

## Fully automatic Rockwell hardness tester HMDR1

### + Product Features:

●It is a fully automatic intelligent digital Rockwell hardness tester, Rockwell hardness and surface Rockwell hardness measurements can be performed automatically on the sample:

●One button operation, automatic lifting, automatic load change, automatic loading, automatic unloading of the workbench, Automatic conversion, fully automatic measurement:

●The human-computer interaction interface is friendly, and the 5.2 "color touch screen directly displays the test force, load holding time Parameters such as conversion value and indenter type:

●Automatically calculate and display measured values, maximum values, minimum values, average values, and hardness value deviations, Indication display resolution 0.1HR:

●It has upper and lower limit settings for hardness values, out-of-tolerance alarms, and data graph analysis, Functions such as average value and (single point) batch measurement mode:

●With software compensation function, 3HR software compensation can be performed on the machine without opening the top cover plate for mechanical adjustment:

●It has multi language function and can switch between Chinese, English, German, Portuguese, Türkiye, Czech, Korean and other languages:

●Built-in 2000 groups of single data storage functions and 1000 groups of grouped data storage functions, allowing you to view and analyze individual data:

●Optional Bluetooth wireless printer can be purchased to print measurement data, eliminating the need to manually record and write test data:

●Optional Softhard data analysis software and Bluetooth receiver can be purchased to import and analyze the measurement data from the upper computer:

●Support FexOMS measurement big data analysis and control software, improve the entire factory process control, and reduce material consumption.



### + Scope of application :

- ◆Rigid fusion
- ◆Surface hardened steel
- ◆alufer
- ◆Quenched and tempered steel
- ◆Carburized steel
- ◆Hard cast steel
- ◆Maintainable casting
- ◆Annealed steel
- ◆Foreign fired steel
- ◆alufer
- ◆mild steel
- ◆Bearing steel

### + technical parameter:

Product Name	Fully automatic Rockwell hardness tester
Product model	HMDR1
Product article number#	811-330
Initial test force	10Kgf (98.1N)

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Total test force	60Kgf (588. 4N), 100Kgf(980. 7N), 150Kgf(1471N)
Rockwell Scales	HRA HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK,HRL, HRM, HRP, HRR, HRS, HRY
Duration Time	1-60s Adjustable
display	5.2 "color touch screen, resolution: 640 * 480
Hardness resolution	0.1HR
Test force loading method	Automatic loading/holding/unloading
Exchange Scales	HRC、HV、HBS、HBW、HK、HAR、HRD、HR15N、HR30N、HR45N、HS、HRF、HR15T、HR30T、HR45T、HRB
Conversion Criteria	ASTM、DIN
Language category	Chinese, English, German, Portuguese, Turkish, Tikh, Korean
Software modification	-3.0HR "+3.0HR, step value 0.1HR
data handling	2000 groups of single data and line chart statistical analysis function for multiple measurement frames, and provide single data viewing function and group data analysis function respectively
Print Configuration	Can be equipped with a printer without searching
Maximum allowable height of the sample	280mm
Deep throat	170mm
supply voltage	AC220V/50Hz;AC110V/60Hz
Overall dimensions	620x210x900mm
Package size	710 x 530 x 1000mm
Net weight/gross weight	125Kg/143Kg
Executive standards	GB/T230.2, JIS Z2245,EN-ISO6508, ASTM E-18

### + Standard configuration:

Product Name	Product Name
main engine	01.588mmSteel ball indenter
Hardness test block (20-33)HRC	power cord
Hardness test block (57-70) HRC	Diamond indenter
Hardness test head (85-100)HRB	weightA
0200mm Daping test bench	weightB
060mm Xiaoping test bench	weightC
040mm VShape test bench	dust cover
Accessory box	level
Certificate of Conformity/Warranty Card	Instructions/Packing List

### + Optional configuration:

Optional Accessories	Optional Accessories	Optional Accessories
1/8" Steel ball indenter	1/4" Steel ball indenter	1/2" Steel ball indenter
Ø1/8" steel ball	Ø1/4" steel ball	Ø1/2" steel ball
Xiaoping test bench	Pressure head protection sleeve	Wireless printer
Bluetooth upper computer module	statistical software	/

## Manual ultrasonic hardness of long/short probe HM330G

### Large screen

32"color room display

### Small indentation

Unable to observe directly with the naked eye

### Fast

Top25 results

### Easy to operate

Easy Shuttle

### Wireless

Bluetooth Data transmission and printing

## Compliance with standards

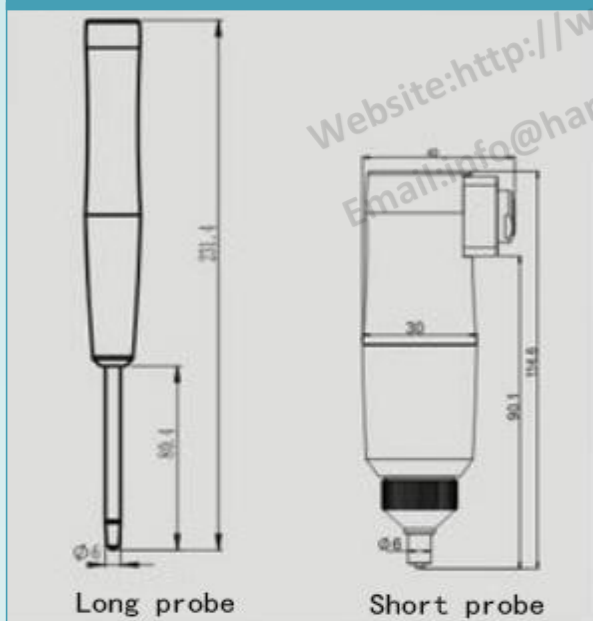
ASTM-A1038-2005; DIN 50159-1-2008; JB/T9377-2010.

## Product Introduction

PW-330C Long Head Manual Ultrasonic Hardness Tester is also known as Ultrasonic Gear Hardness Tester and Deep Hole Hardness Tester because the configured ultrasonic probe is relatively slender and can non-destructive measure workpieces that cannot be directly measured by ordinary hardness testers such as gears and deep holes. PW-340T manual ultrasonic hardness tester is also known as ultrasonic pipeline hardness tester and internal hardness tester because the configured ultrasonic probe is very short and can directly measure the hardness of the entire pipeline without damage.



### Dimensional drawing of probe



### Product Application



# technical parameter

Product Name	Long probe manual ultrasonic hard seat meter		Short probe manual ultrasonic hard seat meter		
Instrument model	HM330G				
Instrument article number#	882-141C				
Long probe	Standard configuration 10N: HP-1C optional 20N HP				
Measuring range (DIN)	20-68HRC:55-100HRB; 60-85HRA; 100-500HBS100-1500HV:Mpa; 255-2180N/mm				
Measurement accuracy (%)	Hardness scale	*250HV	250-500HV	500-800HV	800HV
	HV0.1	6	7	8	9
	HV0.3	6	7	8	9
	HV0.8	5	5	6	7
	HV1	5	5	6	7
	HV5	5	5	5	5
	HV10	5	5	5	5
Display board	3.2 "color LCD screen				
Hardness scale	Vickers (HV); Rockwell (HRAHRBHRC); Brinell (HB): Vickers (HS)				
data display	Vickers (HV); Rockwell (HRAHRBHRC); Brinell (HB): Vickers (HS)				
Language selection	Chinese, English, German, Portuguese, Turkish				
data output					
Data printing					
data storage					
Text input					
work environment					
Instrument power supply					
Charging voltage					
Host size and weight					
Package size and weight					

# Vickers hardness tester HMV-5

## Application circle:

- HMV-5 Vickers hardness testers are mainly used for hardness testing and scientific research of all generic materials。
- HMV-5 Capable of testing from very shaped materials (such as several HV) to very hard materials (3000 HV)
- HMV-5 It can almost be measured except for samples that are particularly small and thin coated All belong to the entire genus.

## Product Features:

- HMV-5 Automatic closed-loop sensor loading is adopted, and the MPU controls the automatic loading of the test force Guarantee and load:
- HMV-5 The optical system is equipped with 10x micrometer eyepieces 10x and 40x mirrors, Optical magnification up to 100X and 400X
- HMV-5 LCD liquid product display screen is adopted, which can directly display the test force Hardness value, test force holding time, measurement times, etc.:
- HMV-5 It is necessary to manually read the indentation length, manually enter the indentation length through the control panel, and the MPU automatically calculates the Weimin hardness value:
- HMV-5 Optional thermal printer (V-5P) or automatic turret (V-5A):
- HMV-5 An iVicky 2.0 CMOS camera measurement system can be optionally equipped with a VicPad hardness measurement system.



## technical parameter:

Product Name		Vickers hardness tester
Product model		HMV-5
Product article number		#821-101
Testforce	Kgf	0.3、0.5、1、2、2.5、3、5
	N	2.94、4.9、9.8、19.6、24.5、29.4、49.0
optical system		Observation and measurement objective lens: 10x/40x
measuring range		1HV-2967HV
Turret system		Manual turret (automatic turret optional)
Loading Method		Full automatic loading/holding/unloading of face test force
eyepiece		10x Mechanical reading eyepiece
Duration Time		5-60s Adjustable
Lighting source		Adjustable LED cold light source/halogen light source
Height of test piece		170mm
Instrument throat depth		130m
supply voltage		AC220V/50Hz: AC110V/60Hz
Overall dimensions		530x225x630mm
Package size		610x450x770mm
Gross weight/net weight		50Kk/38Kg
Executive standards		1S06507, ASTM E92, JIS Z2244, GB/T4340

## Standard configuration:

Attachment Name	Attachment Name	Attachment Name
Da Wei Min indenter	10x Machine City Reading Eyepiece	dust cover
φ100mm staging	10x objective	Accessory box
Vickers hardness block(700~800)HV5	40x objective	power cord
Vickers hardness block(400~500)HV1	Warranty Card/Certificate of Conformity	Instructions/Packing List

## Optional Accessories:

Attachment Name	Attachment Name	Attachment Name
X-Y cross platform	Sheet holder	Weimin hardness measurement system
Digital display micro header	flat tongs	USB CMOS camera
Heavy duty workbench	Filament clamping table	Camera Adaptation Mirror
V-shaped platform	Irregular clamping table	Vickers measurement software

## Brinell hardness tester HM3000B

### Product features:

- Electronic reversing switch:
- Robust construction, good rigidity, accuracy, reliability, durability, and high measurement efficiency:
- High precision reading microscope measurement system:
- Widely applicable to quality monitoring in production sites, with strong adaptability to the working environment:
- The accuracy shall comply with GB/T231.2, ISO 6506-2, and ASTM E10.

### Scope of application:

Measure the Brinell hardness of black, nonferrous, and bearing composite materials. Application Fan Guoguang, Especially suitable for precise measurement of parallel planes, and the measurement of curved surfaces is stable.

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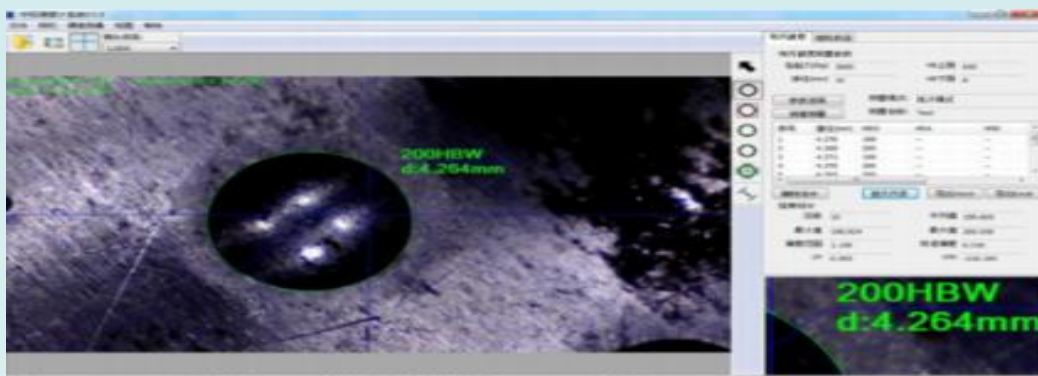
### Technical parameters:

name		Brinell hardness tester
model		HM3000B
Article No#		831-101
Test force	Kgf	187.5Kef, 250Kgf, 750Kgf. 1000Kgf. 3000Kgf
	N	1839N, 2452N, 7355N, 9800N, 29400N
measuring range		(8-450) HBS. (8-650) HBW
Brinell hardness value reading		table look-up
microscope		20x Mechanical reading microscope
Maximum height of test piece		230mm
Distance from the center of the indenter to the fuselage		120mm
Overall dimensions		700x268x842mm
Gross weight/net weight		240Kk/ 210Kg
Executive standards		GB/T231.2, JJG150, EN-ISO 6506 ASTM E10-12 JIS Z2243
Indication accuracy		
Hardness range		Maximum allowable error of indication value
		Indication repeatability
HBW < 125		≤ ± 3.5%
125 < HBW < 225		≤ ± 2.5%
HBW > 225		≤ ± 2.0%

### Standard configuration:

Product Name	Product Name	Product Name
Device host only	Ø10mm Steel ball indenter	Ø60mm Test bench
20x Mechanical reading microscope	Ø5mm Steel ball indenter	Ø40mm V Shape test bench
Standard hardness block HBW 10/3000	Ø2.5mm Steel ball indenter	hold-all
Standard hardness block HBW 5/750	power cord	Weight group
dust cover	Instructions/Packing List	Warranty Card/Certificate of Conformity

### Optional Brinell measurement software BrinScan:



Website: <http://www.himcnc.com>

Get-a-Quote email: [info@harmonywold.com](mailto:info@harmonywold.com)

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The HM300M host and probe adopt a streamlined design, an anti-interference aluminum alloy housing, a high-strength scratch resistant glass panel, a high-speed computing MPU system, a 3.2 "high brightness color LCD screen, and moneyless Bluetooth data printing and transmission technology. With a clear human-computer interface, portable hardness measurement has been upgraded to the era of Industry 4.0.

### Application field:

The PW-300M electric ultrasonic hardness tester adopts a modular design, coupled with electric ultrasonic probes MP-300 and UP-500. NP-800. The MP-1000 can measure the roller shaft. Screw, wind power, etc. have chromium plating, copper plating, carburizing, nitriding layer hardness of the sample plating layer.

### Product features:

**High accuracy:** the test accuracy can reach HV:  $\pm 3\%$  HV, HR:  $\pm 1.5\%$  HR, HB:  $\pm 3\%$  HB;

**Small indentation:** The inner eye cannot be directly observed, and can only be detected using a high-power full phase microscope;

**Fast speed:** The test results are output in 6 seconds, increasing the efficiency of the microhardness tester by 20 times;

**Large screen:** The current measured value, maximum value, minimum value, average value, and hardness conversion value are directly displayed on the 3.2 " color screen;

**Easy to operate:** You can quickly generate test results with just one click of operation;

**Wireless printing:** Support wireless Bluetooth printing and data transmission.

### technical parameter

Product Name	Ultrasonic hardness tester				
model	HM300M				
Article No	882-141M				
Optional probe	Manual probe: 10N、20N、49N、98N; Electric probe: 3N、5N、8N、10N				
Measurement range (DIN)	HBS:100-500; HV:100-1500; HRC:20-68; HRB:55-100; HRA:37-85; Mpa: 255-2180N/mm				
Measurement accuracy (%)	Electrodynamic probe	<250HV	250~500HV	500~800Hv	>800HV
	HVO. 1	6	7	8	9
	HVO. 3	6	7	8	9
	HVO. 8	5	5	6	7
	HV1	5	5	6	7
	HV5	5	5	5	5
	HV10	5	5	5	5
Hardness scale	Vickers (HV): Rockwell (HRA, HRB, HRC); Brinell (HB): Shaw (HS)				
display	3.2"Color LCD screen				
data display	Measured value, maximum value, minimum value, average value, hardness conversion value, and measurement mode				
Language selection	Chinese, English, Depan, Portuguese, Turkish				
data output	RS232 data output				
Data printing	Bluetooth wireless printer				
data storage	Can store 20 sets of correction data and 1000 sets of measurement data				
Text input	Support number and letter input				
work environment	Temperature: - 10C~50C; Temperature: 30%~80%				
Battery only	Rechargeable lithium battery, working voltage 4.2V, 3200mAh				



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Charging voltage	AC220V/50Hz, 110V/60Hz
Host size and weight	Host size: 160x80x31mm; Host weight: 500g (excluding probe)
Package size and weight	Outer package size: 400x320x150mm; Package weight: 5Kg

### Standard configuration

Product Name	Article No	Product Name	Article No	Product Name	Article No
main engine SU-300	882-141M	10NElectric probe	882-251	Shockproof instrument box	882-901
Rongmin hardness block (58~65)HRC	882-641	Probe data line	882-801	Hexagon wrench	/
USB Charger	882-851	Product Packing List	SU-300M	instructions	SU-300W
Product certificate	SU-300M	Product warranty card	SU-300M	/	/

### Manual probe of ultrasonic hardness tester



### Manual probe features:

- Ultrasonic contact impedance method:
- Hardness measurements can be obtained without the aid of an external support:
- 360 ° fast measurement without dead angle:
- Excellent ergonomic design for easy lifting of the probe:
- The size and weight of the probe make it easier to control the measurement angle:
- Accurate and fast measurements can be made at fixed locations, even at the edges of the material:
- The surface indentation is very small, which is very convenient for post processing of materials and workpieces.

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### Technical parameters:

Probe type	HP-1K	HP-2K	HP-5K	HP-10K
Article No	882-311	882-321	882-331	882-341
True test force	10N	20N	50N	98N
diameter	22mm	22mm	22mm	22mm
length	154mm	154mm	154mm	154mm
Resonant rod diameter	2.4mm	2.4mm	3mm	3mm

### technical parameter:

Probe type	HP-1K	HP-2K	HP-5K	HP-10K
Article No	882-311	882-321	882-331	882-341
True test force	10N	20N	50N	98N
diameter	22mm	22mm	22mm	22mm
length	154mm	154mm	154mm	154mm
Resonant rod diameter	2.4mm	2.4mm	3mm	3mm
Maximum roughness of measuring surface	Ra<3.2um	Ra<5um	Ra<10um	Ra<15um
Minimum weight of workpiece	0.3kg	0.3kg	0.3kg	0.3kg
Minimum thickness of workpiece	2mm	2mm	2mm	2mm

### Electric probe of ultrasonic hardness tester



**Features of electric probe:**

- Ultrasonic contact impedance method:
- Hardness measurements can be obtained without the aid of an external support:
- Excellent ergonomic design for easy grip on the probe:
- The surface indentation is very small, which is very convenient for post processing of materials and workpieces:
- Electric loading/holding/unloading:
- Accurate one-click quick measurement:
- Planar support ring with magnetic force:
- Especially suitable for hardness measurement of thin films and coatings, with more accurate measurement accuracy:
- Equipped with a deep hole protective cap, it can be used in various applications for measurement.

**Technical parameters:**

Probe type	MP-300	MP-500	MP-800	WP-1000
Article No	882-211	882-231	882-241	882-251
True test force	3N	5N	8N	10N
Straight lightness	46mm	46mm	46mm	46mm

- Excellent ergonomic design for easy grip on the probe:
- The surface indentation is very small, which is very convenient for post processing of materials and workpieces:
- Electric loading/holding/unloading:
- Accurate one-click quick measurement:
- Planar support ring with magnetic force:
- Especially suitable for hardness measurement of thin films and coatings, with more accurate measurement accuracy:
- Equipped with a deep hole protective cap, it can be used in various applications for measurement.

**Technical parameters:**

Probe type	MP-300	MP-500	MP-800	WP-1000
Article No	882-211	882-231	882-241	882-251
True test force	3N	5N	8N	10N
diameter	46mm	46mm	46mm	46mm
length	197.5mm	197.5mm	197.5mm	197.5mm
Resonant rod diameter	3.7mm	3.7mm	3.7mm	3.7mm
Minimum weight of workpiece	0.3kg	0.3kg	0.3kg	0.3kg
Minimum thickness of workpiece	2mm	2mm	2mm	2mm

**Standard hardness block parameters:**

Hardness value range	Article No	Uniformity	Hardness block size
(28~35)HRC	882-611	±1.5HRC	Ø90x16mm
(38~45) HRC	882-621	±1.5HRC	Ø90x16mm
(48~55)HRC	882-631	±1.5HRC	Ø90x16mm
(58~65)HRC	882-641	±1.5HRC	Ø90x16mm

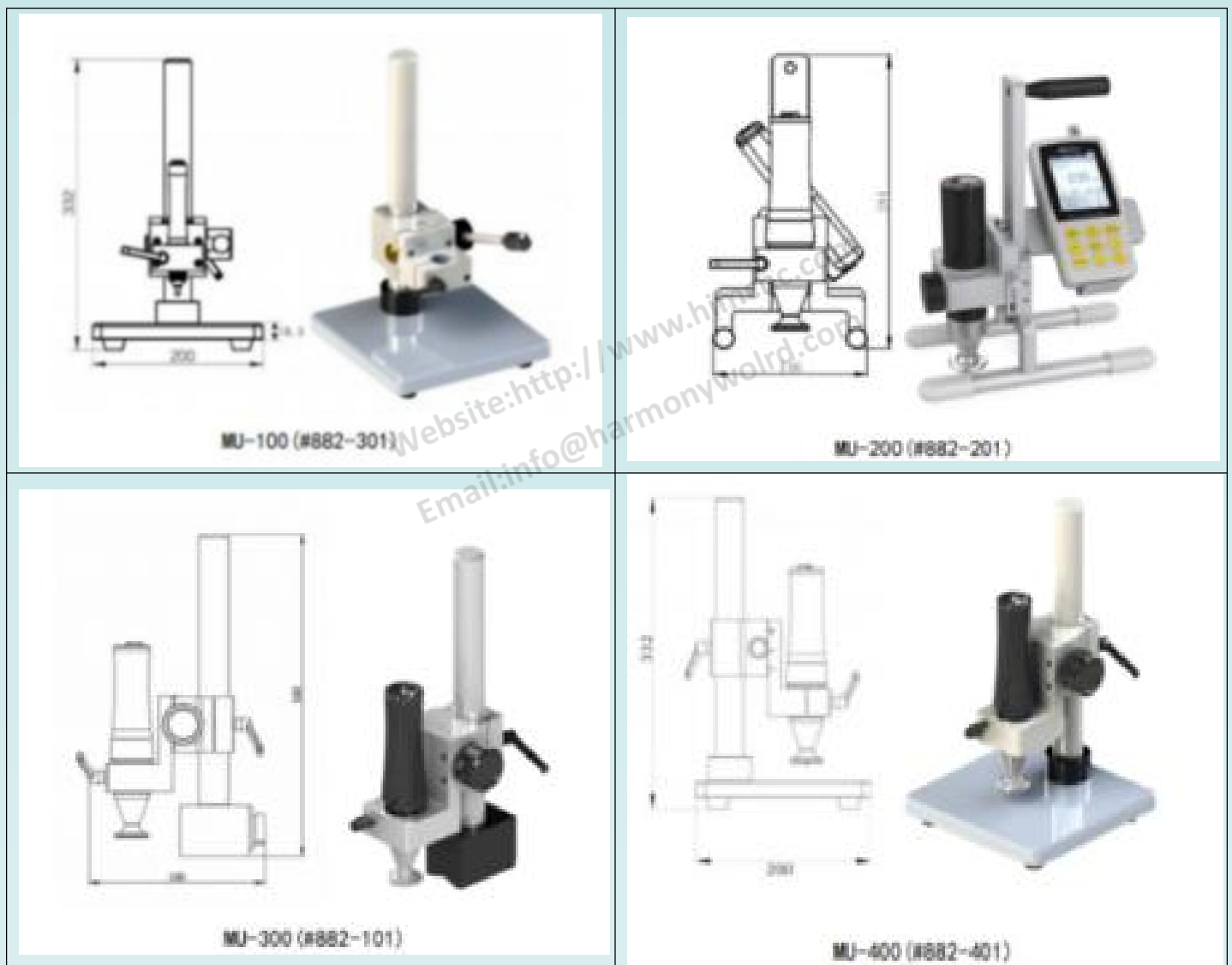
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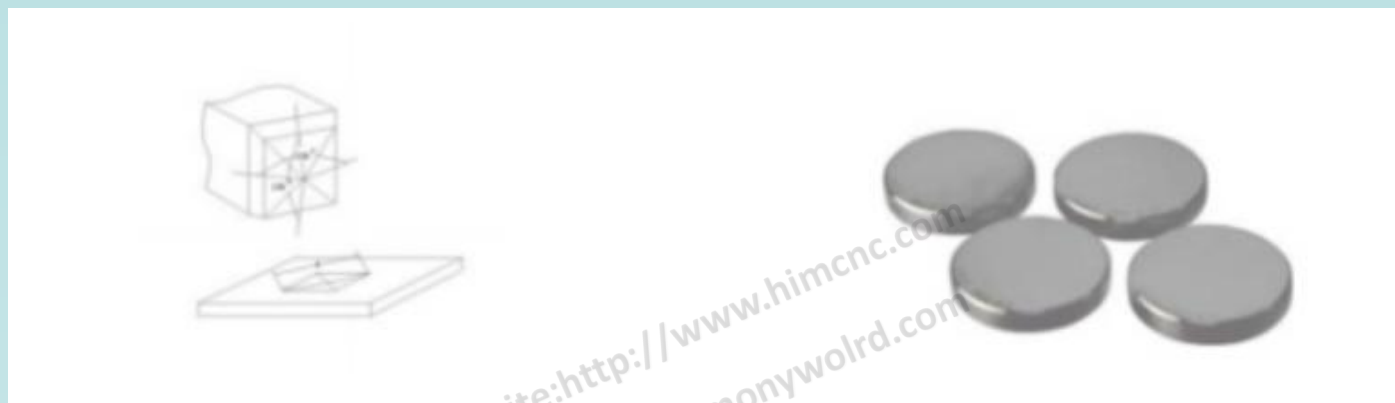
(300~800)HV 1	882-651	± 3%HV	Ø90x16mm
(300~800)HV 5	882-661	± 3%HV	Ø90x16mm
(300~800) HV 10	882-671	± 3%HV	Ø90x16mm
(85~550)HB	882-681	± 3%HB	Ø90x16mm

### Test stand:

model	MU-100	WU-200	MU-300	MU-400
Article No#	882-301	882-201	882-101	882-401
material	stainless steel	Magnesium aluminum alloy	aluminium	stainless steel
weight	8.8Kg	1.6Kg	4.5Kg	9.5Kg
Overall dimensions	200x200x332mm	205x142x284mm	200x120x348mm	200x200x332mm
Package size	320x320x440mm	405x340x580mm	398x310x540mm	398x398x530mm
remarks	Special bracket for manual probe	Special bracket for electric probe rolling and lifting	Magnetic support	Special bracket for electric probe

### Test stand model classification:





Schematic Diagram of Ultrasonic Hardness

Hardness block

**Support ring parameters:**

Name of support ring	Flat support ring	Small cylindrical support ring	Large cylindrical support ring
Article No	882-511	882-521	882-531
Application Country	Planar specimen	Specimens with a diameter of 8-22m	Diameter 16-80mm sample

**Support ring and protective cap:**

				
Flat support ring(#882-511)	Broken small column support(#882-521)	Damaged large cylindrical support(#882-531)	Standard loss detection protective cap(#882-711)	Deep hole probe protective cap(#882-721)



Measuring the hardness value of a cylinder using a cylindrical support ring



Use a deep hole protective cap to measure the hardness of the nut

**Application field of ultrasonic hardness tester probe:**

Test force	model	characteristic	Typical Applications
98N	Standard length (manual)	Large indentation, minimum surface requirements	Small forgings, casting materials, weld inspection, heat affected zone
49 N	Standard length (manual) Long probe (manual) Short probe (manual)	Commonly used, the length is extended by 30mm and shortened by 90mm, and the electronic components are arranged in a separate manner	Induction hardened or carburized parts such as camshaft, turbine weld inspection, heat affected zone, measuring grooves, tooth sides and roots, full wheel blades, inner walls of pipes with a diameter greater than 90 mm
10 N	Standard length (manual) Long probe (manual) Short probe (manual)	Easy to pressurize, provides control for small radius testing, lengthens by 30mm, shortens by 90mm, and has a separate arrangement of electronic components	Ion nitriding die, mold shell, fixture, thin-walled bearing, toothed turbine blade, inner wall of pipe with diameter greater than 90 mm
10N	Electric probe	Motor loading	Smooth precision parts, gears, bearing raceways
8N	Electric probe	Motor loading	Smooth precision parts, gears, grapefruit bearing channels
3N	Electric probe	Motor loaded, less dents	Thin layer, such as steel or chromium on a steel sheet: Copper rotary photocopier: Coating, surface