SURFCOM FLEX

Merit 1 ## Small
Anywhere!
- Easy to carry by compact design.
- Use anywhere.
- Output quickly by built-in printer.

Merit 2 ## Easy
Anybody!
- Large color LCD that is easy to recognize on-site enables intuitive operation.

Merit 3 ## Flexible
Any measurement
- Tracing drivers selectable in accordance with the workpiece makes it possible to flexibly perform tasks ranging from skid measurement to high accuracy waviness measurement.
- Tracing drivers used for our existing machines can be replaced for FLEX*.

＊Tracing driver for HANDYSURF E-35A/B, E-40A, E-45A and S130A.

Select Tracing Driver According with Workpiece

Tracing driver automatic connection check function
FLEX automatically recognizes a tracing driver model.
As a machine is turned on, it recognizes a model of a tracing driver connecting to the machine. A message is displayed when a machine connects a tracing driver which is different from a previous use.

Automatic connection check of tracing driver and cable
FLEX chooses several kinds of tracing drivers flexibly.
This function automatically recognizes a combination of a tracing driver and a connecting cable even when the combination is not correct.

SURFCOM FLEX-50A
Small genuine type

Model combination with small genuine type 50 mm tracing driver of S130A.
Small tracing driver, available skidless measurement and waviness measurement.
Achieve class highest straightness accuracy 0.3 µm/50 mm.
Easy leveling adjustment by measurement support function.

- Measurement method: Skid/Skidless measurement
- Measurement range: X-axis 50 mm (Tracing driver)
- Measurement speed: 0.15 mm/s to 1.5 mm/s

SURFCOM FLEX-35B
Standard type

Model combination with standard tracing driver.
Measurement in any orientation; flat, vertical, tilt and ceiling surface.

- Measurement method: Skid Measurement
- Measurement range: X-axis 12.5 mm
- Measurement speed: 0.6 mm/s

SURFCOM FLEX-40A
Retraction type

Model combination with retraction type tracing driver.
Pickup retract at the stand by or the end of measurement to protect the stylus and pickup against the damage.
It is available for a built-in detector in an automated equipment.

- Measurement method: skid measurement
- Measurement range: X-axis 12.5 mm (Tracing driver)
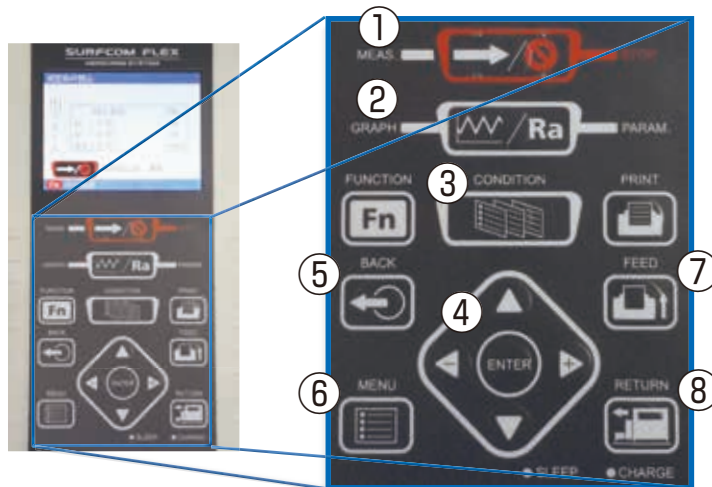- Measurement speed: 0.6 mm/s

SURFCOM FLEX-45A
Horizontal tracing type

Model combination with horizontal tracing type tracing driver.
This type is suitable to measure narrow surface like pin and journal of crankshaft.

- Measurement method: Skid measurement
- Measurement range: X-axis 4 mm
- Measurement speed: 0.6 mm/s

ACCRETECH TOKYO SEIMITSU

Small & Lightweight Design, Potable Roughness Analysis Data Processor with Built-in Printer
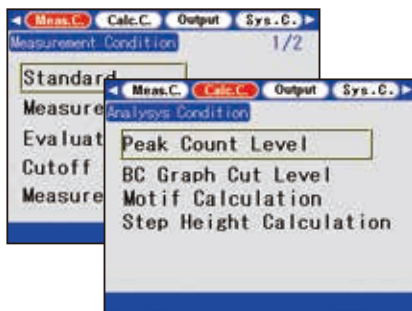
◆ **Operate in One Hand**

● **Arrange 3 frequently used keys at upper side of operation panel**

① MEAS./STOP : Start/Stop measuring
② GRAPH/PARAM : Display graph/Parameter
③ CONDITION : Measurement condition setting

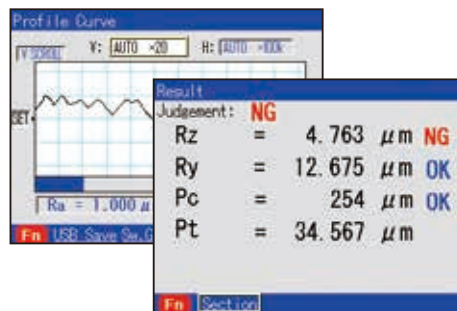● **Arrange other keys at bottom of operation panel**

④ Up/down/left/right · ENTER :
　　　　　　　　　　Move/Select condition selection items
⑤ BACK : Return upper menu
⑥ MENU : Setting menu display
⑦ PRINT/FEED : Print/Feed
⑧ RETURN : Start/stop (stop if pressed during returning)
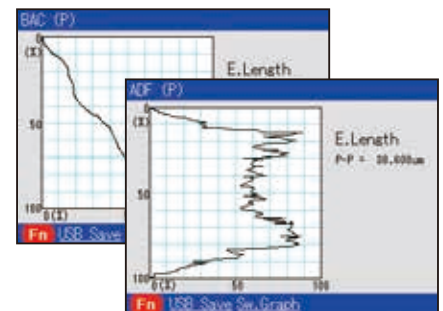　　　　　　　returning tracing driver

3.5-inch Color LCD Shows Measuring Result and Condition Clearly

Menu screen for measuring and analysis condition

Curve and parameter of measurement result
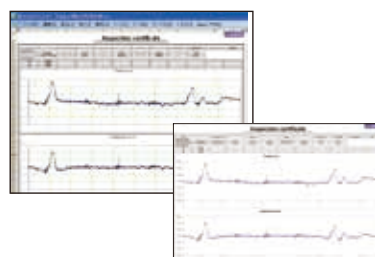
Graph of measurement result (BAC and ADF)

Correspond USB Memory and USB Data Communication

Save up to 5 measurement conditions and 30 measurement results into internal memory of SURFCOM FLEX.
Commercial USB memory can be connected in SURFCOM FLEX to save more data.
(USB memory in picture is optional)

USB data

MiniUSB cable

Mini USB connector is equipped with SURFCOM FLEX and able to connect with PC. The data can be sent to PC and various analyses are available with ACCTee and TiMS.

Operability

Simple operation in hand enhances operability at a shop floor. It is easy to complete a measurement with only three touches of buttons.
A strap, standard accessory, can be attached either on right or left side.

Portable Surface Texture Measuring Instruments
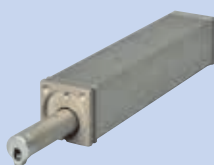
ACCRETECH TOKYO SEIMITSU

FLEX-35B
Standard type

Standard type for on-site measuring
- Powerful functions in a compact design.
- Selectable roughness pickups, tip radius 2 µm or 5 µm.

Max. measuring length	12.5 mm

Surfcom Flex combined with Handysurf tracing drivers.

FLEX-40A
Retraction type

Detector retracting type during standby and after a measurement
- Reduces damages of probe and pickup.
- Supports use of pickup with automated devices built-in.
- Selectable roughness pickups, tip radius 2 µm or 5 µm.

Retraction volume	1.5 mm
Max. measuring length	12.5 mm

FLEX-45A
Horizontal tracing type

Tight location type for crankshaft pins, journals, etc.
- Allows highly efficient axial direction measuring using horizontal tracing for a tight location which is difficult to accomplish by conventional measurement.

Max. measuring length	4.0 mm
Measuring speed	0.6 mm/s

Sample combination of a tracing driver and height gage

Optional post mount (E-CS-S26A) and height gage adapter (E-WJ-S93A) are required.

Skidless and the highest straightness accuracy of 0.3 µm/50 mm in its class!!

- **Model combination with small genuine type 50 mm tracing driver of S130A.**
- **Easy leveling adjustment by tilting correction function.**
- **Combination with a compact measuring stand available as stand-mounted measuring instrument.**

*Measurement of level difference is also possible.

50 mm tracing driver

Sample skidless measurement

Sample combination with a compact measuring stand (option).

- Max. measuring length: 50 mm
- Measuring speed: 0.15 mm/s to 1.5 mm/s
- Pickup vertical movement range: -5 to 45 mm

Skidless measurements enable authentic roughness measurements.

Compact measuring stand specifications
- Measuring height: 0 to about 200mm
- Driver mounting plate: 360°arbitrary rotation
- Dimensions: 410(W) × 200(D) × 413(H) mm
- Weight: about 18 kg

ACCRETECH **TOKYO SEIMITSU**

SURFCOM FLEX-35B,40A,45A,50A

Specifications

Model		SURFCOM FLEX				
		-35B		-40A		-45A
		5 µmR	2 µmR	5 µmR	2 µmR	5 µmR
Measuring range	Z-axis direction	±160 µm				
	Drive axis	X-direction 12.5 mm				Y-direction 4.0 mm
Resolution	Z-axis direction	0.01 µm/±20 µm to 0.08 µm/±160 µm				
Analysis items	Standards	Complies with JIS-2001/-1994/-1982, ISO-1997, DIN-1990, ASME-1995/-2002, CNOMO				
	JIS-2001 Parameters — Cross section/Roughness measurement	Ra, Pa, Pq, Pt, Rz, Rz.J, Rzmax, Rq, Rp, Rt, R3z, RSm, Pc, AVH, Hmax, Hmin, Pmr, Rmr, Rk, Rpk, Rvk, Mr1, Mr2, Vo, K				
	JIS-2001 Parameters — Motif	R, Rx, AR, W, Wx, AW, Wte, Mr, Rke, Rpke, Rvke, Mr1, Mr2, Vo, K				
	Evaluation curves	Section profile curve, roughness curve, ISO13565 special roughness curve, roughness motif curve, waviness motif curve, envelope waviness curve				
	Characteristic graph	Bearing area curve (BAC), Amplitude density function (ADF)				
Filter	Cut-off	Gaussian filter, 2RC filter (phase compensation type), 2RC filter (non-phase compensation type)				
	Cut-off values — λc	0.08, 0.25, 0.8, 2.5 mm				0.08, 0.25, 0.8 mm
	Cut-off values — λs	2.5, 8 µm				2.5 µm
Evaluation length		0.4 mm to 12.5 mm (unit: 0.1 mm)				0.4 mm to 4.0 mm (unit: 0.1 mm)
Drive speed		0.6 mm/s				
Pickup	Movement system	Standard type		Retraction type		Horizontal tracing type
	Sensing method	Differential inductance				
	Measuring force	4 mN or less	0.75 mN or less	4 mN or less	0.75 mN or less	4 mN or less
	Pickup tip — Diameter	5 µmR	2 µmR	5 µmR	2 µmR	5 µmR
	Pickup tip — Angle	90°cone	60°cone	90°cone	60°cone	90°cone
	Pickup tip — Material	Diamond				
	Measuring method	Skid: Sapphire 32 mmR (Tracing direction)				
Data processor unit	Display	3.5-inch color LCD (320 × 240 dots) with sleep mode				
	Data output — Communication function	Connector for USB memory, Mini USB connector for USB communication (one port each mounted)				
	Data output — Printer	Built-in printer: thermal recording paper (roll) Width: 58 mm (Recording width: 48 mm)				
	Language	Japanese, English, Chinese, German, French, Italian, Spanish, Portuguese				
Other	Power source — Charge	Built-in rechargeable battery (charged with AC adapter), Charging time: 3 hours				
	Power source — Voltage	AC adapter single-phase AC 100 V to 240 V ±10%				
	Power source — Power consumption	Approx. 30VA (Approx. 600 times measurements possible per full charge)				
	Dimensions (W × D × H) and weight	Amplifier: 132 mm × 58 mm × 214 mm, approx. 90 g				
Accessories		Reference specimen (E-MC-S24B), AC adapter, strap, recording paper (E-CH-S25A), operation manual, support ware				
		Pickup (E-DT-SM10A)	Pickup (E-DT-SM49A)	Pickup (E-DT-SM10A)	Pickup (E-DT-SM49A)	Pickup (E-DT-SM39A)
		Tracing driver (E-RM-S173A)		Tracing driver (E-RM-S168A)		Tracing driver (E-RM-S167A)
		Rear adjustment piece (E-WJ-S64A)				Stand for specimen (E-WJ-S558A)
		Tracing driver cable (E-SC-S518A)				V-type nose piece (E-WJ-S536A) Tracing driver cable (E-SC-S519A)

Model		SURFCOM FLEX
		-50A
Measuring range	Z-axis direction	±400 µm
	Drive axis	X-direction 50 mm
Resolution	Z-axis direction	0.00016 µm/±4 µm to 0.016 µm/±400 µm
Analysis items	Standard	Complied with JIS-2001/-1994/-1982, ISO-1997, DIN-1990, ASME-1995/-2002, CNOMO
	JIS-2001 Parameters — Cross section/Roughness measurement	Ra, Pa, Pq, Pt, Rz, Rz.J Rzmax, Rq, Rp, Rt, R3z, RSm, Pc, AVH, Hmax, Hmin, Pmr, Rmr, Rk, Rpk, Rvk, Mr1, Mr2, Vo, K
	JIS-2001 Parameters — Motif	R, Rx, AR, W, Wx, AW, Wte, Mr, Rke, Rpke, Rvke, Mr1, Mr2 ,Vo, K
	JIS-2001 Parameters — Waviness measurement	W-a, W-q, W-t, W-p, W-v, W-sm, Wa, Wq, Wt, Wp, Wv, Wsm, Wz, Wmr
	Evaluation curves	Section profile curve, roughness curve, ISO13565 special roughness curve, roughness motif curve, waviness motif curve, envelope waviness curve, filtered waviness curve, waviness curve
	Characteristic graph	Bearing area curve (BAC), Amplitude density function (ADF)
Filter	Cut-off	Gaussian filter, 2RC filter (phase compensation type), 2RC filter (non-phase compensation type)
	Cut-off values — λc	0.08, 0.25, 0.8, 2.5, 8, 25 mm
	Cut-off values — λs	0.25, 0.8, 2.5, 8, 25 µm
Evaluation length		0.1 mm to 50 mm (unit: 0.1 mm)
Drive speed		0.15, 0.3, 0.6, 1.5 mm/s (4 speeds)
Pickup	Movement system	General type
	Sensing method	Differential tranceducer
	Measuring force	0.75 mN or less
	Pickup tip — Diameter	2 µmR
	Pickup tip — Angle	60°cone
	Pickup tip — Material	Diamond
	Measuring method	Skidless/Skid
Data processor unit	Display	3.5-inch color LCD (320 × 240 dots) with sleep mode
	Data output — Communication function	Connector for USB memory, Mini USB connector for USB communication (one port each. mounted)
	Data output — Printer	Built-in printer: thermal recording paper (roll) Width: 58 mm (Recording width: 48 mm)
	Language	Japanese, English, Chinese, German, French, Italian, Spanish, Portuguese
Other	Power source — Charge	Built-in rechargeable battery (charged with AC adapter), Charging time: 3 hours
	Power source — Voltage	AC adapter single-phase AC 100 V to 240 V ±10%
	Power source — Power consumption	Approx. 30VA (Approx. 600 times measurements possible per full charge)
	Dimensions (W × D × H) and weight	Amplifier: 132 mm × 58 mm × 214 mm, approx. 90 g
Accessories		Reference specimen (E-MC-S24B), AC adapter, strap, recording paper (E-CH-S25A), operation manual, support ware
		Pickup (E-DT-SE19A), stylus (DM43801),tracing driver (E-RM-S199A), tracing driver cable (E-SC-S517A)

Portable Surface Texture Measuring Instruments

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