TIME3221 Surface Roughness Tester

Accuracy (≤±10%)

Repeatability (≤6%)

Measurement Range (400μm)

Product Introduction

TIME3221 handheld roughness tester is a brand new product of our company. It is always used in the work site, scientific labs and factory metrology rooms. Handheld roughness tester TIME3221 can test the surface roughness of multiple of machining components. The corresponding parameters will be calculated according to the selected measuring condition, and then all the testing results and spectrums will be clearly displayed on the LCD screen. Besides, the testing results can be output with printer as well as connecting to PC. Furthermore, the testing results can be stored and searched in the instrument.

Features

Multi-parameter measuring: Ra、Rp、Rv、Rt、Rz、Rq、Rsk、Rku、Rc、RPc、RSm、Rmr(c)、tp、Rmr、Rpm、Rz1max、RzJIS、Rmax、Htp、Rδc、RΔq、RΔa、 Pa、Pp、Pv、Pt、Pz、Pq、Psk、Pku、Pc、PSm、Pmr(c)、Pmr、Pz1max、PzJIS、Pδc、PΔq、Rk、Rpk、Rvk、Mr1、Mr2、A1、A2

Touch screen / TIFT coloured LED display
High accuracy inductance pickup
Filtering methods of 2RC, GAUSS

Conforms to standards of ISO1997, ANSI and JIS2001
Display showing all parameters values and graphs after measurement
Can be connected to PC or mini printer to print all parameters and graphs
Both USB port and RS232 interface
Automatic switch off

Applications:

Automobile industry
Manufacturing of mechanical parts and gearing
Facilities for metal processing and accessories and functional parts of lathe
Universal machine and metal moulding equipment
Surface polishing and treatment
Metallurgy, rolling and forging equipment
Pneumatic and hydraulic elements and pressure vessel
Foundry of mould, close manufacture
Press, packing, light industry and spinning machine, and medical appliance
Petroleum, chemical engineering, coal and cement machine, and agriculture mechanism
Grain and oil, food, beer machine and pharmaceutical machine
Equipments of electric power, auto-control, electronic communication
Aviation and Aero business
Research Universities, institutes
Paper-making business
Industry of ceramics, piezoelectric ceramics, electric ceramics, porcelain, high-aluminum ceramic stick epoxy, polyethylene
Canal of liquid, compound glass fiber silence-tube
Construction business such as Alloy doors and windows, handle of door, parts of chair, surface of stainless steel cup and dishware, exterior of taps
Crystal, carbon silicon, graphite, film of diamond, magnet
Chrome-plating battery，canister of telescope
Copper-foil stationry, hard alloy ball, base for ball, auto-pencil lead
Medical equipment and clothing-making machine

Technical Specification

Test Principle	Inductance type	
Measurement Range	400μm	
Stylus tip Radius	5μm	
Stylus tip Material	Diamond	
Measuring force	4mN	
Stylus tip Angle	90°	
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	
Accuracy	Less than or equal to ±10%	
Repeatability	≤6%	
Cut-Off Length	0.08mm，0.25mm，0.8mm，2.5mm selectable	
Evaluation Length	(1~5)L selectable	
Measuring range and resolution	Measuring Range	Resolution
	Automatic	0.001μm ， 0.008μm
	±50μm	0.001μm
	±200μm	0.008μm
Power	Built-in Li battery	
Power adapter	Input: 100 V～240VAC，50/60Hz Output: 9V, 3A	
Working environment	Temperature: 0℃~40℃ Humidity: < 90% RH	
Storage and transport environment	Temperature: - 40℃ ~ 60℃ Humidity: < 90% RH	
Dimensions	155.4×75×53mm (main unit)	120.5×25.5×28.5mm (Driver)
Weight	Approximately580g (main unit)	Approximately 165 g (Driver)

Standard delivery:

TIME 3221 main unit
External pickup stylus transducer being with connection cable
Probe driver and fixing parts
Calibration certificate
Roughness standard
Software and communication cable
Portable magnetic base with 360 deg fixture

Typical applications:

TIME 3221 is suitable for mechanical manufacturing industry, mostly for the metal processing. The primary function of roughness tester is testing the surface roughness of processing parts especially the pot-ball roughness tester is adept to testing the hard surface. For example the automobile parts manufacturing, mechanical parts manufacturing, etc. the roughness tester is essential in every manufacturing industry engaged in quality of parts surface.

The manufacturing of Non-metal. As the development of science and technology, more and more new materials are used in manufacturing techniques, for example, pottery, plastic, polyethylene, etc. now some bearings are made in special pottery, and some pump valves are made in polyethylene. These materials all have firm character, and some of them can be made into parts instead of metal. Their surface roughness also needs testing in manufacture.

Besides the mechanical processing, TIME 3221 surface roughness tester is also used in electric power, communication and electron, so much as stationery, dishware etc.