



BEARING & TOOL CENTRE



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Our Sister Concern : RELIEF SERVICE CENTRE

Repairs, Removal of Jaw Error, Bore Gauge Extension, Instrument Modifications & Spares

Quotation

109 | Surface Roughness Tester

Make	Mitutoyo	Time	Time	Time	Zeiss	M & W
Code	SJ - 210	TR 100 / 110	TR 3100 (TR100 / TR 110)	TR 200 Time	E - 35A	SRT - 1
Rs.	121500	Discontinued	45000	83600	144000	46000
Battery Rs.	4200					
Catalog	Page - 26 to 28		Page - 2	Page - 3	Page - 4 to 9	Page - 10-11

☺ Mitutoyo Discount : 5%

☺ For Mitutoyo Installation & Training charges extra @ Rs. 15000/-

☺ For Zeiss include installation & Training

109 - 1 | Surface Roughness Tester - Matrix+ @ With 10% Discount

		Code	Rs	Catalog
1	" MICROSURF 10 " Ra , Rz	MICROSURF 10	56000	Page - 25
2	" SURFTEST 10 " Ra , Rz	SURFTEST 10	55000	Page - 25
4	" MICROSURF 10 " PC Interface RS 232C + USB Adaptor + Software		3600	Page - 25
5	Precision Refrence Standard (Test Piece) STEEL For Microsurf 10		7000	Page - 25
6	Precision Refrence Standard (Test Piece) GLASS For Microsurf 10		9000	Page - 25
7	Standard Sensor For Microsurf 10		20000	Page - 25
8	Extension Adaptor For Microsurf 10		9000	Page - 25

109 - 2 | Surface Roughness Tester - Insize Make

Code	ISR-S300	ISR-S400	ISR-S500	ISR-S1000A	ISR-S1000B	ISR-C100
Range	0 - 100 um	0 - 100 um	600 um	1000 um	1000 um	160 um
Rs.	236917	272778	387810	636170	977317	130760
Catalog	Page - 12 to 14	Page - 12	Page - 15 to 17	Page - 18 to 20	Page - 21 to 23	Page - 24

Terms & Conditions -

- 📦 Goods offered - Subject to Prior Sale
- 📦 Price Validity: "15 Days from Date of Quotation"
- 📦 C.S.T 2% extra against form C. Otherwise 5% without form C For Out of Gujarat Sales only.
- 📦 VAT 5% extra for Sales within Gujarat. Prices Ex-Godown Ahmedabad.
- 📦 Payment against Proforma Invoice, Packing, Forwarding & Freight extra.
- 📦 **Bank Detail** - Kotak Mahindra Bank Ltd.
- 📦 **Branch** - Shivranjini
- 📦 **Bank IFSC Code** - KKBK 0000 810
- 📦 **Bank Account No.** 08102 00000 2689
- 📦 Note - While making payment online do mention your Company's name.
- 📦 TIN NO 24070901229 , CST No. 24570901229
- 📦 We are looking forward to your valued orders.



Standard Delivery

- Main unit
- Specimen Ra
- Charger
- TIME certificate
- Instruction manual
- Warranty card

Features

- Artistic design, easy for operation
- Using two OLED dot matrix Indicator
- Dual display on front and top Cover
- Automatic detect battery voltage and alarm
- Calibration Function

Technical Specification

Roughness parameter	Ra, Rz
Measuring range	Ra: 0.05-6.5 Rz: 0.1-50
Tracing lengths	0.25, 0.8, 2.5
Evaluation lengths	1.25, 4.0, 5.0
Tolerance	±15%
Repeatability	< 12%
Working environment: operating temperature: humidity:	0 -40 °C < 90%
Dimension	116 mm x 86 mm x 30 mm
Weight	200 g
Power	3.7 V Li battery

TIME®3100

DUAL DISPLAY

SURFACE ROUGHNESS TESTER

SURFACE ROUGHNESS TESTER TR200/210/220



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, Ry, 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	0.01µm		
Data output	RS232		
Measuring Range	± 20µm, ± 40µm, ± 80µm		
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	141mm × 56mm × 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 47)

ZEISS MAKE

Industrial Measuring Technology from Carl Zeiss

Handysurf E-35A. The Small, Portable Surface Measuring Unit



- Easy operation
- Instant data processing and display
- Data memory



Handysurf E-35A: Extremely versatile surface inspection

Whether used in the receiving inspection, production or final inspection, Handysurf E-35A makes quality assurance incredibly flexible. Because you take this compact, hand-held surface tester to where the part is. There is no easier way of measuring, evaluating and documenting surface roughness than with Handysurf E-35A. Why not try for yourself.



A range of easily exchangeable pick-up systems (see page 5) is available for different applications.

AI function for convenient operation

Automatic, standardized setting of measuring range, evaluation length and cut-off value, optimized for the surface to be measured.

Complies with all customary surface standards

Standards: ISO, DIN, CNOMO, JIS and ASME. Select any one of the following seven languages: German, English, French, Italian, Spanish, Portuguese, Japanese.

Data memory / battery operation

Ten complete data records can be stored in the built-in memory and recalled at any time. Battery operation (rechargeable) provides versatile use independent of the line supply.

Measuring in different positions

The small and light Handysurf E-35A measures not only flat, horizontal, but also vertical and overhead surfaces. In addition, the traversing unit can be separated from the display unit and used with optional holding devices for more flexible operation.

Direct data transfer to the PC

The RS 232C serial interface is used to transfer measured data, parameters and profile points directly to the PC.

E-ST-MAC magnetic stand

Mount for 6 mm dia.

0102050:

Permits measurement at different levels and angles.

Granite measuring stand 625006-3403

DT57506 extension

The pick-up arm can be extended by 50 mm, e.g. for the measurement of deep bores.

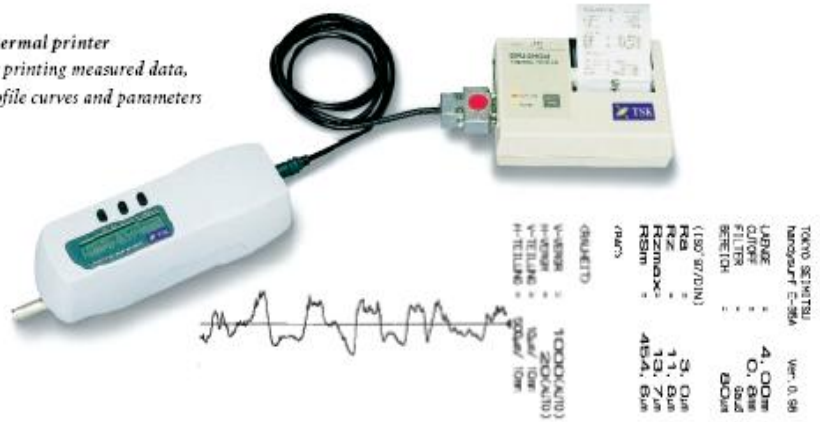
DT57707 extension adapter

The extension offset by 90° permits lateral probing.

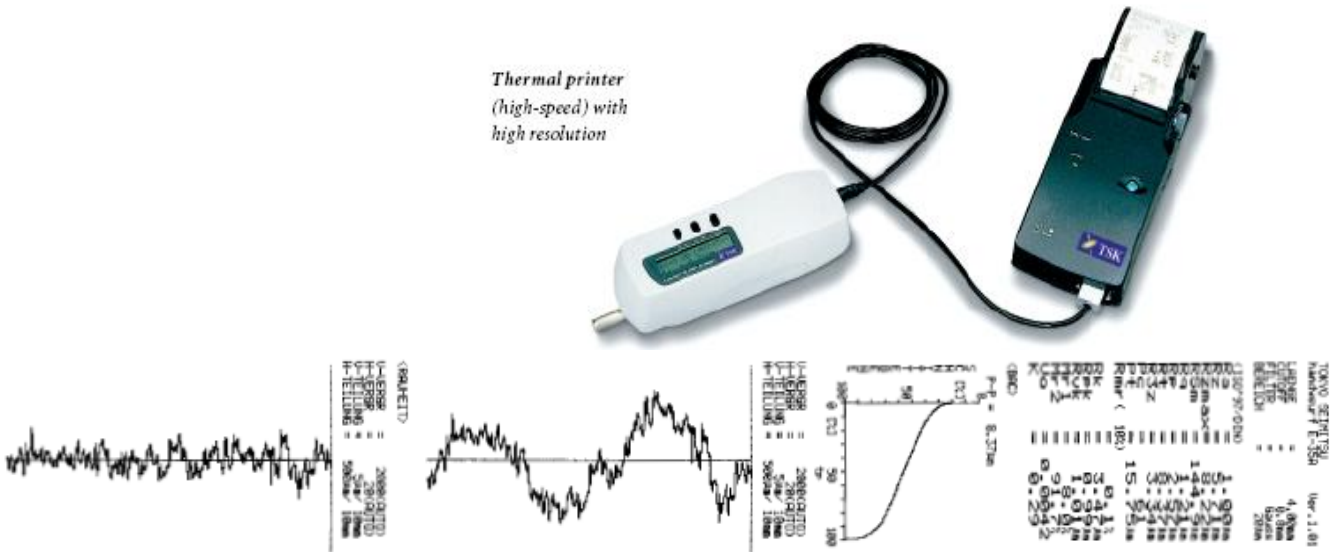


Easy operation

Thermal printer for printing measured data, profile curves and parameters



Thermal printer (high-speed) with high resolution



*Surface attachment E-WJ-S88A
The attachment permits freehanded measurement of flat surfaces.*

*Shaft attachment E-WJ-S85A
The attachment permits freehanded measurement of shafts and cylinders.*

*Orthogonal attachment E-WJ-S86A
This device permits reliable alignment at right angles to the seating surface.*

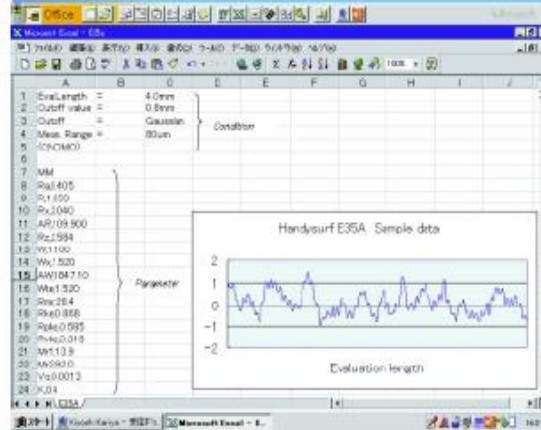


Direct data output
on laptop/PC



Data processing:

- Excel
- TIMS roughness software



Optional pick-up systems

Type	E-DT-SM10A	E-DT-SM11A	E-DT-SM12A	E-DT-SM13A
Application	Standard pickup	Pickup for $\phi > 6$ mm	Pickup for $\phi > 3$ mm	Pickup for grooves < 7 mm
Measuring force	4 mN	4 mN	4 mN	4 mN
Stylus tip	Diamond 5 $\mu\text{m}/90^\circ$	Diamond 5 $\mu\text{m}/90^\circ$	Diamond 5 $\mu\text{m}/90^\circ$	Diamond 5 $\mu\text{m}/90^\circ$
Skid	Sapphire	Sapphire	Sapphire	Sapphire

Specifications

Traversing unit

Traversing length	12.5 mm
Tracing speed	0.6 mm/s
Reserve speed	1 mm/s
Evaluation length	flexible mode 0.4 to 12.5 mm with 0.1 mm step
	fixed mode 5 λ_c (0.4/1.25/4/12.5 mm)

Pick-up system

Measuring range	40/160 μm /Auto
Resolution	0.02 μm
Probing force	4 mN
Material of stylus	Diamond
Radius of stylus	5 μm
Skid	Sapphire, Radius 40 mm

Data processing

Data memory	10 data records; profile curves, parameters, measuring conditions
Filter type	Gaussian DIN 4777 and 2RC
Roughness filter cutoff value λ_c	0.08/0.25/0.8/2.5 mm
Standard	ISO/DIN/JIS/CNOMO/ASME
Roughness parameters	Ra, Rz, RSm, Rq, Rp, Rt, R3z, Pc, Pt, Rmr, PK, Rpk, Rvk, Mr1, Mr2, Vo, K, Rzmax

Tolerance comparison

Display unit	LCD, 16 digit x 2 lines
Display items	Measuring conditions, parameters and OK/NG results
Units	μm / μinch
Data interface	PC interface
Languages	German, English, French, Italian, Spanish, Portuguese, Japanese

Miscellaneous

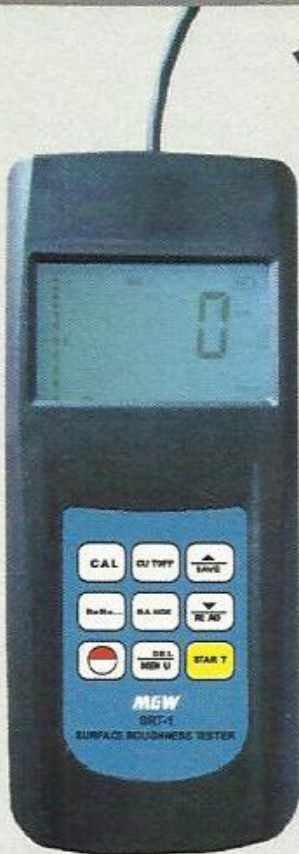
Powersupply	Built-in, rechargeable battery with AC adapter 100, 120, 127, 220, 240 V, 50-60 Hz
Power consumption	approx. 0.5 VA (battery provides approx. 7 h hours operation)
Dimensions, weight	width = 186 mm, depth = 68 mm, height = 54 mm, weight approx. 0.6 kg
Standard accessories	Calibration & stylus check specimen, tracing driver support, Extension cable & transport case
Printer	optional



MGW MAKE

Surface Roughness Tester

SRT-1



Profile digital filter

Filtered Profile: RC Filtered Profile: PC-RC

Filtered Profile: Gauss Non-Filtered Profile: D-P

Resolution : $.001\mu\text{m}$ if reading $<10\mu\text{m}$

$0.01\mu\text{m}$ if $10\mu\text{m} \leq \text{reading} < 100\mu\text{m}$

$0.1\mu\text{m}$ if reading $\geq 100\mu\text{m}$

Evaluation length : 5 cut-off

Power Li-ion battery: rechargeable

Operating conditions: Temp. $0\sim 40^{\circ}\text{C}$ Humidity $<80\%$

Standard Accessories:

Carrying case.....	1pcs	Main unit:	1pcs
Standard Sensor.....	1pcs	Screwdriver:	1pcs
Standard Sample Plate....	1pcs	Sensor Protector..	1pcs
Power Adapter.....	1pcs	Adjustable Leg... ..	1pcs
Operation Manual.....	1pcs		

Optional Accessories:

1. Cable and Software for RS-232/USB
2. Extension Rod
3. Groove stylus
4. Curvature Probe
5. Measurement Stand



SURFACE ROUGHNESS TESTER SRT-1

Product Description

Widely used in production site to measure surface roughness of various machinery-processed parts, calculate corresponding and clearly display all measurement parameter.

Product Feature

- * Use DSP chip control and data processing, high speed, low power consumption LCD digital display with backlight function(Do not need to buy another battery)
- * Can be measured in several parts of the surface roughness: Planar, curved surface, small hole, slot of the irregular surface.
- * Design of electromechanical integration, small volume, light weight, convenient with measuring value storage function and data storage query
- * Can communicate with PC computer for statistics and printing by the optional cable and the software for RS232C interface.
- * Optional surface sensor, deep groove sensor, measuring platform, connected with a long rod and other accessories.
- * Multi parameter measurement: Ra, Rz, Rq, Rt.
- * Have Bluetooth features to choose from



Product Parameter

Measuring Range		Ra: 0.005~16 um/0.020~629.9uinch
		Rq: 0.005~16 um/0.020~629.9 uinch
		Rz: 0.020~160 um/0.780~6299uinch
		Rt: 0.020~160 um/0.780~6299uinch
Accuracy		Not more than $\pm 10\%$
Fluctuation of display value		Not more than 6%
Resolution		0.001 μm
		0.01 μm
		0.1 μm
Sensor	Radius	5 μm
	Material	Diamond
	Measurement Force	16mN(1.6gf)
	Angle	90°
	Vertical Radius	48mm
	Maximum Driving Stroke	12.5mm/0.5inch
	Cutoff Length	0.25mm, 0.8mm, 2.5mm
Driving Speed	Measuring	Sampling Length = 0.25mm Vt=0.135mm/s
		Sampling Length = 0.8mm Vt=0.5mm/s
		Sampling Length = 2.5mm Vt=1mm/s
	Returning	Vt=1mm/s
Probe measuring range		$\pm 80 \mu\text{m}$
Memory function		7 Groups
Power supply		4x1.5AAA (UM-4) Battery
Size		145x65x27mm
Weight		190g (Not included Batteries)

Product Accessories

Standard Accessories	Main Unit, Screwdriver, Adjustable leg, Standard Sensor, Sensor Protector, Standard Sample Plate, Carrying Case, Operation Manual.
Optional Accessories	Extension Rod, Groove Stylus, Curvature Probe, Measurement Stand, Cable and Software RS-232/USB, Bluetooth,

ROUGHNESS TESTER



ISR-S300
(probe can't be changed)



ISR-S400
(probe can be changed)

- Automatic probe leveling
- Language: English, French, German, Italian, Spanish, Portuguese
- 12 roughness parameters
- Can set tolerance
- Measuring range up to 400µm, can measure grit and shot blasting
- Traverse length up to 16mm
- The probe can be set at 90° or 270°, for transverse measurement
- Memory of maximum 100 results



transverse measurement



adjustable stand (included)



measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics



test stand (optional)



probe cover (included), can put the small workpieces directly on the probe for measurement



printer (optional), print measuring results and roughness graphic

To be continued

SPECIFICATION

Code	ISR-S300 (probe can't be changed)	ISR-S400 (probe can be changed)
Parameters	Ra, Rq, Rt, Rz, Rc, Rmax, Rsm, Rpc, Rmr, R, AR, Rx	
Range	Ra: 0~100 μ m, Rt: 0.05~400 μ m	
Accuracy	\pm 3%	
Resolution (Ra)	0.001 μ m	
Probe	type	inductive
	stylus radius/angle	5 μ m/90°
	stylus material	diamond
Measuring force	0.75mN	
Measuring unit	μ m/ μ in	
Cut off	0.25/0.8/2.5mm	
Number of cut-offs	1 to 5	
Traverse speed	1mm/s	
Memory	100 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension(L×W×H)	122×52×68mm	
Weight	650g	

STANDARD DELIVERY

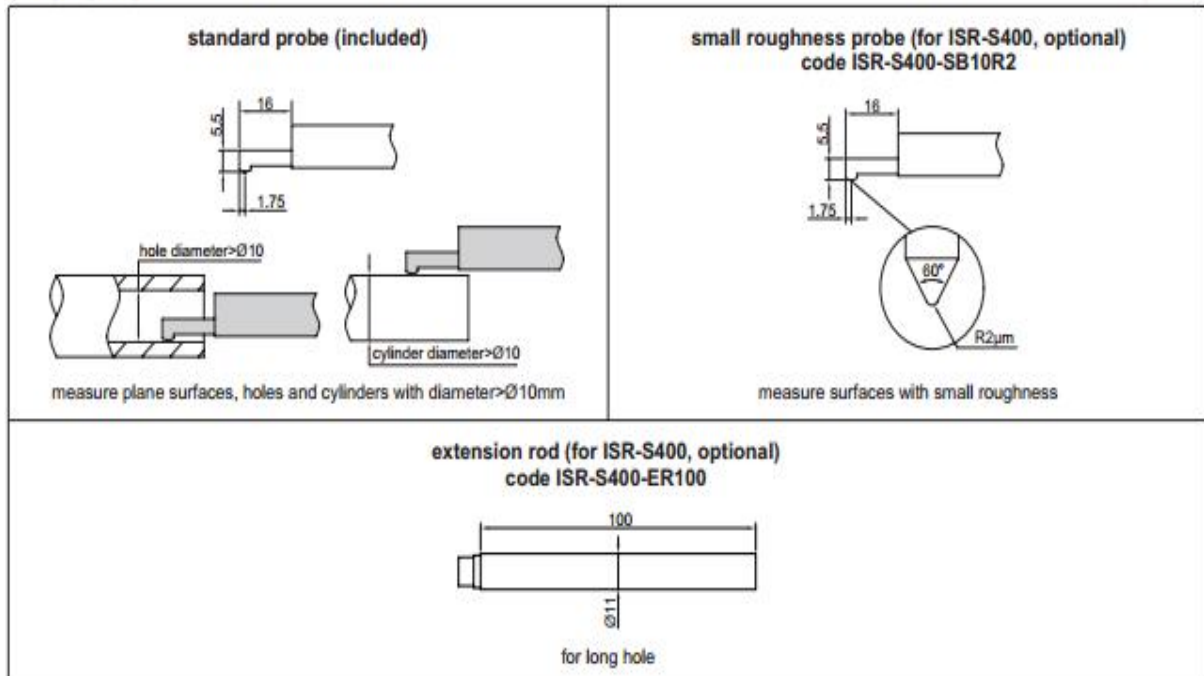
Main unit	1pc
Standard probe	1pc
Calibration block	1pc
Adjustable stand	1pc
AC/DC adapter	1pc
Probe cover	1pc

OPTIONAL ACCESSORY

Extension rod (only for ISR-S400)	ISR-S400-ER100
Probe (only for ISR-S400)	see below and next page
Printer	ISR-S400-PRINTER
USB cable and software	ISR-S-SOFTWARE
Test stand	ISR-S400-DK

SPECIFICATION

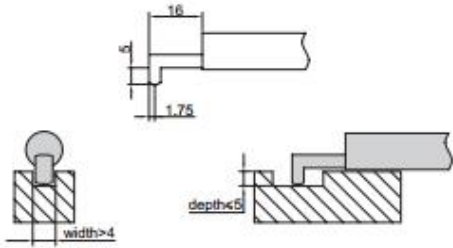
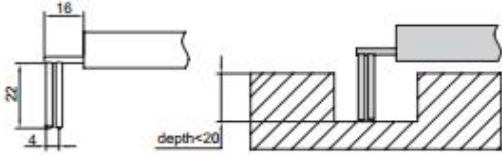
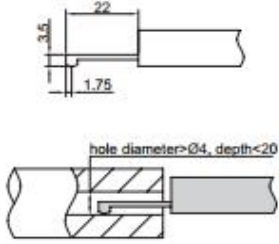
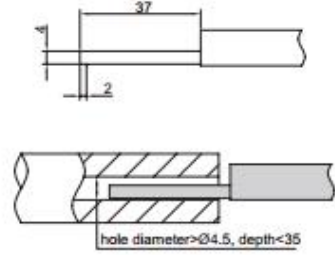
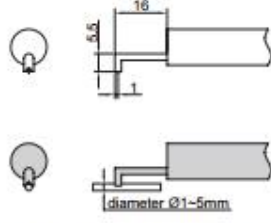
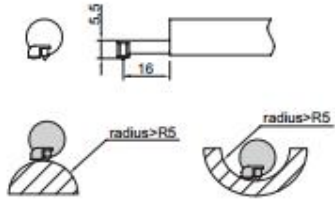
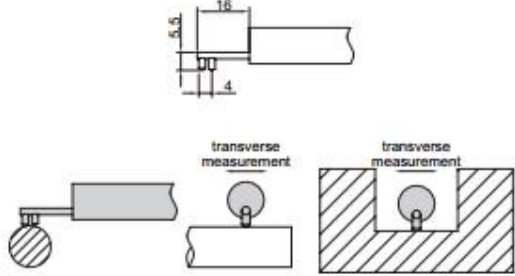
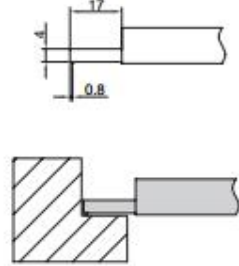
Unit: mm



To be continued

SPECIFICATION

Unit: mm

<p>groove probe (for ISR-S400, optional) code ISR-S400-SB20</p>  <p>measure plane surfaces and grooves</p>	<p>deep groove probe (for ISR-S400, optional) code ISR-S400-SB120</p>  <p>measure grooves with depth <math>< 20\text{mm}</math></p>
<p>small hole probe (for ISR-S400, optional) code ISR-S400-SB30</p>  <p>measure plane surfaces and holes with diameter > <math>\varnothing <math><="" 20\text{mm}<="" 4\text{mm}<="" and="" depth="" math>="" math><="" p=""> </math>\varnothing></p>	<p>deep hole probe (for ISR-S400, optional) code ISR-S400-SB80</p>  <p>measure holes with diameter > <math>\varnothing <math><="" 35\text{mm}<="" 4.5\text{mm}<="" and="" depth="" math>="" math><="" p=""> </math>\varnothing></p>
<p>small rod probe (for ISR-S400, optional) code ISR-S400-SB40</p>  <p>measure small rods with diameter <math>\varnothing 1-5\text{mm}<="" math><="" p=""> </math>\varnothing></p>	<p>cylinder/hole probe (for ISR-S400, optional) code ISR-S400-SB110</p>  <p>measure cylinders and holes with radius > <math>r5\text{mm}< math><="" p=""> </math>r5\text{mm}<></p>
<p>transverse probe (for ISR-S400, optional) code ISR-S400-SB50</p>  <p>transverse measurement for plane surfaces, cylinders and grooves</p>	<p>internal angle probe (for ISR-S400, optional) code ISR-S400-SB140</p>  <p>measure internal angles</p>



DATA OUTPUT

ROUGHNESS TESTER CODE ISR-S500



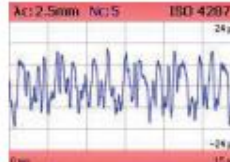
- Automatic probe leveling
- Language: English, French, German, Italian, Spanish, Portuguese
- 30 roughness parameters
- Can set tolerance
- Measuring range up to 600µm, can measure grit and shot blasting
- Traverse length up to 16mm
- The probe can be set at 90° or 270°, for transverse measurement
- Color screen, display roughness values, profile and curves
- Memory of maximum 1000 results

ROUGHNESS VALUE, PROFILE AND DATA ANALYSIS

Ra	5.315 µm
Rq	6.134 µm
Rt	27.050 µm
Rp	11.574 µm

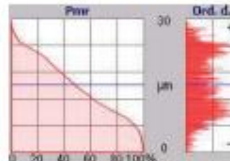
09:20 Parameters

measurement result



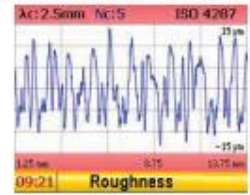
09:24 Primary Profile

P graph



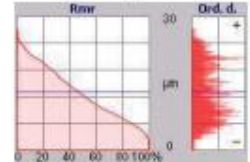
09:26 Pmr Portance

Pmr analysis



09:21 Roughness

R graph



09:25 Rmr Portance

Rmr analysis



measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics



transverse measurement



adjustable stand (included)



probe cover (included), can put the small workpieces directly on the probe for measurement



printer (optional), print measuring results and roughness graph

To be continued

SPECIFICATION

Parameters	Ra, Rq, Rt, Rp, Rv, Rz, Rc, RSm, R δ c, R ρ c Pa, Pq, Pt, Pp, Pv, Pc, Psm, P δ c, Ppc, Rk, Rpk Rvk, Mr1, Mr2, Rmax, R3z, R3zm, R, AR, Rx	
Range	600 μ m	
Accuracy	\pm 3%	
Resolution (Ra)	0.001 μ m	
Probe	type	inductive
	stylus radius/angle	5 μ m/90°
	stylus material	diamond
Measuring force	0.75mN	
Measuring unit	μ m/ μ in	
Cut off	0.25/0.8/2.5mm	
Number of cut-offs	1-10 (cut off 0.25/0.8mm) 1-5 (cut off 2.5mm)	
Traverse speed	1mm/s	
Memory	1000 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension(L*W*H)	122*53*75mm	
Weight	590g	

OPTIONAL ACCESSORY

Extension rod	ISR-S400-ER100
Probe	see below and next page
Printer	ISR-S500-PRINTER
USB cable and software	ISR-S-SOFTWARE
Test stand	ISR-S400-DK

STANDARD DELIVERY

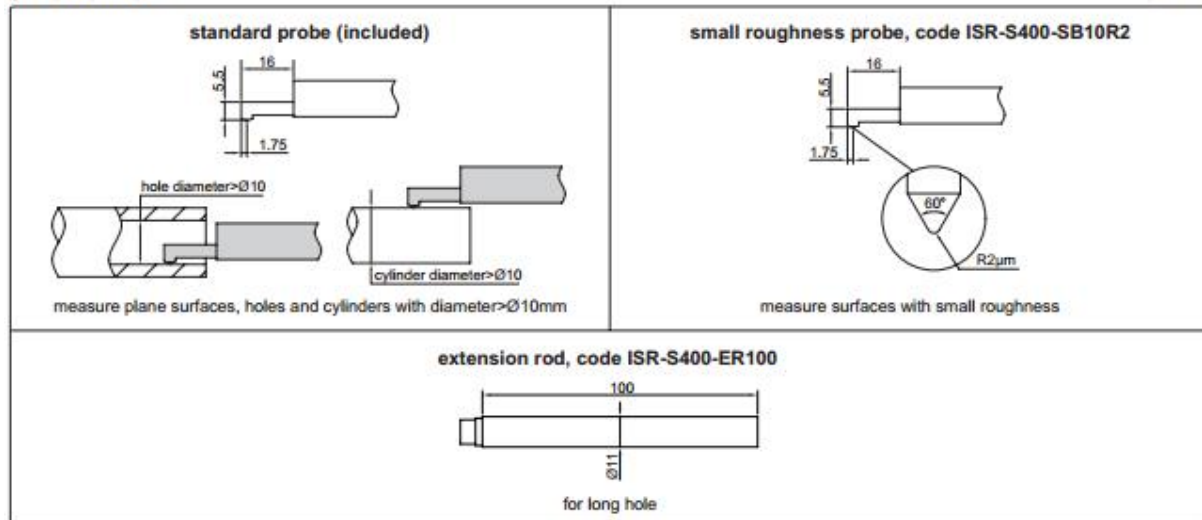
Main unit	1pc
Standard probe	1pc
Calibration block	1pc
Adjustable stand	1pc
AC/DC adapter	1pc
Probe cover	1pc



test stand (optional)

SPECIFICATION

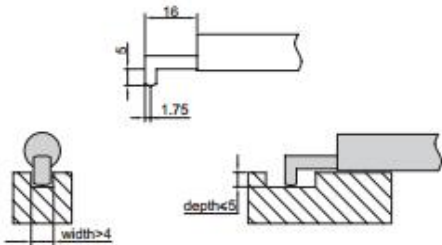
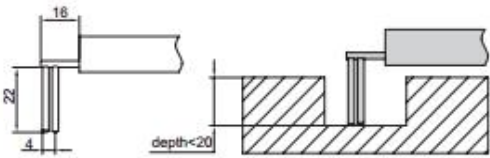
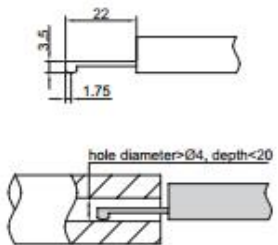
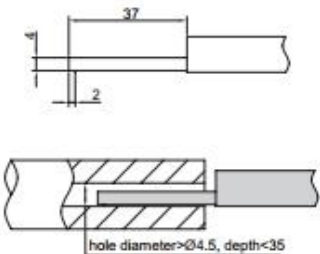
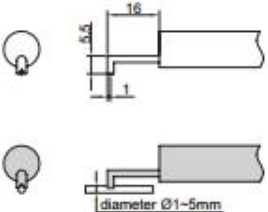
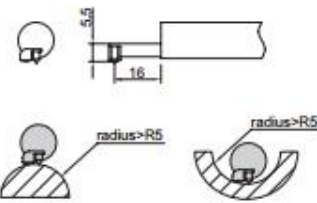
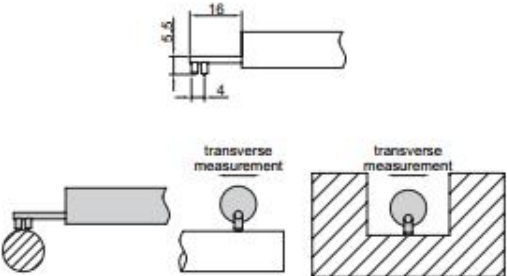
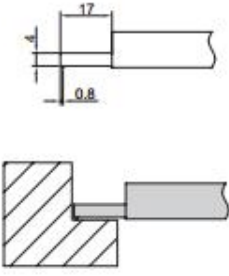
Unit: mm



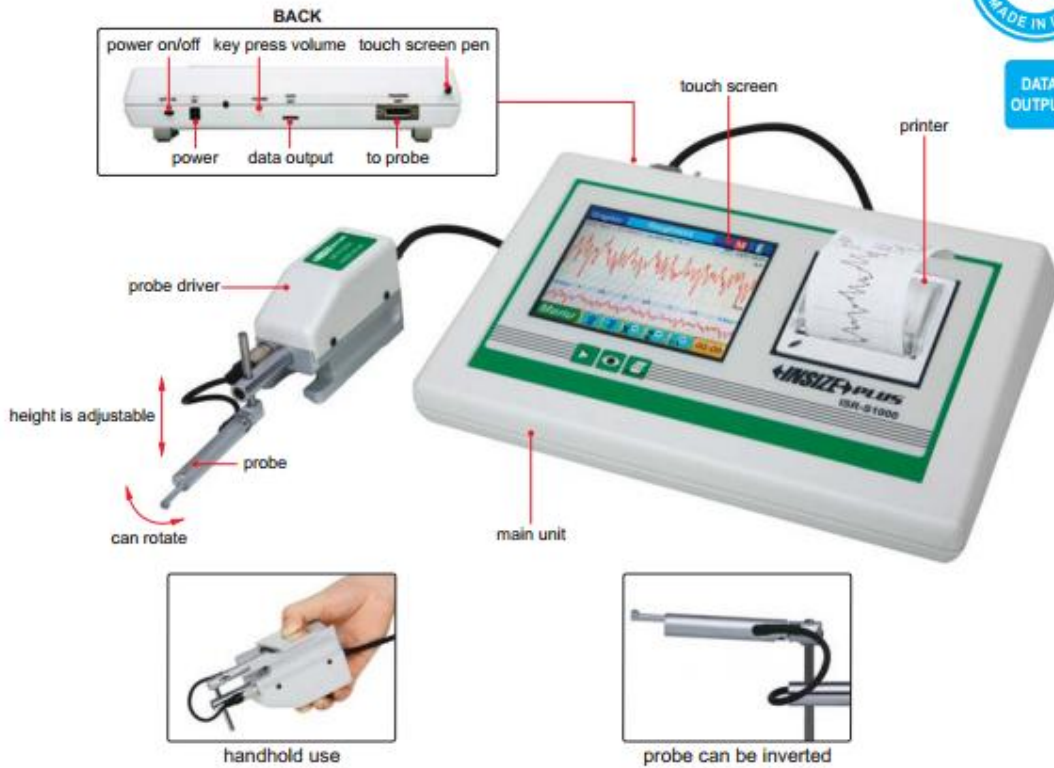
To be continued

SPECIFICATION

Unit: mm

<p>groove probe, code ISR-S400-SB20</p>  <p>measure plane surfaces and grooves</p>	<p>deep groove probe, code ISR-S400-SB120</p>  <p>measure grooves with depth < 20 mm</p>
<p>small hole probe, code ISR-S400-SB30</p>  <p>measure plane surfaces and holes with diameter > 4 mm and depth < 20 mm</p>	<p>deep hole probe, code ISR-S400-SB80</p>  <p>measure holes with diameter > 4.5 mm and depth < 35 mm</p>
<p>small rod probe, code ISR-S400-SB40</p>  <p>measure small rods with diameter \varnothing 1-5 mm</p>	<p>cylinder/hole probe, code ISR-S400-SB110</p>  <p>measure cylinders and holes with radius > 5 mm</p>
<p>transverse probe, code ISR-S400-SB50</p>  <p>transverse measurement for plane surfaces, cylinders and grooves</p>	<p>internal angle probe, code ISR-S400-SB140</p>  <p>measure internal angles</p>

SURFACE ROUGHNESS TESTER CODE ISR-S1000A



- 38 roughness parameters according to ISO-4287, JIS-B0601, ISO-12085, JIS-B0631
- Automatic probe leveling
- Measuring range up to 1000 μ m, can measure grit and shot blasting
- Traverse length up to 25mm
- The probe can be set at 90° or 270°, for transverse measurement
- Color touch screen, display roughness values, profile and curves
- Can print roughness values, profile and curves
- Memory of maximum 1000 results
- Can set tolerance

View	Parameters	M	1
Ra	2.508 μ m	RSm	391 μ m
Rq	3.509 μ m	RSc	20.223 μ m
Rt	20.233 μ m	RPc	34.6cm
Rz	12.548 μ m	Px	6.013 μ m
Rp	6.039 μ m	Pq	6.810 μ m
Rv	7.509 μ m	Pt	26.296 μ m
Rc	9.310 μ m	Pp	12.265 μ m
Rsk	-0.105	Pv	12.891 μ m
Rku	2.729		

measurement result



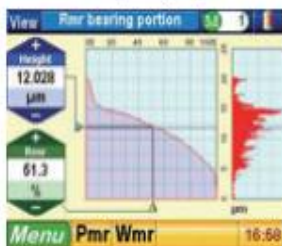
total profile graph



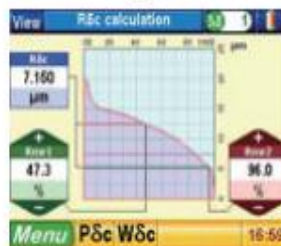
R graph



P graph



Rmr, Pmr analysis



RSc, PSc analysis



Rel. Rmr, Rel. Pmr analysis

To be continued

SPECIFICATION

Parameters	Ra, Rq, Rt, Rz, Rp, Rv, Rc, Rsk, Rku, Rsm Rdc, R _{Pc} , Pa, Pq, Pt, Pp, Pv, Pc, P _{Sm} , P _{dc} PPc, Rk, Rpk, Rvk, Mr1, Mr2, Rmax, R3z, R3zm R, AR, Rx, Aw, Rke, Rpk, Rvke, Mr1e, Mr2e	
Range	1000µm	
Accuracy	±3%	
Resolution (Ra)	0.001µm	
Probe	type	inductive
	stylus radius/angle	5µm/90°
	stylus material	diamond
Measuring force	0.75mN	
Measuring unit	µm/µin	
Cut off	0.08/0.25/0.8/2.5mm	
Number of cut-offs	1-19 (cut off 0.08/0.25/0.8mm)	
	1-9 (cut off 2.5mm)	
Traverse speed	0.5mm/s or 1mm/s	
Memory	1000 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension (L×W×H)	320×210×80mm	
Weight	2.2kg	

STANDARD DELIVERY

Main unit	1pc
Probe driver	1pc
Standard probe	1pc
Calibration block	1pc
AC/DC adapter	1pc

OPTIONAL ACCESSORY

Probe	refer to next page
USB cable and software	ISR-S-SOFTWARE
Test stand	ISR-S400-DK



test stand (optional)

measuring software (optional)

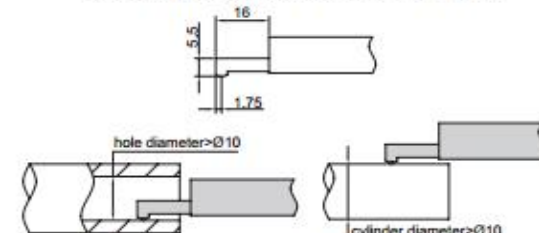
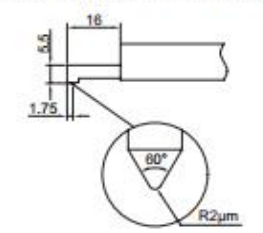
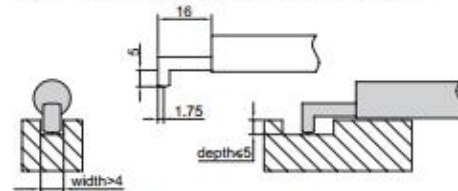
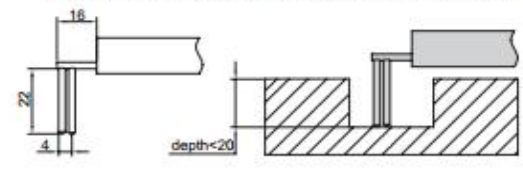
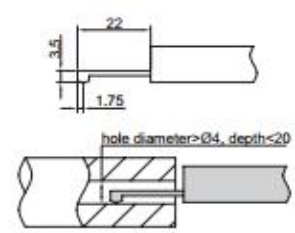
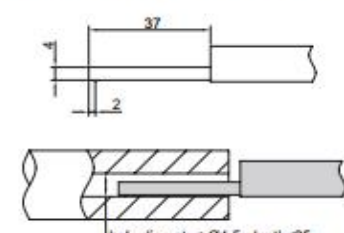
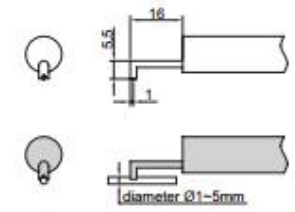
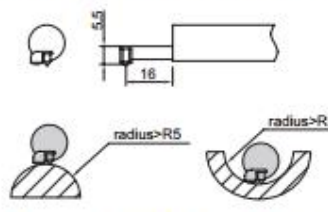
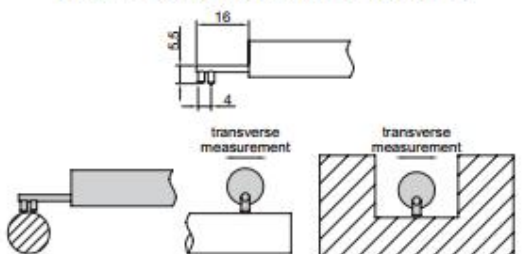
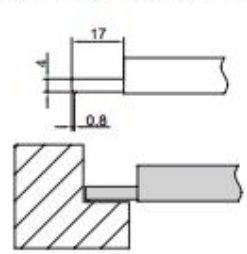


measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics

To be continued

SPECIFICATION

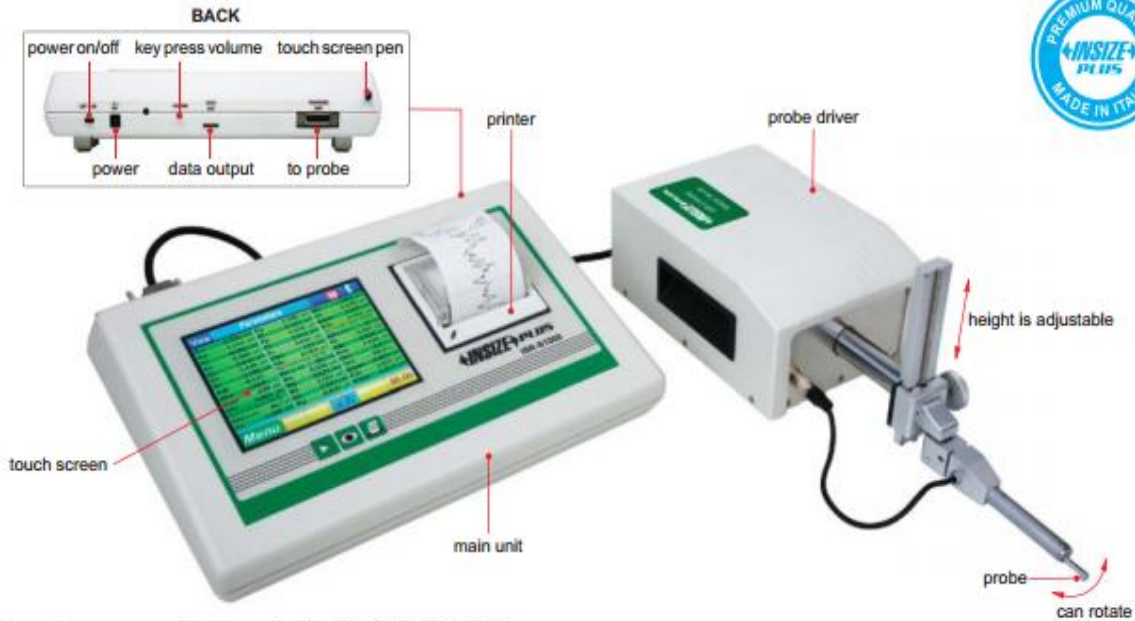
Unit: mm

<p>standard probe (included), code ISR-SB10A</p>  <p>measure plane surfaces, holes and cylinders with diameter >Ø10mm</p>	<p>small roughness probe (optional), code ISR-SB10A-R2</p>  <p>measure surfaces with small roughness</p>
<p>groove probe (optional), code ISR-SB20A</p>  <p>measure plane surfaces and grooves</p>	<p>deep groove probe (optional), code ISR-SB120A</p>  <p>measure grooves with depth <20mm</p>
<p>small hole probe (optional), code ISR-SB30A</p>  <p>measure plane surfaces and holes with diameter >Ø4mm and depth <20mm</p>	<p>deep hole probe (optional), code ISR-SB80A</p>  <p>measure holes with diameter >Ø4.5mm and depth <35mm</p>
<p>small rod probe (optional), code ISR-SB40A</p>  <p>measure small rods with diameter Ø1-5mm</p>	<p>cylinder/hole probe (optional), code ISR-SB110A</p>  <p>measure cylinders and holes with radius >R5mm</p>
<p>transverse probe (optional), code ISR-SB50A</p>  <p>transverse measurement for plane surfaces, cylinders and grooves</p>	<p>internal angle probe (optional), code ISR-SB140A</p>  <p>measure internal angles</p>

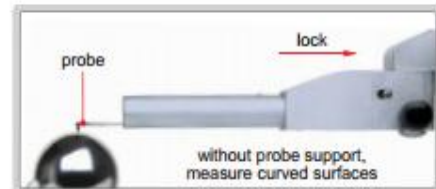
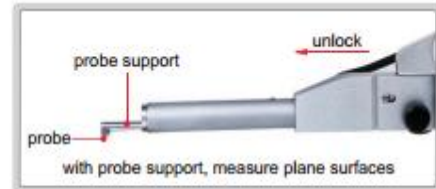
SURFACE ROUGHNESS TESTER CODE ISR-S1000B

CAN MEASURE WAVINESS AND
CURVED SURFACE WITH RADIUS > 5MM

DATA
OUTPUT



- 48 roughness parameters according to ISO-4287, JIS-B0601, ISO-12085, JIS-B0631
- Automatic probe leveling
- Measuring range up to 1000 μ m, can measure grit and shot blasting
- Traverse length up to 50mm
- The probe can rotate from -90° to +90°
- Color touch screen, display roughness values, profile and curves
- Can print roughness values, profile and curves
- Memory of maximum 1000 results
- Can set tolerance



ROUGHNESS VALUE, PROFILE AND DATA ANALYSIS



measurement result



total profile graph



R graph



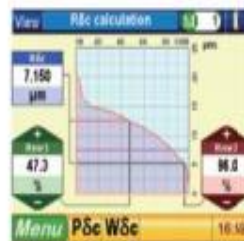
P graph



W graph



Rmr, Pmr, Wmr analysis



Rfc, Pfc, Wfc analysis



Rel. Rmr, Rel. Pmr, Rel. Wmr analysis

To be continued

SPECIFICATION

Parameters	Ra, Rq, Rt, Rz, Rp, Rv, Rc, Rsk, Rku, RSm, Rδc R _{Pc} , P _a , P _q , P _t , P _p , P _v , P _c , P _{sm} , Pδ _c , P _{Pc} , W _a W _q , W _t , W _z , W _p , W _v , W _c , W _{sm} , Wδ _c , W _{Pc} , R _k R _p , R _v , R _{r1} , R _{r2} , R _{max} , R _{3z} , R _{3zm} , R, AR R _x , A _w , R _{ke} , R _{pke} , R _{vke} , R _{r1e} , R _{r2e}	
Range	1000μm	
Accuracy	±3%	
Resolution (Ra)	0.001μm	
Probe	type	inductive
	stylus radius/angle	5μm/90°
	stylus material	diamond
Measuring force	0.75mN	
Measuring unit	μm/μin	
Cut off	0.08/0.25/0.8/2.5/8mm	
Number of cut-offs	1-19 (cut off 0.08/0.25/0.8/2.5mm) 1-5 (cut off 8mm)	
Traverse speed	0.5mm/s or 1mm/s	
Memory	1000 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension (LxWxH)	320×210×80mm	
Weight	2.2kg	

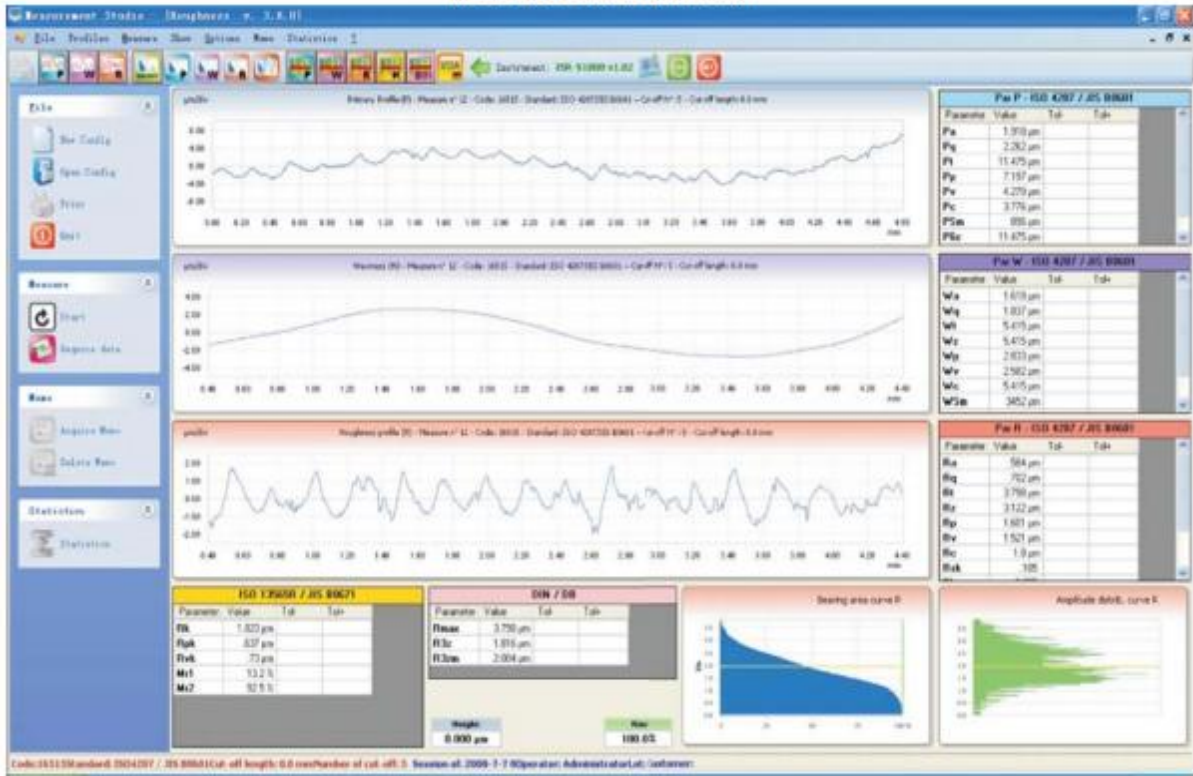
STANDARD DELIVERY

Main unit	1pc
Probe driver	1pc
Standard probe	1pc
Calibration block	1pc
AC/DC adapter	1pc

OPTIONAL ACCESSORY

Probe	refer to next page
USB cable and software	ISR-S-SOFTWARE

measuring software (optional)



measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics

To be contin

SPECIFICATION

Unit: mm

<p>standard probe (included, support is removable), code ISR-SB10B</p> <p>with probe support, measure plane surfaces, holes and cylinders with diameter > 10mm</p>			<p>remove probe support, to measure holes with diameter > 4mm, can measure curved surfaces, narrow spaces and waviness</p>			
<p>small hole probe (optional), code ISR-SB60B</p> <p>without probe support, measure holes with diameter > 2mm and depth < 30mm, can measure curved surfaces, narrow spaces and waviness</p>	<p>internal angle probe (optional), code ISR-SB70B</p> <p>without probe support, measure internal angles, can measure curved surfaces, narrow spaces and waviness</p>	<p>knife edge probe (optional), code ISR-SB130B</p> <p>without probe support, measure knife edges and small rods</p>				
<p>deep groove probe (optional), code ISR-SB150B</p> <p>without probe support, measure curved surfaces and grooves with depth < 13mm, can measure curved surfaces, narrow spaces and waviness</p>		<p>deep groove probe (optional), code ISR-SB120B</p> <p>measure grooves with depth < 20mm</p>				
<p>hole probe (optional), code ISR-SB30B</p> <p>measure plane surfaces and holes with diameter > 4mm and depth < 20mm</p>	<p>small rod probe (optional), code ISR-SB40B</p> <p>measure small rods with diameter 1-5mm</p>	<p>transverse probe (optional), code ISR-SB50B</p> <p>transverse measurement for plane surfaces, cylinders and grooves</p>				
<p>deep hole probe (optional), code ISR-SB80B</p> <p>measure holes with diameter > 4.5mm and depth < 35mm</p>	<p>cylinder/hole probe (optional), code ISR-SB110B</p> <p>measure cylinders and holes with radius > R5mm</p>		<p>groove probe (optional), code ISR-SB20B</p> <p>measure plane surfaces and grooves</p>			

ROUGHNESS TESTER CODE ISR-C100

DATA
OUTPUT



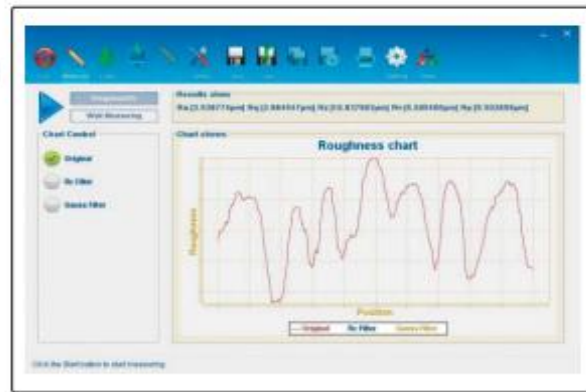
- 13 roughness parameters
- With probe position indicator
- Connected with printer via bluetooth (code **ISR-C100-PRINTER**)
- Can display roughness values, profile, and curve
- Memory of maximum 100 results
- Automatic power off



probe cover (included)



adjustable stand (included)



measuring software (optional), can control the roughness tester display roughness values, profile and curve

SPECIFICATION

Parameters	Ra, Rz, Ry, Rq, Rp, Rm, Rt R3z, Rmax, Sk, S, Sm, tp	
Range	160μm	
Accuracy	±10%	
Resolution (Ra)	0.001μm	
Probe	type	inductive
	stylus radius/angle	5μm/90°
	stylus material	diamond
Measuring force	0.4mN	
Measuring unit	μm/μin	
Cut off	0.25/0.8/2.5mm	
Number of cut-offs	1 to 5	
Traverse speed	0.5mm/s, 1mm/s	
Memory	100 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension(L×W×H)	140×52×48mm	
Weight	440g	

STANDARD DELIVERY

Main unit	1pc
Standard probe	1pc
Calibration block	1pc
Calibration support	1pc
Adjustable stand	1pc
Probe cover	1pc
USB cable and software	1pc
AC/DC adapter	1pc

OPTIONAL ACCESSORY

Extension rod	ISR-C100-ER
Curved surface probe	ISR-C100-110
Groove probe	ISR-C100-130
Deep groove probe	ISR-C100-131
Advanced software	ISR-C100-SOFTWARE
Test stand	ISR-C100-STAND
Printer	ISR-C100-PRINTER



FEATURES

This instrument is compatible with four standards of ISO, DIN, ANSI and JIS and is widely used in production site to measure surface roughness of various machinery-processed parts, calculate corresponding parameters according to selected measuring conditions and clearly display all measurement parameters.

When measuring the roughness of a surface, the sensor is placed on the surface and then uniformly slides along the surface by driving the mechanism inside the tester. The sensor gets the surface roughness by the sharp built-in probe. This roughness causes displacement of the probe which results in change of inductive amount of induction coils so as to generate analogue signal, which is in proportion to the surface roughness at output end of phase-sensitive rectifier.

The exclusive DSP processes and calculates and then outputs the measurement results on LCD.

- * Very easy to operate
- * Multiple parameter measurement: Ra, Rz
- * Highly sophisticated inductance sensor
- * Built-in lithium ion rechargeable battery and control circuit with high capacity
- * Small in size, light in weight and easy to use
- * Can communicate with PC computer for statistics, printing and analysing by the optional cable and the software for RS232C interface.
- * Manual or automatic shut down. The tester can be switched off by pressing the Power key at any time. On the other hand, the tester will power itself off about 5 minutes after the last key operation.

SPECIFICATIONS

Display : 4 digits, 10 mm LCD, with backlight

Display Range Ra: 0.05-10.00 μ m/1.000-400.0 μ inch
Rz: 0.020-100.0 μ m/0.780-4000 μ inch

Sensor : Test Principle: Inductance type

Radius of Probe Pin: 10 μ m

Material of Probe Pin: Diamond

Measurement Force of Probe: 16mN(1.6gf)

Probe Angle: 90°

Vertical Radius of Guiding Head: 48mm

Maximum driving stroke: 17.5mm/0.7inch

Cutoff length (l): 0.25mm / 0.8mm / 2.5mm optional

Evaluation length: 1~5 cut off optional

Driving speed:

sampling length = 0.25mm Vt=0.135mm/s

sampling length = 0.8mm Vt=0.5mm/s

sampling length = 2.5mm Vt=1mm/s

returning Vt=1mm/s

Resolution : 0.001 μ m if reading < 10 μ m

0.01 μ m if 10 μ m \leq reading < 100 μ m

0.1 μ m if reading \geq 100 μ m

Parameters: Ra, Rz

Accuracy: Not more than 10%

Fluctuation of display value: Not more than 6%

Power: Li-ion Battery Rechargeable

Operating Condition: Temp. 0-50°C Humidity <80%

Size: 140x57x48 mm (5.5x2.2x1.9 inch)

Weight: About 450 g

MITUTOYO MAKE

Color graphic LCD

Intuitive display that's clear, sharp, and legible.

Large, 2.4-inch LCD

The large LCD provides excellent readability.

Backlight

The backlight improves visibility in dark environments.

Operation keys

- The keys on the front of the unit and under the sliding cover are well-labeled and easy to use.
- The user-friendly screen layout and arrow keys provide intuitive operability.
- Displayed settings can be changed easily by using the left and right arrow keys. (Patent pending in Japan.)
- Infrequently used keys are hidden under the sliding cover to prevent unintended operations.

Drive unit

The drive unit can be separated from the display unit by using a cable, allowing more flexible measurement. The driver can be separated and reattached in one simple step.



There are many different kinds of drivers and detectors available.



Battery

The battery charges in one quarter the time of previous Mitutoyo products.



Applicable standards

In addition to JIS and ISO, the SurfTest SJ-210 also complies with ANSI and VDA standards.

Standard
JIS1982
JIS1984
JIS2001
ISO1987
ANSI
VDA

Multilingual support

The display interface supports 16 languages.

Select Language
日本語
English
Deutsch
Français
Italiano
Español

High-speed USB communication

Data can be transferred to and from a computer via the high-speed USB interface.



Memory card support

The memory card slot lets you store large amounts of data onto a memory card.



Model No.	(Type of detector)	Standard drive unit type		Retractable drive unit type		Transverse tracing drive unit type	
		SJ-210 (0.75mN type)	SJ-210 (4mN type)	SJ-210 (0.75mN type)	SJ-210 (4mN type)	SJ-210 (0.75mN type)	SJ-210 (4mN type)
Order No.	mm	178-560-01	178-560-02	178-562-01	178-562-02	178-564-01	178-564-02
	inch/mm	178-561-01	178-561-02	178-563-01	178-563-02	178-565-01	178-565-02
Measuring range	X axis	17.5mm				5.6mm	
	Z axis (Detector)	360µm (-200µm to +160µm)					
	Range	360µm / 0.02µm, 100µm / 0.006µm, 25µm / 0.002µm					
	Range / Resolution	360µm / 0.02µm, 100µm / 0.006µm, 25µm / 0.002µm					
	Measuring speed	Measuring: 0.25mm/s, 0.5mm/s, 0.75mm/s Returning: 1 mm/s					
	Measuring force / Stylus tip	0.75mN type: 0.75mN / 2µmR 60°, 4mN type: 4mN / 5µmR 90°					
	Skid force	Less than 400mN					
	Applicable standards	JIS '82 / JIS '94 / JIS '01 / ISO '97 / ANSI / VDA					
	Assessed profiles	Primary profile / Roughness profile / DF profile / Roughness profile-Motif					
	Evaluation parameters	Ra, Rc, Ry, Rz, Rq, Rt, Rmax, Rp, Rv, R3z, Rsk, Rku, Rc, RPl, Rsm, Rz1max, S, HSC, RzJIS, Rppi, RΔa, RΔq, Rlr, Rmr, Rmric, RSc, Rk, Rpk, Rvk, Mr1, Mr2, A1, A2, Vo, Rpm, tp, Htp, R, Rx, AR, Possible Customize					
	Analysis graphs	Bearing area curve / Amplitude distribution curve					
	Filters	Gaussian, 2CR75, PC75					
Cut off length	λc	0.08, 0.25, 0.8, 2.5mm					
	λs	2.5, 8µm					
	Sampling length	0.08, 0.25, 0.8, 2.5mm					
	Number of Sampling lengths (×n)	×1, ×2, ×3, ×4, ×5, ×6, ×7, ×8, ×9, ×10, arbitrary length (0.3 to 16.0mm: 0.01mm interval)				×1, ×2, ×3, ×4, ×5, ×6, ×7, ×8, ×9, ×10, arbitrary length (0.3 to 5.6mm: 0.01mm interval)	
	LCD dimensions	36.7 × 48.9 mm					
	Display languages	Japanese, English, German, French, Italian, Spanish, Portuguese, Korean, Traditional Chinese, Simplified Chinese, Czech, Polish, Hungarian, Turkish, Swedish, Dutch					
	Calculation result display	Vertical display: 1 parameter / 3 parameter / trace to measurements Horizontal display: 1 parameter / 4 parameter / trace to measurements (Horizontal display is invertable)					
	Printing function *1 (Dedicated printer is required separately.)	Measurement conditions / Calculation results / Calculation results for each sampling length / Assessed profile / Bearing area curve / Amplitude distribution curve / Environment setting information					
	External I/O	USB I/F, Digimatic Output, Printer Output, RS-232C I/F, Foot SW I/F					
	Customization	Desired parameters can be selected for calculation and display					
	GO/NG judgment*2	By max value / 16% / Standard deviation					
	Storage of measurement condition	Save the conditions at power OFF					
Functions	Storage	Internal memory: Measurement condition (10sets), Measured profile (1set) Memory card (Option): 500 measurement conditions, 10000 measured profiles, 500 display images Text file (Measurement conditions / Measured profile / Assessed profile / Bearing area curve / Amplitude distribution curve)					
	Calibration	Auto-calibration with the entry of numerical value / Average calibration with multiple measurement (Max.5 times) is available					
	Power-saving function	Auto-sleep off function (10-600sec) *3					
	Power supply	Two-way power supply: battery (rechargeable Ni-MH battery) and AC adapter *Charging time: about 4 hours (may vary due to ambient temperature) *Endurance: about 1000 measurements (differs slightly due to use conditions / environment)					
Size (W×D×H)	Display unit	52.1 × 65.8 × 160mm					
	Drive unit	115 × 23 × 26mm					
	Mass	About 500g (Display unit + Drive unit + Standard detector)					
	Standard accessories	12BAA303 Connecting cable *4 178-601 Roughness specimen 12BAK699 Carrying case 12BAK700 Calibration stage Protective sheets for display AC Adapter Operation manual Quick reference manual Warranty				12BAA303 Connecting cable *4 178-605 Roughness specimen 12AAE643 Point-contact adapter 12AAE644 V-type adapter 12BAK699 Carrying case 12BAK700 Calibration stage Protective sheets for display AC Adapter, Operation manual Quick reference manual, Warranty	

*1: Order the SJ-210 printer (No.178-421, optional accessory) separately. See page 10 for details about the SJ-210 printer.

*2: Standard deviation only can be selected in ANSI. 16% rule cannot be selected in VDA.

*3: Auto-sleep function is invalid when AC adaptor is used.

*4: For connecting the calculation display unit and drive unit.

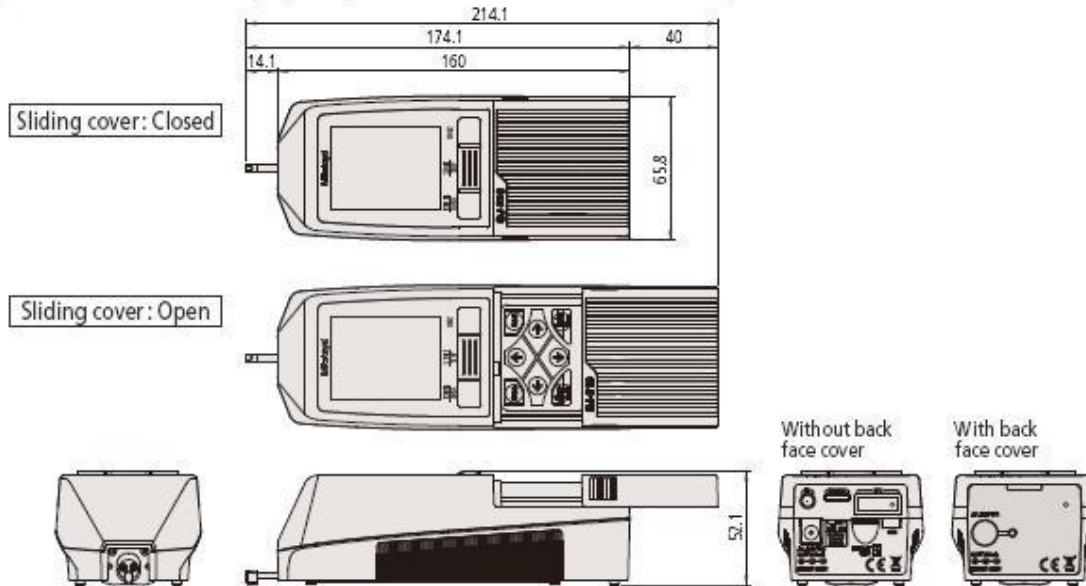
To denote your AC line voltage add the following suffixes (e.g. 178-560-01A).

A for 120V, C for 100V, D for 230V, E for 230V(for UK), DC for 220V(for China), K for 220V(for Korea)

Display unit, Drive unit

Unit: mm

- Drive unit stored inside display unit (Standard detector installed in drive unit)



- Drive unit not stored inside display unit (Standard detector installed in drive unit)

