Roughness Measurement

TR100

Portable Roughness Tester

- pocket-sized and handy
- micro stylus system
- selectable cut-off length

New: combines roughness parameters

R_a and R_z in <u>one</u> gauge

Roughness measurement with TR100

Application

Designed for quick and accurate measurements, the pocket-sized electronic roughness tester TR100 is suitable for use in the workshop, for incoming inspection, quality control or in the laboratory.

Description

Working on the same piezo-electric micro-stylus system as laboratory instruments, TR100 provides the following special features:

- Determination of the roughness parameters R_a and R_z
- Three user-adjustable sampling lengths (cut-off lengths)

For measurement, TR100 is simply placed onto the measuring surface. When pressing the start button, the micro-stylus scans over the surface to be measured within a few seconds.

According to the selected cut-off lengths, roughness is immediately displayed as R_a or R_z value.

R_z and R_a

R_z = mean roughness depth

R_z is the mean of five maximum peak-to-valley roughness depths in five successive sampling lengths.

R_a = roughness average

R_a is the generally accepted and most frequently applied roughness parameter. The roughness average is the area between the roughness profile and its mean line, or the integral of the absolute value of the roughness profile height over the sampling length.

When measuring surface roughness, the numerical value of the R_a parameter is always smaller then its R_z value.

Scope of supply

- Roughness tester
- Roughness standard R_a
- Stylus protection cover
- Mains charger unit
- Carrying and storage case
- Operating instructions
- Certificate

Technical data:	
Roughness parameters:	R_a and R_z
Measuring ranges:	R_z: 0.1 to 50 µm R_a: 0.05 to 15 µm
Cut-offs:	0.25 mm, 0.8 mm, 2.5 mm
Filter:	2 CR
Measuring surface :	Ø 40 mm min. curvature radius on cylindrical parts (V-grooved gauge base)
Calibration:	CAL-function (via key-board)
Accuracy:	according to ISO Class 3
Tracer:	piezo-electric stylus with diamond tip; radius 5 µm ± 1 µm
Total sampling length:	6 mm
Test velocity:	1.0 mm per second
Measuring unit:	µm or µinch (user selectable)
Temperature range:	0° to 40°C
Power supply:	3.6 V / 2 x NiMh accu batteries; low battery indicator; mains charger unit 9 V DC
Dimensions and weight:	125 mm x 73 mm x 26 mm / 200 gr

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