



Ultrasonic Hardness Tester KU100



KU100 (#882-121)

Features:

- At present, there are kinds of methods for hardness measurement, commonly used like Brinell, Rockwell, Vickers, Leeb, etc. while the disadvantages are obvious for the above hardness measurement.
- Rockwell and Brinell with heavy loading force and big indentation, lead to serious destruction on sample surface.
- Vickers apply optical measurement, but only professional technicians can operate smoothly, impossible to measure hardness of heavy work piece, installed machinery and permanently assembled parts.
- Leeb hardness tester apply rebound and indirect method to measure hardness, easily lead to big deviation when convert to Birnell, Rockwell and Vickers scales.



- Ultrasonic hardness tester KU100 apply ultrasonic contact impedance method to do comparative hardness measurement for testing pieces, with advantages of high accuracy, efficiency, portable and easy operation.
- Ultrasonic hardness tester KU100 is widely used to measure hardness of small forgings, cast material, weld inspection, heat affected zone, Ion-nitrided stamping dies and molds, forms, presses, thin walled parts, bearings, tooth flanks, etc.



Manual Probes Features:

- Introduced latest ultrasonic sensor technology
- Obtain accurate hardness value without auxiliary devices
- Support 360° quick measuring
- Excellent human engineering design easy to hold
- Suitable dimension and weight of probe is convenient to control
- Quick and accurate measuring for edge and fixed position of specimen
- Micro indentation, Non- Destructive for specimen

Specifications:

Product Name	Ultrasonic Hardness Tester
Model	KU100



Code#	882-121
Loading Force	20N Manual Probe HP-2K
Indenter	136°Vickers Diamond Indenter
Measuring Range	HB: 85-650;HV 80-1599; HRC 20-70;HRB: 41-100; HRA: 61-85.6 HS: 34.2-97.3;Mpa: 255-2180N/mm
Measuring Accuracy	HV:±3%HV; HRC:±1.5HRC; HB:±3%HB; HLD:±5HLD;
Measuring Direction	Support 360°
Data Storage	To save 1000-groups of measuring data and 20-groups of calibration data
Hardness Scale	HV、HB、HRC、HLD
Data Display	Loading force, Testing-times, Testing result, Average, Maximum、Minimum、Deviation and Conversion scale.
Hardness Indication	LCD display
Operating Environment	Temperature:-10℃~50℃; Humidity: 30%~80%R.H
Operating Voltage	DC 6V
Instrument Dimensions	160x80x31mm
Net Weight	Approximate 500g (Without probe)

Standard Delivery:

Standard Delivery	quantity	Standard Delivery	quantity	Standard Delivery	quantity	Standard Delivery	quantity
KU100 main unit	1	Probe Cable	1	Anti Vibration Case	1	Operation Manual	1
20N Manual Probe	1	Com Cable	1	Screw	1	Warranty Card	1
Standard Rockwell Block	1	USB Cable	1	Qualification Certificate	1	Packing List	1

Manual Probe Specifications:

Probe Type	HP-1K	HP-2K	HP-5K	HP-10K
Code	882-311	882-321	882-331	882-341



Testing force	10N	20N	50N	98N
Diamter	22mm	22mm	22mm	22mm
Length	154mm	154mm	154mm	154mm
Oscillating Rod Diameter	2.4mm	2.4mm	3mm	3mm
Roughness of measuring surface	Ra<3.2um	Ra<5um	Ra<10um	Ra<15um
Min weight of test material	0.3kg	0.3kg	0.3kg	0.3kg
Minimum thickness	2mm	2mm	2mm	2mm

Motorized Probe Specifications:

Probe Type	MP-300	MP-500	MP-800	MP-1000
Code	882-221	882-231	882-241	882-251
Testing force	3N	5N	8N	10N
Diamter	46mm	46mm	46mm	46mm
Length	197.5mm	197.5mm	197.5mm	197.5mm
Oscillating Rod Diameter	3.7mm	3.7mm	3.7mm	3.7mm
Min weight of test material	0.3kg	0.3kg	0.3kg	0.3kg
Minimum thickness	2mm	2mm	2mm	2mm

Block Specification:



Hardness Range	Code#	Uniformity	Roughness	Dimension
(28~35)HRC	882-611	±1.5HRC	Ra=0.02um	Ø90x16mm
(38~43)HRC	882-621	±1.5HRC	Ra=0.02um	Ø90x16mm
(48~53)HRC	882-631	±1.5HRC	Ra=0.02um	Ø90x16mm
(58~63)HRC	882-641	±1.5HRC	Ra=0.02um	Ø90x16mm
(300~500)HV1	882-661	±3%HV	Ra=0.02um	Ø90x16mm
(300~500)HV5	882-671	±3%HV	Ra=0.02um	Ø90x16mm

Support Ring Specifications:

Support Ring Name	Plan Support Ring	Small Cylinder Support Ring	Big Cylinder Support Ring
Code #	882-511	882-521	882-531
Application	Plan Test Piece	Diameter 8-22mm Test Piece	Diameter 16-80mm Test Piece



Plan Support Ring
(#882-511)



Small Cylinder Support Ring
(#882-521)



Big Cylinder Support Ring
(#882-531)



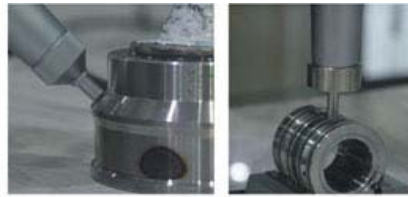
Standard Probe Protector
(#882-711)



Standard Probe Protector
(#882-711)



Gear Materials



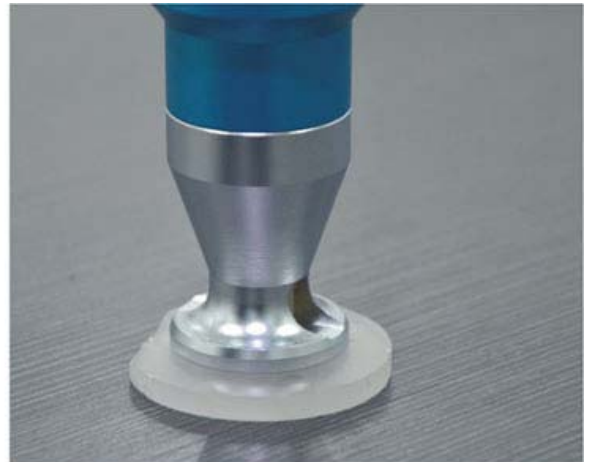
Tube-shape Materials



Radiofrequency Materials



Die steel



Sapphire

Guidelines for selection and use of UCI instruments:

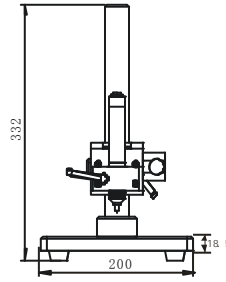
Load	Model	Features	Typical Applications
98N	Standard length (manual)	Relatively large indentation; requires minimal surface preparation	Small forgings, cast material, weld inspection, HAZ
50N	Standard length (manual)	For general use	Induction hardened or carburized machine parts, for example, camshafts, turbine weld inspection, HAZ
	Extended length (manual)	30 mm extended length	Measurement in grooves, on gear tooth flanks and roots
	Short probe (manual)	Reduced length (90 mm); electronics in separate housing	Turbine blades, inside wall of pipes with $\varnothing > 90$ mm



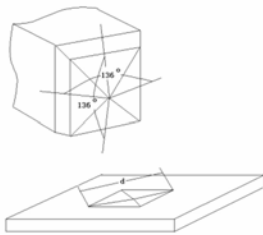
10N	Standard length (manual) Extended length (manual) Short probe (manual)	Load is easy to apply and provides control to test on sharp radii 30 mm extended length Reduced length (90 mm); electronics in separate housing	Ion-nitrided stamping dies and molds, forms, presses, thin walled parts Bearings, tooth flanks Turbine blades, inside wall of pipes with $\varnothing >90$ mm
8 N	Motor probe style	Load is applied by servomotor	Finished precision parts, gears, bearing raceways
3 N	Motor probe style	Load is applied by servomotor; rather small indentations	Thin layers, for example, copper or chromium on steel cylinders; Copper rotogravure cylinders; Coatings, case hardened parts
1 N	Motor probe style	Load is applied by servomotor; rather small indentations	Thin layers and coatings

Testing Stand MU-100:

Testing Stand	MU-100
Code#	882-301
Material	Stainless Steel
Weight	8.8Kg
Dimension(LxWxH)	200 x 200 x 332mm



Testing Stand MU-100(#882-301)



Ultrasonic Hardness Tester

Indenter Illustration



Hardness Tester