



Superior Operating Ease & Automation of Measurements to Inspection Reports

# SURFCOM 1400D



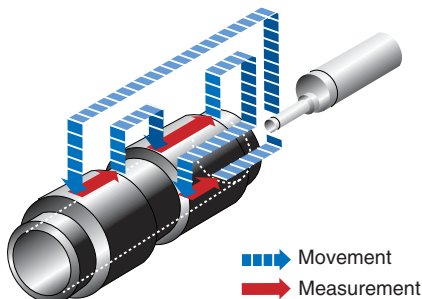
**SURFCOM 1400D-12**  
\* Printer is optional.

## AI Function Simplifies Measurements (patented)

- The unit automatically selects the measuring conditions without setting them in advance (roughness measurement). In addition, a lesson mode is available to teach the user the operation procedures. This is a reflection of ACCRETECH's commitment to create measuring instruments that anyone can use.

## Automation Enhances Measurement Efficiency

- The teaching function can be used to automate a series of operations, from measurement at multiple locations to generation of an inspection report by pasting the data.



▄▄▄▄ Movement  
▄▄▄▄ Measurement

## TIMS Flexible Measuring System

- The TIMS next-generation integrated measuring system is a new breakthrough from ACCRETECH. It links different programs with a single icon, enhancing the ease of analysis.

## Complies with World Standards

- The 1400D complies with the latest ISO, JIS, DIN, ASME, CNOMO and other standards, and has satisfied the European Directives for the CE Marking. It can be used with English, Japanese, German, French and Italian (please consult with ACCRETECH when taking it to a different country).

## Reanalysis After One Measurement

- Data can be reanalyzed after one measurement is performed. The measurement standard (linear, first half, latter half, round surface, both end) can be changed to set the measuring range for analysis, or the defective data for a notch can be removed.

## Outstanding Expandability

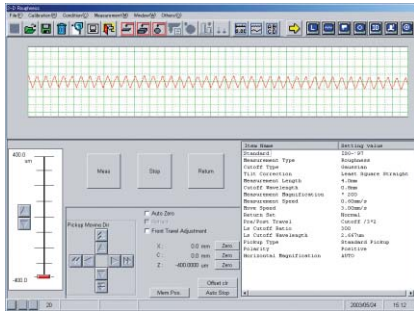
- The unit can be easily and efficiently upgraded to meet evolving needs. This includes upgrading from two-dimensional to three-dimensional roughness, or adding profile capability.

## Evaluation Functions Dramatically Strengthened

- A variety of customer requests for more evaluation functions have been reflected in the 1400D. These include accommodation of standards for film thickness measurement (step/area), wear volume calculation (superimposed profile area) and LCD glass substrate (special waviness).

## Measurement

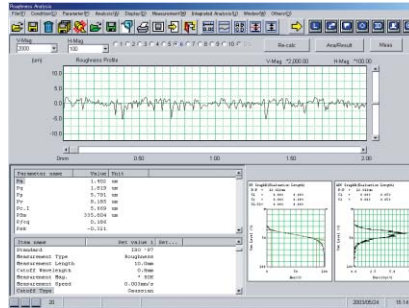
- Easy operation with icons and pull-down menus. Icons can be edited according to individual preferences.
- Real-time display of data.
- Unit can be controlled using manual mode, joystick or mouse.



Measuring screen

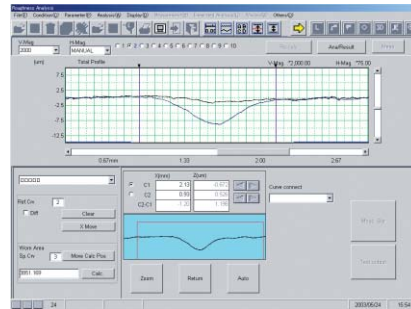
## Analysis

- Desired measuring standard and evaluation range can be set.
- Evaluation according to different standards can be performed by simply recalculating the data.



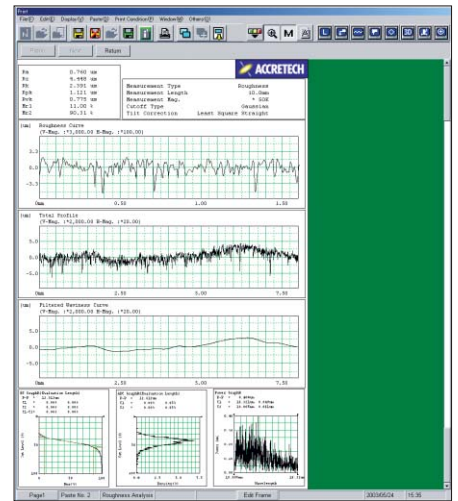
Analysis screen

- Superimposition Function  
Differences before and after machining can be determined by superimposing data on the screen and calculating the different area figures for both sets of data. Up to 10 data items on the screen can be stored, and evaluation can be performed by superimposing the data sets.



## Printing

- The measured results can be formatted according to individual requirements and printed as an inspection report.



## Specifications

### ● Two-Dimensional Roughness

Model		<b>SURFCOM 1400D</b>
Measuring range / Resolution	X axis (horizontal)	100mm/0.1 $\mu$ m or 32,000 points (max. data items)
	Z axis (vertical)	800 $\mu$ m/0.02 $\mu$ m – 25 $\mu$ m/0.0004 $\mu$ m (6.4 $\mu$ m/0.0001 $\mu$ m*)
Straightness		(0.05 + 1.5L / 1,000) $\mu$ m L = Measuring length (mm)
Analysis items	Standards	Complies with JIS-2001, JIS-1994, JIS-1982, ISO-1997, ISO-1984, DIN-1990, ASME-1995 and CNOMO.
	Parameters	Ra, Rq, Ry, Rp, Rv, Rc, Rz, Rmax, Rt, Rz.J, R3z, Sm, S, R $\Delta$ a, R $\Delta$ q, R $\lambda$ a, R $\lambda$ q TILT A, Ir, Pc, Rsk, Rku, Rk, Rpk, Rvk, Mr1, Mr2, VO, K, tp, Rmr, tp2, Rmr2, R $\Delta$ c AVH, Hmax, Hmin, AREA, NCRX, R, Rx, AR, NR, CPM, SR, SAR
	Evaluation curves	Section profile curve, roughness curve, filtered waviness curve, filtered center line waviness curve, rolling circle waviness curve, rolling circle center line waviness curve, DIN4776 special curve, roughness motif curve, waviness motif curve, envelope waviness curve
	Special graphs	Load curve, amplitude distribution (ADF) curve, power graph
Magnification	Tilt correction	Linear correction, round surface correction, first half correction, latter half correction, both end correction, spline curve correction (linear, round surface and both end correction possible at arbitrary range)
	Vertical magnification (Z axis) Horizontal magnification (X axis)	Set desired value or automatic: 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K*, 500K* Set desired value or automatic: 0.1, 1, 2, 5, 10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K
Type of filter		Standard filter (2RC), phase compensation filter (2RC), phase compensation filter (Gaussian)
Measuring speed		0.03, 0.06, 0.15, 0.3, 0.6, 1.5, 3, 6 mm/s
Detector		Tip radius: 2 $\mu$ m, Material: Diamond, Measuring force: 0.7 mN
Special functions	Measuring AI	AI function provides easy procedures, enabling beginners to make measurements.
	Waveform superimposition	Waveform curve for a maximum of 10 data items can be superimposed (ideal for wear evaluation).
	Automatic operation	Simplified auto mode and teaching mode enable fully automatic operation.

### ● Other Specifications

Power source/consumption	AC 100 V $\pm$ 10%, 50/60 Hz, 300 VA
Installation dimensions	1700 (W) $\times$ 500 (D) $\times$ 750 (H) mm
Weight	Approx. 125 kg (2D model), Approx. 135 kg (3D model)

\* When high-magnification pickup is used.