



### Features:

- Applicable in production site, laboratory and workshop in factory
- Easy operation menu and large LCD display with backlight
- Li-ion rechargeable battery
- Pickup position indicator
- Conform to ISO standard, compatible with DIN, ANSI and JIS standard
- Advanced software for TR200 and TR220 is available
- Lots of delicate optional accessories are supplied making user's measurement more efficient and easier

### Technical Specification

|                      | TR200                                                                             | TR210            | TR220                                                                                 |
|----------------------|-----------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------|
| Roughness parameters | Ra, Rz, Ry, Rq, Rt, Rp, Rmax, Rv, R3z, RS, RSm, RSk, Rmr,                         | Ra, Rz, Rt, Rq   | Ra, Rz, Ry, Rq, Rt, Rp, Rmax, Rv, R3z, RS, RSm, RSk, Rmr, Rpc, Rk, Rpk, Rvk, Mr1, Mr2 |
| Assessed profiles    | Roughness profile (R)                                                             |                  |                                                                                       |
|                      | Primary profile (P)                                                               |                  | Primary profile (P)                                                                   |
| Measuring system     | Metric, English                                                                   |                  |                                                                                       |
| Display resolution   | 0.001 µm                                                                          |                  |                                                                                       |
| Data output          | RS232                                                                             |                  |                                                                                       |
| Measuring Range      | ± 20 µm, ± 40 µm, ± 80 µm                                                         |                  |                                                                                       |
| Cutoff length (L)    | 0.25mm / 0.8mm / 2.5mm/Auto                                                       |                  |                                                                                       |
| Evaluation length    | 1~5L (selectable)                                                                 | 5L               | 1~5L (selectable)                                                                     |
| Tracing length       | (1~5)L + 2L (selectable)                                                          | 5L + 2L          | (1~5)L + 2L (selectable)                                                              |
| Digital filter       | RC, PC-RC, Gauss, D-P                                                             |                  |                                                                                       |
| Max. tracing length  | 17.5mm/0.71inch                                                                   |                  |                                                                                       |
| Min. tracing length  | 1.3mm/0.051inch                                                                   | 1.8mm/0.071 inch | 1.3mm/0.051inch                                                                       |
| Pick-up              | Standard pickup TS100, inductive, Diamond stylus radius 5µm, angle of stylus 90 ° |                  |                                                                                       |
| Tolerance            | ≤ ± 10%                                                                           |                  |                                                                                       |
| Repeability          | <6%                                                                               |                  |                                                                                       |
| Power                | Li-ion battery rechargeable                                                       |                  |                                                                                       |
| Dimensions           | 141 × 56 × 48mm                                                                   |                  |                                                                                       |
| Weight               | 480g                                                                              |                  | 440g                                                                                  |

### Standard Delivery

|                       |   |
|-----------------------|---|
| Main unit             | 1 |
| TS100 standard pickup | 1 |
| Specimen Ra           | 1 |
| Charger               | 1 |
| Protection nose       | 1 |
| Steel support         | 1 |
| Screwdriver           | 1 |
| Connecting cable      | 1 |
| Instruction manual    | 1 |
| TIME certificate      | 1 |
| Warranty card         | 1 |

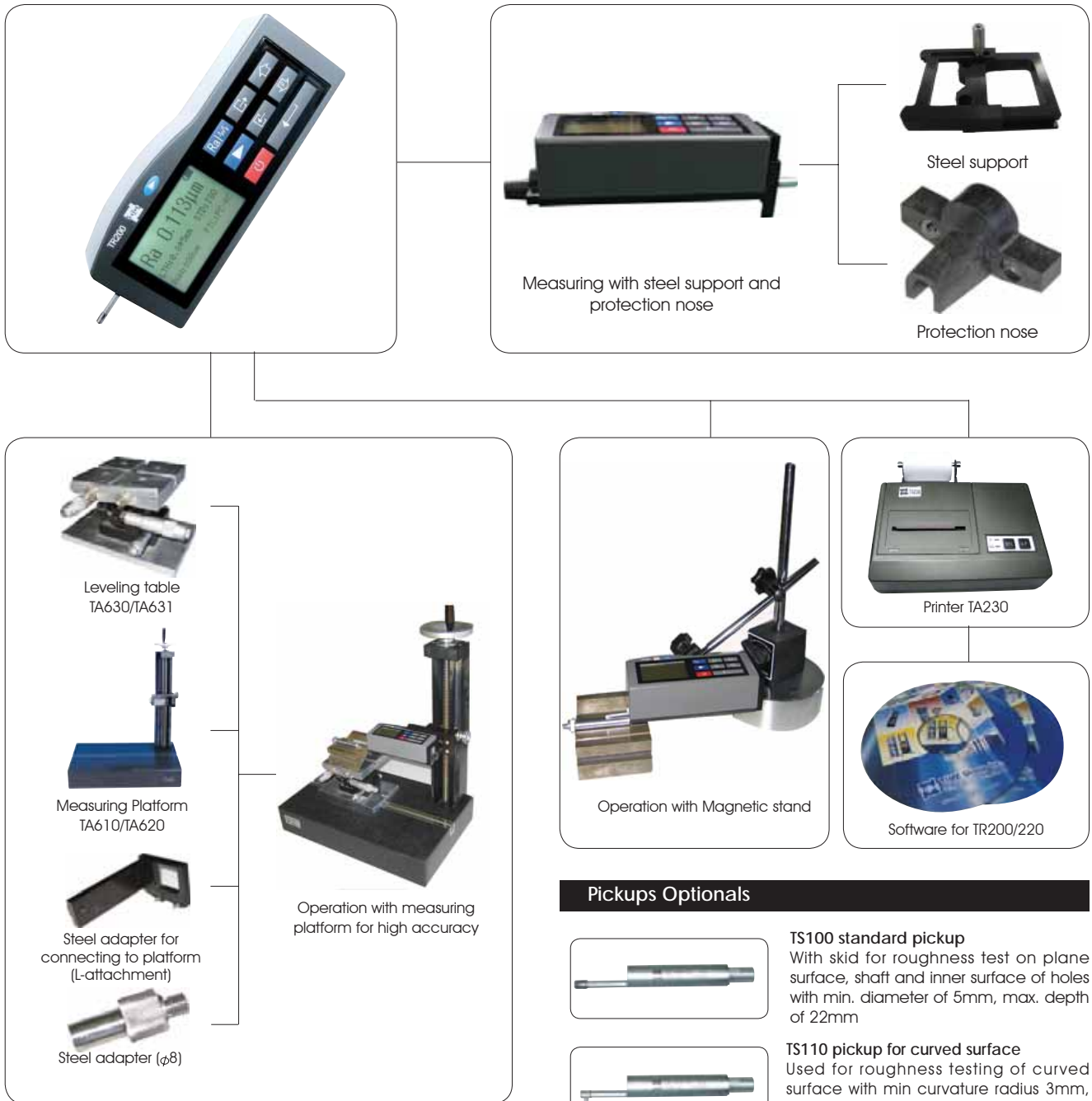
### Optional accessories

|                                 |
|---------------------------------|
| TS110 pickup for curved surface |
| TS120 pickup for small holes    |
| TS130 pickup for deep grooves   |
| TS140 right-angled pickup       |
| Measuring platform TA610/TA620  |
| Leveling table TA630/TA631      |
| Magnetic stand                  |
| Steel adapter (φ8)              |
| Steel adapter (L-attachment)    |
| Software for TR200/TR220        |
| Printer TA230 (see page 67)     |

# SURFACE ROUGHNESS TESTER TR200/210/220

ISO 9001

## System Diagram



## Pickups Optionals

### 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

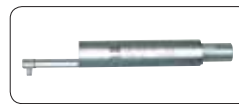


**TS131:** Used for roughness testing of deep groove with min. width 3mm, max. depth 10mm or of step with max. height 10mm, working with measuring platform TA610/620



### TS100 standard pickup

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



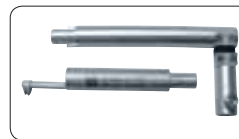
### TS110 pickup for curved surface

Used for roughness testing of curved surface with min curvature radius 3mm, working with measuring platform TA610/620



### TS120 pickup for small holes

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

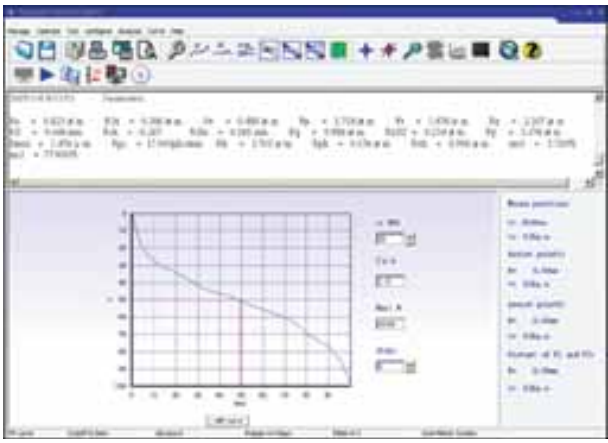
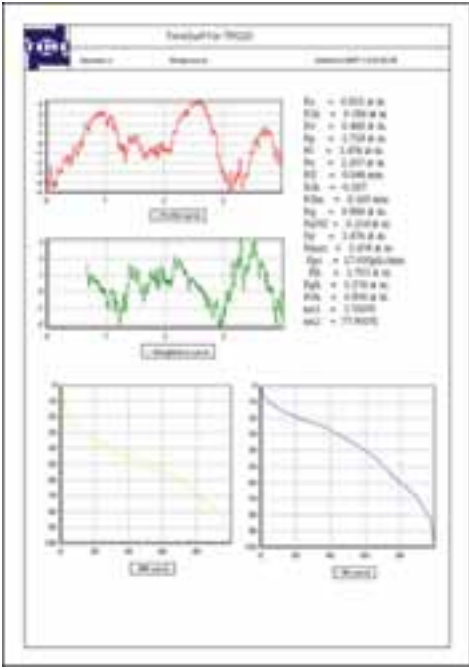
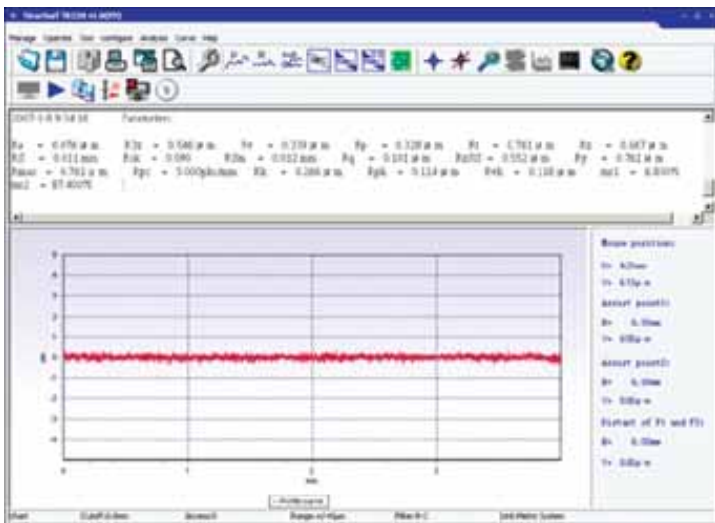


### TS140 right-angled pickup

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 TA610/620

## TIMESurf for TR200/TR220

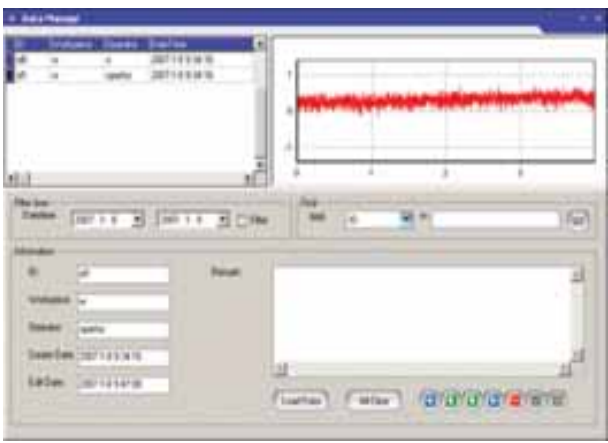
TIMESurf for TR200 and TR220 Software works with TIME surface roughness tester TR200 and TR220 for managing, analyzing, printing and searching measured data and graphs



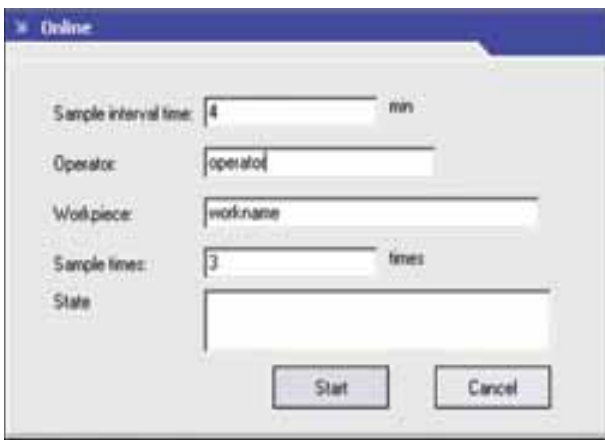
MR Curve



RK Curve



Database management



Online measurement