



Data Sheet

HTB 3000Z

HTB 3000Z**Fully Automatic Digital Brinell Hardness Tester**

- > Fully Automatic three indenters digital Brinell Hardness Tester adopts strong rigidity and precise structure design casting, load test force controlled by sensors, allowing accuracy and stability.
- > Test process controlled by CPU, automatic switching between objective and the indenter.
- > Switching system adopts mechanical and electronic double control 10 level of test force, 13 Brinell hardness test scales;
- > Three indenters and two objectives, no need to change the indenters when testing different samples; with rigorous optical structure and high magnification clear indentation observation;



- > Automatic indenter and objective selection; touch screen operating, test force, dwell time, light source intensity adjustment, indentation length, hardness value, test range and test number etc.;
- > Conversion scales of different kinds of hardness;
- > Built in printer and RS232 interface.
- > According to the requirements the tester can be equipped with CCD or Video measuring system.

Application

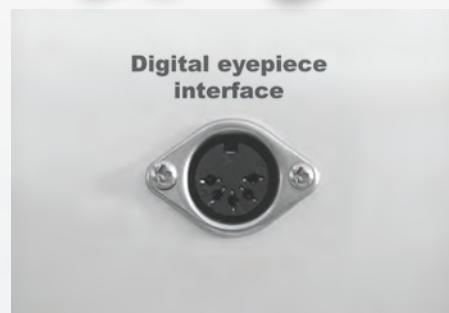
- > Suitable for cast iron, steel products, non-ferrous metals and soft alloys etc. Also suitable for some non-metal materials such as rigid plastics and bakelite etc.

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

Digital eyepiece interface

Digital Brinell Hardness Tester 2.0								
F/D ²	30	15	10	5	2.5	1.25	1	
D(mm) TESTER FORCE								
10	3000	1500	1000	500	250	125	100	
5	750		250	125	62.5			
2.5	187.5			62.5				
HRC		No. 00	2016/07/21-13:51:07					
Loading	Indenter	Dwell	Light	Change	Time			
3000	10.0 mm	15S	70 %	HRC	MIN			

Digital Brinell Hardness Tester 2.0							
Measurement				Loading			
D1 : 0.000mm				F : 0.0			
D2 : 0.000mm				Range			
				95.5 -- 653 HBW			
				0.00HBW			
HRC	No. 00	2016/07/21-13:50:52					
Loading	Indenter	Dwell	Light	Change	Time		
3000	10.0 mm	150	70 %	HRC	MIN		



Model	HTB 3000Z
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	0.3mm/s
Test force tolerance	±1.0%
Test cycle type	Semi-automatic - manual - focus, measure of 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%
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	Automatic
Eyepiece microscope	20x
Objectives	1x, 2x
Optical path	1
Illumination	LED light
Microscope min. measuring unit	1.25μm (objective 1x) - 0.625μm (objective 2x)
Microscope max. measurement length	6mm (objective 1x) - 3mm (objective 2x)
Measurable min. indent/indentation	0.24mm
Indenters	ø 2,5mm, ø 5mm, ø 10mm hard alloy steel ball indenter
N. of indenters	3
Nose cone support diameter	6.35mm
Vertical test capacity	260mm
Horizontal test capacity	150mm
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	Hyperterminal session format File (.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	150kg
Dimensions	535x260x890mm
Power supply	230V, 50Hz
Voltage variance	±10%
Absorbed power	500W

Standard accessories

Model	Description	Q.ty
BT- DE20X	20x digital measuring eyepiece	1 pc
BT-1XOB	1x objective	1 pcs
BT-2XOB	2x objective	1 pcs
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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