

SURFACE FINISH TESTER CV-SE3500™

PC controlled surface finish and form measuring instrument

- Surface finish, waviness, straightness and form
- Wide range of pick-ups with interchangeable styli
- Wide range of finish parameters
- Measurement length 0.08mm to 100mm
- Conforms to international standards ISO, DIN, ASME, JIS
- Waviness measurement based on ISO standard

This system can be upgraded with functions for contour and form measurement



Technical specifications

Measuring system	Stylus method using inductive (LVDT) pick-up
Measurement parameter	Ra (Ra75), Rq, Ry, Rmax, Rt, Rz, Rz5, Rz3, R3z, R3zmax, RzmaxD, RzD, Sk, Ku, Pc, HSC, PPI, Rpm, Si, Sm, S, Rp, Rv, θa, θq, Δa, Δq, λa, λq, K, tp, BC, ADC, FFT, Rk, Rpk, Rvk, Mr1, Mr2, Wca, Wcm, Wea, Wem, Straightness, Gap, Coordinates
Measuring range	Vertical 50, 100, 200, 500, 1000, 2000, 5000, 10000, 20000, 50000, 100000, 200000, 500000 Horizontal 1, 2, 5, 10, 100, 200, 500, 1000, 2000, 5000
Measuring range	Vertical: 600 μm, Horizontal: 100mm
Evaluation length	0.25, 0.8, 2.5, 8, 25, 80mm/λc x 1, 2, 3, 4, 5
Traverse speed	0.05, 0.1, 0.2, 0.5, 1, 2mm/sec at measuring, 5, 10mm/sec
Cut off	Finish 0.08, 0.25, 0.8, 2.5, 8mm and un-filtered Waviness f _t 0.8, 2.5, 8, 25mm f _h 0.08, 0.25, 0.8, 2.5mm
Filter	Gaussian/2CR/Special Gaussian
Sampling number/resolution	Max 32000 points/16 bit
Auto levelling	Least square method, 2 points method, R curve correction, quadratic curve correction
Auxiliary function	Recording of deliberate layout, chart template, mean processing, statistical processing, discontinued measurement, recomputing, resistration of pick-up, recording of comments, calibration of automatic sensitivity, unit changeover between mm/inch, automatic measurement, notch processing, changing of profile size
Bed with column	Bed 600mm x 315mm, maximum load 70kg, auto down stop accuracy ±0.2μm at x100,000 (when using a skid), range of up and down movement of pick-up 250mm
Leveling stand	160mm x 50mm, with V-Shape groove (to the measuring direction), rotation ±3°, vertical tilt ±3°, Y-axis feed ±3mm
Drive unit	Straightness accuracy 0.2μm/100mm ³
Pick up	R2μm, 0.7mN, Diamond
Dimensions	Measurement section 600mm x 400mm x 593mm, 80kg, Computing section 900mm x 600mm x 520mm, 30kg
Power supply	AC90~120V, 50/60Hz, 800VA

Standard delivery

- Pick-up
- Drive unit
- Bed with column
- Remote controller
- Leveling stand
- Controller
- Calibration specimen Ra
- Manual
- CV Instruments certificate

Optional accessories

- PC with monitor
- Pick-ups with interchangeable styli, see following pages
- UKAS certified finish reference standards
- Laser printer

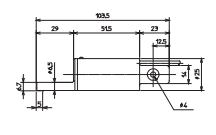
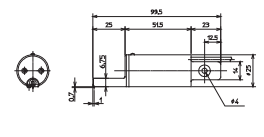
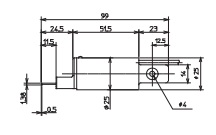
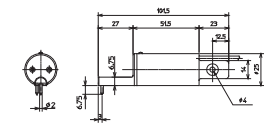
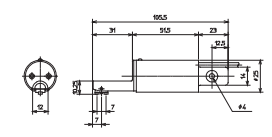
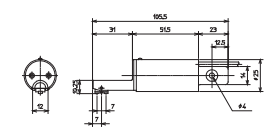
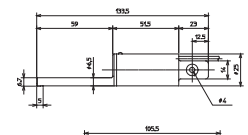
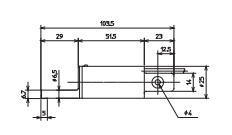
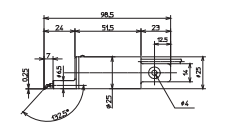
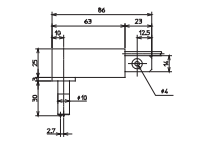
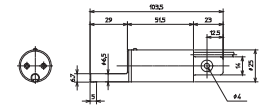
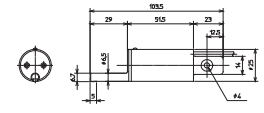
SURFACE FINISH PICK-UPS

D-series for CV-SE3500 (not exchangeable)

Finish pick-ups

High dynamic performance type

Type:	General use	Radius	Force	Range	Size
PU-DA5/PUDA5S	Normal bore	5μm	4mN	600μm	
Type:	Knife edge	Radius	Force	Range	Size
PU-DC5/PU-DC5S	Very small wires	5μm	4mN	600μm	
Type:	Bottom of hole and groove	Radius	Force	Range	Size
PU-DE10/PU-DE10S (PU-DF10: Kow Mag.)		10μm	1.6mN	600μm	
Type:	Screw thread	Radius	Force	Range	Size
PU-DH10/PU-DH10S		10μm	4mN	600μm	
Type:	Low meas. force softer materials	Radius	Force	Range	Size
PU-DJ2/PU-DJ2S (PU-DJ2U: Low force)		2μm	0.7mN (0.3mN)	600μm	
Type:	Long bore	Radius	Force	Range	Size
PU-DQ10/PU-DQ10S		10μm	10mN	1200μm	
Type:	Twin-skid swiveling for wavy surface	Radius	Force	Range	Size
(PU-DB5F: All posture)		5μm	4mN	600μm	
Type:	Crank shaft between flanks	Radius	Force	Range	Size
PU-DD5/PU-DD5S		5μm	4mN	600μm	
Type:	Curve surface bottom of groove	Radius	Force	Range	Size
PU-DG5/PU-DG5S		5μm	4mN	600μm	
Type:	Small bore	Radius	Force	Range	Size
PU-DI5/PU-DI5S		5μm	4mN	600μm	
Type:	Corner end	Radius	Force	Range	Size
PU-DK5/PU-DK5S		5μm	4mN	600μm	
Type:	Waviness	Radius	Force	Range	Size
PU-DW800/PU-DW800S		800μm	4mN	600μm	



SURFACE FINISH PICK-UPS

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

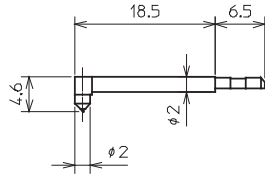
Pick-up body

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)

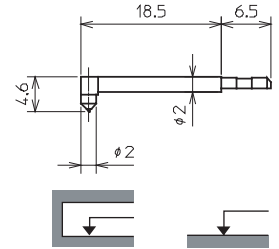
Stylus arms

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

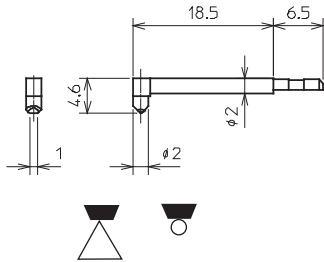
Type: AA2 (CV-SE1700)
 Radius: 2µm
 Force: 4mN (0.7mN)
 Nose pc: ANA/ANH
 Range: 600µm
 Use: General use
 Normal bore



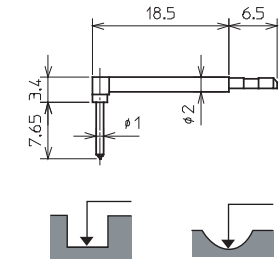
Type: AA5 (CV-SE1200)
 Radius: 5µm
 Force: 4mN (0.7mN)
 Nose pc: ANA/ANH
 Range: 600µm
 Use: General use
 Normal bore



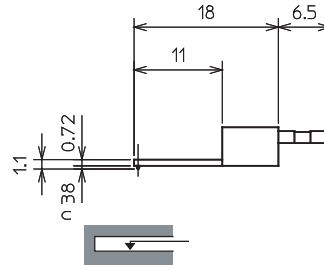
Type: AC5
 Radius: 5µm
 Force: 4mN (0.7mN)
 Nose pc: ANA/ANH
 Range: 600µm
 Use: Knife edge
 Very small wire



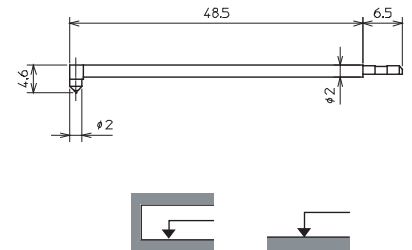
Type: AG5
 Radius: 5µm
 Force: 4mN (0.7mN)
 Nose pc: ANG/ANH
 Range: 600µm
 Use: Curve surface
 Deep grooves



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

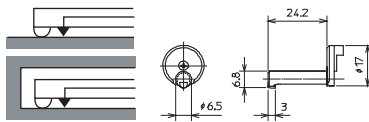


Type: AL10
 Radius: 5µm
 Force: 8mN (5mN)
 Nose pc: ANL/ANH
 Range: 1200µm
 Use: Long bore

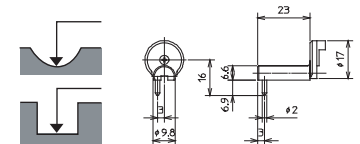


Nose pieces

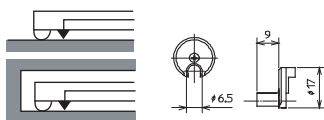
Type: ANA
 R40mmxR2mm
 Skid
 General use



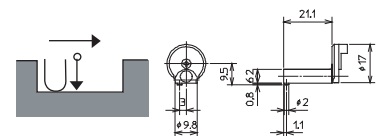
Type: ANG
 R0.5mm Skid
 Curve/Groove



Type: ANH
 Skidless
 measurement
 without Skid



Type: ANK
 R40mm Skid
 Corner end



Type: ANL
 R40mmxR2mm
 Skid
 Long bore

