

广东宏拓仪器科技有限公司
Guangdong Hongtuo Instrument Technology Co.,Ltd



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KR310 Surface Roughness Tester



TECHNICAL DATA

Measuring rang	The Z axis (vertical)	320 μ m (-160 μ m~160 μ m) , 12600 μ in (-6300 μ in~+6300 μ in)	
	The X axis (Transverse)	17.5mm (0.69 inch)	
Resolution	the Z axis (vertical)	0.002 μ m/ \pm 20 μ m, 0.004 μ m/ \pm 40 μ m	
		0.008 μ m/ \pm 80 μ m, 0.02 μ m/ \pm 160 μ m	
Parameter		Ra Rz Rq Rt Rc Rp Rv R3z R3y Rz(JIS) Ry Rs Rsk Rku Rmax Rsm Rmr R _{Pc} Rk Rpk Rvk Mr1 Mr2	
Graphic		load curve, Roughness profile, Primary Profile	
Filter		RC,PC-RC,Gauss,D-P	
The sampling length(<i>lr</i>)		0.25, 0.8, 2.5mm	
Assessment length (<i>ln</i>)		$ln = lr \times n$ n=1~5	
Sensor	Measuring principle	Inductance	
	Stylus tip	Diamond, 90 cone angle, 5 μ mR	
	Force	Measuring force<4mN, Skid force<400mN	
	Probe head	hard alloy, skid radius of curvature: 40mm	
	Traversing speed	<i>lr</i> =0.25, <i>Vt</i> =0.135mm/s	<i>lr</i> =0.8, <i>Vt</i> =0.5mm/s
		Return	<i>Vt</i> =1mm/s
Precision		0.001 μ m	
Tolerance		Not more than \pm (nm+10%A) A refers to the standard RA value	
Residual Profile		Not more than 0.010 μ m	
Repeatability		not more than 3%	
Power supply		Built-in Lithium ion battery 3200mAh, Charger :DC5V	
Outline dimension		Main unit: 158 \times 55 \times 52mm drive unit: 23 \times 27 \times 115mm	
Weight (main unit)		Around 380g	
Zoom of height adapter		40mm	
working Environment		Temperature: - 20 $^{\circ}$ C ~ 40 $^{\circ}$ C Humidity: < 90% RH	
Store and Transportation		Temperature: - 40 $^{\circ}$ C ~ 60 $^{\circ}$ C	

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	Humidity: < 90% RH
standards	ISO4287, ANSI B46.1, DIN4768, JIS B601
Optional accessory	Magnetic Base, height gauge adapter, curved sensor, small hole sensor, deep groove sensor, pinhole sensor, Extending Rod, Right Angle Rod, mini printer, 200mm platform, 300mm marble platform, software, mobile APP

RANGE

Parameter	Range
Ra Rq	0.005 μ m ~ 32 μ m
Rz R3z Ry Rt Rp Rm	0.02 μ m ~ 320 μ m
RSk	0 ~ 100%
RS RSm	1mm
tp	0 ~ 100%

APPLICATION

Surface Roughness Tester **KR310** is a high accuracy instrument for measuring surface roughness. It can be used on variety of machining parts and operates on various surfaces, not only flat but also outer cone, outer cylinder, curved, pinholes, grooves, recesses grooves and axle etc.

The **KR310** allows surface roughness measurement both on metal and non-metal workpieces. especially for measurement on large and heavy workpiece, assembly line, on site. It is suitable for machining and manufacturing, quality control, inspection departments.

The KR310 is a Non Destructive Testing instrument, damage won't caused to testing piece.

MAIN FEATURE

- ❖ Mechatronics and ergonomics design, small size, light weight, easy to operation
- ❖ The stylus drive unit can be stored within the main unit for standard measurement, or separated from the display unit by using the supplied cable which allows more flexible measurement in any orientation. The driver can be separated and reattached in one simple step
- ❖ 3.5 inches color graphic LCD touch screen, WYSIWYG, it includes a backlight for visibility in dark environments
- ❖ It displays all parameter and graphic
- ❖ The **KR310** can be operated using the buttons or the touch screen
- ❖ Measurement range up to 320 μ m
- ❖ Large internal memory: 100 item of raw data and curves can be stored
- ❖ The **KR310** provides Bluetooth Capability , support wireless connection with mobile and mini printer

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- ❖ Built-in lithium-ion rechargeable battery and controlling circuit, high capacity, no memory effect
- ❖ There is remaining charge indicator, charging hint
- ❖ It works over 50 hours while fully charged.
- ❖ Language: Chinese and English
- ❖ DSP chip control and data processing, high speed, low power consumption
- ❖ Real-time clock setting and display for easy data recording and storage
- ❖ With auto sleep, auto power off, power-saving features
- ❖ Reliable circuit and software design to preventing the motor stuck
- ❖ All parameters or any of the parameters which set by users can be printed

STANDARD DELIVERY

ITEM	QTY
Host	1 PC
Sensor	1 PC non warranty parts
Height adapter	1 Set
Calibration block and bracket	1 PC
Bracket for Calibration Block	1 PC
Extension cable	1 PC length: 1m
Touch pen	1 PC
Power Charger & USB Cable	1 PC
User manual	1 PC
Instrument case	1 PC
Warranty	2 Years

RELATED OPTIONAL ITEMS

Image	Description
	KS55 - Extending Rod , extending rod increases the depth for pickup to enter the part. extending 50mm long.
	KS90 - Right Angle Rod , change the position of the sensor, mostly use for measure surface of particular groove.
	KS100 - Small Hole Sensor , measures flat surface, shaft ; when measure inner hole surface, the diameter of inner hole are required >5mm, depth >22mm.
	KS110 - Curved Surface Sensor , to measure smooth cylindrical surface which radius is larger than 3mm, for the large radius smooth spherical surface and other surface also can obtain good approximation, need to work with platform KA520 or KA620.

We reserve the right to make changes without notice

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	<p>KS120 - pinhole Sensor, to measure the inner surfaces of holes with radius more than 2mm, better to work with platform KA520 or KA620.</p>
	<p>KS130 - Groove sensor, measure flat surface, groove surface with width $\geq 2\text{mm}$, depth $\leq 3\text{mm}$, and on steps with height $\leq 3\text{mm}$, also to equipped with Measuring fixture, can measure cylindrical surface.</p>
	<p>KS131 - Deep Groove Sensor, measure groove with width wider than 3mm and depth deeper than 10mm, or the surface roughness of step with height less than 10mm, also can used to measure the planar, cylindrical used with platform,better to work with platform KA520 or KA620.</p>
	<p>KA520 -Metal Substrate Working platform, adjustable height 200mm. With flexible and stable operation and wider application range. Roughness of complex shapes can also be measured. Measurement stand enable the adjustment of the position of stylus to be more precise and measurement to be more stable. If Ra value of measured surface is relatively low, Using measurement platform is recommended.</p>
	<p>KA620 -Marble Substrate Working Platform, adjustable height 300mm. With flexible and stable operation and wider application range. Roughness of complex shapes can also be measured. Measurement stand enable the adjustment of the position of stylus to be more precise and measurement to be more stable. If Ra value of measured surface is relatively low, Using measurement platform is recommended.</p>
	<p>Height Gauge Adaptor, The best Measuring Fixture for split type surface roughness tester, easy to use.</p>
	<p>Standard Roughness Calibration Block Multi-engraved lines (Square Wave) Made by optical glass, with high hardness, high accuracy standard roughness value, anti-scratch, has longer life than metal roughness block. Meet standard GB/T19067.1-2003 and ISO5436-1:2000 Approximation: Ra=0.1um, 0.2um, 0.4um, 0.8um, 1.6um, 3.2um, 6.4um Customized Value and Sine Wave available, welcome to inquire.</p>
	<p>Standard Roughness Calibration Block Single engraved lines Made by optical glass, with high hardness, high accuracy standard roughness value, anti-scratch, has longer life than metal roughness block. Meet standard GB/T19067.1-2003 and ISO5436-1:2000 Approximation: Ra=0.1um, 0.2um, 0.4um, 0.8um, 1.6um, 3.2um, 6.4um) Customized Value available, welcome to inquire.</p>

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Roughness Comparator (30 pcs/set)

This set contains standards of the six most important machining methods in the prevalent "AA" values. These surface roughness is used to compare and determine the degree of the surface finish by comparison method and eye estimation or magnifying glass. The surface rough contrast blocks is made of 45 super carbide steel except the GCr15 which is using to plate lapping the sample block. All 30 specimens are calibrated in u"AA (Arithmetical Average) and in the metric equivalents um Ra.



Charge and Cable for Surface Roughness Tester

Charger: US and EU standard optional
Cable: USB interface



Mini thermal printer

External printer, connect by USB interface, suitable for Kairda models.



Thermal printing paper

Suitable for mini thermal printer and Kaidas's tester with built-in printer
Packing: 10pcs/bag