

METROLOGY®

Surface Roughness Tester



SRT-9000C Surfaces roughness tester is suitable for shop floor use and mobile measure to need of a small handheld instrument, it operation simple, function overall, measure fast, accuracy stability, take convenience.

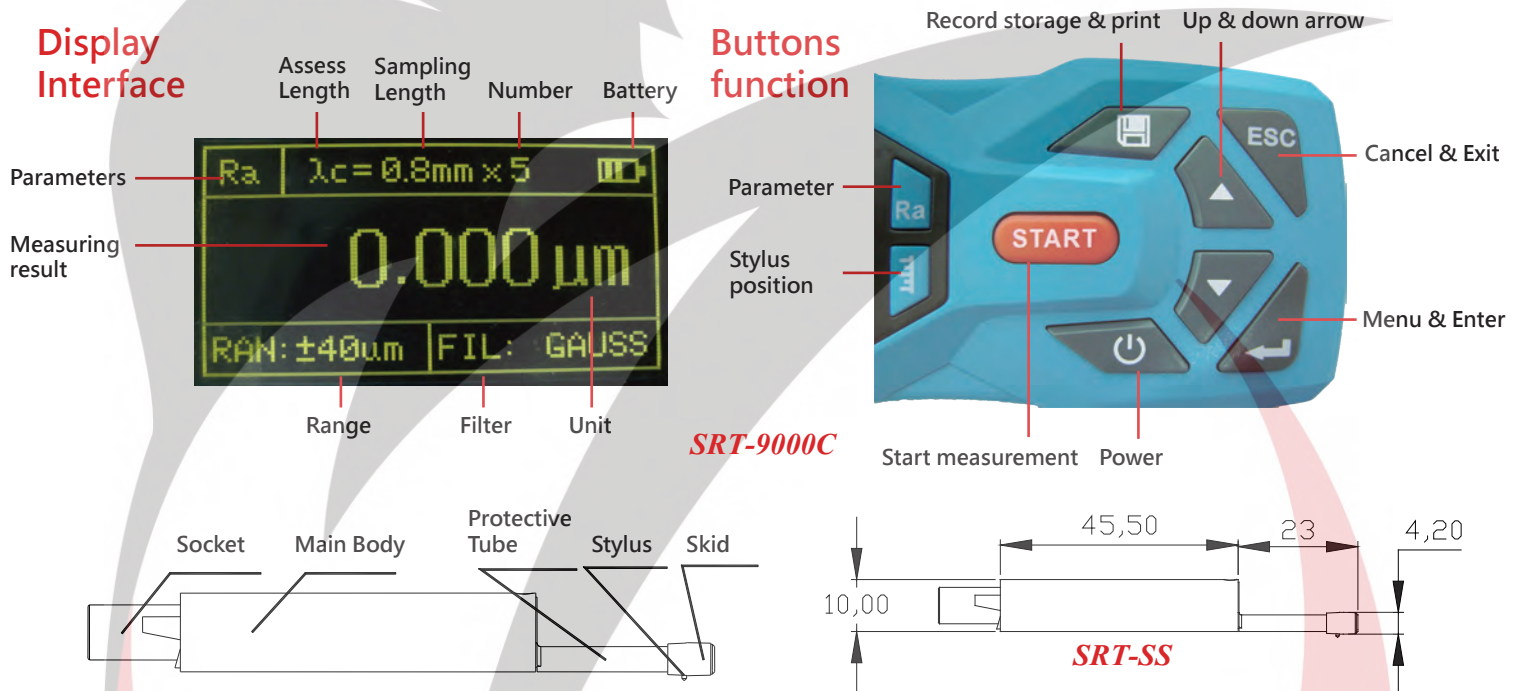
This tester applies to production site and can be used to measure surface roughness of various machinery-processed parts also capable of evaluating surface textures with a variety of parameters according to various national standards and ANSI, DIN, JIS, ISO international standard.

The measurement results are displayed digital & graphically on the OLED, and output to the printer.

■ Surface roughness tester

Measurement principle :

When measuring roughness of part surface, the pickup is placed on the surface of the part and then tracing the surface at constant rate. The pickup acquires the surface roughness by the sharp stylus in pickup. The roughness causes displacement of pickup which results in change of inductive value of induction coils thus generate analogue signal which is in proportion to surface roughness at output end of phase-sensitive rectifier. This signal enters data collection system after amplification and level conversion. After that, those collected data are processed with digital filtering and parameter calculation by DSP chip and the measuring result can be read on OLED, printed through printer and communicated with PC.



Standard sensor : Hard alloy skid · 90° diamond stylus · $R: 5 \mu\text{m}$ · force $< 4\text{mN}$

FEATURE

- 1 Electromechanical integration design, small size, light weight, easy to operation
- 2 DSP chip control and data processing, high speed, low power consumption
- 3 128×64 OLED dot matrix display, digital or graphic highlight display; no viewing angle
- 4 14 parameters: R_a 、 R_q 、 R_z 、 R_t 、 R_p 、 R_v 、 R_{3z} 、 R_{3y} 、 R_{zJIS} 、 R_s 、 R_{sk} 、 R_{ku} 、 R_{sm} 、 R_{mr}
- 5 Built-in lithium-ion rechargeable battery and control circuit, high capacity, no memory effect
- 6 Reliable circuit and software design of prevent the motor stuck
- 7 Large capacity data storage, can store 100 item of raw data and waveforms
- 8 With automatic sleep, automatic shutdown power-saving features
- 9 All parameters can be printed or print any of the parameters which set by the user
- 10 Resolution : $0.001 \mu\text{m}$, measuring error $< 10\%$, repeatability $< 6\%$, 17.5mm measuring range
- 11 With measuring software can connected to the computer and printer
- 12 Filter : RC 、PC-RC 、GAUSS 、D-P



■ Surface roughness tester



Innovation Design R&D
Patented Technology Award

Technical Parameter

SRT-9000C	Specification
Testing parameters	Ra, Rz, Rq, Rt, Rp, Rv, R3z, R3y, RzJIS, Rsk, Rku, Rsm, Rmr, Rx;
Measuring range	Ra: 0.005-16.000 um Rz: 0.02-160.00 um
Sample length	0.25, 0.80, 2.50 mm
Evaluation length	(1-5) L mm
Maximum drive stroke	17.5mm/0.7inch
Resolution	0.001 um
Indication error	±(7-10)%
Variability	<6%
Data Storage	100 groups
Power	Rechargeable li-battery
Working temperature	-20°C~40°C
Relative humidity	<90%
Size	158mmx63.5mmx46mm
Weight of Host	0.3kg

*Rz=Ry(JIS) Rt=Rmax

Standard accessories

Item	Name
1	Host
2	Standard Sensor
3	Calibration block and bracket
4	Bracket
5	Charger
6	Adjustable support
7	Operating manual
8	USB cable
9	Measuring Software CD
10	Instrument case

• Granite Measurement Stand (Optional)

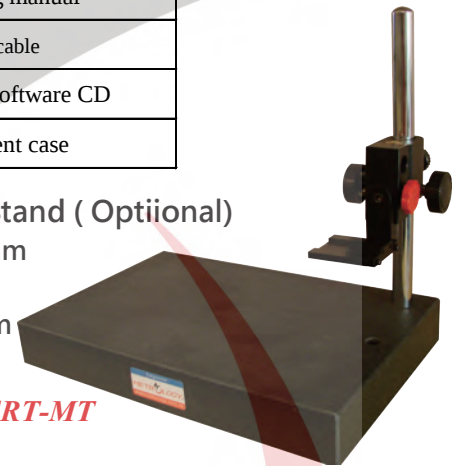
Stand size : 300*450*50mm

Z axis height : 400mm

Hand wheel range : 50mm

Rotation angle : 135°

SRT-MT



Optional accessories

- Extending Rod
- L type Extending Rod
- Curved Surface Sensor
- Small hole sensor
- Deep Groove Sensor



SRT-ER

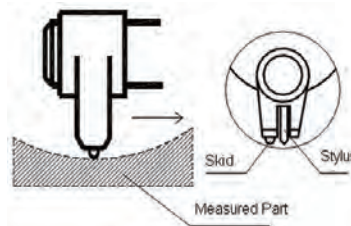


SRT-LR L type Extending Rod

Extending Rod : Increases the depth for pickup to enter the part. Length of extending rod is 50mm.

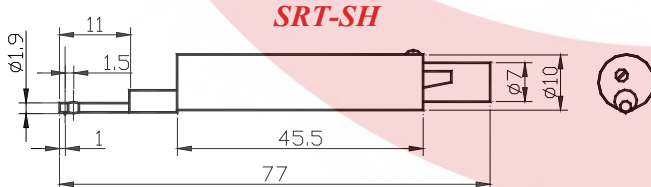


SRT-CS



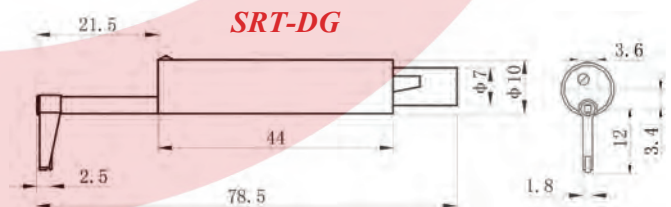
SRT-PT Printer

Curved Surface Sensor : Mainly used for measuring radius is larger than the smooth cylindrical 3mm surface roughness



SRT-SH

Small Hole Sensor :
For inner dia.>2mm · Hole depth ≤ 10mm

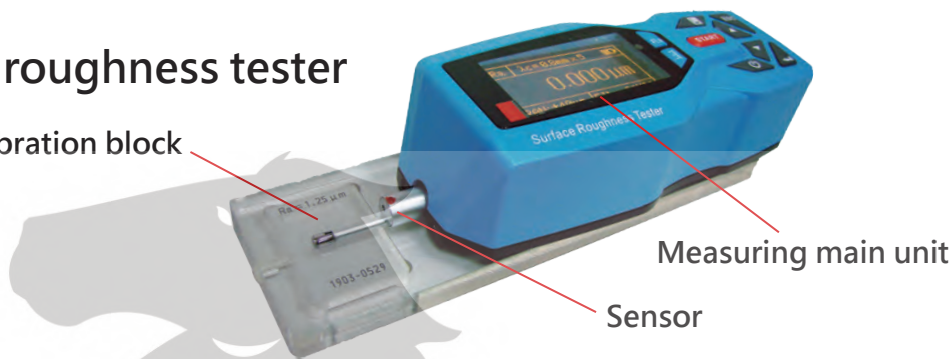


SRT-DG

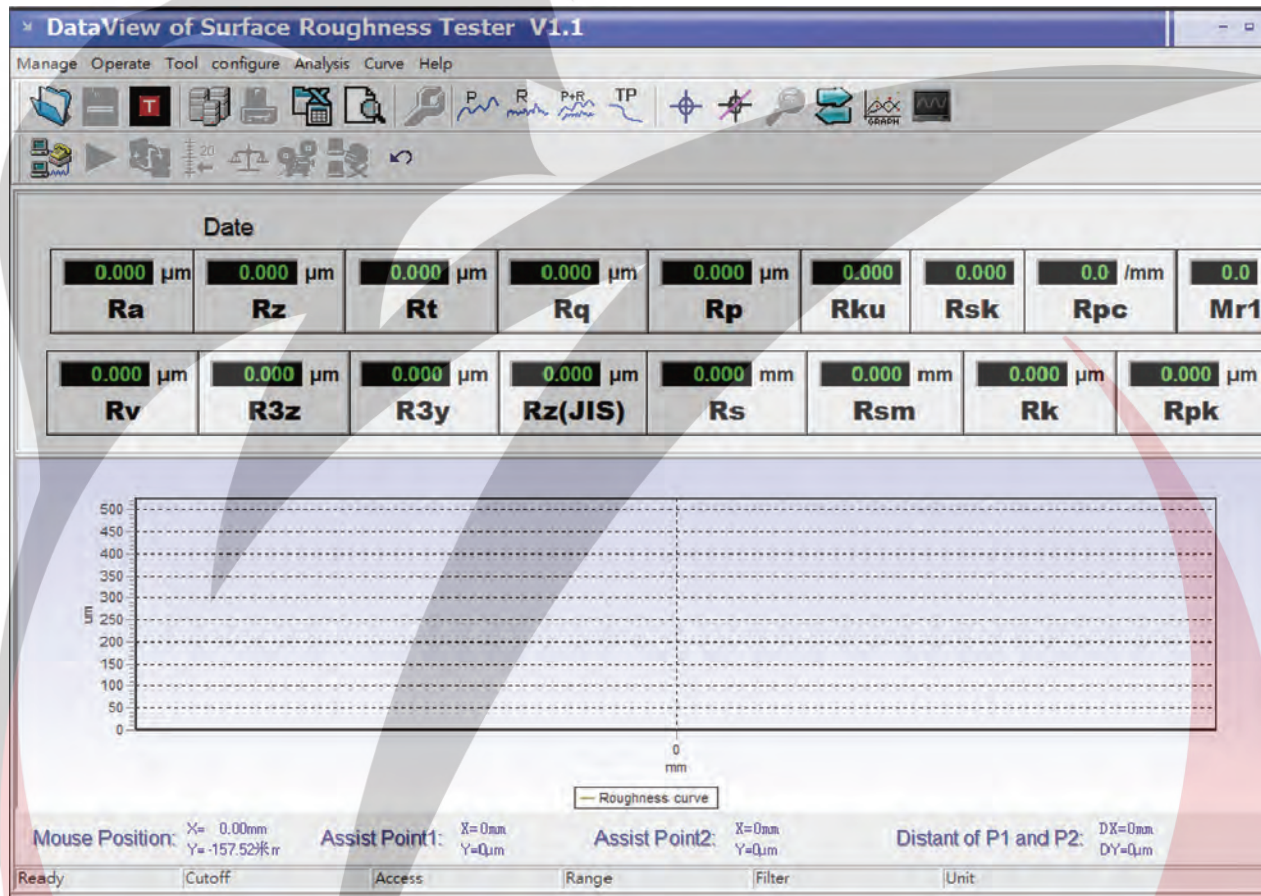
Deep Groove Sensor :
For groove width >3mm · Groove depth ≤ 10mm

■ Surface roughness tester

Calibration block



Measuring software interface



Cutoff & Parameter

Ra			Ry	Rz	Ry · Rz Sample length ℓ (mm)	Machining symbol
Parameter	λc (mm)	Roughness symbol	Parameter			
0.012 a 0.025 a 0.05 a 0.1 a 0.2 a	0.08 0.25	0.012 √ ~ 0.2 √	0.05 s 0.1 s 0.2 s 0.4 s 0.8 s	0.05 z 0.1 z 0.2 z 0.4 z 0.8 z	0.08 0.25	▽▽▽▽
0.4 a 0.8 a 1.6 a	0.8		1.6 s 3.2 s 6.3 s	1.6 z 3.2 z 6.3 z	0.8	
3.2 a 6.3 a	2.5	3.2 √ ~ 6.3 √	12.5 s 25 s	12.5 z 25 z	2.5	▽▽
12.5 a 25 a	8	12.5 √ ~ 25 √	50 s 100 s	50 z 100 z	8	▽
50 a 100 a	—	50 √ ~ 100 √	200 s 400 s	200 z 400 z	—	~