



# HTB 3000D

## Digital Brinell Hardness Tester

- > Digital Brinell Hardness Tester combines the high accuracy mechanical structure and load cell control system. Motorized test force application without weights with its 0.5% accuracy compression sensor, CPU control system automatically compensate the test force lost during the test.
- > The indentation can be directly measured through the digital measuring eyepiece, the control system show the test force, indentation length, dwell time, test number, date and time on the large screen.
- > Test results can be saved or printed out by the built-in printer.
- > According to the requirements the tester can be equipped with CCD or Video measuring system.



### Application

- > Suitable for cast iron, steel products, non-ferrous metals and soft alloys etc. Also suitable for some non-metal materials such as rigid plastics and bakelite etc.

### Reference standard

- > ISO 6506, ASTM E10-12, JIS Z2243

**Table 1**

Standard block hardness range	Displayed value allowed tolerance %	Displayed value allowed repeatability %
≤125	±3	3
125<HBW ≤ 225	±2.5	2,5
>225	±2	2



Model	HTB 3000D
Technology	Load cell closed loop - Load electronic controlled
Load selection	Control panel keyboard
Main loads	62.5kgf, 100kgf, 125kgf, 187.5kgf, 250kgf, 500kgf, 750kgf, 1000kgf, 1500kgf, 3000kgf
Dwell time	0-60s
Loading time	62.5kg: 1.5s, 100kg: 2.5s, 125kg: 3.5s, 187.5kg: 4s, 250kg: 4.5s, 500kg: 7.5s, 750kg: 8s, 1000kg: 8.5s, 1500kg: 11s, 3000kg: 18s
Loading speed	Manual lifting of the test table (Z axis)
Test force tolerance	±1.0%
Test cycle type	Semi-automatic - manual - pre-load with sound alarm brake, measure of the indentation - Automatic - load, dwell, unload, show of the hardness value (after measure step)
Hardness scales	HBW10/3000, HBW10/1500, HBW10/1000, HBW10/500, HBW10/250, HBW10/125, HBW10/100, HBW5/750, HBW5/250, HBW5/125, HBW5/62.5, HBW2.5/187.5, HBW2.5/62.5
Hardness test range	3.18 ~ 653HBW
Hardness resolution	0.01HBW
Repeatability hef/%	≤125, ±3% 125 < HBW ≤ 225, ±2.5% > 225, ±2%
Hardness resolution	0.01HBW
Scale conversion	HV, HK, HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRK, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HS - According to ASTM E140
Turret type	Manual shifting
Eyepiece microscope	20x
Objectives	1x
Optical Path	1
Illumination	LED light
Microscope min. measuring unit	1.25µm (1x objective)
Microscope max. measurement length	6mm (1x objective)
Measurable min. indent/indentation	0.24mm
Indenters	Ø 2,5mm, Ø 5mm, Ø 10mm hard alloy steel ball indenter
N. of indenters	1
Nose cone support diameter	6.35mm
Vertical test capacity	225mm
Horizontal test capacity	135mm
Anvils dimensions	Large plane test table Ø 200mm Middle sized testing table Ø 60mm V-Shaped test table Ø 80mm
Max. weight on anvil	200kg
Z axis movement	Manual
Z axis speed	Manual
Display type	LCD
Display dimensions	4.3"
Input mode	Control panel keyboard
Displayed data	Hardness value, D1, D2, dwell time, test number, test force, date and time, light, conversion scale, hardness range
Statistics or functions	Max, min, average value
Data storage	Temporary session memory - 96 tests
Data output	Hypertextual session format (.HT)
Energy saving mode	Yes
Printer	Built-in printer
Interfaces	1x RS232
Safety device	Emergency switch
Operation temperature	10-30°C
Operation rel. humidity	≤65%
Weight	130kg
Dimensions	545x235x790mm
Power supply	230V, 50Hz
Voltage variance	±10%
Absorbed power	500W

**Standard accessories**

Model	Description	Qty
BT- DE20X	20x digital measuring eyepiece	1 pc
BI-25	Hard alloy steel Ø 2,5mm ball indenter	1 pcs
BI-5	Hard alloy steel Ø 5mm ball indenter	1 pcs
BI-10	Hard alloy steel Ø 10mm ball indenter	1 pcs
BT-LTT200	Large plane test table Ø 200mm	1 pcs
BT-MTT60	Middle sized testing table Ø 60mm	1 pcs
BT-VTT80	V-Shaped test table Ø 80mm	1 pcs
HB-150250HBW103000	Hardness block 150-250 HBW 10/3000	1 pc
HB-150250HBW5750	Hardness block 150-250 HBW 5/750	1 pc
BT-PC	Power cable	1 pc
BT-SK	Service keys	1 set
BT-ADC	Anti-dust cover	1 pc

**Optional accessories**

Model	Description
BT-V10S	V1.0 System
BT-LCDMD	LCD measuring device
BT-CCDMS	CCD measuring system
BT-WB	Work bench
BT-APP	Additional printer paper roll

**Brinell hardness blocks**

Model	Range
HB-BW10/3000	180-650 HBW 10/3000
HB-BW10/1500	180-650 HBW 10/1500
HB-BW10/1000	90-450 HBW 10/1000
HB-BW10/500	90-450 HBW 10/500
HB-BW5/750	180-650 HBW 5/750
HB-BW5/250	90-450 HBW 5/250
HB-BW2.5/187.5	180-650 HBW 2.5/187.5
HB-BW2.5/62.5	90-450 HBW 2.5/62.5



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