

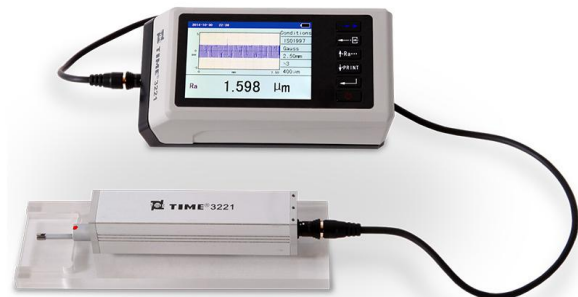
## Portable Surface Roughness Tester TIME® 322X

### Functions and Applications

TIME® 322X portable surface roughness tester is advanced and versatile surface measuring equipment developed and manufactured by Beijing TIME High Technology Ltd.. It has larger testing range and more optional pickup to provide a better solution for surface measurement.



**TIME3220 surface roughness tester**



**TIME3221 surface roughness tester**



**TIME3223 surface roughness tester**

### Functions and Features

- Touch screen with LCD displaying digital and graphic information
- High accuracy inductive sensor
- Compatible with ISO1997/ANSI/JIS2001 standards
- Multi-parameter measuring: Ra, Rp, Rv, Rt, Rz, Rq, Rsk, RΔ q, RΔ a, Rku, Rc, R<sub>Pc</sub>, R<sub>Sm</sub>, R<sub>mr(c)</sub>, tp, R<sub>mr</sub>, R<sub>pm</sub>, R<sub>z1max</sub>, R<sub>zJIS</sub>, R<sub>max</sub>, H<sub>tp</sub>, R<sub>δc</sub>, Pa, Pp, Pv, Pt, Pz, Pq, Psk, Pku, Pc, P<sub>Sm</sub>, P<sub>mr(c)</sub>, P<sub>mr</sub>, P<sub>z1max</sub>, P<sub>zJIS</sub>, P<sub>δc</sub>, PΔ q, Rk, Rpk, Rvk, Mr1, Mr2, A1, A2
- Wide testing range and high resolutions: 0.001μ m/50μ m; 0.008μ m/200μ m
- RS232 and USB interface meeting more needs
- Connect to printer to print the digital and graphic information

## Technical Specifications

Product	TIME3220	TIME3221	TIME3223
Test principle	Inductive		
Measurement range	400 $\mu$ m		
Stylus tip radius	5 $\mu$ m/2 $\mu$ m		5 $\mu$ m
Stylus tip material	Diamond		
Measuring force	4mN/0.75 mN		4mN
Stylus tip angle	90 $\pm$ 60 °		90°
Radius of skid curvature	45mm		
Maximum drive range	19mm/0.748inch		19mm
Traversing speed	Measuring: Cut off length = 0.08 mm Vt=0.25 mm/s Cut off length = 0.25 mm Vt=0.25mm/s Cut off length = 0.8 mm Vt=0.5 mm/s Cut off length = 2.5mm Vt=1mm/s Returning V=1mm/s		
Accuracy	$\leq \pm 10\%$		
Repeatability	$\leq 6\%$		
Cut-off length	0.08mm,0.25mm,0.8mm,2.5mm, selectable		
Evaluation length	(1~5 )L selectable		
Measuring rang	Resolution		
Automatic	0.001 $\mu$ m,0.008 $\mu$ m		
$\pm 50\mu$ m	0.001 $\mu$ m		
$\pm 200\mu$ m	0.008 $\mu$ m		
Power	Built-in Li battery		
Working environment	Temperature: 0°C~40°C		
	Humidity: < 90% RH		

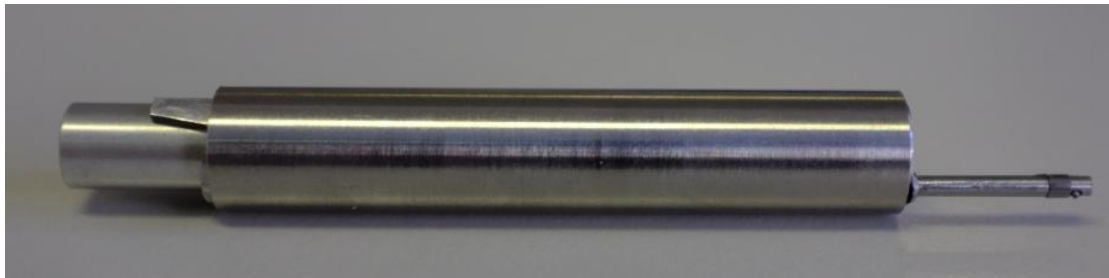
## Optional Pickup for Different Applications

Equipped with different optional pickup, TIME@322X surface roughness tester can be applied to test almost any surface condition.

### Standard Pickup (TIME S201)



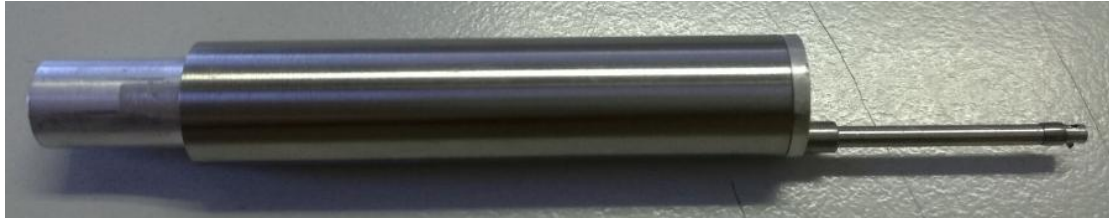
### TIME S211 for small hole



### TIME S212 for deep groove



**TIME S213 for deep hole**



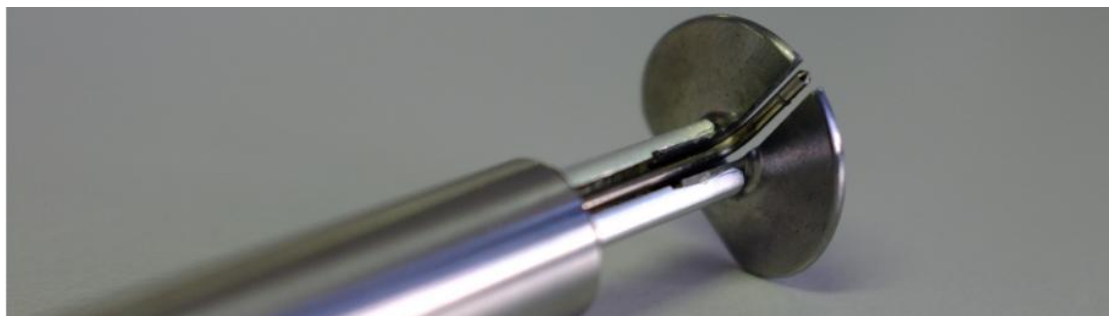
**TIME S214 for curved surface**



**TIME S215 for tooth surface**



**TIME S220 for O groove**



## Magnetic Base

Magnetic base is included in the standard delivery of TIME 3221 surface roughness tester. With the help of magnetic base, it is easy to adjust the height and tilt of the pickup and perform surface measurement flexibly.



**Applications of TIME® 322X Surface Roughness Tester**

TIME®322X is widely applied in industries like automotive, metal, mechanical components and parts manufacturing, process equipment, surface treatment engineering, metallurgy, rolling and forging equipment, mold casting, precision manufacturing and many more.



**Test roughness of car crankshaft**



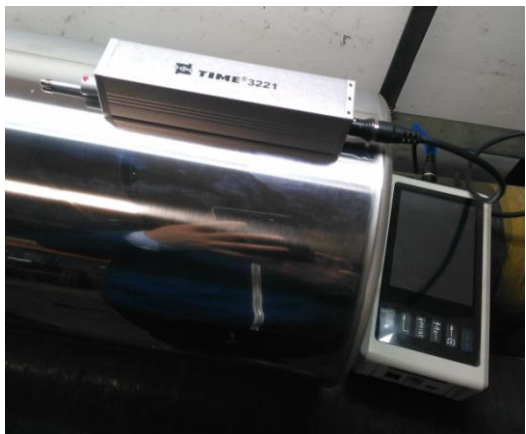
**Test curved surface roughness**



**Measure tooth surface**



**Measure conical surface**



**Test roller**



**Test inner wall of pipe**