

SURFACE FINISH TESTER CV-SE1200™

Instrument for laboratory or production

- Instrument for laboratory or production
- Wide range of pick-ups with interchangeable styli
- Wide range of finish parameters
- Measurement length 0.08mm to 25mm
- Conforms to international standards ISO, DIN, ASME, JIS
- Right angle measurement available for crankshaft
- Waviness measurement based on ISO standard
- Preset of 9 measuring conditions
- Internal thermal printer
- Quick rechargeable battery pack
- Statistics output
- RS-232C output



Technical specifications

| | |
|----------------------------|--|
| Measuring system | Skidless/Skidded method using inductive (LVDT) Pick-Up with interchangeable styli |
| Measurement parameter | Ra, Rz, tp, Sm, Rt, Rp, Rv, Pc, HSC, Ra/RMS, RmaxD, R3Z, Rmax, RSm, Rmr(c), Rdc, Rsk, Rku, Rk, Mr1, Mr2, Rpk, Rvk, A1, A2, Pa, Pz, Pp, Pv, Pq, RSm, Pmr(c), Pdc, Pt, Pak, Pku, Wa, Wz, Wp, Wv, Wq, Wsm, Wmr(c), Wdc, Wt, BAC, ADC, P/R/W profile |
| Display | Graphic LCD |
| Filter | Gauss, 2RC, ISO13565-1 (DIN4776) |
| Cut-off | λ_c 0.08, 0.25, 0.8, 2.5, R+W λ_s ISO3274(96) / ISO97 λ_c - λ_f 0.08-0.8, 0.25-0.5, 0.8-8mm |
| Measuring length | 25mm |
| Evaluation length | $\lambda_c \times 1, 2, 3, 4, 5$ / arbitrary 0.08mm~16mm |
| Vertical magnification | 50~100000 (11 steps) / Auto |
| Horizontal magnification | 1~1000 (10 steps), 25mm/ λ_c , 50mm/ λ_c |
| Straightness accuracy | 0.8 μ m / 10mm |
| Measuring range/resolution | 520 μ m / 0.008 μ m |
| Stylus/skid | R5 μ m Diamond / R40mm Sapphire |
| Force | 4.0 mN |
| Function | 9 Measuring condition memory, Multi standard analysis, Profile invert, 99 data SPC, PC linking software |
| Data output | RS-232C |
| Printer | Internal thermal printer, 8dots / 1mm |
| Power Supply | Ni-H battery pack, 6 hours continuous operation, 100 - 240 Volts with AC adapter |
| Weight | Amplifier 1.8kg, Drive unit 0.7kg |

Standard delivery

- Amplifier controller unit
- Drive unit
- Internal thermal printer
- Printer paper
- Nose piece ANA
- Stylus arm AA5
- Pick-up body PU-A
- Calibration specimen Ra
- Rechargeable battery pack
- Manual
- CV Instruments certificate

Optional accessories

- Pick-ups with interchangeable styli, see next pages
- UKAS certified roughness reference standards
- Attachment for roll measurement FT-22 (>60mm)
- Extended cable, length 2m drive unit can be apart from amplifier (3.5m)
- RS-232 cable, length 1.5m
- Carrying handle for back side controller unit
- Spare battery pack
- Carrying case

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Accuracy of straightness

CV-SE1200 guarantees the accuracy of straightness $0.8\mu\text{m} / 100\text{mm}$ in drive unit



Correcting rounded profile to straight profile

CV-SE1200 will correct rounded profile to straight profile and then calculate, enabling correct measurement



Right angle measurement

CV-SE1200 can attach slider at right angles and measure components such as crankshafts, etc.



Skidless measurement

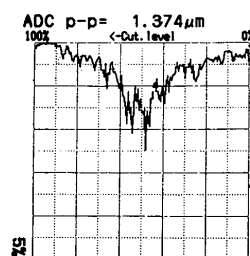
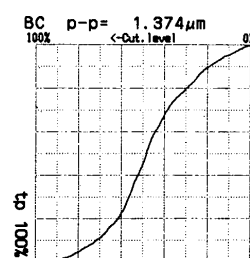
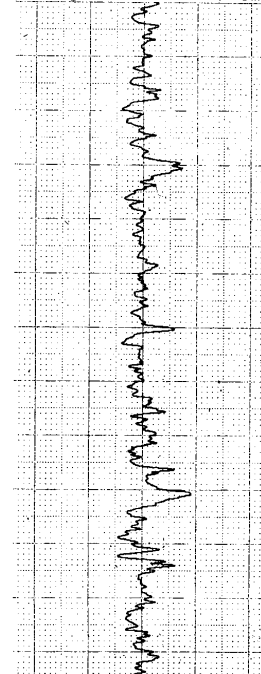
Both skid and skidless measurements are possible and can also measure short length, narrow, small, deep or rounded surface in skidless mode



| | |
|-----------|----------|
| Standard | JIS94 |
| Cutoff | 0.25mm |
| Filter | Gauss |
| S.Length | 0.25mm |
| E.Length | 1.25mm |
| Levelling | All |
| M-Speed | 0.20mm/s |

| | |
|----|---------------------|
| Ra | 0.159 μm |
| Ry | 1.057 μm |
| Sm | 0.095mm |
| Rt | 1.381 μm |
| Rp | 0.640 μm |
| Rv | 0.417 μm |
| Rq | 0.215 μm |

R-Prof.
V. Mag: 10000 1.0 $\mu\text{m}/10\text{mm}$
H. Mag: 100 0.1mm/10mm



SURFACE FINISH PICK-UPS

A-series for CV-SE1200 and CV-SE1700A and CV-SE3500 (exchangeable)

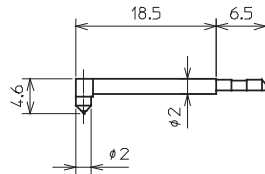
Pick-up body

Type: PU-A (normal force) Pick-up body not including stylus arm and nose piece (CV-SE1200)
 Type: PU-A2 (low force) Pick-up body not including stylus arm and nose piece (CV-SE1700)

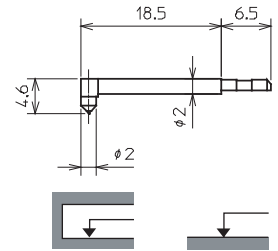
Stylus arms

() = low force to be used with body PU-A2

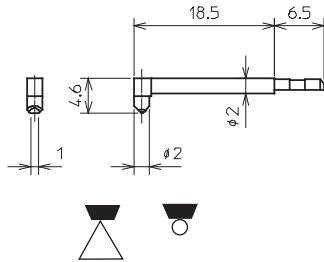
Type: AA2 (CV-SE1700)
 Radius: 2µm
 Force: 4mN (0.7mN)
 Nose pc: ANA/ANH
 Range: 600µm
 Use: General use
 Normal bore



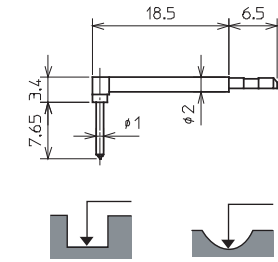
Type: AA5 (CV-SE1200)
 Radius: 5µm
 Force: 4mN (0.7mN)
 Nose pc: ANA/ANH
 Range: 600µm
 Use: General use
 Normal bore



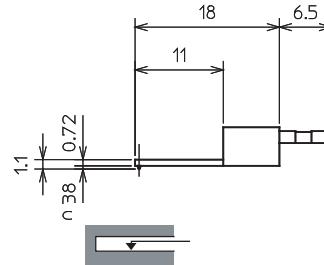
Type: AC5
 Radius: 5µm
 Force: 4mN (0.7mN)
 Nose pc: ANA/ANH
 Range: 600µm
 Use: Knife edge
 Very small wire



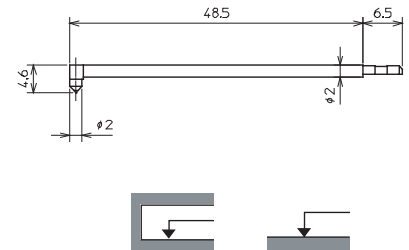
Type: AG5
 Radius: 5µm
 Force: 4mN (0.7mN)
 Nose pc: ANG/ANH
 Range: 600µm
 Use: Curve surface
 Deep grooves



Type: AI5
 Radius: 5µm
 Force: 4mN (0.7mN)
 Nose pc: ANH
 Range: 600µm
 Use: Small bore

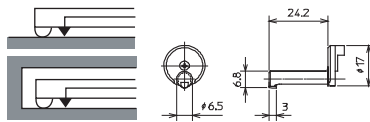


Type: AL10
 Radius: 5µm
 Force: 8mN (5mN)
 Nose pc: ANL/ANH
 Range: 1200µm
 Use: Long bore

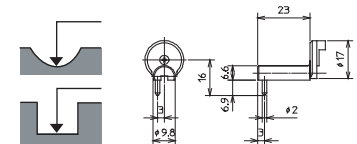


Nose pieces

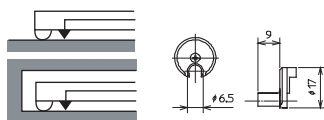
Type: ANA
 R40mmxR2mm
 Skid
 General use



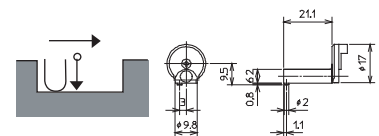
Type: ANG
 R0.5mm Skid
 Curve/Groove



Type: ANH
 Skidless
 measurement
 without Skid



Type: ANK
 R40mm Skid
 Corner end



Type: ANL
 R40mmxR2mm
 Skid
 Long bore

