

Formtracer

Hybrid machine with dual-role capability

FORMTRACER Avant D3000/4000 Series SERIES 525 — Surface Texture Measuring Instruments

MeasurLink[®] ENABLED
Data Management Software by Mitutoyo

MeasurLink[®] ENABLED
Data Management Software by Mitutoyo

Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink (refer to page A-5 for details).



An inspection certificate is supplied as standard. Refer to page U-11 for details.



FTA-S4D3000
(Detector for surface roughness measurement equipped, with monitor arm)

FTA-S4D3000
(Detector for form/contour measurement equipped, with monitor arm)

- **FORMTRACER Avant D3000/4000** series are highly functional and user-friendly surface roughness and contour measuring systems with innovative design features. Both surface roughness measurement and contour measurement are available on a single system just by replacing the detector.
- A detector can be replaced easily without turning off the power and without needing a tool just by using the thumb-turn clamp lever, and the new contour/roughness detector is automatically recognized. This quick changeover minimises downtime and improves usability by removing concerns about detector malfunction from forgetting to operate a detector switch and about damage to the detector from the malfunction.
- Often a special method of workholding, such as a custom jig, is required to measure an inclined workpiece surface but this is not needed if you select a model from the **FORMTRACER Avant D3000/4000** series since these have an inclining drive unit to handle this situation. This feature makes approaching the target surface and measurement of a large workpiece much easier.
- The new style remote box has been developed in pursuit of operational usability. An overdrive knob controls the drive speed in real time and is very convenient when fine positioning is required. Another new feature is a part program key that strongly supports creation of measurement part programs, including a move command for manual operation and a measurement start command.
- High throughput is achieved thanks to high drive speed (X axis: Max. 80 mm/s, Z2 axis: Max. 30 mm/s) and acceleration (X axis: 30 mm/s²).
- All connecting cables are contained within the measuring instrument to eliminate any inconvenience during measurement.
- Since the Z1-axis detector incorporates an anti-collision safety device, the detector unit will automatically stop even if it touches a workpiece or fixture.
- A detector for measuring contours can be retrofitted.
- The arm of the detector for contour measurement has a magnetic one-touch detachable mechanism that improves usability.
- **D4000** type is a highly functional contour measuring system that has a digital detector (measuring range: 60 mm, resolution: 0.02 μm) that enables a wide range measurement, top/bottom plane continuous measurement function, automatic variable measuring force function and stylus drop detection function.



Large sized base models and high-column models are added to the line-up.



Inclined drive unit



Remote box with user-friendly operability



Detector holder (optional)



Detector



Connecting cables are contained within the measuring instrument.

SPECIFICATIONS

| Model No. | FTA-S4D3000 | FTA-H4D3000 | FTA-W4D3000 | FTA-L4D3000 | FTA-S8D3000 | FTA-H8D3000 | FTA-W8D3000 | FTA-L8D3000 | |
|--|--------------|--|--|-------------|---|---|-------------|-------------|--|
| | FTA-S4D4000 | FTA-H4D4000 | FTA-W4D4000 | FTA-L4D4000 | FTA-S8D4000 | FTA-H8D4000 | FTA-W8D4000 | FTA-L8D4000 | |
| Surface roughness measurement | | | | | | | | | |
| Measuring range | X axis | 100 mm | | | 200 mm | | | | |
| | Z1 axis | 800 μm, 80 μm, 8 μm | | | | | | | |
| Straightness(when the X axis is horizontal) | | (0.05+0.001L) μm L = Measurement Length (mm) | | | (0.1+0.002L) μm L = Measurement Length (mm) | | | | |
| Contour measurement | | | | | | | | | |
| Measuring range | X axis | 100 mm | | | 200 mm | | | | |
| | Z1 axis | 60 mm (±30 mm in horizontal situation) | | | | | | | |
| Straightness (when the X axis is horizontal) | | 0.8 μm/100 mm | | | 2 μm/200 mm | | | | |
| Accuracy (20 °C) | D3000 | X axis | (0.8+0.01L) μm L = Measurement Length (mm) | | | (0.8+0.015L) μm L = Measurement Length (mm) | | | |
| | | Z1 axis (detector unit) | ±(1.2+2H)/100) μm H = Measurement height from the horizontal position (mm) | | | | | | |
| | D4000 | X axis | (0.8+0.01L) μm L = Measurement Length (mm) | | | (0.8+0.015L) μm L = Measurement Length (mm) | | | |
| | | Z1 axis (detector unit) | ±(0.8+2H)/100) μm H = Measurement height from the horizontal position (mm) | | | | | | |
| Common specifications | | | | | | | | | |
| X-axis inclination angle | | ±45° | | | | | | | |
| Z2-axis (column) travel range | | 300 mm | 500 mm | 700 mm | 300 mm | 500 mm | 700 mm | | |
| Base size (WxD) | | 600x450 mm | | 1000x450 mm | | 600x450 mm | | 1000x450 mm | |
| Base material | | Granite | | | | | | | |

Note: While the appearance of the natural stone measuring table varies according to the source, the high stability for which this material is known can always be relied upon.