Profilometer PCE-RT 2000

PCE-RT 2000 Profilometer
Portable Roughness Tester for fast roughness detection / Large OLED display / Measurement of Ra, Rq, Rsm, Rsk, Rz, Rt, Rp, Rv, Rc / Numeric and graphic display

The profilometer PCE-RT 2000 is used for accurate measurement of surface roughness. The profilometer can be used on all surfaces. The roughness with the profilometer is precisely recorded via the piezotast head. The profilometer measures in the ranges Ra, Rq, Rsm, Rsk, Rz, Rt, Rp, Rv, Rc and is therefore a universal profilometer in quality assurance.

The profilometer is simply placed on the surface for measurement. During the measurement process, a probe is pulled over the surface and the profilometer displays the measured value on the large, OLED display. In addition to the numerical measured value display, the measuring profile can be graphically visualized. The profilometer PCE-RT 2000 is powered by a rechargeable battery. The charger of the profilometer is included in delivery. The profilometer has an automatic shut-off function for the battery care.

The profilometer PCE-RT 2000 has a Micro USB cable. The measuring device can be charged via this connection. Furthermore, the measurement data can be transmitted from the profilometer to the software. So it is possible to create a complete documentation of the measurement.

Rz = average roughness

The average roughness depth Rz is the arithmetic mean of the largest single-order depths of several adjacent individual measurement sections.

Ra = arithmetic mean roughness

Ra is the generally recognized and internationally applied roughness parameter. It is the arithmetic mean of the absolute values of the profile deviations within the reference distance. The measured value Ra is always smaller than the Rz value determined on the same roughness profile.

Rt = maximum roughness

The maximum surface roughness Rt is the distance between the highest and the lowest point of the measuring section.

Rq = Square Mean Roughness

Rq is the root mean square of all ordinate values within the individual measurement distance l. Rq corresponds to the designation RMS (Root Mean Square).

- ▶ OLED display
- ▶ Measures Ra, Rq, Rsm, Rsk, Rz, Rt, Rp, Rv, Rc
- ▶ Numerical and graphical display of measured values
- ▶ Micro USB cable
- ▶ 3 different cutoff wavelengths
- ▶ PC software
- ▶ Statistical functions
- ▶ Battery operation

Specifications

Measurement parameters	Ra, Rq, Rsm, Rsk, Rz, Rt, Rp, Rv, Rc
Measuring ranges	Ra, Rq, Rc: 0.005 µm ... 16 µm
	Rz, Rt, Rp, Rv: 0.02 µm ... 200 µm
	Rsm: 5 µm ... 1000 µm
	Rsk: -1 ... 1
Radius stylus tip	5 µm
Material stylus tip	Diamond, 90° angled
Max. Recommended force for static measurement	4 mN (0.4 gf)
Measuring principle	Inductive
Radius longitudinal guide bar	45 mm / 1.8 in
Standards	ANSIB46.1/ASMEB46.1 (DIN EN ISO 4287)
Maximum driving distance	15 mm / 0.6 in
Cut-off wavelength (cut off)	0.135 mm / s at cut-off wavelength: 0.25 mm
	0.5 mm / s at cut-off wavelength: 0.8 mm
	1 mm / s at cut-off wavelength: 2.5 mm
	Reversing speed: 1 mm / s
Measurement accuracy	<± 10%
Repeatability	<6%
Display	OLED
Units	µm / µinch (switchable)
Interface	Micro USB
Power supply	Rechargeable Li-ion battery

More information

Subject to change