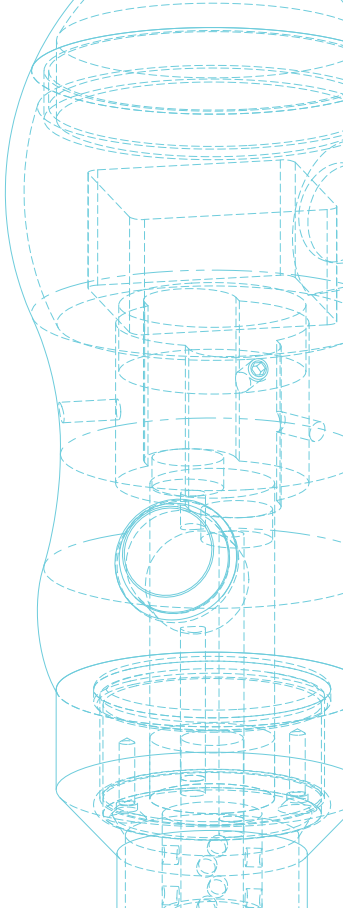
e·brio²

Optical Brinell Scope



The Brinell test is of basic importance in many areas of quality control, but often inaccurate readings and long test cycles have a negative impact on productivity.

Ernst is pleased to introduce the new model e·brio^2, equipped with a new lighting system and a new algorithm of indentation's edge detection, able to read reliably and accurately on every material and surface, even on rough ones.
These features and its single probe suitable for all the indentation sizes make it a unique system in its category.

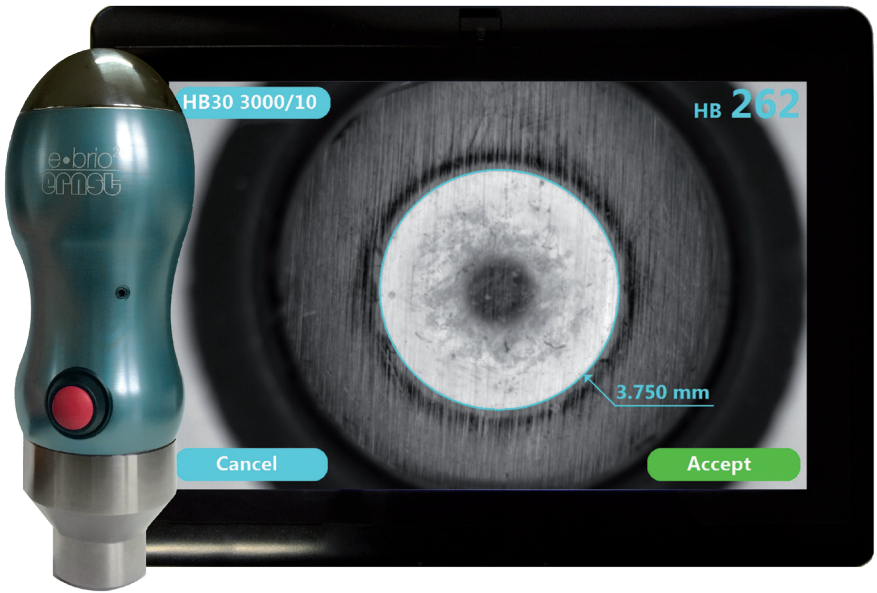
The new extremely powerful image processing algorithm is the result of twenty years of experience in the field studied to:

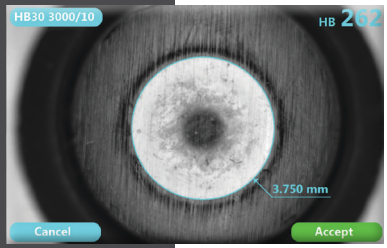
- Remarkably improve the capabilities to detect the indentation edge
- Remarkably improve the accuracy of the measure
- Ensure accurate and reliable measurements on every material and test surface, without any change of parameters or lightning.

The new illumination system with red light LED matrix and new optical path allows to:

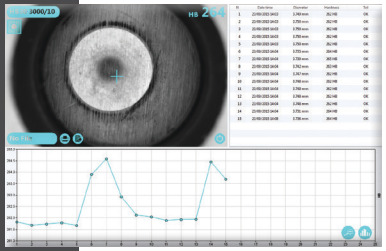
- Improve the lighting uniformity of the surface
- Improve the contrast between internal and external indentation surface
- Reduce distortions of the resulting image

With e•brio² the indentation reading is made in a few seconds with a resolution of 0.001 mm, thus quickly measuring and recording the correct Brinell hardness



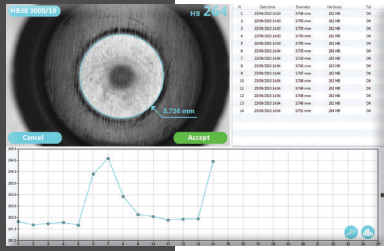


With the first click the software will identify the circle that best fits on the indentation edge, draws it over the indentation image, records its diameter and calculates the Brinell number

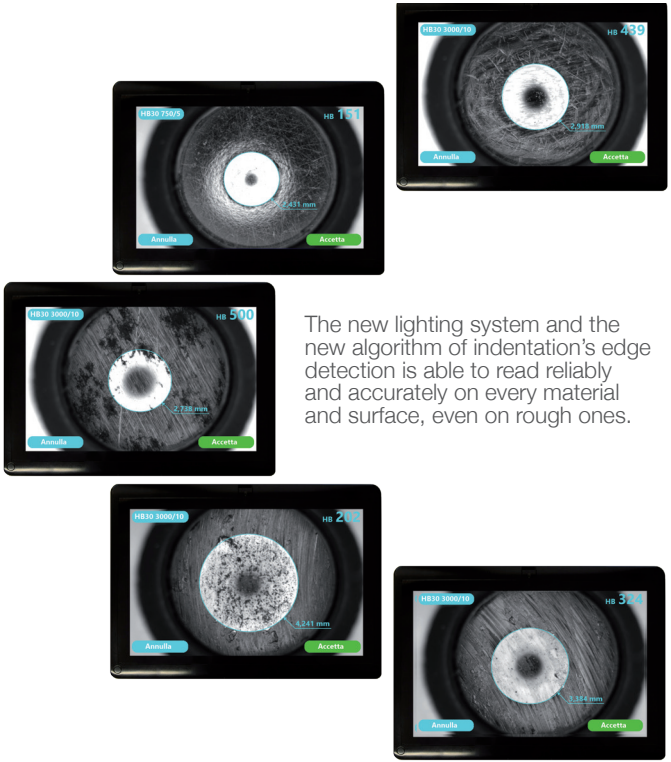


With a second click, the value is confirmed

All measurements can be stored in files and charted; optionally the system can calculate statistics in a file



It is possible to enter up to five (5) tolerance ranges makes the evaluation of the results easy and immediate.
On the main screen, the software shows a graph with the last tests made and calculates the average on a given number of consecutive readings



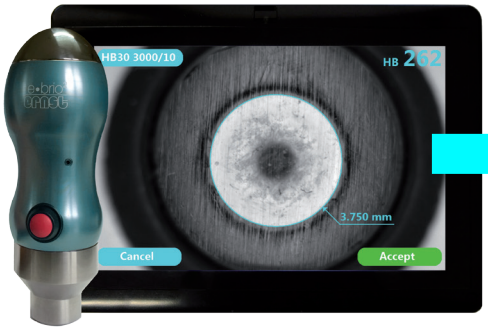
The new lighting system and the new algorithm of indentation's edge detection is able to read reliably and accurately on every material and surface, even on rough ones.

The e·brio² system includes:

- PC Tablet
- Scanning head with internal infrared LED lighting and USB connector
- Windows 7 based software for automatic reading of the indentation
- High resolution camera, especially selected for optical Brinell reading, built in the scanning head
- Testblock with reference indentation
- Connection cables
- Operator manual

The Tablet PC to complete the system is available on request

The software provides a multitude of scales and the ability to measure directly the impression made with calibrated pins through our ERNST STE Pin Brinell equipment.*



* ERNST is the originator of the Pin Brinell and the sole authorized manufacturer of calibrated pins and of the conversion tables between the impression's diameter and the related Brinell number.
ERNST e•brio² is the sole Brinell automatic optical reader with special software able to read such impressions, since the conversion tables can be updated at any time when the characteristics of the material used to build pins changes.

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TECHNICAL DATA

- Dimensions: h 170mm - Ø 66mm
- Weight: 0.750kg
- Camera resolution: 752 x 480 Pixel
- Diameters range: 0.7 – 5.0 mm

The user can create files, each file will be constituted by a series of parameters that will form the working environment

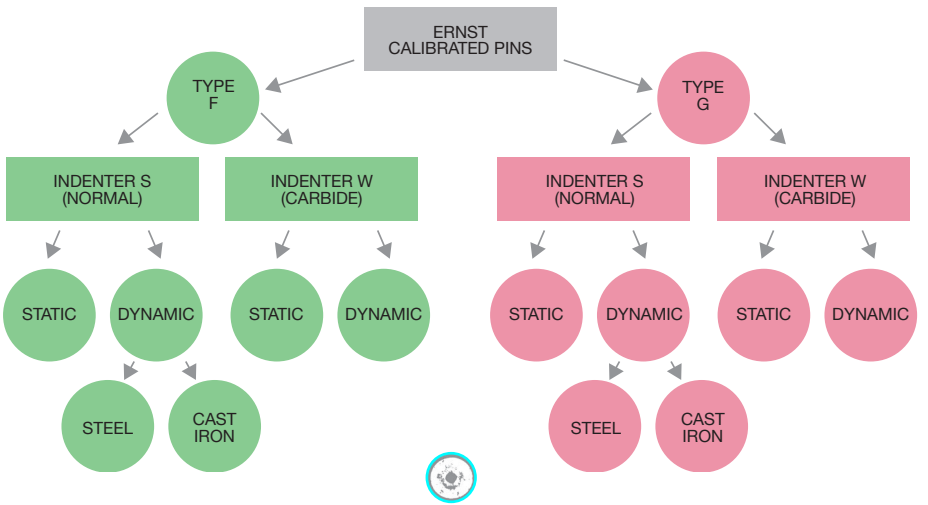
Data file parameters:

- File name
- Five descriptive fields with possibility to modify the name
- The conversion of the measured value can be selected in alternative scales available:
  HRA, HRB, HRC, HRD, HRE, HRF, HRK, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HV, N/mm2, kg/mm2
- Possibility to set the automatic average of the values obtained after n tests
- Five tolerance ranges
- Histogram and statistical calculations display
- Graph display with test n° on the x-axis and measured value on the y-axis
- Control/calibration of the instrument with reference indentation testblock
- Print certificate of completed work with possibility to enter customers data and logo
- Storing image impressions, with the possibility to measure them again at a later stage
- Choice between two groups of scales: Brinell or STE

Brinell scales

Ball Ø (mm)	Load			
10.0	3000.0 kgf *(29420 N)*	1000.0 kgf *(9807 N)*	500.0 kgf *(4903 N)*	250.0 kgf *(2451.6 N)*
5.0	750.0 kgf *(7355 N)*	250.0 kgf *(2452 N)*	125.0 kgf *(1226 N)*	62.5 kgf *(613 N)*
2.5	187.5 kgf *(1838.7 N)*	62.5 kgf *(613 N)*	31.25 kgf *(306.5 N)*	15.625 kgf *(153.2 N)*
Scale	HB30	HB10	HB5	HB2.5

Calibrated pins STE ERNST



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We reserve the right to make modifications