



Linear series

# SURFCOM 1500DX3/SD3

## Linear Motor Drive Achieves Low Vibration Texture Measurement



SURFCOM 1500DX3



SURFCOM 1500SD3

Printer is optional

### Linear Motor Drive (Patented)

- A linear motor drive ensures high accuracy and high-speed movement.
- Low vibration ensures more stable measurement at high magnifications.

\*See page 8 for the details of the linear drive.

### High-Speed Measuring for Dramatically Improved Productivity

Very high speeds of 3 mm/s maximum for roughness measurement, 20 mm/s maximum for wave measurement, and a moving speed of 60 mm/s delivers measuring efficiency that is five to ten times better than existing models.

### New, High-Performance Compact Pickup

- A new compact built-in pickup allows high-magnification, wide area measurement.
- The measuring range is 1000  $\mu\text{m}$  with an outside diameter of 14 mm, and a measuring magnification of 500000 times.



### Allows Upgrading to a Multi-Purpose system

You can easily upgrade from 2D to 3D roughness measurement or support both roughness (2D/3D) measurement and contour measurement on a single instrument just by adding on units. It is possible to upgrade the instrument to a multi-purpose system by adding a contour detector after the delivery of the instrument.

\*Upgrading of some units is performed at the factory.

\*Note: Upgrading to a multi-purpose system by adding a contour detector is performed at the factory.

### Patented AI Function Simplifies Measuring

- The measuring instrument selects suitable roughness settings and analysis conditions, even when measuring condition settings are not pre-configured.
- A lesson mode is also provided to teach users measuring instrument operations. Just one more example of ACCRETECH's commitment to build measuring instruments that can be used by anyone.

### World Wide Machine

- This model complies with the latest ISO, JIS, DIN, ASME, CNOMO and other standards.
- It has cleared the European safety standard requirements for CE marking.
- It supports operation using Japanese, Chinese, Korean, English, German, French, Italian and Spanish.

## Full Automation for Improved Measurement Efficiency

- The teaching function fully automates the entire process, from multiple location measurements to creation of the final inspection report by pasting data into it.
- A moving speed of 60 mm/s dramatically improves measuring efficiency when performing full automatic measurement.



Conforms to all specifications of measuring pressure at all orientations (with Auto Stop Function)  
(Maintains measuring pressure of 0.45mN, facing upwards)

## Freedom to Re-Analyze

Re-analysis can be performed easily after changing the measurement standard (linear, first half, latter half, round surface, both end), configuring the evaluation range, and removing defective data from a notch.

## Able to Measure Film Thickness and Intricate Profiles

This instrument is applicable to film thickness measurement (step/area), wear volume calculation (superimposed profile area) and waviness evaluation of LCD glass requiring high accuracy.

## Flexible Input and Output Functions

Import and export functions make it possible to paste image data into measurement results, and to paste measured waveform data into a standard word processor or spreadsheet file.

## Horizontal Trace measurement

Measurements can be performed with roughness pickup rotated 90 degrees.



## Specifications

| Model                                |                                 | SURFCOM 1500DX3/SD3  |         |               |         |              |         |               |         |         |
|--------------------------------------|---------------------------------|--|---------|---------------|---------|--------------|---------|---------------|---------|---------|
|                                      |                                 | -12  | -13     | -14           | -15     | -22          | -23     | -24           | -25     |         |
| Measuring range                      | Z-axis (vertical)               | 1000 μm  |         |               |         |              |         |               |         |         |
|                                      | X-axis (horizontal)             | 100 mm   |         |               |         | 200 mm       |         |               |         |         |
| Accuracy                             | Detector resolution             | 0.02 μm/1000 μm range to 0.0001 μm/6.4 μm range                      |         |               |         |              |         |               |         |         |
|                                      | X-axis resolution               | 0.04 μm or 32000 points (300000 data uptake points)                  |         |               |         |              |         |               |         |         |
| Straightness accuracy                |                                 | (0.05 + L/1000) μm (L: Measuring length mm)                          |         |               |         |              |         |               |         |         |
| Sensing method                       | Z-axis (vertical)               | Differential inductance  |         |               |         |              |         |               |         |         |
|                                      | X-axis (horizontal)             | Linear scale   |         |               |         |              |         |               |         |         |
| Speed                                | Column up/down speed (Z-axis)   | 10 mm/s  |         |               |         |              |         |               |         |         |
|                                      | Measuring speed (X-axis)        | 0.03 mm/s to 20 mm/s   |         |               |         |              |         |               |         |         |
|                                      | Moving speed (X-axis)           | 60 mm/s max.   |         |               |         |              |         |               |         |         |
| Detector                             | Stylus, measuring force         | Replaceable, 0.75 mN   |         |               |         |              |         |               |         |         |
|                                      | Stylus radius (stylus material) | 2 μmR (60° conical diamond) One piece equipped as standard           |         |               |         |              |         |               |         |         |
| Operation range                      | Tracing driver stroke           | 100 mm   |         |               |         | 200 mm       |         |               |         |         |
|                                      | Column up/down stroke           | 250 mm   | 450 mm  | 650 mm        | 250 mm  | 450 mm       | 650 mm  |               |         |         |
| Granite table                        | Dimensions                      | 600 × 317 mm   |         | 1000 × 450 mm |         | 600 × 317 mm |         | 1000 × 450 mm |         |         |
|                                      | Permissible loading weight★     | 38 kg  | 29 kg   | 94 kg         | 85 kg   | 32 kg        | 23 kg   | 88 kg         | 79 kg   |         |
| Other                                | Installation dimensions★        | Width  | 1250 mm |               | 1650 mm |              | 1250 mm |               | 1650 mm |         |
|                                      |                                 | Depth  | 800 mm  |               | 900 mm  |              | 800 mm  |               | 900 mm  |         |
|                                      |                                 | Height   | 1480 mm | 1680 mm       |         | 1880 mm      | 1480 mm | 1680 mm       |         | 1880 mm |
|                                      | Weight★                         | 225 kg   | 235 kg  | 420 kg        | 430 kg  | 230 kg       | 240 kg  | 425 kg        | 435 kg  |         |
| Power supply, frequency, consumption |                                 | Single phase AC 100 V ±10% (grounding required), 50 Hz/60 Hz, 670 VA |         |               |         |              |         |               |         |         |

★Dimensions and weight are for the DX type.