



Advanced Touch Screen Semi-Automatic Brinell Hardness Testing System

Standards

ISO 6506, ASTM E-10

Description

BrinGen 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 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 3000kgf. BrinGen 3000 Series 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 3000 Series 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.



System Features

- BrinGen is engineered to obtain highly sensitive and accurate readings
- Direct Digital Reading
- Perfect for laboratories, workshops, tool rooms, inspection labs, etc.
- BrinGen's test process eliminates room for all human error for maximum accuracy.
- It is equipped with a large LCD display screen with a user friendly interface.
- Most commonly, BrinGen is used to test the hardness of unquenched steel, cast iron, non-ferrous metals, soft bearing alloys, etc.
- Equipped with a 20X optical microscope to measure the diameter of Brinell indentation
- Resolution capability of the microscope: 0.005mm
- The tester weight is 50% less than the traditional dead weights type tester
- Test load selection by keyboard and LCD screen
- Fully automatic test cycles. The Brinell hardness Tester features a fully automatic test cycle, load application, holding, and unloading, is performed fully automatically. This greatly improves reproducibility of test results since operator influence is eliminated
- Selectable dwell times by screen. The indenter, load, and other test information are shown clearly on the large LCD screen
- Brinell Hardness Calculator (BHC) make the hardness value calculation easier and convenient



Main interface

Operator

Sample

Range To

Load & Dia Dwell Time(S)

Turret objective Indenter

D1 D2

HBW

Conversion

12 kinds Brinell Scales Available

Measurement Scale

<input type="button" value="2.5/62.5"/>	<input type="button" value="2.5/187.5"/>	<input type="button" value="5/62.5"/>
<input type="button" value="5/125"/>	<input type="button" value="5/250"/>	<input type="button" value="5/750"/>
<input type="button" value="10/100"/>	<input type="button" value="10/250"/>	<input type="button" value="10/500"/>
<input type="button" value="10/1000"/>	<input type="button" value="10/1500"/>	<input type="button" value="10/3000"/>

Magnification and Hardness Auto-Correct

Force Calibration

STD: kg

Test: kg

Loading Auto-Correct

Force Calibration

STD: kg

Test: kg



Technical Specifications

BrinGen-3000 Series	
Brinell Scale	HBW2.5/62.5, HBW2.5/187.5, HBW5/62.5, HBW5/125, HBW5/250, HBW5/750, HBW10/100, HBW10/1500, HBW10/3000, HBW10/250, HBW10/500, HBW10/1000
Test Force	62.5kgf(612.9N), 100kgf(980.7N), 125kgf(1226N), 187.5kgf(1839N), 250kgf(2452N), 500kgf(4903N), 750kgf(7355N), 1000kgf(9807N), 1500kgf(14710N), 3000kgf(29420N)
Test Space (HxD)	9x6.1" (230x155mm)
Measure Resolution	0.5%
Test Force Accuracy	62.5-250Kgf ≤ 1% ; 500-3000Kgf ≤ 0.5%
Dwell Time	1-60s
Test Range	8-650HBW
Microscope	20X
Standard	BSEN 6506, ISO 6506, ASTM E10, GB/T231
Data Display	LCD touch screen
Power Supply	AC110 V or AC220 ±5%, 50-60Hz
Dimension	Machine: 21.6x7.5x29.5" (540x190x750mm); Shipping Package: 28.7x17.7x38.6" (730x450x980mm)
Weight	Net weight: 220lbs (100kg) Gross weight: 286lbs (130kg)

Standard Accessories

Items	QTY
Measurement Microscope	1
Standard Hardness Blocks (HBW10/3000, HBW10/1000, HBW2.5/187.5)	3
Power Cable	1
Fuse 2A	2
Diameter 2.5, 5, 10mm Hard Alloy Steel Ball Indenter	1 of Each
Large, Medium, V-shape Testing Anvil	1 of Each
Quality Certificate, Warranty card	1 of Each
Operational Manual	1

Additional Accessories

Items	Part #
3000 kg load, 10 mm ball Brinell test block for all hardness ranges NIST Traceable (Certified)	NG-850
2000 kg load, 10 mm ball Brinell test block for all hardness ranges NIST Traceable (Certified)	NG-850
1500 kg load, 10 mm ball Brinell test block for all hardness ranges NIST Traceable (Certified)	NG-850
1000 kg load, 10 mm ball Brinell test block for all hardness ranges NIST Traceable (Certified)	NG-850



500 kg load, 10 mm ball Brinell test block for all hardness ranges NIST Traceable (Certified)	NG-850
250 kg load, 10 mm ball Brinell test block for all hardness ranges NIST Traceable (Certified)	NG-850
187.5 kg load, 10 mm ball Brinell test block for all hardness ranges NIST Traceable (Certified)	NG-850
1/16" Carbide Ball - NIST Traceable (Certified)	NG-609
1/8" Carbide Ball - NIST Traceable (Certified)	NG-610
1/4" Carbide Ball - NIST Traceable (Certified)	NG-611
1/2 Carbide Ball - NIST Traceable (Certified)	NG-612
10 mm Carbide Ball - NIST Traceable (Certified)	NG-613

Hardness Range (HBW)	Error (%)	Repeatability (%)
≤125	±3.0	≤3.0
125<HBW≤225	±2.5	≤2.5
>225	±2.0	≤2.0

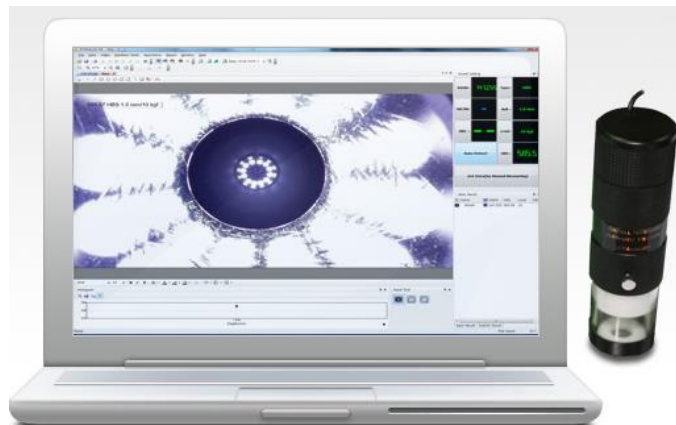
CCD Optical Camera and Automatic Analytical Software for Brinell Hardness Testing System

Description

BrinGen Scope is a Brinell Auto scanning system. It is designed to work with a computer or a laptop to make your testing program faster and more accurate. It is equipped with Real-time result support.

Features

- When you need a Brinell Hardness testing solution that produces reliable, accurate and repeatable test results, choose BrinGen Scope
- Here the screen shows auto-measurement, result, tolerance values, and other information.



Ease of Use

- Automatic accurate measurement of hardness with a single push of a button.
- The BrinGen Scope eliminates room for human error on test results.
- Supports manual measurement.



Real-Time Results

- Real-time display of result measurements
- Offers various hardness conversion table : The ASTM-E140 Scale Conversion Table is provided to convert the hardness value of one test methodology to the approximate value of another test methodology
- Offers custom conversion table

Brinell Setting

DIAM -	4389.224	Type -	HBW
OK/NG -	OK	Ball -	10.0 mm
HRC -	← →	Load -	3000 kgf
Auto Detect		HBW -	188.2

| Real-time Result |

Table -> Materials Hard

HR	Materials Soft
HK	AG/Thi Hard
HRC	AG/Thi Soft
HRO	AG/Thi Castable Brass
HRA	AG/Thi Wrought Aluminum
HR15N	AG/Thi Copper
HR30N	AG/Thi Nickel
HR45N	AG/Thi Alloyed White Irons
HBS	BS
HS	DIN
TENS	SAE Steel I

| Conversion Table |

OK/NG - OK

Nominal Property

+ Tolerance	Nominal	- Tolerance
10.00000	300.00000	50.00000

OK Cancel

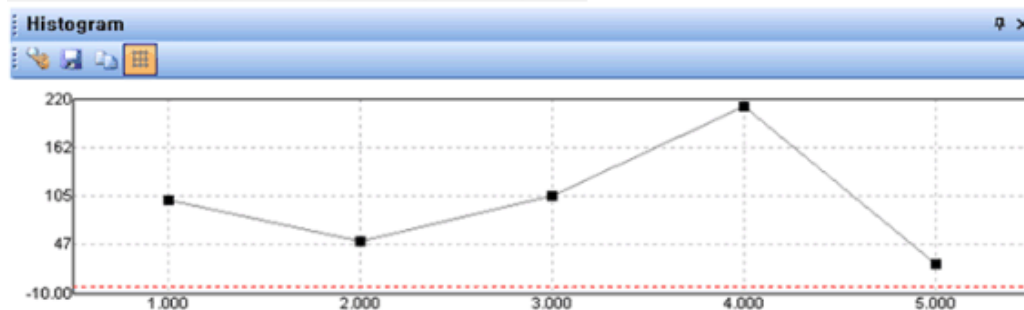
| OK/NG |

Results

- Basic result is easy to view
- Add or remove result column function
- Real-time statistic result view
- Hardness value by histogram view

Basic Result					
Name	DIAM	HBW	Load	HRC	
Brinell	4156....	211.08	3000		
Brinell	4156....	211.08	3000		
Brinell	4773....	157.48	3000		
Brinell	4021....	226.23	3000		
Brinell	2003....	941.97	3000		
Brinell	5839....	101.49	3000		

Statistic Result			
Name	DIAM	HBW	Load
Avg	4158.404	308.223	3000.000
Std Dev	1144.935	286.558	0.000
Max	5839.067	941.971	3000.000
Min	2003.476	101.492	3000.000
Range	3835.591	840.480	0.000
Sum	24950.423	1849.337	18000.000
Sample	6	6	6



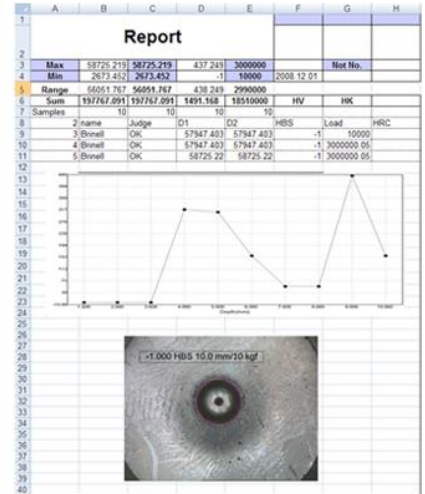


Various Options

- Select type between HBS and HBW
- Select or Edit of the Ball diameter
- Select or Edit of the Test force
- Select Distance Unit (nm,um,mm,...)
- Multi-language support

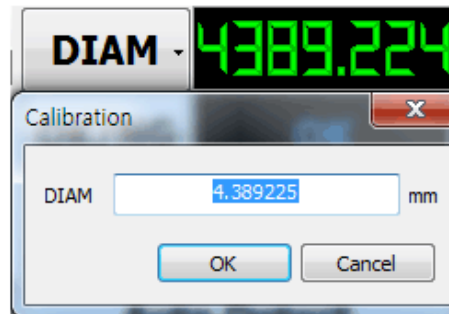
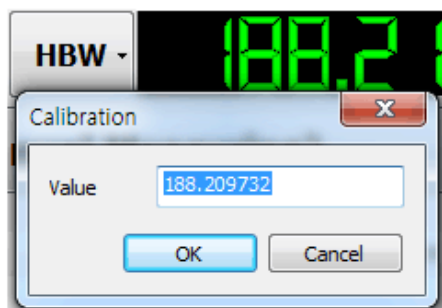
Report Generation

- Various type of report
- Offers the document of various inspection results
- User define report



Simple Calibration

- One way is typing hardness value of standard sample into calibration window
- The other way is typing distance of Diameter into calibration window



Standard Configurations

- Camera and LED lights mounted in and protected by stainless and aluminum housing
- A calibration film
- Software with a protection key
- CD for user's guide made by video



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Lead Time

3-8 Weeks Depending on when the PO is placed

* Request a [formal quotation](#) or send an e-mail to sales@nextgentest.com for the most up-to-date pricing and applicable discounts and incentives