

SURFCOM NEX ( DX2/SD2 ) Series

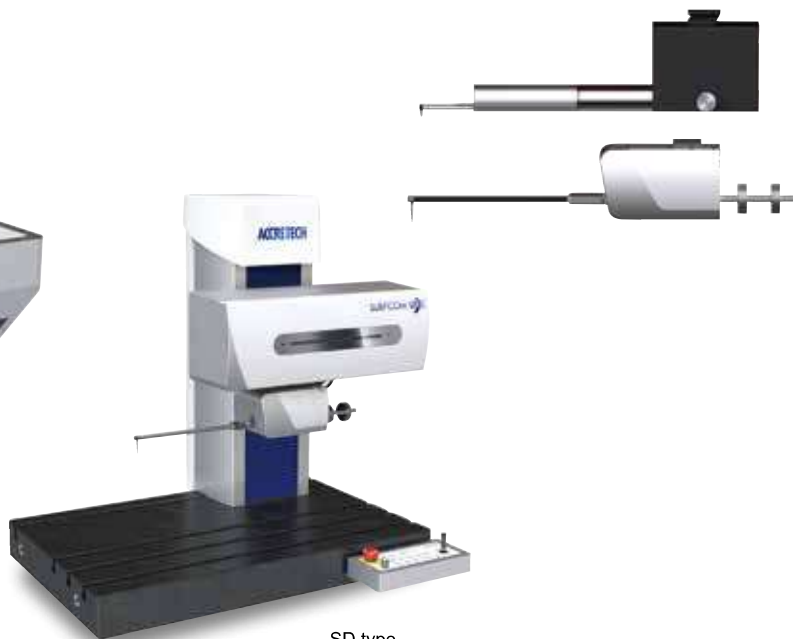
SURFCOM NEX

031 DX2/SD2

**A standard model of complex measuring instrument that enables measurement for surface roughness and contour profile**



DX type



SD type

NEX 031 is a complex model capable of surface roughness and contour profile measurement. (Necessary to replace detector)

\*Tracing driver tilting device is optional. Please refer to page 22 to 23 for surface roughness measurement and page 18 to 21 for contour profile measurement.

## Measurement unit

| Item                            |        |   |                       |  | Model         | SURFCOM NEX (DX2/SD2)   |    |    |               |    |    |    |    |
|---------------------------------|--------|---|-----------------------|--|---------------|---|----|----|---------------|----|----|----|----|
|                                 |        |   |                       |  |               | 12  | 13 | 14 | 15            | 22 | 23 | 24 | 25 |
| Tracing driver                  | X-axis | Sensing method  |                       | with General-purpose contour detector        | Linear scale  |   |    |    |               |    |    |    |    |
|                                 |        | Straightness accuracy<br>(When standard styli are used) | with Roughness pickup |  | 0.8 μm/100 mm |   |    |    | 2.0 μm/200 μm |    |    |    |    |
|                                 |        |   |                       | (0.05+1.0L/1000) μm (L: Measuring length mm) |               |   |    |    |               |    |    |    |    |
|                                 |        | X-axis indication accuracy: horizontal <sup>1)</sup>    |                       |  |               | ±(0.8+1.0L/100) μm (L: Measuring length mm) *Contour measurement with 100 mm driver |    |    |               |    |    |    |    |
|                                 |        | Resolution  |                       |  |               | ±(0.8+3.0L/200) μm (L: Measuring length mm) *Contour measurement with 200 mm driver |    |    |               |    |    |    |    |
|                                 |        | Speed   |                       | Travel speed                                 |               | 0.016 μm  |    |    |               |    |    |    |    |
|                                 |        |   |                       | Measuring speed                              |               | 0.03 to 100 mm/s  |    |    |               |    |    |    |    |
|                                 |        | Tilt angle  |                       | 0.03 to 30 mm/s                              |               |   |    |    |               |    |    |    |    |
| ±15 ° (Optional tilting device) |        |   |                       |  |               |   |    |    |               |    |    |    |    |
| Measuring stand                 | Column | Speed   | Travel speed          | CNC Joystick                                 | Max. 50 mm/s  |   |    |    |               |    |    |    |    |
|                                 | Base   | Material  |                       |  | Max. 35 mm/s  |   |    |    |               |    |    |    |    |
|                                 |        |   |                       |  | Gabbro        |   |    |    |               |    |    |    |    |

## Detector

|                                     |                 |                               |   |   |
|-------------------------------------|-----------------|-------------------------------|---|---|
| General-purpose<br>contour detector | Measuring range | Z-axis: vertical              |   | 60 mm   |
|                                     | Contour         | Sensing method                |   | High accuracy scale                                     |
|                                     |                 | Resolution                    |   | 0.04 μm (Full range)                                    |
|                                     |                 | Indication accuracy: vertical |   | ±(1.2+ 2H /100) μm (H: Measuring height mm) *at 20±2 °C |
|                                     | Stylus          | for Contour                   | Model   | ±(1.5+ 2H /100) μm (H: Measuring height mm) *at 20±5 °C |
|                                     |                 |                               | Measuring force   | DM45505 (Standard accessory for NEX *3*)                |
|                                     |                 |                               | Tip material  | 10 to 30 mN (Manually adjustable)                       |
|                                     |                 |                               | Tip shape   | Cemented carbide  |
| Function                            |                 |                               | Rtip 25 μm/24° cone   |   |
| Roughness pickup                    | Measuring range | Z-axis: vertical              |   | 1000 μm   |
|                                     | Roughness       | Sensing method                |   | Differential inductance                                 |
|                                     |                 | Measuring range               |   | 6.4 to 1000 μm  |
|                                     |                 | Resolution                    |   | 0.1 to 20 nm  |
|                                     | Stylus          | for Roughness                 | Model   | DM43801 (Standard accessory for NEX **1)                |
|                                     |                 |                               | Measuring force   | 0.75 mN   |
|                                     |                 |                               | Tip material  | Diamond   |
|                                     |                 |                               | Tip shape   | Rtip 2 μm/60° cone                                      |
| Function                            |                 |                               | Down/upward measurements / Upper limit detection safety mechanism |   |