



SURFCOM C5 Type-C/Type-S

Automated Solution for Production Floor Surface Texture Measurement Management

SURFCOM C5 allows customization of the workpiece feed unit and jig production to suit particular needs.

Basic specifications are Type-C (mainly for cylinder heads, cylinder blocks, and other workpieces where a 5-direction approach is required) and Type-S (for camshafts and other shaft workpieces that require a rotary axis).



Type-S



Type-C



SURFCOM C5, a Proposal for Engine Production Processes

Current status of roughness measurement in the engine production process

[Target workpiece]

- Cylinder block
- Cam shaft
- Cylinder head
- Connector rod, etc.
- Crankshaft



Portable texture measuring instruments and measurement of jigs are subject to a number of problems

- ① Not universal
- ② Difficult to record judgment results
- ③ Subject to human error

SURFCOM C5 solves all of these problems at once

[Features of SURFCOM C5]

- Measurement efficiency improved by multi-axis control.
- Integrated sensor rotating mechanism ensures measurement in all orientations.
- X-axis tracing driver (200 mm) and Y-axis tracing driver (50 mm) integrated into a single structure (Patented).
- Low-vibration linear motor drive (X-axis).

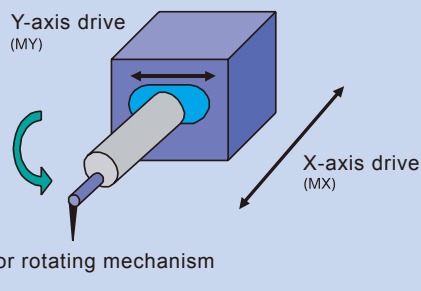
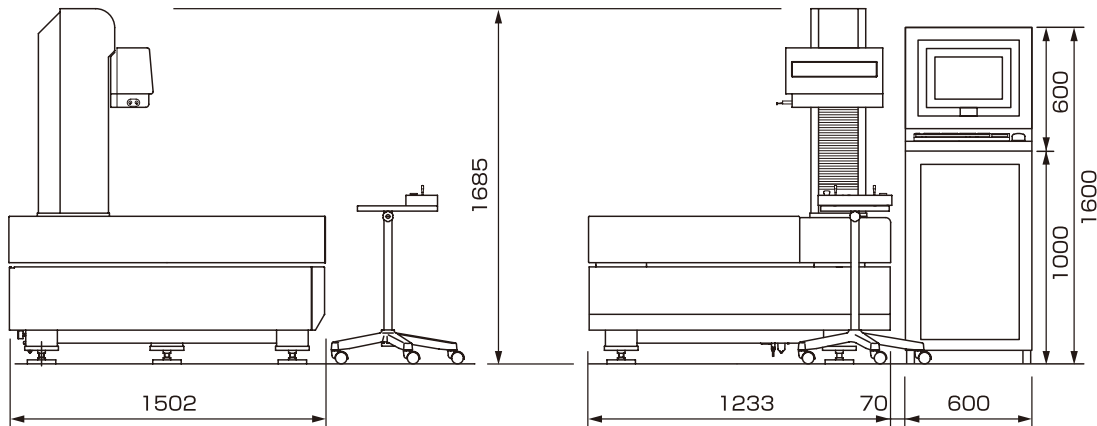


Illustration explaining measurement operating sections
of the X-axis tracing driver

External View

SURFCOM C5 Type-C



*Joy stick box stand is optional

Specifications

| Model | | SURFCOM C5 | |
|---------------------------------------|---|---|--------------------------|
| | | Type-C | Type-S |
| Measuring range | Detector: Z-axis (vertical) | 1000 μm | |
| | Tracing driver: X-axis (horizontal) | 200 mm | |
| Operation range | Column up/down: Z-axis | 500 mm (resolution: 0.1 μm) | |
| | Tracing driver: X-axis | 200 mm (resolution: 0.1 μm) | |
| | Column cross-feed: Y-axis | 800 mm (resolution: 0.1 μm) | |
| | Pickup tracing driver: Y-axis | 50 mm (resolution: 0.1 μm) | |
| | Pickup: Rotation angle | 0°, 90°, 180°, 270° Measuring pressure of 0.75mN is maintained at all orientations | — |
| Tracing driver: Straightness accuracy | | (X-axis) 0.5 μm/200 mm, (Y-axis) 0.5 μm/50 mm | |
| Sensing method | | Detector: Z-axis (vertical direction): Differential inductance, Tracing driver: X-axis (horizontal direction): Optical diffraction scale | |
| Roughness processing function | Standard | Complies with JIS2001, JIS1994, JIS1982, ISO1997, ISO1984, DIN1990, ASME1995, CNOMO | |
| | Parameter | Ra, Rq, Ry, Rp, Rv, Rc, Rz, Rmax, Rt, Rz.J, R3z, Sm, S, RΔa, RΔq, RΔa, RΔq, TILT A, Ir, Pc, Rsk, Rku, Rk, Rpk, Rvk, Mr1, Mr2, VO, K, tp, Rmr, Rmr2, Rσc, AVH, Hmax, Hmin, AREA, NCRX, R, Rx, AR, NR, CPM, SR, SAR | |
| | Evaluation curve | Section profile curve, roughness curve, filtered waviness curve, filtered center line waviness curve, rolling circle waviness curve, envelope waviness curve, rolling circle center line waviness curve, DIN4776 special curve, roughness motif curve, waviness motif curve | |
| | Surface characteristics graph | Bearing area curve, power spectrum curve, amplitude distribution graph | |
| | 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 in arbitrary range) | |
| | Type of filter | Gaussian phase compensation filter, standard 2RC filter, phase compensation 2RC filter | |
| | Cutoff value | 0.008, 0.025, 0.08, 0.25, 0.8, 2.5, 8, 25, 50 mm (9 stages), selectable (from 0.001) | |
| | Data point | 32000 max. (without λs filter); 300000 max. (with λs filter) | |
| | Magnification (vertical) | 50, 100, 200, 500, 1 k, 2 k, 5 k, 10 k, 20 k, 50 k, 100 k, 200 k, 500 k | |
| | Magnification (horizontal) | 0.1, 1, 2, 5, 10, 50, 100, 200, 500, 1 k, 2 k, 5 k, 10 k, 20 k | |
| Speed | Column up/down speed (Z-axis) | 100 mm/s max. | |
| | Tracing driver measuring speed (X-axis) | 0.03 mm/s to 3 mm/s (during roughness measurement), 0.03 mm/s to 20 mm/s (during waviness measurement) | |
| | Tracing driver measuring speed (Y-axis) | 0.3 mm/s to 3.0 mm/s | |
| | Tracing driver moving speed (X/Y-axis) | 100 mm/s max. | |
| | Column moving speed (Y-axis) | 100 mm/s max. | |
| Detector | Stylus | Replaceable | |
| | Measuring force | 0.75 mN (with standard pickup) | 10 mN (with thin pickup) |
| | Stylus radius | 2 μmR (standard accessory) | 5 μmR |
| | Stylus material | Diamond | |
| Dimensions and weight | Power supply, frequency | Single-phase AC 100 V to 240 V ±10% (grounding required), 50 Hz/60 Hz | |
| | Power consumption | 1000 VA | |
| | Weight | 2000 kg | 1700 kg |