Brinell Hardness Analysis System

BHAS

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Brinell Hardness Analysis System (BHAS)

BHAS analyzes HB hardness automatically based on ball indentation with image capture measurement. Applying definitions of international Brinell hardness standards (ASTM E 10, ISO6506.2, JIS-Z 2243, GB/T231.2), BHAS is a new method truly resolves argument about casting hardness. As cast iron, cast steel, forged material, and other ferrous metal as well as nonferrous metal like cast aluminum are metals with coarse grain, their hardness can be reflected correctly only by measuring indentation of HB hardness; in addition HB measurement avoids error caused by segregation of metallurgical structure or composition.

Hardness measured by BHAS is far over normal portable hardness tester in terms of accuracy and repeatability and overcomes the shortcoming of large conversion ratio of normal portable hardness tester (e.g. Leab hardness tester).

A. Desk Type BHAS-780

B. Portable Type BHAS-700

Features

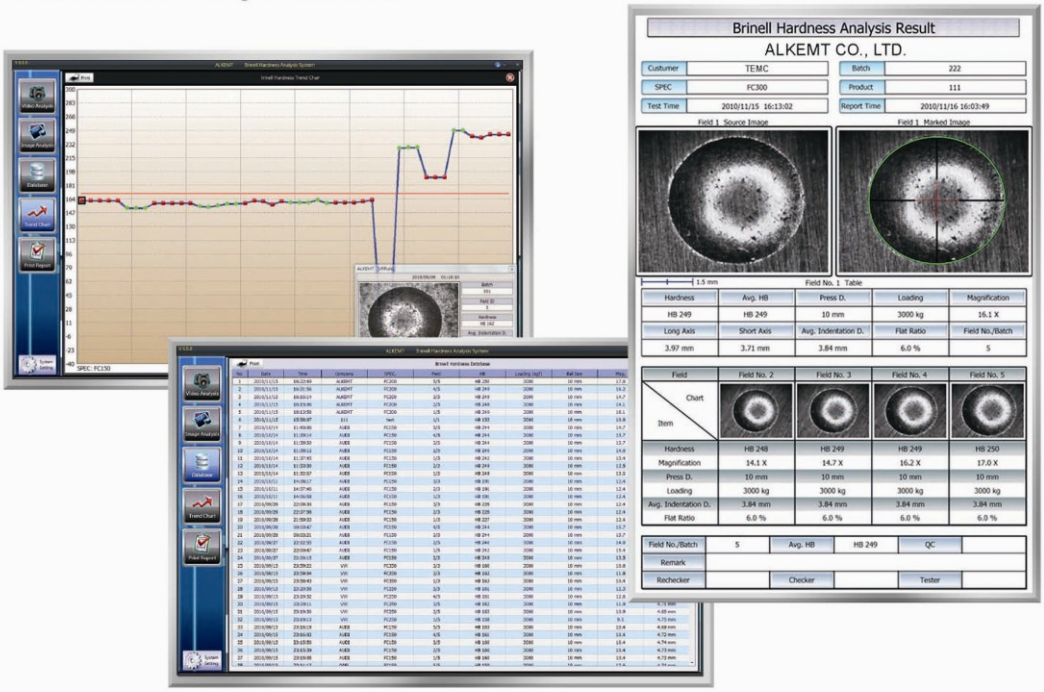
- Computer-based analysis of HB, higher accuracy and repeatability
- Low magnification but high accuracy zooming measuring microscope, achieving 0.01m/m of indentation accuracy
- 1m/m of minimum indentation measurement
- Available for use of USB microscope for external inspection or field quality confirmation of physical object
- Avoiding error caused by visual inspection of indentation
- Measurement of aspect ratio of ball indentation, enabling learning of ball deformation at any time
- Available for measuring indentation at 5 points simultaneously for data statistics and analysis (maximum, minimum, and mean values)
- Available for presetting material, product name and HB target value to facilitate result analysis, beyond-standard analysis and information consulting
- HB hardness converting immediately to Vickers and Rockwell hardness
- Any data information available for saving, print or drafting trend chart
- Available for printing HB analysis report to help QC personnel in management or present customers

BHAS Homepage Functions

By using of the ultimate image analysis technology, BHAS can be widely applicable to indentation of various images to get HB hardness immediately.

Report & Records

Print of analysis report, data information or trend chart not only enables quick review or tracing of historical records but also satisfies user's demand for single hardness analysis report in order to confirm that HB hardness is obtained by measuring of indentation diameter instead of conversion with other methods. BHAS is now widely applied in the development countries for measuring HB hardness.



Brinell Hardness Analysis System

Assembly Of Portable HB Hardness Tester And Analysis System (BHAS-700)

Handheld USB Microscope
PBH-200

Portable Hydraulic HB
Hardness Tester

NB Computer

Configuration

- Portable hydraulic HB hardness tester
- BHAS analysis software system
- USB microscope
- NB type computer
- Aluminum case for carrying easily

Combination Of Portable
BHAS-700 System

Assembly Of Hydraulic Or Electric HB Hardness Tester And Analysis System (BHAS-780)

- Optional electric or hydraulic HB hardness tester
- Special zooming and low magnification microscope, achieving 0.01m/m of indentation accuracy
- BHAS analysis software available for capturing image and measuring HB hardness instantly

◀ **BH3000**
HB Hardness Tester

◀ Pointer Type Hydraulic HB Hardness Tester

◀ **TBH-300**
Special Designed Microscope

◀ Coaxial Modulator Design, Adjusting Zoom Parameter Automatically

◀ Combination Of Desk Type BHAS-780 System

BHAS Specifications

Model / Item	Desk Type BHAS-780 Brinell Hardness Analysis System	Portable Type BHAS-700 Brinell Hardness Analysis System
Hardness Tester	**Model: BH3000** •Testing force: 187.5-3000kgf •Servo motor drive, load sensing setting •Max testing height: 280mm •Throat depth: 130mm •Weight: 250kg **Model: Desk Pointer Type Hydraulic Model** •HB hardness tester (hydraulic type) •HB hardness tester applies pressure load to work piece to be tested using steel ball to produce indentation, and measures indentation width with microscope to obtain HB hardness; most commonly used hydraulic HB hardness tester is applied in this test, testing load is 3,000kgf、2,000kgf、1,500kgf、1,000kgf、750kgf and 500kgf, steel ball may be 5mm or 10mm type, and hard alloy steel ball might be applied as necessary. •With special type testing height: 300mm and 500mm •Weight: about 180kg	**Model: Portable Hydraulic HB Hardness Tester** Technical parameters of portable HB hardness tester •Max testing height: 350mm (14"), with optional base sizing 500mm (20") •Throat depth: 100mm (4"), with optional base sizing 150mm (6") •Testing force: 3,000kg, with optional low pressure test heads including 62.5kg、125kg、250kg、500kg、 and 1,000kg •Testing scope: HBW100-650 •Pressure head size: 10mm, with optional sizes of 2.5mm and 5mm •Indicating error: complying with ASTM E-10, GB/T231.2 and ISO6506-2 •Indicating repeatability: complying with ASTM E-10, GB/T231.2 and ISO6506-2 •Weight: 12kg
Microscope	**Model: TBH-300** •Microscope special for desk type HB hardness •Total magnification: 9-55 x •Adjustment scope of pupil distance: 55-75mm •Working distance: 200mm without attachment objective lens •Ring lights proving clear indentation •Coaxial modulator detecting and adjusting zoom parameter automatically •Image resolution: excellent sharpness	**Model: PBH-200** •Portable USB microscope •External USB2.0 interface design, fixed times •USB power supply requiring no other external power source •2.0 megapixel 1/3.2" CMOS sensor •Providing individual static capture BMP/JPG/GIF/PNG format •Dynamic capture AVI format, 15~30 frames/second
BHAS Analysis Software	**Model: BHAS** •Applicable to Win7, Vista, XP system •Available for measuring ball indentation diameter, HB hardness and aspect ratio •0.01m/m of indentation accuracy, 1m/m of min measuring diameter •English operation interface, and report print	**Model: BHAS** •Applicable to Win7, Vista, XP system •Available for measuring ball indentation diameter, HB hardness and aspect ratio •0.01m/m of indentation accuracy, 1m/m of min measuring diameter •English operation interface, and report print
Computer	PC, subject to prevailing market model	NB, subject to prevailing market model
Remarks	BHAS-1480 is 2-in-1 combination series of desk type BHAS-780 and portable type BHAS-700	

ALKEMT
ALKEMT CO., LTD.
6F-8, NO.1071, Jhong-Jheng Rd., Taoyuan, 33045, Taiwan.
Tel：03-3460098 http://alkemt.com
Fax：03-3460959 E-mail：alkemt21@yahoo.com.tw