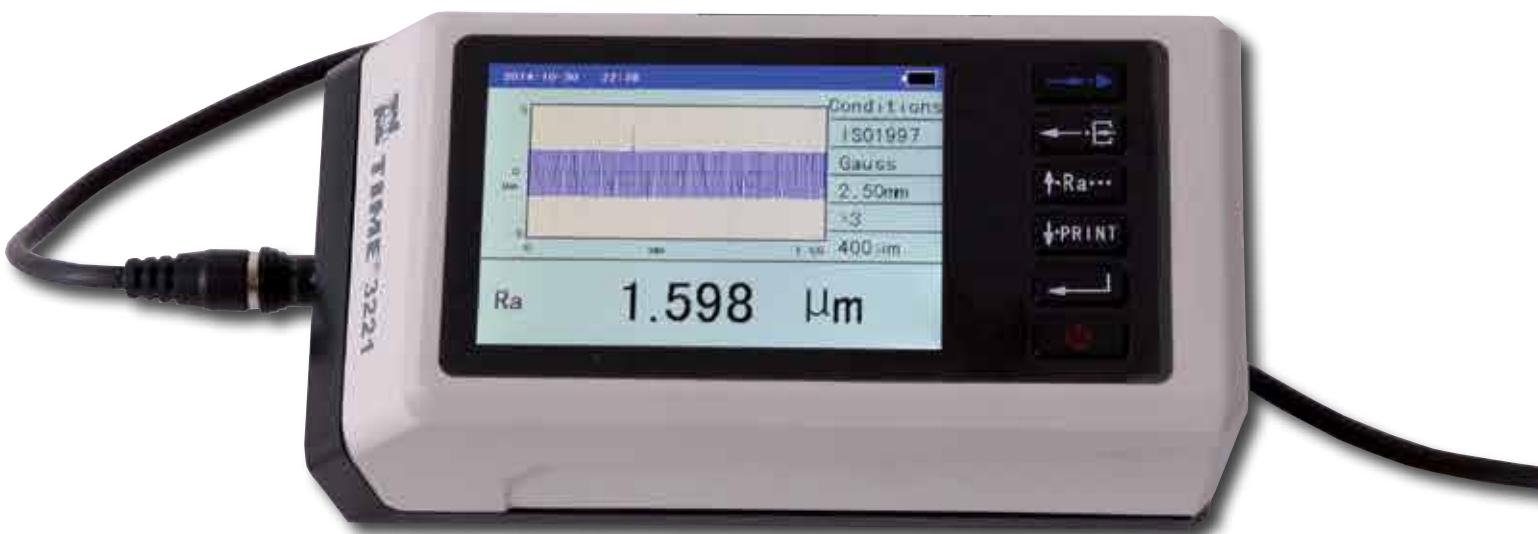


**TIME<sup>®</sup> 3220/3221**  
Surface Roughness Testers



# TIME® 3220/3221 Surface Roughness Tester

2 new models of roughness testers  
robust enough for the shop floor  
and flexible enough for a quality  
inspection room.



# Introduction

With increasing manufacturing and machine quality, the quality of technical products' surface finish is becoming ever more important.

The newest addition to the TIME roughness testing instruments family, the TIME®3220 and TIME®3221 build on the long history of the TIME®TR200 series. Designed for shop floor, industrial and inspection room applications, the TIME®3220 and TIME®3221 are versatile solutions for all your surface finish measurement requirements.

Specific accessories such as a height support, V-groove support widen the standard field of application. Connectivity via RS232 and USB allow connection to PC or portable devices. Ideal for a wide range of industries including precision bearings, automotive and aerospace engineering, the TIME®3220/3221 series has the key attributes that are most important for quality control in today's precision industries;

- **Advanced & wide parameter options to suit your application**
- **V-shaped bottom, means the system can be used on flat or curved surfaces**
- **Built to last, solid ABS housing**
- **Large memory plus printer output**

The TIME®3220 portable roughness testers come in two variants: The TIME®3220 is our standard version with a fixed tracer position, whilst the TIME®3221 offers a separate motor drive allowing you to measure on difficult to reach surfaces or confined spaces. High resolution graphic LCD TOUCH SCREEN, for comfortable setup and operation. Additional traditional buttons give access to the most common functions used on the shop floor, to avoid long time wear of the touch screen.

## TIME®3220/3221 help to:

- Improve throughput
- Reduce part scrappage
- Monitor tool wear
- Ensure traceability

## Today's standard:

- High resolution touch screen
- Menu operation
- Including fast setup hard keys

## Standards and traceability:

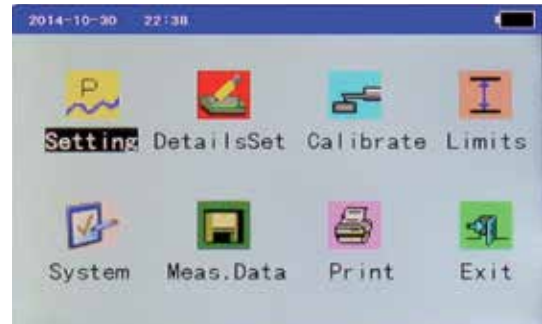
The top class GLASS reference standard supplied can be used both to calibrate the instrument and check for stylus wear to ensure the most accurate results are always being achieved.



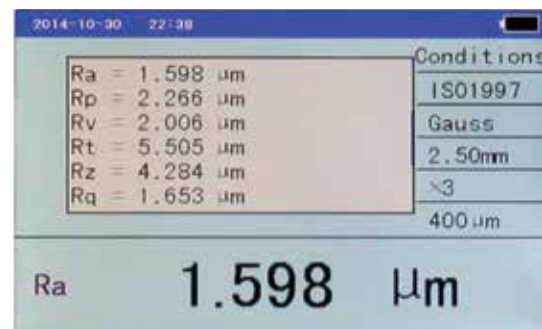
# TIME<sup>®</sup> 3220/3221 Surface Roughness Tester

## Simple set up

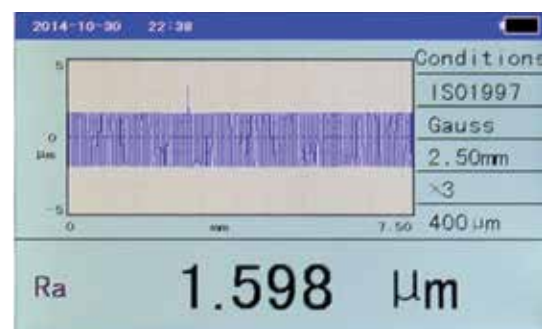
Shortcuts provided for all key settings to providing instant access with just a single touch



Scroll through a large number of popular parameters



Profile graph  
Detailed graph shows measured area to help identify problem areas



## Features

- Large range of parameters and graphical measuring system.
- High resolution industrial touch screen
- Digital and analogue filtering methods (2RC, GAUSS)
- Complies to ISO, ASTM, JIS standards
- Can be connected to TIME® TA230 printer, prints all parameters and graphs
- Built-in standard RS232 interface and USB interface
- Automatic switch off
- Integrated design, simple to use

## Technical specification

Parameters	Ra, Rp, Rv, Rt, Rz, Rq, Rsk, Rku, Rc, R <sub>Pc</sub> , R <sub>Sm</sub> , R <sub>mr(c)</sub> , tp, R <sub>mr</sub> , R <sub>pm</sub> , Rz1max, RzJIS, R <sub>max</sub> , H <sub>tp</sub> , R <sub>δc</sub> , R <sub>Δq</sub> , R <sub>Δa</sub> , Pa, Pp, Pv, Pt, Pz, Pq, Psk, Pku, Pc, P <sub>Sm</sub> , P <sub>mr(c)</sub> , P <sub>mr</sub> , Pz1max, PzJIS, P <sub>δc</sub> , P <sub>Δq</sub> , Rk, Rpk, Rvk, Mr1, Mr2, A1, A2	
Pickup stylus	Inductive dynamic type	
Measurement Range	400μm	
Stylus tip Radius	5μm/2μm	
Stylus tip Material	Diamond	
Measuring force	4mN/0.75 mN	
Stylus tip Angle	90°/60°	
Radius of Skid curvature	45mm	
Maximum drive range	19mm/0.748inch	
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	
Repeatability	Tolerance ≤5%	
Cut-Off Length	0.08mm, 0.25mm, 0.8mm, 2.5mm selectable	
Evaluation Length	(1~5 )L selectable	
Measuring rang and resolution	Measuring Range	Resolution
	Automatic	0.001μm, 0.008μm
	±50μm	0.001μm
	±200μm	0.008μm
Power	Built-in Lion battery	
Power adapter	Input: 100 V, 240VAC, 50/60Hz, Output: 9V, 3A	
Working environment	Temperature: 0C~40C, Humidity: < 90% RH	
Storage and transport environment	Temperature: -4C ~ 60C , Humidity: < 90% RH	
Dimensions	155.4mm × 75mm × 56mm	
Weight	Approximately 760gr	

# TIME® 3220/3221 Surface Roughness Tester



## Standard delivery

- Instrument
- Pickup
- Pickup cover (3220)
- High quality glass roughness standard
- Charger
- Communication cable (RS232)
- INNOVATEST® certificate
- Manual

## Order details

<b>TIME® 3220</b>	Surface roughness tester
<b>TIME® 3221</b>	Surface roughness tester

Kapcsolat, bővebb információ:



**Sidex Trade Kft.**

1224 Budapest, Dózsa György út 105.  
TT Ipartelep (volt Mechanikai Művek)  
Tel : (+36-1) 424-1705, Mobil: (+36-30) 9349-611  
Fax :(+36-1) 424-1704  
Web: <http://www.sidex.hu> – E-mail: [info@sidex.hu](mailto:info@sidex.hu)

## CORPORATE HEAD OFFICE

**INNOVATEST Europe BV**  
**mANuFACTuRING, DISTRIBuTION & SERVICE**  
Borgharenweg 140  
6222 AA Maastricht (The Netherlands)  
Phone: +31 43 3520060  
Fax: +31 43 3631168  
E-mail: [info@innovatest-europe.com](mailto:info@innovatest-europe.com)  
Website: [www.innovatest-europe.com](http://www.innovatest-europe.com)

---

## BRANCHE OFFICES

**INNOVATEST Benelux BVBA**  
**SAIES & SERVICE**  
Phone: +32 12 779002  
Fax: +32 12 779003  
E-mail: [info@innovatest-benelux.com](mailto:info@innovatest-benelux.com)  
Website: [www.innovatest-europe.com](http://www.innovatest-europe.com)

**INNOVATEST Shanghai Co., Ltd.**  
**ASIA & CHINA SAIES & SERVICE**  
Building 2, No.123, 1165 Nong Jindu Road,  
South Metropolis Industrial Park  
Minhang District, Shanghai, P.R. China  
Zip code: 201108  
E-mail: [info@innovatest-shanghai.com](mailto:info@innovatest-shanghai.com)  
Website: [www.innovatest-shanghai.com](http://www.innovatest-shanghai.com)

Changes in products and/or product specifications can emerge due to new technologies and continuous development.

We reserve the right to change or modify specifications of products without prior notice.

We recommend you to contact our sales office for up-to-date information.

© All rights reserved