

# BIDIRECTIONAL ROUGHNESS AND PROFILE MEASURING MACHINE CODE SPM-6000



- Intelligent tracking control system, real-time scanning measurement
- Bidirectional probe measurement
- Constant measuring force
- Can be used to measure absolute diameters
- Real time variable speed measurement, high-speed measurement can also ensure accuracy
- The trajectory of the probe is vertical, with more realistic Z-axis coordinate point and large range
- The profile data point cloud spacing is consistent, enabling high accuracy measurement

## PROFILE MEASUREMENT SPECIFICATION

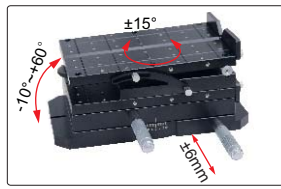
X axis measuring range	325mm
X axis resolution	0.01μm
X axis traverse speed	0.1~10mm/s
X axis straightness	0.5μm/100mm
X axis linear accuracy	(1.5+ 0.15L )μm, L is measuring length in mm
X axis measuring speed	0.1~2mm/s
Z axis measuring range	325mm
Z axis resolution	0.05μm
Z axis traverse speed	0.1~10mm/s
Z axis straightness	0.5μm/100mm
Z axis linear accuracy	±(1.5+ 0.15H )μm, H is measuring height in mm
Z axis measuring speed	0.1~2mm/s
Angular measuring accuracy	±2'
Arc measuring accuracy	±(2+R/8)um
Measuring unit	mm/inch
Traceable angle	72° (upward), 89° (downward)
Power supply	220±5%V, 50Hz
Dimension (L×W×H)	1400×850×1780mm
Weight	500kg

## ROUGHNESS MEASUREMENT SPECIFICATION

Roughness parameters	Ra, Ramax, Ramin, Rasd, Rp, Rpmax, Rpmin, Rpsd, Rv, Rvmax, Rvmin, Rvsd, Rz, Rzmax, Rzmin, Rzsd, R3z, Rc, Rcmax, Rcmin, Rcsd, Rt, Rq, Rqmax, Rqmin, Rdsd, Rsk, Rskmax, Rskmin, Rksd, Rku, Rkumax, Rkumin, Rkugd, Rsm, Rsmmax, Rsmmin, Rmsd, Rs, RΔa, RΔamax, RΔamin, RΔasd, RΔq, RΔqmax, RΔqmin, RΔqsd, Rk, Rpk, Rvk, Mr1, Mr2, Rla, Rlamax, Rlamin, Rlasd, Rlq, Rlqmax, Rlqmin, Rlqsd, Rδc, Rpc, Rmr
Waviness parameters	Wa, Wamax, Wamin, Wasd, Wsa, Wca, Wa08, Wc, Wcmax, Wcmin, Wcsd, Wt, Wz, Wzmax, Wzmin, Wzsd, Wp, Wpmax, Wv, Wvmax, Wvmin, Wvsd, Wq, Wqmax, Wqmin, Wqsd, Wsm, Wsmmax, Wsmmin, Wmsd, Wsk, Wskmax, Wskmin, Wksd, Wku, Wkumax, Wkumin, Wkugd, WΔq, WΔqmax, WΔqmin, WΔqsd, Wδc, Wmr, Wpsd, Wpmin
Original profile parameters	Pa, Pt, Pp, Pc, Pv, Pz, Pq, Psm, Psk, Pku, RzJ, Rpq, Rvq, Rmq, Pmr, PΔq, Avh, Hmax, Hmin, Area, Pδc, Tiltα
Motif parameters	Ncrx, R, Rx, AR, Nr, Cpm, Sr, Sar, W, Wx, Aw, Wte, Nw, Sw, Saw
Resolution	0.01μm
Linear accuracy	≤±(20nm+5%)
Probe radius/angle	5μm/90°
Cut off	0.025/0.08/0.25/0.8/2.5/8mm
Number of cut-offs	2~7
Measuring unit	μm
Measuring speed	0.1~2mm/s



vise (included)



stage (included)



standard balls (included)



standard blocks (included)

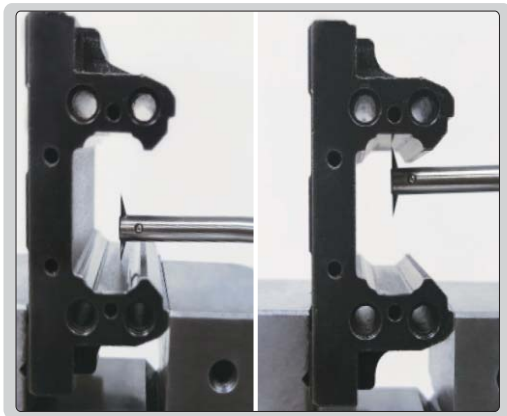


standard shaft (included)

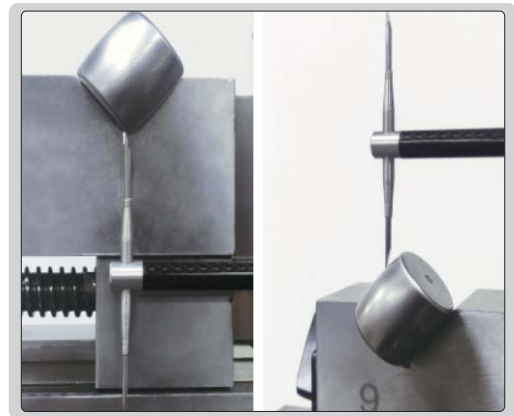
### STANDARD DELIVERY

Main unit (including workbench, controller, driver, sensor)	1 set
Calibration block	1 set
Profile arm	1 pc
Bidirectional profile stylus	1 pc
Roughness arm	1 pc
Unidirectional roughness stylus	1 pc
Stage	1 pc
Vise	1 pc
Computer	1 pc
Software	1 set
Printer	1 pc
Installation tools	1 set

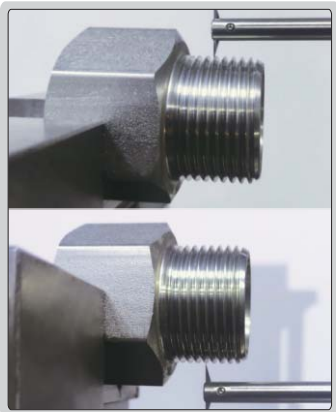
### APPLICATION EXAMPLES



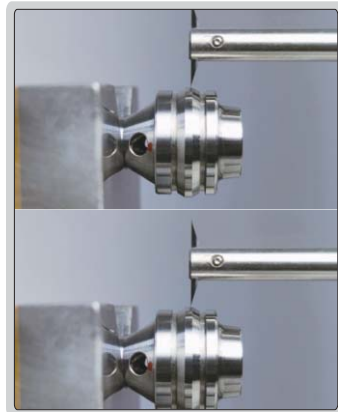
slider



roller bearing



thread



valve spool

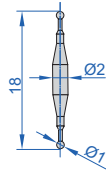


hub bearing

**SPECIFICATION OF PROBES**

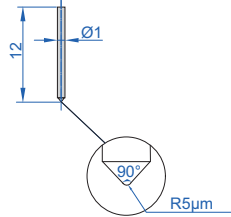
Unit : mm

**Bidirectional spherical stylus**



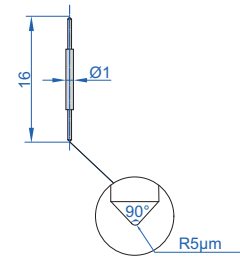
Code **SPM-6000-R01** (optional)

**Unidirectional roughness stylus**



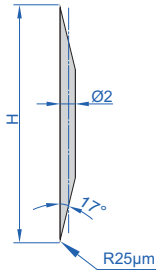
Code **SPM-6000-S01** (included)

**Bidirectional roughness stylus**



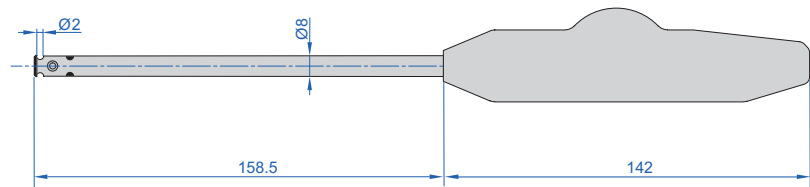
Code **SPM-6000-S02** (optional)

**Bidirectional chisel stylus**

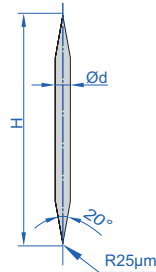


Code **SPM-6000-T01** (H=16mm, included)  
 Code **SPM-6000-T02** (H=24mm, optional)  
 Code **SPM-6000-T03** (H=30mm, optional)

**Profile arm, Code SPM-6000-ARM1** (included)



**Bidirectional cone stylus**



Code **SPM-6000-Z01** (H=12mm, d=2mm, optional)  
 Code **SPM-6000-Z02** (H=24mm, d=2mm, optional)  
 Code **SPM-6000-Z03** (H=10mm, d=1mm, optional)

**Roughness arm, Code SPM-6000-ARM2** (included)

