- BENCHTOP HARDNESS TESTING EQUIPMENT
- LABORATORY METALLOGRAPHY EQUIPMENT
- TENSILE SAMPLE PREPARATION EQUIPMENT
- PORTABLE HARDNESS TESTING EQUIPMENT
- IMPACT TESTING EQUIPMENT
- TENSILE TESTING EQUIPMENT

NEXTGEN MATERIAL TESTING

METALS TESTING TECHNOLOGIES 1(888)332-3582

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ELECTROMECHANICAL UNIVERSAL TESTING MACHINES

The NextGen testing frames incorporate precision electromechanical load frame equipment to meet all of your testing needs. Built according to industry standards, the NextGen EML line features or latest TestPilot software which comes pre-programmed with some of the latest testing methods. TestPilot is designed for users to reach the most accurate results while providing an easy to use interface for even the most inexperienced users.
The EML line is broken down into Class A, B, C and D covering a wide variety of laboratory configurations. NextGen EML units can come equipped in the following variations:

- 50N-5kN Single Column Bench Top Units for Low Capacity Applications
- 1kN-10kN Dual Column Bench Top Units for Medium Capacity Applications
- 20kN-50kN Dual Column Floor Standing Units for High Capacity Applications
- 50kN-600kN Dual Colum Floor Standing Units with High Rigidity for the Highest of Capacity Applications

Repeatable results are constantly achieved through the NextGen EML series. From advanced Aerospace Industries to Educational facilities, NextGen EML Electromechanical Universal Testing Machines are found across the industry.

CLASS A

50N-5kN Single Column Electromechanical Bench Top Units for Low Capacity Applications

CLASS B

1kN-10kN Dual Column Electromechanical Bench Top Units for Medium Capacity Applications

CLASS C

20kN-50kN Dual Column Electromechanical Floor Standing Units for High Capacity Applications.

CLASS D

50kN-600kN Dual Colum Electromechanically Floor Standing Units with High Rigidity for the Highest of Capacity Applications.

NG - EML Test Pilot Series - TestPilot Software

TestPilot is designed to enhance your ability to perform accurate and repeatable mechanical testing of materials, components and finished goods across a full spectrum of applications.

SERVO-HYDRAULIC - STATIC - UNIVERSAL TESTING MACHINES

The NextGen testing frames provide a solution for high-capacity applications for a wide range of high-strength materials to meet all of your testing needs. Built according to industry standards, the NextGen SHM line features or latest TestPilot software which comes pre-programmed with some of the latest testing methods. TestPilot is designed for users to reach the most accurate results while providing an easy to use interface for even the most inexperienced users.
The SHM line is broken down into Class A, B, C, D and DP covering a wide variety of laboratory configurations. Each unit is built with different applications in mind for your benefit. Speak with a representative today to understand our complete line of servo hydraulic systems.

Repeatable results are constantly achieved through the NextGen SHM series combined with the TestPilot professional software. Suitable for high force applications, these units are offered with performance driven hydraulic packages with a complementary line of fixtures and accessories.

CLASS A

200kN-2000kN - Servo-Hydraulic Universal Testing Machine 4 or 6 column, servo-controlled hydraulic

CLASS B

300kN-3000kN - Servo-Hydraulic Universal Testing Machine 6 column, servo-controlled hydraulic

CLASS C

600kN-1000kN - Servo-Hydraulic Universal Testing Machine 6 column, servo-controlled hydraulic

CLASS D

600kN-2000kN - Servo-Hydraulic Universal Testing Machine 2/4 columns, servo-controlled hydraulic

CLASS DP

600kN-2000kN - Servo-Hydraulic Universal Testing Machine - Side Action Wedge Grip 2/4 columns, servo-controlled hydraulic

NG - EML Test Pilot Series - TestPilot Software

TestPilot is designed to enhance your ability to perform accurate and repeatable mechanical testing of materials, components and finished goods across a full spectrum of applications.

PORTABLE HARDNESS TESTERS

Portable hardness testing allows for on site and field production testing on a wide variety of metals and specimen configurations. Portable hardness testers are available in a variety of scales including Rockwell, Brinell, Vickers, Leeb and Webster. NextGen provides the most up to date portable hardness testing equipment meeting the latest industry standards. Contact us today to determine the most suitable hardness testing solution for your portable testing requirements

NG - LEEBGEN 3000 – LEEB REBOUND PORTABLE HARDNESS TESTER

LeebGen3000 is a non-destructive precision metal hardness tester developed according to the latest industry standards. LeebGen 3000 is equipped with features which provide the instrument with a combination of a user-friendly interface and exceptional test result accuracy. This in turn allows for ease of operation and an accurate conversion display of virtually any metal hardness testing value.

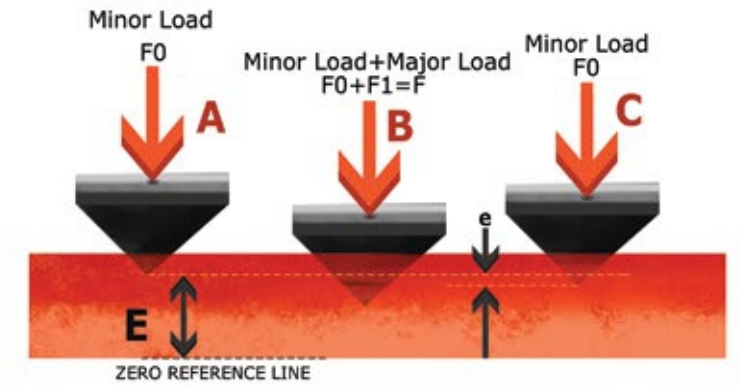
The Leeb Portable Rebound Tester– LeebGen 3000 is designed to replace the traditional stationary metal hardness testers, such as Vickers, Brinell and Rockwell. Its portable design allows to draw the most accurate test data regardless of the direction of the hardness test measurement. This is accomplished with a built-in 360° automatic angle adjustment system. LeebGen 3000 utilizes the latest in advanced micro-electronic technology, and provides you with a fast, convenient and a cost effective quality testing solution.

NEXTGEN TELEBRINELLER BRINELL HARDNESS TESTING SYSTEM

Telebrineller – Measuring Brinell Hardness anywhere in the field, t**he plant** or the laboratory. A test bar of known BHN (Brinell Hardness Number), approximating the hardness of the specimen to be tested, is selected. Consistent accuracy is maintained when the test bar BHN is within + or -15% of the specimen BHN and is of the same general material.

ULTRASONIC CONTACT IMPEDANCE HARDNESS TESTER UH200

The UH200 non-destructive ultrasonic hardness tester, relying on the principle of ultrasonic vibration sensor rod, can easily and swiftly detect the material hardness of several metals without any damage. This method produces no indentation and it has both high precision and speed. It makes use of a single chip technology and advanced sensing system which makes it better than the usual ultrasonic hardness testers in both function and structure. UH200 support value conversion among HV, HB, HRC, and others and the average of the multi-point measurement can be derived. Accurate display and printing of the results is also possible. It is popularly used in testing hardness of metal foil, finished workpiece, metal thin layer (electroplating layer, carburizing layer, nitriding layer, etc.), the special shape parts are easy to dismantle but the hard parts are difficult to move. It is a good equipment for testing precision to save cost and improve production pass rate.



Rockwell hardness tester is defined as the indentation resistance and determined by measuring the permanent depth of an indentation after undergoing a preliminary force. The more shallow the indentation, the harder the material. Rockwell testing is defined with the ASTM E18 industry standard for the testing procedure. The Rockwell hardness measurement is calculated by first applying a preliminary test force, called a preload, for a specific period of time, called dwell time. The preload penetrates through the surface of the material to eliminate any interference caused by the surface finish of the test specimen. This point reached represents the zero point, also known as the reference point.

NG-ROCKGEN ANALOG SERIES - MANUAL AND ELECTRONIC MODELS

The NG RockGen Analog Series provides a cost effective solution to performing a variety of Rockwell Regular Scales. The RockGen Analog system has two configurations which include a hand operated dial display system and an electronically controlled dial display system.
The NG-RockGen Analogue Rockwell Hardness Tester is designed to test the hardness of metals by determining the depth of penetration of an indenter under a large load compared to the penetration made by a preload according to the Rockwell regular scales.
NG-RockGen Analogue Rockwell Hardness Tester is capable of testing the following Rockwell Regular Scales: HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK.
The NG-RockGen Analogue Rockwell hardness tester is also capable of testing the following Rockwell Superficial Scales: HR15N, HR30N, HR45N, HR15T, HR30Tand HR45T.

NG-ROCKGEN DGEN SERIES - ROCKWELL REGULAR, SUPERFICIAL AND TWIN DIGITAL MODELS

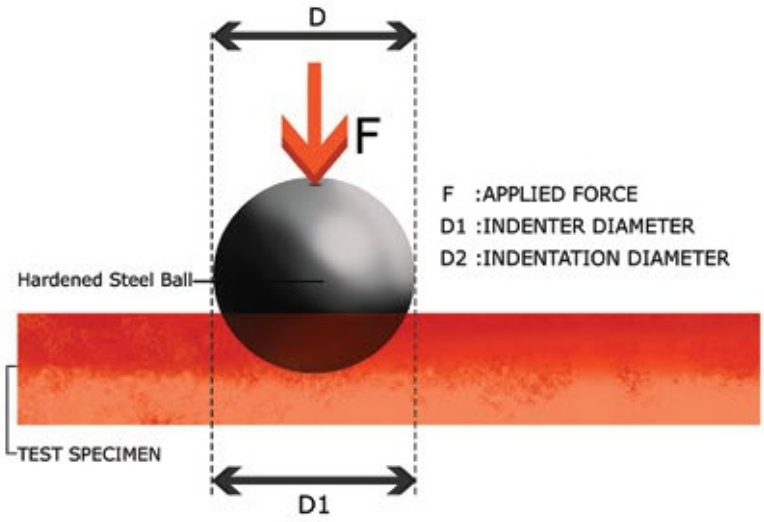
The NG RockGen Digital Series provides an automatic, digital, high accuracy solution to your Rockwell testing requirements. The Digital series is completely automated and is available in Rockwell Regular scales, Rockwell Superficial scales and TWIN Rockwell Regular and Superficial scale configurations.

NG-150 GENROCK ADVANCED LOAD CELL ROCKWELL HARDNESS TESTER

The NG150 GenRock system can be equipped with a variety of accessories to meet all of your hardness testing requirements. A fully motorized stage, Jominy accessories and a wide variety of specimen fixtures are available to configure the NG150 RockGen system to meet your application.
GenRock NG-150 Series - Advanced Rockwell Hardness Tester is the leading Rockwell Hardness Testing system on the market. This German quality system allows is built for exceptional precision, user-friendliness and high volumes of Rockwell hardness testing requirements. Packed with the latest innovative user-friendly software, the GenRock NG-150 Series - Advanced Rockwell Hardness Tester is the machine to get the job done in the quickest and most accurate way.

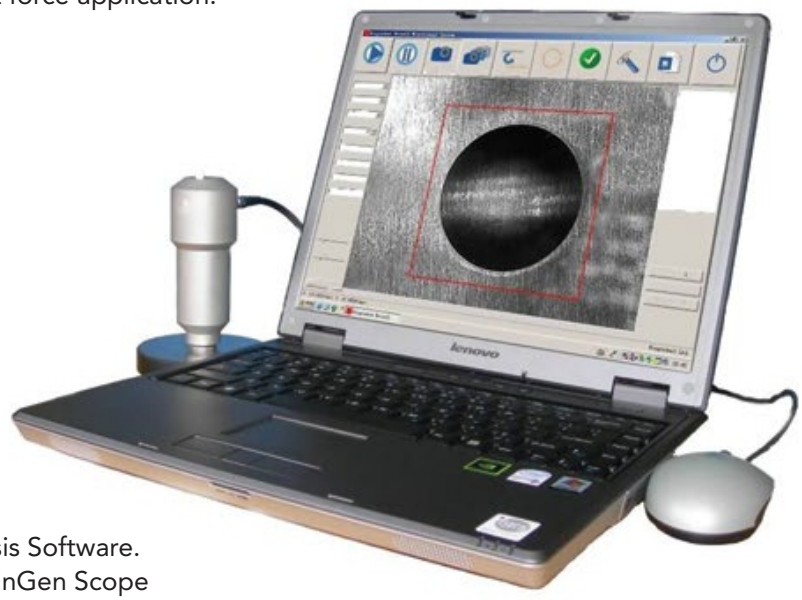
BRINELL HARDNESS TESTER

The Brinell hardness test is described as the method for testing permanent change of metal specimens using a tungsten carbide ball indenter of various sizes. It measures the resistance of the material to permanent deformation. The diameter of the indentation having deformed the material is then used to calculate the Brinell hardness value. The Brinell indentation is commonly measured using a manual 20x/40x magnification microscope or through the use of CCD optics for removing all aspects of human error. The Brinell Hardness Test is a destructive unit of hardness calculations and is conducted according to the ASTM E10 and the ISO 6506 industry standard.



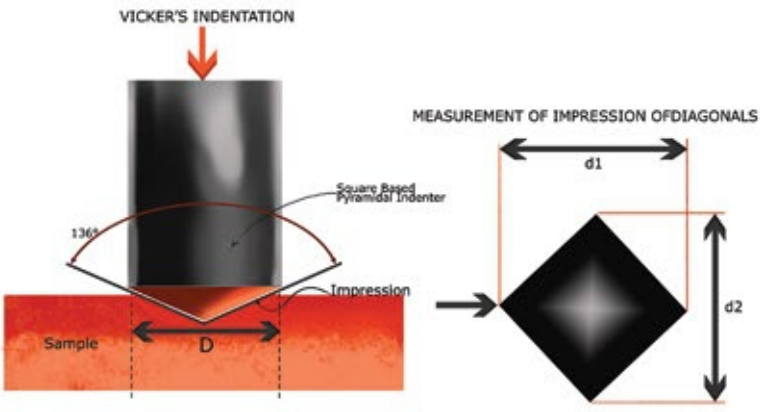
BRINGEN-3000 SERIES - DIGITAL AND AUTOMATIC CLOSED LOOP BRINELL HARDNESS TESTER

BrinGen 3000 - Digital Brinell Hardness Tester is designed to test the resistance of a metal specimen for indentation. A fixed force (load) is applied against the specimen by an indenter to determine the material hardness. The smaller the indentation, the stronger the specimen is. According to the ASTM E-10 BrinGen - Digital Brinell Hardness Tester is commonly used on surfaces of materials that are too rough to be tested by any other test method.
The test load ranges are from 62.5kgf to 3000kfg. BrinGen 3000 Series - Digital Brinell Hardness Testing system is equipped with a closed loop system for the absolute highest accuracy load control.
Closed loop driven system provides precise control of test force application.



BRINGEN SCOPE - OPTICALLY ADVANCED CCD BRINELL MEASURING SCOPE

BrinGen 3000 Series - Digital Brinell Hardness Testing systems are standalone units that can easily be upgraded to include the NG-Scope - Brinell Hardness Image Automatic Measuring system - for the most accurate results through an optical Analysis Software. Simply use our advanced BrinGen software and the BrinGen Scope for measurements within 0.001mm.



The Vickers Hardness Test is a method for measuring the hardness of metals, both ferrous and non-ferrous. The purpose of this metal hardness testing is to identify the material's resistance to deformation and permanent depth change. It is the most unique method of hardness testing due to its independent testing nature. The Vickers test allows for a uniform hardness testing value along the complete range of testing loads; regardless of which force is applied on any given material. The Vickers Hardness Value, symbolized as HV, or the Diamond Pyramid Hardness Value, symbolized as DPH are the units of hardness in Vickers Hardness Testing. The Vickers Hardness Scale has a very extensive load range to cover all possible testing applications.

NEXTGEN MICRO VICKERS/KNOOP HARDNESS TESTER

The NG-1000 - Micro Vickers and Knoop Hardness tester is the most advanced hardness tester for accurate measurements and ease of use. The NG-1000 - Micro Vickers and Knoop Hardness tester comes standard with a motorized turret and is available in three (3) different configurations to suit all requirements. The series includes the NG-1000 - Micro Vickers and Knoop Hardness tester AGEN - Analogue Vickers Hardness Tester, DGEN - Digital Vickers Hardness Tester and CCD - Digital Vickers Hardness Tester with CCD Optical Analysis Software.

NEXTGEN MACRO VICKERS HARDNESS TESTER

NG-5000 Series Macro Vickers Hardness tester is the most advanced model for accurate measurements and ease of use.

The NG5000 - Macro Vickers Hardness tester is equipped with a motorized turret and an optional CCD camera and software to take out all possibilities of human error.

This testers are equipped with a large display and a built in printer. The unit can be connected to a computer with the included USB/RS-232 cord for easy data transfer. The files can be easily exported to either a word or excel format for easy printing.

AUTOMATIC MICRO/MACRO VICKERS/ KNOOP/BRINELL HARDNESS TESTING

Automated Vickers/Knoop and low load Brinell hardness testers are available with complete automation for CHD curves and detailed hardness analysis. Complete with automated stages, optional overview cameras and optical zoom, the NG automated series is capable of analyzing your materials with high precision and accuracy.

METALLOGRAPHY SAMPLE PREPARATION

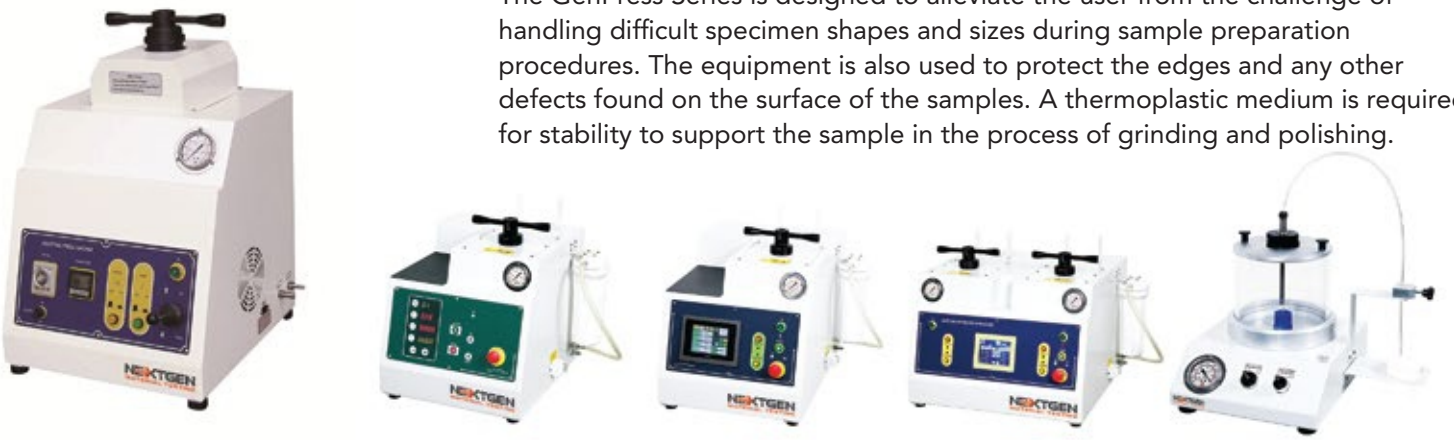
NextGen metallography equipment is focused on the structure refining of metals and alloys. It specializes in different methods of specimen preparation including cutting, polishing and grinding. The process of evaluating physical properties of the specimen is made easy using the NextGen Metallography equip-ment. The final evaluation of the materials properties are analyzed with the use of a microscope (optical or electron). The GenCut series is focused on precision and abrasive cutting of materials ranging from soft to hard metals. The cutting equipment is designed to shape specimens into your exact size for further analysis. The GenGrind series is used to achieve the desired surface finish of your materials based on your application. Grinding and polishing equipment is often used to remove the damage caused by the cutting blades of the abrasive saws upon extraction of the desired specimen size.

ABRASIVE AND PRECISION CUTTING EQUIPMENT

The GenCut Series offers a range of equipment to match your specific cutting requirements. The GenCut systems are equipped with the highest level of cutting accuracy and have a user friendly interface for ease of operation.

MOUNTING PRESSES

The GenPress Series is designed to alleviate the user from the challenge of handling difficult specimen shapes and sizes during sample preparation procedures. The equipment is also used to protect the edges and any other defects found on the surface of the samples. A thermoplastic medium is required for stability to support the sample in the process of grinding and polishing.



GRINDING AND POLISHING EQUIPMENT

The GenGrind Series is our Grinding and Polishing equipment utilized for achieving the highest precision of surface finish on a wide variety of samples. The GenGrind systems can be configured with either a single or a dual wheel as well as an automated option for low to high volume applications.

Pendulum Charpy/Izod Impact Testing is a high strain-rate test to determine the amount of energy absorbed by a material during fracture.The Impact tester involves a pendulum of known mass and length which is dropped from a known height to strike an Impact Specimen. Impact specimens are of standard or subsize dimensions that can be found in a variety of industry standards including ASTM E23, ASTM A370, EN 10045-1 and ISO 148. Various strikers and specimen vises are available to suit all requirements of Charpy or Izod Testing. Specimens are notched using a broaching machine to specific dimensions and geometries. The energy transferred to the material after impact can be inferred by comparing the change in height of the hammer before and after striking the specimen.

CLASS C - SINGLE COLUMN CHARPY IMPACT TESTER - 150J, 300

NextGen's Class C provides an economical single column solution for measuring Charpy Pendulum Impact Testing. ISO and ASTM strikers are available along with a variety of protective barriers from half to fully enclosed.

CLASS D - DUAL COLUMN CHARPY IMPACT TESTER - 150J, 300J, 450J, 600

NextGen's Class D is a dual column Charpy Impact Tester providing a higher level of rigidity. With a maximum capacity of 750J, Class D can also include automatic cooling and specimen feeding systems.

CLASS G - SERVO-MOTOR SINGLE COLUMN CHARPY/IZOD IMPACT TESTER 150J, 300J or 450J

NextGen's Class G is an advanced Charpy and Izod Impact tester commonly used in R&D laboratories. Equipped with a servo motor, the Class G can test at any preset angle and includes automatic braking of the pendulum.

CLASS H - SERVO-MOTOR DUAL COLUMN CHARPY IMPACT TESTER – 300J, 450J, 600J or 750J

NextGen's Class H provides a most durable Charpy Impact Tester with dual column configuration. Fully upgradable and designed for the highest volumes of Charpy testing.

SPECIMEN NOTCHING/BROACHING MACHINE

NextGen offers an economical solution for broaching/notching your Charpy/Izod specimens. Our motorized solution is capable of preparing two specimens at one time. A variety of broaches are available for different geometries of notches.

FLAT TENSILE SAMPLE PREPARATION MACHINES

Preparing flat specimens for tensile testing has never been easier. Our line up of TensileMill CNC's Flat Specimen Preparation Machines offers exceptional user-friendliness, precision & repeatability and cost-effective solutions for all of your in-house tensile specimen preparation needs.

TENSILEMILL CNC CLASSIC
Flat Specimen Preparation

TensileMill CNC's - Flat Tensile Sample Preparation Machine has brought about a more facilitated method than ever for flat tensile sample preparation of high quality. Operation of our TensileMill CNC is done with our powerful Carbon software that has a tensile milling interface which is very user-friendly. Following the outlined parameters in your ISO, ASTM, JIS, DIN, or any other industry, the interface enables the quick and easy selection of the desired tensile specimen size by the operator. The machine is ready for milling a few seconds after you simply enter your specific measurements.

TENSILEMILL CNC MINI
Compact Flat Tensile Sample Preparation

Despite its small size, the axis of the heavy cast iron frame on which the TensileMill CNC MINI slide on linear rails very smoothly. Its exceptional machining capability is provided by high powered servos and a 24,000 RPM ISO20 spindle. The TensileMill CNC MINI - Compact Flat Tensile Sample Preparation is the most recent addition to the family of CNC machining. It makes the preparation of tensile specimens with high quality as easy as it has never been before. Operation of our TensileMill CNC MINI is done with our powerful Carbon software that has a tensile milling interface which is very user-friendly. With respect to the outlined parameters in your ISO, ASTM, JIS, DIN, or any other industry, the interface enables the quick and easy selection of the desired tensile specimen size by the operator.

TENSILEMILL CNC XL
Flat Tensile Sample Preparation Equipment

Every manufacturing floor would benefit from the dynamic and powerful addition offered by TensileMill CNC XL - Large Flat Tensile Sample Preparation machine. Removal rates for materials are increased by servos and the high powered spindle. CNC control based on Mach4 when combined with substantial memory simplifies the loading and execution of large and complex programs. Machine programming for smaller jobs is made fast and easy by wizards as they facilitate the fast creation of pockets, text engraving, hole patterns etc.
The TensileMill CNC XL - Large Flat Specimen Preparation design is the enhanced model of our classic TensileMill CNC. The upgraded design presents larger table dimensions, tooling options, travel distance and servo power to support your needs of tougher material, and higher quantity tensile sample preparation.

ROUND TENSILE SAMPLE PREPARATION MACHINES

Preparing round specimens for tensile testing has never been easier. Our line up of TensileTurn CNC's Round Specimen Preparation Machines offers exceptional user-friendliness, precision & repeatability and cost-effective solutions for all of your in-house tensile specimen preparation needs. Contact us today to identify which machine would be the optimal fit for your laboratory.

TensileTurn CNC
Round Specimen Preparation

Featuring a convenient size and high accuracy, the TensileTurn CNC can produce the highest accuracy in round tensile specimens. Able to prepare round tensile specimens, sub-size specimens, threaded tensile specimens, button-head tensile bars, fatigue specimens or any other round testing specimens, the TensileTurn CNC is easy to operate for both experienced and inexperienced operators.

TENSILETURN CNC XL
Heavy-duty Round Specimen Preparation

The optimal solution for all your requirements as regarding to your round tensile specimen production is our robust TensileTurn CNC XL. The XL is a boosted version from our original lathe machine giving a chance for preparing soft or tough square, round and irregular stock of materials with the right accuracy every time. The machine can keep remarkable turn times for various types of metals, composite materials, and alloys.

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MATERIAL TESTING

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