TIME[®]3200/3202

SURFACE ROUGHNESS TESTER

Standard Delivery		 Steel support 	1
 Main unit 	1	 Dataview 	1
 TS100 standard pickup 	1	 Communication cable 	1
 Roughness test plate Ra 	1	 TIME certificate 	1
 Charger 	1	 Warranty card 	1
 Protection nose 	1	 Instruction manual 	1

Optional Accessory

TS110 pickup for curved surface
TS120 pickup for small holes
TS130 pickup for deep grooves
TS140 right-angled pickup
Measuring platform TIMEA202
Leveling table TA630/TA631
Magnetic stand
Steel adapter (Φ8)
Steel adapter (L-attachment)

Features

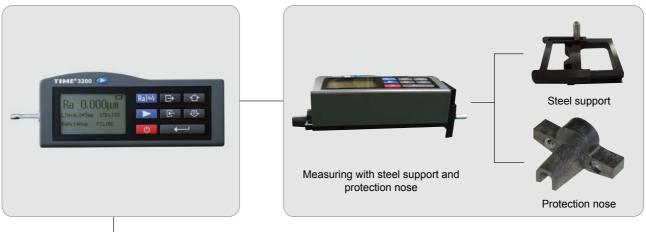
- •Over dozen measurement parameters applicable for roughness test of various mechanical manufacturing processes in production lines, workshops and labs.
- •High accuracy inductive pickup
- •Easy operation manual and large LCD display with backlight.
- •Pickup stylus position indicator.
- •Transfer to PC via RS232 with advanced PC Software TIMESurf for more analyzing management.
- •Connected with printer to print the data and graphs on-site.
- •Storage and review function for up to 15 groups data and graphs.
- •Rk data and graphic are available.
- •Digital filter: RC, PC-RC, Gauss, D-P
- Optional delicate accessories for more accurate results and easier operation eg. measuring platform, steel support and so on
- •Conform to ISO standard, compatible with DIN, ANSI and JIS standard.
- •Top quality Li-ion rechargeable battery.



Technical Specification

ModelTIME®3200TIME®3202Roughness parametersRa, Rz, Ry, Rq, Rt, Rp, Rmax, Rv, R3z, RS, RSm, RSk, Rmr,Ra, Rz, Ry, Rq, Rt, Rp, Rmax, Rv, R3z, RS, RSm, RSk, Rmr, Rpc, Rk, Rpk, Rvk, Mr1, Mr2Assessed profilesRoughness profile (R)Measuring systemMetric, imperialDisplay resolution0.001 µ mData outputRS232Pickup measuring range±20µ m, ±40µ m, ±80µ mCutoff length (L)0.25mm / 0.8mm / 2.5mm/AutoDisplay file (P)1~5L (selectable)Yacutation length1~5L (selectable)Tracing length3-7L(selectable)Jojital filterRC, PC-RC, Gauss, D-PMax. tracing length1.3mm/0.052inchYickup1.3mm/0.052inchPick-upStandard pickup TS100, inductive, disrust sylus radius 5µm, angle of stylus 90°Tolerances±10%Repeatability6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48Weight (g)440Maty (a)440					
Rodginness parametersR3z, RS, RSm, RSk, Rmr,RSk, Rmr, Rpc, Rk, Rpk, Rvk, Mr1, Mr2Assessed profilesRoughness profile (R)Primary profile (P)Primary profile (P)Measuring systemMetric, imperialDisplay resolution0.001 µ mData outputRS232Pickup measuring range±20µ m, ±40µ m, ±80µ mCutoff length (L)0.25mm / 0.8mm / 2.5mm/AutoEvaluation length1~5L (selectable)17acing length3-7L(selectable)17acing length3-7L(selectable)10igtial filterRC, PC-RC, Gauss, D-PMin. tracing length1.3mm/0.052inchPick-upStandard pickup TS100, inductive, dirty and us 5µm, angle of stylus 90°Tolerance≤±10%Repeatability6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48	Model	TIME [®] 3200	TIME [®] 3202		
Assessed profilesPrimary profile (P)Primary profile (P)Measuring systemMetric, imperialDisplay resolution0.001 μ mData outputRS232Pickup measuring range±20μ m, ±40μ m, ±80μ mCutoff length (L)0.25mm / 0.8mm / 2.5mm/AutoEvaluation length1~5L (selectable)1~5L (selectable)3-7L (selectable)Oigital filterRC, PC-RC, Gauss, D-PMax. tracing length1.3mm/0.71inchMin. tracing length1.3mm/0.52inchPickupStandard pickup TS100, inductive, diau-stylus radius 5µm, angle of stylus 90°Tolerance\$±10%Repeatability6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48	Roughness parameters				
Primary profile (P)Primary profile (P)Measuring systemMetric, imperialDisplay resolution0.001 μ mData outputRS232Pickup measuring range $\pm 20\mu$ m, $\pm 80\mu$ mCutoff length (L)0.25mm / 0.8mm / 2.5mm/AutoEvaluation length $1 \sim 5L$ (selectable)Tracing length $3 \sim 7L$ (selectable)Jojital filterRC, PC-RC, Gauss, D-PMax. tracing length $1 \sim 5Inm/0.71inch$ Min. tracing length $1 \sim 5mn/0.52inch$ PickupStandard pickup TS100, inductive, distry sradius 5µm, angle of stylus 90°Tolerance $\leq 10\%$ Repeatability $\leq %$ PowerLi-ion battery rechargeableDimensions (mm) $140 \times 52 \times 48$	Assessed profiles	Roughness profile (R)			
Display resolution0.001 µ mData outputRS232Pickup measuring range±20µ m, ±40µ m, ±80µ mCutoff length (L)0.25mm / 0.8mm / 2.5mm/AutoEvaluation length1~5L (selectable)1~5L (selectable)Tracing length3~7L(selectable)3~7L(selectable)Digital filterRC, PC-RC, Gauss, D-PMax. tracing length1.3mm/0.052inchMin. tracing length1.3mm/0.052inchPick-upStandard pickup TS100, inductive, diarrow stylus radius 5µm, angle of stylus 90°Tolerance±10%Repeatability≤6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48		Primary profile (P)	Primary profile (P)		
Data outputRS232Pickup measuring range±20µ m, ±80µ mCutoff length (L)0.25mm / 0.8mm / 2.5mm/AutoEvaluation length1~5L (selectable)1~5L (selectable)1~5L (selectable)Tracing length3-7L(selectable)Digital filterRC, PC-RC, Gauss, D-PMax. tracing length1.3mm/0.71inchMin. tracing length1.3mm/0.052inchPick-upStandard pickup TS100, inductive, diarrow stylus radius 5µm, angle of stylus 90°Tolerance≤±10%Repeatability≤6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48	Measuring system	Metric, imperial			
Pickup measuring range±20μ m, ±40μ m, ±80μ mCutoff length (L)0.25mm / 0.8mm / 2.5mm/AutoEvaluation length1~5L (selectable)1~5L (selectable)1~5L (selectable)Tracing length3-7L(selectable)Digital filterRC, PC-RC, Gauss, D-PMax. tracing length17.5mm/0.71inchMin. tracing length1.3mm/0.052inchPick-upStandard pickup TS100, inductive, diatrice stylus radius 5µm, angle of stylus 90°Tolerance±10%Repeatability6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48	Display resolution	0.001 µ m			
Cutoff length (L)0.25mm / 0.8mm / 2.5mm/AutoEvaluation length1~5L (selectable)1~5L (selectable)Tracing length3-7L(selectable)3-7L(selectable)Digital filterRC, PC-RC, Gauss, D-PMax. tracing length17.5mm/0.71inchMin. tracing length1.3mm/0.052inchPick-upStandard pickup TS100, inductive, diamont stylus radius 5µm, angle of stylus 90°Tolerance≤±10%Repeatability≤6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48	Data output	RS232			
Evaluation length1~5L (selectable)1~5L (selectable)Tracing length3-7L(selectable)3-7L(selectable)Digital filterRC, PC-RC, Gauss, D-PMax. tracing length17.5mm/0.71inchMin. tracing length1.3mm/0.052inchPick-upStandard pickup TS100, inductive, diavis stylus radius 5µm, angle of stylus 90°Tolerance $\leq \pm 10\%$ Repeatability $\leq 6\%$ PowerLi-ion battery rechargeableDimensions (mm)140×52×48	Pickup measuring range	±20µ m, ±40µ m, ±80µ m			
Tracing length3-7L(selectable)3-7L(selectable)Digital filterRC, PC-RC, Gauss, D-PMax. tracing length17.5mm/0.71inchMin. tracing length1.3mm/0.052inchPick-upStandard pickup TS100, inductive, diamond stylus radius 5µm, angle of stylus 90°Tolerance≤±10%Repeatability≤6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48	Cutoff length (L)	0.25mm / 0.8mm / 2.5mm/Auto			
Digital filterRC, PC-RC, Gauss, D-PMax. tracing length17.5mm/0.71inchMin. tracing length1.3mm/0.052inchPick-upStandard pickup TS100, inductive, diamond stylus radius 5µm, angle of stylus 90°Tolerance≤±10%Repeatability<6%	Evaluation length	1~5L (selectable)	1~5L (selectable)		
Max. tracing length17.5mm/0.71inchMin. tracing length1.3mm/0.052inchPick-upStandard pickup TS100, inductive, diamond stylus radius 5µm, angle of stylus 90°Tolerance≤±10%Repeatability≤6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48	Tracing length	3-7L(selectable)	3-7L(selectable)		
Min. tracing length1.3mm/0.052inchPick-upStandard pickup TS100, inductive, diamond stylus radius 5µm, angle of stylus 90°Tolerance≤±10%Repeatability≤6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48	Digital filter	RC, PC-RC, Gauss, D-P			
Pick-upStandard pickup TS100, inductive, diamond stylus radius 5µm, angle of stylus 90°Tolerance≤±10%Repeatability≤6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48	Max. tracing length	17.5mm/0.71inch			
Tolerance ≤±10% Repeatability ≤6% Power Li-ion battery rechargeable Dimensions (mm) 140×52×48	Min. tracing length	1.3mm/0.052inch			
Repeatability<6%PowerLi-ion battery rechargeableDimensions (mm)140×52×48	Pick-up	Standard pickup TS100, inductive, diamond stylus radius 5 $\mu\text{m},$ angle of stylus 90°			
Power Li-ion battery rechargeable Dimensions (mm) 140×52×48	Tolerance	≤±10%			
Dimensions (mm) 140×52×48	Repeatability	≤6%			
	Power	Li-ion battery rechargeable			
Weight (g) 440 440	Dimensions (mm)	140×52×48			
	Weight (g)	440	440		

System Diagram







Leveling table TA630/TA631 X-axial range:±12.5mm; Y-axial range:±12.5mm; Rotation: coarse adjustment 360°, fine adjustment ±5°

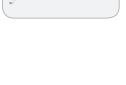


Measuring Platform TIMEA202 Y-axial range: 200mm Rotation: -85°~+85°



Operation with measuring platform for high accuracy







TS100 standard pickup With skid for roughness test on plane surface, shaft and inner surface of holes with max. depth of 22mm, min diameter 5mm

TS110 pickup for curved surface Used for roughness testing of curved surface with min curvature radius 3mm, working with measuring platform TIMEA202

TS120 pickup for small holes Used for roughness testing of small holes with min. 2mm diameter of inner surface, max. depth 9mm

TS130/131 pickup for deep grooves TS130: Used for roughness testing of deep groove with min. width 2mm, max. depth 3mm or of step with max. height 3mm,

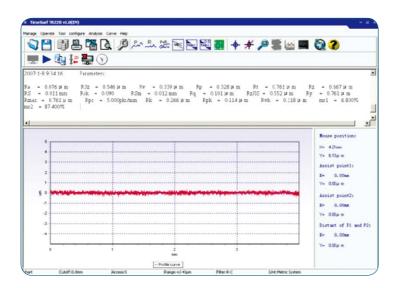
TS131: Used for roughness testing of deep groove with min. width 3mm, max. depth 10mm or of step with max. height 10mm, working with measuring platform TIMEA202

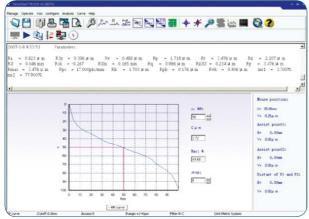
TS140 right-angled pickup

Comprising right-angled pickup and right-angled transmit rod, used for roughness testing of groove and crank with min. width 7.5mm~20mm, and of steps with max. height 2.5mm, working with TIMEA202

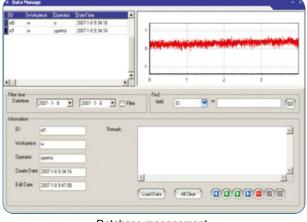
TIMESurf for TIME® 3200/3202

Software works for advanced surface roughness tester TIME[®]3200/3202 managing, analyzing, printing and searching measured data and graphs

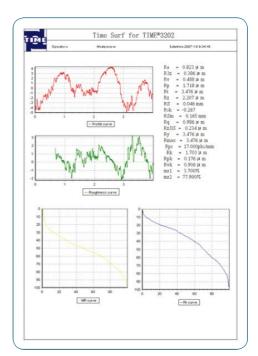


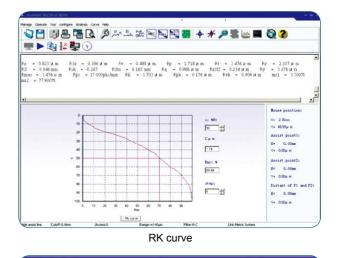


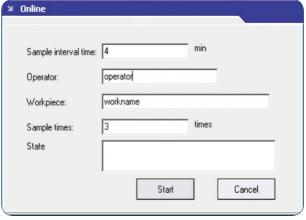
MR curve



Database management







Online measurement