

Surftest SJ-500

SERIES 178 – Surface Roughness Tester with Dedicated Control/Display Unit

- High-precision/performance surface roughness tester with a dedicated control unit, featuring user-friendly display and simple operation.
- Equipped with a 7.5-inch, colour TFT LCD with backlight, large colour icons and touch-panel buttons for easy control of machine function.
- Feed-knobs on the main unit allow fine positioning of a small stylus for measuring small holes.
- Simple setup for surface roughness measuring conditions.
- A simple input function is used to calculate according to ISO/JIS roughness standard drawing instruction symbols. Complicated setups can easily be entered by selecting a drawing instruction symbol from the surface roughness menu.
- Built-in thermal printer.



Data Management Software by Mitutoyo

Surftest SJ-500



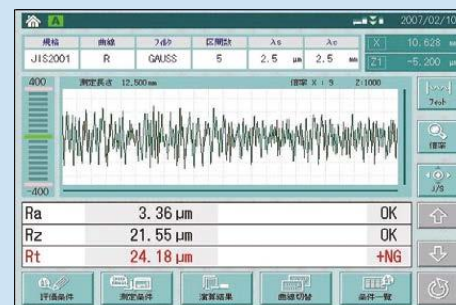
Specifications

| Model | SJ-500 | |
|---------------------------|--|-------------|
| Code No. (mm) | 178-532-01E | 178-532-02E |
| Code No. (inch/mm) | 178-533-01E | 178-533-02E |
| Measuring range | 50 mm | |
| Resolution | 0.05 µm | |
| Scale | Linear encoder | |
| Drive speed | 0-20 mm/s | |
| Measuring speed | 0.02-5 mm/s | |
| Traverse direction | Backward | |
| Traverse straightness | 0.2 µm/50 mm | |
| Positioning | ±1.5° (tilting, with DAT function) 30 mm (up/down) | |
| Detector range/resolution | 800 µm/0.01 µm, 80 µm/0.001 µm, 8 µm/0.0001 µm | |
| Measurement method | Skidless/skidded | |
| Stylus tip | Angle | 60° |
| | Radius | 2 µm |
| Detector measuring force | | 0.75 mN |
| | | 4 mN |
| Skid radius of curvature | 40 mm | |
| Detector type | Differential inductance | |
| Drive unit control | Joystick operation with manual adjustment knob | |
| Display magnification | Horizontal: X0.5 to X10,000 auto, vertical: X10 to X500,000 auto | |
| Mass | 6.7 kg (drive unit: 2.7 kg, control unit: 4 kg) | |

Evaluation Capability

| | |
|------------------------------|--|
| Assessed profiles: | P (primary profile), R (roughness profile), WC, WCA, WE, WEA, envelope residual profile, roughness motif, waviness motif |
| Evaluation parameters: | Ra, Rc, Ry, Rz, Rq, Rt, Rmax, Rp, Rv, Rz3, Sm, S, Pc, mr(c), δc, mr, tp, Htp, Lo, lr, Ppi, HSC, Δa, Δq, Ku, Sk, Rpk, Rvk, Rk, Mr1, Mr2, A1, A2, Vo, λa, λq |
| Roughness motif parameters: | R, AR, Rx |
| Waviness motif parameters: | W, AW, Wx, Wte |
| Analysis graphs: | ADC, BAC, power spectrum chart |
| Digital filter: | 2CR-75%, PC-75%, Gaussian, robust spline |
| Cutoff length: | λs: 0.25, 0.8, 2.5, 8, 25, 80, 250 µm, no filter λc*: 0.025, 0.08, 0.25, 0.8, 2.5, 8, 25 mm λf: 0.08, 0.25, 0.8, 2.5, 8, 25 mm, no filter |
| Sampling length*: | 0.025, 0.08, 0.25, 0.8, 2.5, 8, 25 mm |
| Data compensation functions: | Parabola compensation, hyperbola compensation, ellipse compensation, R-plane (curved surface) compensation, conic compensation, tilt compensation |

* An arbitrary length can also be specified in the range from 0.025 mm to the maximum traverse length.



Optional Accessories

Styli refer to pages L-15 to L-16.
Fixture and stage accessories refer to pages L-33 to L-36.

Consumable

| Code No. | Description | Price |
|----------|---|--------|
| 270732 | Durable printer paper (25 m, 5 rolls/set) | £20.30 |



The SJ-500 can also be mounted on a manual column stand.