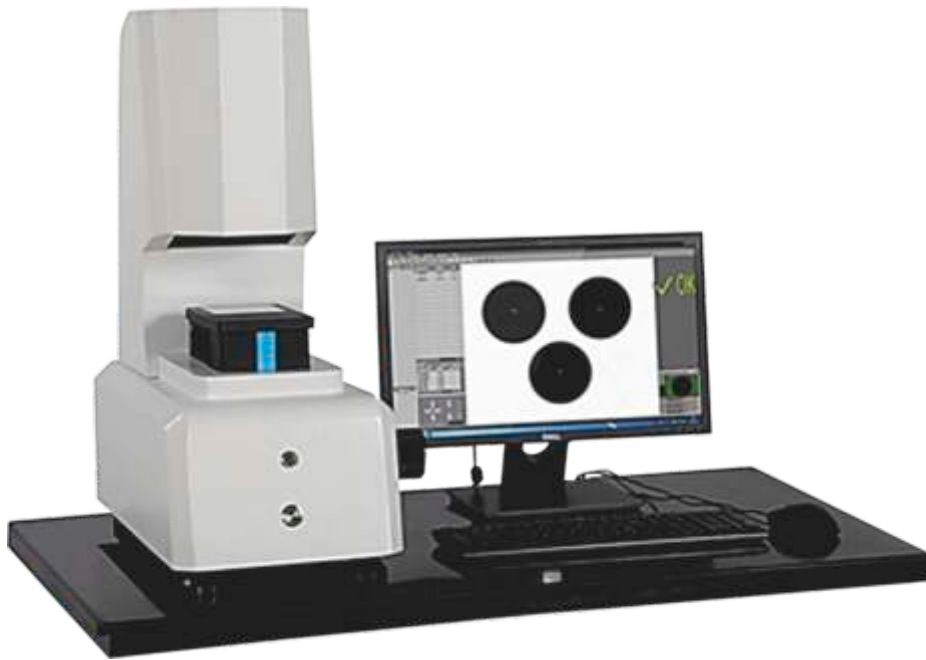
The quality and precision that our equipments offer have made us stand apart from various others. Since our inception in 1996, we have been serving the nation and various countries worldwide with a vast range of quality measuring machines. Today, Banbros Engineering Pvt. Ltd. is a name that defines distinct quality and perfection.

We consistently strive to create future for our enterprise with commitment to first class corporate image, excellent product quality and high objectives dedicated to serving our customer's needs.

## OUR CLIENTS



## ONE TOUCH INSPECTION SYSTEM



Our BiVM Series One Touch Inspection System completely innovative measuring instrument designed around simple Place and Press operation. The BiVM Series allows anyone, regardless of expertise and skill level, to easily, quickly, and accurately perform hundreds of measurements in just seconds.

BiVM series have advantages compare with conventional quality inspection instruments, it performs high precision measurements, automatically record data and generate report with the push of a button.

## VISION MEASUREMENT MACHINE

BANBROS owns a complete series of Vision Measurement Machines from Manual type machine, NC type Automatic measurement machine with practice function, to CNC type fully automatic measurement a machine with off-line programming, high speed and efficiency function in order to meet different customer's requirements.

Our Vision Measurement Software can output results in image file DXF to the popular CAD software, e.g., Auto CAD, Master CAM etc to facility customers to copy the results. Vice versa, image files in DXF may also be loaded into BANBROS Vision Measurement Software to compare measurement results visually.



## VERTICAL VIDEO PROJECTOR

Solid framework, large LCD touch screen and advanced QM2.0 software

High quality optics for crisp and clear images

Adjustable LED surface and contour illumination

High resolution industrial CCD camera

6.5X Detested zoom lens changeable within the range of 30-190x magnification

Extended function of printing, saving and exporting data Excel, word or txt multi-format report output, and DXF input and output

Non-contact optical height measurement



## PROFILE PROJECTORS

We Supply High Quality Vertical, Horizontal and Floor Type Profile projectors. Our Profile Projector are available in different sizes of Work-stage and Different Screen Diameter as per customer requirement.

Work stage sizes : 250X150mm, 300X200mm, 350X250mm, 550X300mm, 650X300mm

Screen Dia : 200mm, 300mm, 400mm upto 1200mm

These Projector are available with in built DRO/Data Processes.

Our Profile Projectors are widely used in measuring tool for small parts, machine shop or production line for the quality control inspection



PB-Series



JBT-Series



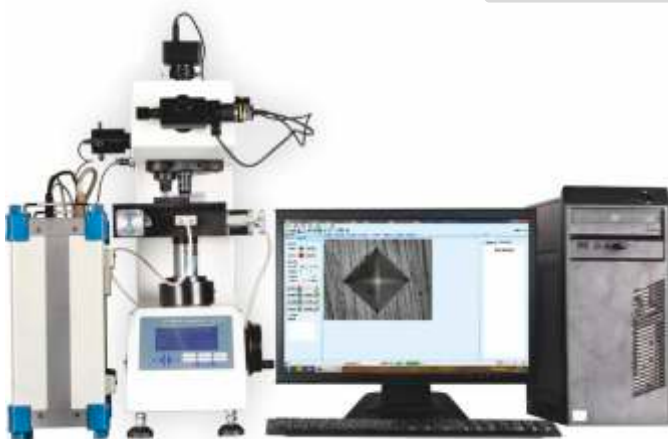
## HARDNESS TESTERS

BANBROS enjoys a respectable name in Market for Supplying a wide range of Portable Hardness Tester, MICRO Hardness Tester, Micro Vickers Hardness Testers, Rockwell Hardness Tester, Rockwell cum Superficial Hardness Tester, Brinell Hardness Tester, universal Hardness Tester.

### Portable Hardness Testers



### Benchtop Hardness Tester



Micro Vickers Hardness Tester



Brinell Hardness Tester



Rockwell Hardness Tester



Rockwell Hardness Tester

## TABLE TOP MAGNIFIERS

Our Illuminated Magnifier is a multipurpose inspection instrument used for varied applications, like for visual inspection of PCBs, sheet, metal components, mechanical parts, plastics and other precision engineering.

The magnifier is fitted with 145mm Dia aberration free 5X lens.

It gives fatigue free stereoscope view equipped with round fluorescent Tube which has a shadow-less illumination, works on 220V mains.

It can be clamped on table top, which allows



CTM-200



CTM-150

## WIDE FIELD MICROSCOPE

- It Produces sharp and stereoscopic images.
- Easy and comfortable operation.
- Widely applied in the field of biological dissection, electronics, minerals, restoration culture relic etc.
- Providing with various objectives of 2x, 4x, 6x, 8x, 10x and 15x magnification.
- The objectives can be convince changed; owning humanistic operating system.
- 3 objectives can be installed.
- No visual weariness for long time viewing, largely improve working efficiency.
- Equips with super-long working distance, super-large viewing field and depth of focus.



iScope-BW01

iScope-BW02

## STEREO & STEREO ZOOM MICROSCOPE

BANBROS Offers a wide range of Stereo & Stereo Zoom Microscope. The stereo microscope is often used to study the surfaces of solid specimens or to carry out close work such as, microsurgery, watch-making, circuit board manufacture or inspection, and fracture surfaces as in fractography and forensic engineering. They are thus widely used in manufacturing industry for manufacture,



## METALLURGICAL MICROSCOPE

We offer wide range of Inverted and Upright Metallurgical Microscopes, These Metallurgical Microscopes are used for metallurgical inspection, including metals, ceramics, and other materials.



**BMU-110BD**



**BMI-110**

### Key Features

- Magnifications 100X to 2000X
- Reflected illumination
- Bright Field/ Dark Field/ Polarizing/DIN Features
- Software Perform Typical application like Grain size analysis, phase analysis, modularity analysis, flake analysis, particle count and size classification, linear measurement, aluminium Module , data base maintenance reports etc.

## WELDING PENETRATION SYSTEM

Welding Penetration System is used to ensure the satisfactory performance of a welded structure, the quality of the welds must be determined by adequate testing procedures.

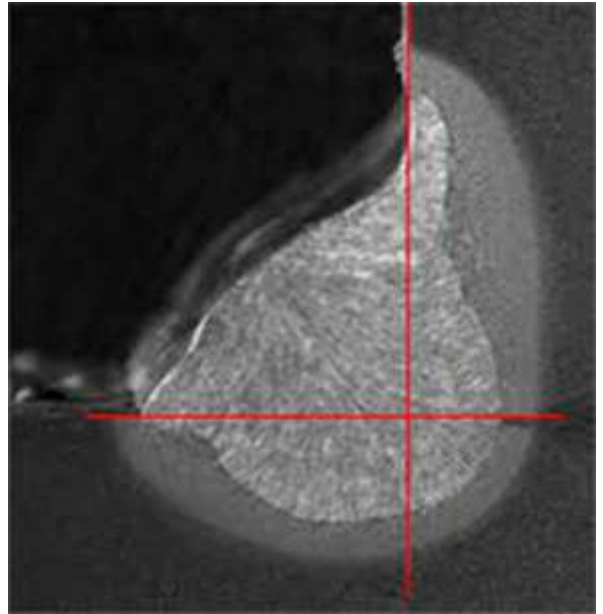
Therefore, they are proof tested under conditions that are the same or more severe than those encountered by the welded structures in the field.

These tests reveal weak or defective sections that can be corrected before the material is released for use in the field.

The tests also determine the proper welding design for ordnance equipment and forestall injury and inconvenience to personnel.

BANBROS offers the most advance system of weld penetration inspection with specially design high resolution microscope and USB digital microscopic camera to view and instantly capture a photograph and measure exact weld penetration depth in all type of weld sample with the help of user friendly software.

The system can be used to measure all dimensional measurement (2D) like length distance radius diameter etc.





### Precise Specimen Cutting Machines

Our Precise specimen Cutting Machines can be used to cut material, electronic element, electronic element, crystals, hard alloy, rock sample, core sample, concrete, organic materials, biological materials (teeth, bones) etc.

It is an ideal precise cutting machine which can be used in industrial and mining enterprises, scientific research institutes to prepare high quality samples.



**BTQ-5000B**



**BETACUT 80/100**



**BGE 100S**

### Heavy Duty Abrasive Cut Off Machine

Our Heavy-Duty Abrasive cut off Machines are rugged, sturdy and designed to cut metallurgical samples to optimal quality consistently and safely.

This machine is manufactured from high quality components under the guidance of experienced professionals in adherence with the international standards. Widely treasured for features like robust construction, high performance, simple operation, durable finish standards and longer service life.

We also offer these Machines in different technical specifications as per the customers' requirements.

- Cutting capacity up to 0 100mm
- Spindle speed 1440rpm
- Cut-off wheel Dia 12"
- 3HP, 3 phase motors
- Self-centringVice with T slot bed
- Cooling by high flow water jets
- Re-circulation coolant tank with 501tr.
- Fluorescent light in the working area



## METALLOGRAPHIC POLISHING MACHINES

Our Automatic Metallographic specimen grinding and polishing machine is equippe with or without automatic polishing head and features stepless speed changing and three-level constant speed for grinding and polishing. The working time can be preset and the rotating direction can be controlled. It can finish the whole process of rough grinding, fine grinding, rough polishing and finishing polishing for specimen preparing. It is the necessary metallographic specimen preparing instrument for using in factories, scientific research institutes and laboratories of colleges.



**BETAPOL-2250X**



**BETAPOL-2200S**



**BETAPOL-2200X**



**BP-1 / BP-1D / BP-1(VD)**



**BP-2 / BP-2T(D) / BP-2T(VD)**

## GRINDING & POLISHING DISPENSER

Our Manual/automatic dispenser adopts advanced micro controller, it features compact structure, reliable performance, and strong anti-interference ability, etc. It can be used to work with various grinding and polishing machines. It can achieve the polishing purpose by dripping the polishing liquid onto the grinding disc and specimen holding disc.

### Technical Specification

- Dispensing speed range:
- Minimum Flow 6 – 280 drops / min maximum Flow: 18 ml / min
- Dispensing speed grade : 10 levels, adjustable
- Installing and fixing way : Desktop



**BFY-5**

## HOT MOUNTING PRESS

Our Mounting produces specimens with uniform size so that it is easier to handle in automatic holders for further preparation steps. In hot mounting, the specimen is mounted under heat and pressure with a hot mounting press.

Our Metallographic specimen mounting press is suitable for the thermo-hardening plastic pressing of the small metallographic specimen which is not idiomorphic or hard to take. After forming, it will be very easy to process the grinding, polishing of the specimen and it is also convenient to process measuring of metallographic structure under metallographic microscope.



**BETAMON-1**



**BQ2B-22/30/45**



**BETAMON-5**

## BELT GRINDERS

Belt Grinder is suitable for flat, coarse grinding prior to fine grinding. The specimens to be ground in 60, 80 or 120 grits after cutting operation or moulding to remove surface imperfections. Useful stop to remove light metallurgical damage in the specimen surface induced during cut-off operation. We have both single & Double Belt Grinders.



BBG-110



BBG-220

## SPECTRO POLISHING MACHINES

Our Spectro Polishing Machines are made out of latest technology and quality raw material procured from reliable sources. These machines are compact in size & robust in design.

Paper replacement is easy. Machines are available model i.e. with dust collector or without Dust collector. We also meet customize demands at really affordable prices.

- Disc Diameter- 350x40 mm
- Disc Motor- 2HP, 420V, 3 Phase
- Suction Motor- 1 HP, 420V, 3 Phase
- Power Supply - 440/460volts,3 phase.



SSPM-14V



SSPM-14



## V/U NOTCH BROACHING MACHINE

Our V/U Notch Broaching Machines are suitable for ferrous & nonferrous material for sample preparation of 'V' or U notches for Impact Testing Machine. Notch Broaching Machine can make correct V or U notches in Charpy or Izod specimen by means of multi-toothed broach. Easy operation, high efficiency. One cut action can notch two specimens.

### Technical Specifications

- Driving Mode-Manual
- Broach: V / U (2mm)
- Specimen dimensions(mm) 10X10X55mm
- Blade stroke(mm): 350mm
- Dimensions(mm): 600x 500x 1000mm
- Weight(Kg): 100kgs
- Motorized Model is also available



## MATERIAL TESTING INSTRUMENTS

Banbros is one stop solution for all your Material Testing needs. Our Wide Range of Material Testing Equipment's includes Universal Testing Machine (UTM), Tensile Testing Machine, Charpy Impact Tester, Fatigue Testing Machine, Erichsen Cupping Testing Machine, Spring Testing Machine, Universal Length Measuring Machines etc.

### Universal Testing Machine (UTM)

Our WDW-Series Computerised Universal Testing Machine are Dual Column Floor Type Testing Systems are universal, static testing systems that perform tensile and compression testing-, and also perform shear, flexure, peel, tear, cyclic, and bend tests.

Our Machines Complies with different quality standards such as ASTM D638, ASTM D695, ASTM D790, ASTM D412, 624, ASTM D882, ISO 527, ISO 37, ISO 604, ISO 178 and another equivalent BS, ASTM, JIS standard.

These Machine are available in different Load Capacity from 10kN to 300kN.



WDW - Series Universal Testing Machines

## FATIGUE TESTING MACHINE

BANBROS offer the BUTDS series Electronic Dynamic Fatigue Testing Machine / Cyclic Testing Equipment widely used at material and components, parts dynamic mechanical property test, include tension, compression, low cycling test, match with high-low temperature chamber can execute the temperature test.

These are used to determine the impact ductility of non-metallic materials, such as Rigid thermoplastic and thermosetting plastic, thermo setting plastic and thermoplastic after fibre-reinforced. It is widely used in the industries of plastic products, plastic manufacture, Petro chemical etc, University, scientific research institute and commodity inspection department.



Electronic Fatigue Testing Machine

## ERICHSEN CUPPING MACHINE



**Erichsen Cupping Machine**

Erichsen cupping tester is mainly used to check the ductility of metal sheet and strip. It conforms with ISO 20482:2003 Metallic materials -sheet and strip - Erichsen cupping test standard. GB 5125-2008 (Method for deep drawing cup testing of non-ferrous metal). It Can inspect the ductility deformation performance of test sample and inspect anisotropism of metal sheet.

Erichsen cupping test mean use certain size steel ball or ball shape punch, press a sample that be loaded a 10KN pressure, till the sample appear a penetrate through crack. Check the deep (mm) at this situation, this deep value is called Erichsen cupping test result value.

## ENVIRONMENTAL TEST EQUIPMENT'S

BANBROS offers wide range of Environmental Test Equipment's. Our Environmental Test Equipment's range includes Industrial Oven, Muffle Furnace Salt Spray Testing Chamber, Steam Aging test Chamber, Humidity Chamber etc.

### Oven

Our laboratory ovens feature excellent level of temperature accuracy, while meeting various international quality standards and promising to higher level of customer satisfaction.

Temperature Thermostatically controlled by hydraulic thermostat from 50°C to 250°C with a sensitivity of  $\pm 1^\circ\text{C}$  (high Temperature Oven are also available on request).

These Laboratory Ovens are available in different inner chamber size as per customer requirements.



**Laboratory Oven**

## MUFFLE FURNACE



Muffle Furnace

We BANBROS are leading manufacturer of muffle furnaces for laboratory use with temperature range 800°C to 1500°C. As required, we provide both ready made (ready stock) and customized muffle furnace systems to our customers worldwide.

These laboratory muffle furnace units are utilized in general purpose heating in laboratories, ashing tests on wool, rubber, fibers or fabrics, heat treatment requirements for gears and various research facilities in chemistry and physics.

## HUMIDITY CHAMBER

Humidity and Temperature test chambers by BANBROS are designed to provide such environment where highly accurate control of relative humidity and temperature is required.

We BANBROS manufacture humidity and test chamber in various sizes and temperature ranges- in addition, a number of optional accessories are fitted to enhance user experience. These systems are capable of delivering precise humidity and temperature control, while offering low maintenance requirements and built-in safety features for operator.



Humidity Chamber



## SALT SPRAY TEST CHAMBER



Salt Spray Test Chamber

The Salt Spray Test (Fog Test) is an accelerated corrosion test used to evaluate the relative corrosion resistance materials exposed to a salt spray or salt fog at an elevated temperature. Test specimens are placed in an enclosed salt spray testing cabinet or chamber and subjected to a continuous indirect fog or spray of a salt water solution. This climate is maintained throughout the duration of the test. We offer Salt Spray Test Chamber in different Sizes and Litter capacity.

Standard sizes are available with us

- 600x450x400mm, 108 Ltr 1200 X 1000 X 500mm 600Ltr.
- 900 x 600x500mm, 270 Ltr 1600 x 1000 X 500mm 800 Ltr.
- 1200x800x500mm, 480Ltr 1600 X 1200 X 500mm, 1000 Ltr.

## STEAM AGING TEST CHAMBER

Steam aging tester is designed to meet for artificial aging of all electronic components and circuit boards. This includes high density, discrete components, relays, transistors, capacitors, SMT, and axial components.

These steam aging chamber applied for the testing of sealing property for multi-layer circuit board, IC sealing package, LCD screen, LED, semi-conductor, magnetic materials, NdFeB, rare earths and magnet iron, in which the resistance to pressure and air tightness for above mentioned products can be tested out.

The BANBROS steam aging tester is offered with several configuration options to ensure it meets the needs of each customer. The standard configuration offers a single steam aging test chamber for large components. The steam aging test chamber can be equipped with 3 individually timed, ESD protected drawers with a unique closure mechanism that reduces steam escapement during drawer removal. Both systems provide complete monitoring and control of steam or water temperature and feature automatic timing of the test duration.



Steam Aging Test Chamber



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