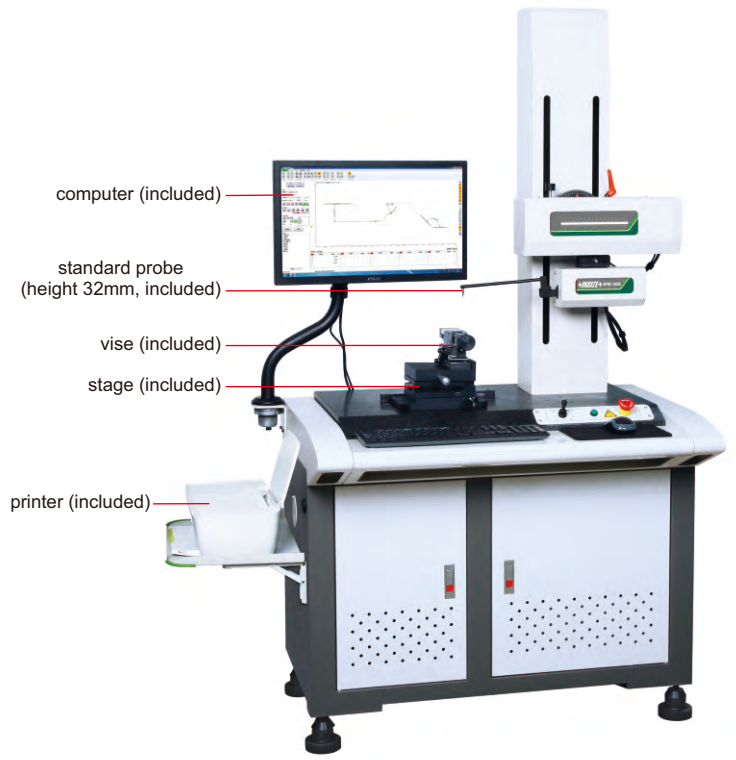
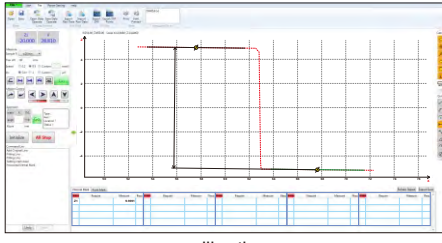


## SURFACE PROFILE MEASURING MACHINE CODE SPM-1000

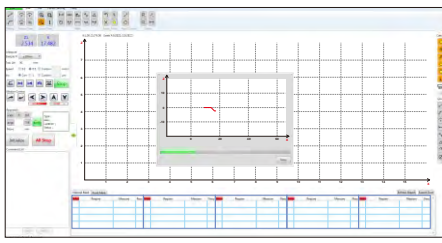
- Software is included, for surface profile measurement and data output
- Probe compensation
- Output as format txt, csv, etc.
- Large range design, the leverage ratio is 1:2.2, maintain the original accuracy of the sensor
- The overall structure of the Z-axis sensor does not have any elastic components, ensuring the measuring force is constant regardless the position of probe



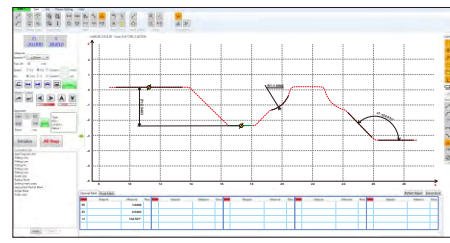
- computer (included)
- standard probe (height 32mm, included)
- vise (included)
- stage (included)
- printer (included)



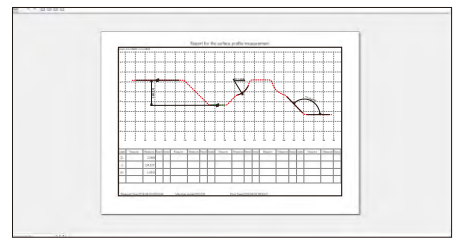
calibration



contour scanning



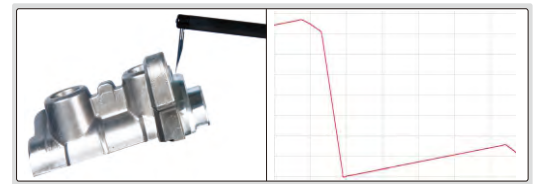
dimension measurement



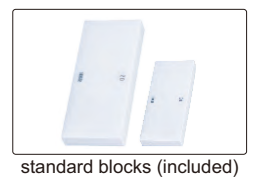
data output

### SPECIFICATION

X axis measuring range	140mm
X axis resolution	0.2μm
X axis straightness	0.8μm/100mm
X axis moving speed	0.1~10mm/s
Z axis measuring range	±20mm
Z axis resolution	0.05μm
Z axis moving speed	0.5~10mm/s
Linear accuracy	±(1.5+ 0.2H )μm, H is measuring height in mm
Angular measuring accuracy	±2'
Arc measuring accuracy	±(2+R/8)μm, R is 2~10mm standard ball
Radius of probe tip	25μm
Moving direction	backward
Measuring force	6.86~9.8mN
Measuring unit	mm/inch
Traceable angle	72° (upward), 87° (downward)
Drive mode	motor
Travel of Z axis	430mm
Dimension (L×W×H)	1200×700×1780mm
Power supply	220±5%V, 50Hz
Weight	320kg



standard balls (included)



standard blocks (included)



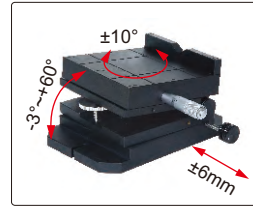
standard shaft (included)

To be continued

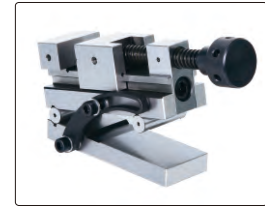
Continued from previous page

**STANDARD DELIVERY**

Main unit	1 pc
Standard probe and arm	1 pc of each
Standard block	2 pcs
Standard ball	2 pcs
Standard shaft	1 pc
Stage	1 pc
Vise	1 pc
Measuring arm	1 pc
Computer	1 pc
Measurement software	1 pc
Printer	1 pc
Installation tools	1 set



stage (included)



vise (included)

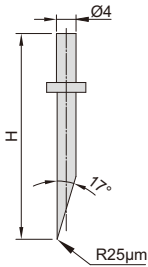
**OPTIONAL ACCESSORY**

Probe and arm	refer to details
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**SPECIFICATION OF PROBES AND ARMS**

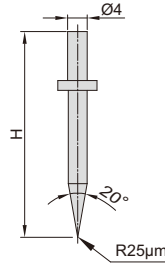
Unit: mm

**chisel probes**



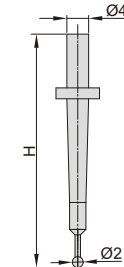
code **SPM-1000-T01** (H=32mm, included)  
 code **SPM-1000-T02** (H=48mm, optional)  
 code **SPM-1000-T03** (H=68mm, optional)

**cone probes**



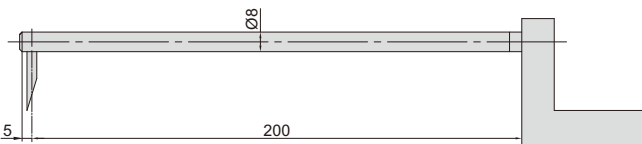
code **SPM-1000-Z01** (H=32mm, optional)  
 code **SPM-1000-Z02** (H=48mm, optional)  
 code **SPM-1000-Z03** (H=68mm, optional)

**ball probes**

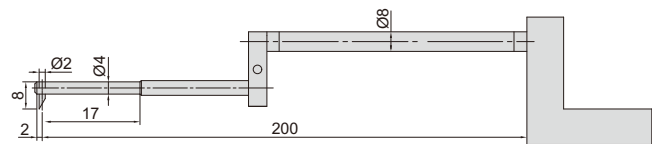


code **SPM-1000-R01** (H=32mm, optional)  
 code **SPM-1000-R02** (H=48mm, optional)  
 code **SPM-1000-R03** (H=68mm, optional)

**standard arm, code SPM-1000-SP (included), probe is not included**

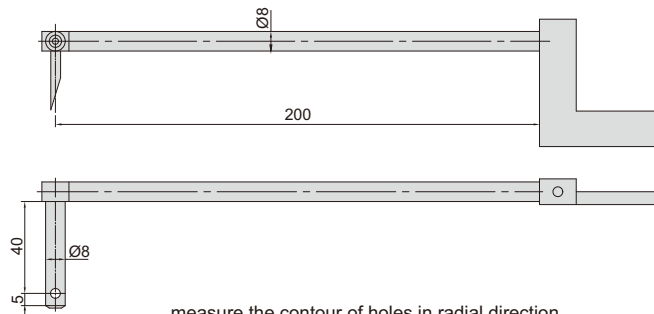


**arm for small holes, code SPM-1000-SBP (optional), probe is included**



measure the contour of holes with diameter > Ø8mm

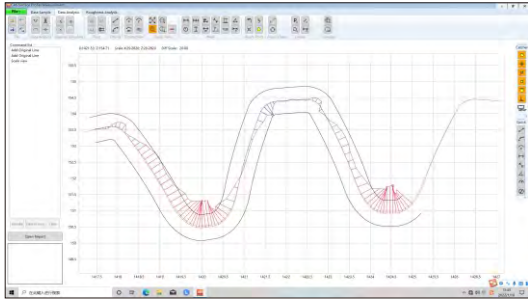
**transverse arm, code SPM-1000-LP (optional), probe is not included**



measure the contour of holes in radial direction

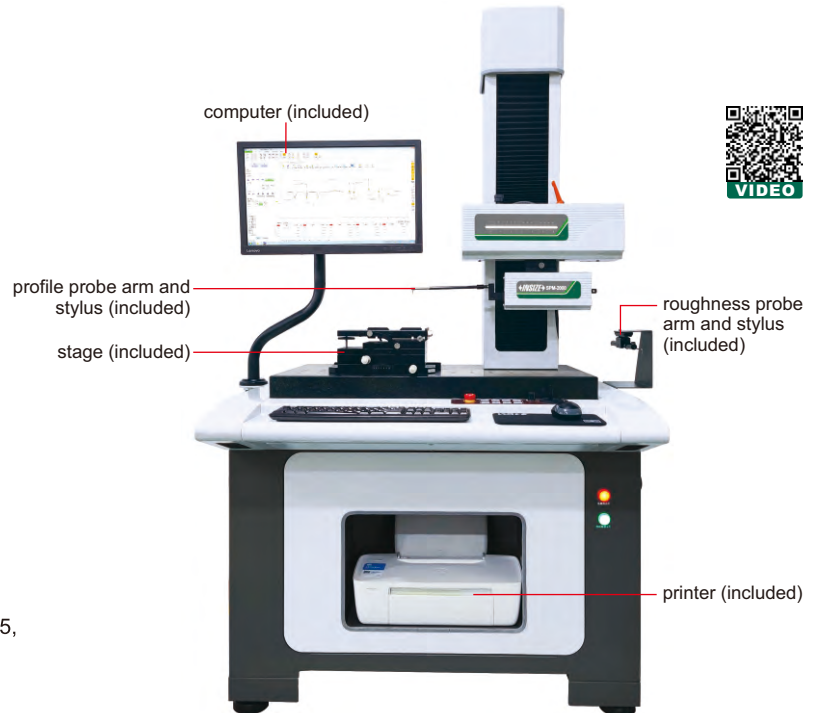
ATTENTION: SEPARATE PROBES FOR  
ROUGHNESS AND PROFILE MEASUREMENT

## ROUGHNESS AND PROFILE MEASURING MACHINE CODE SPM-2000



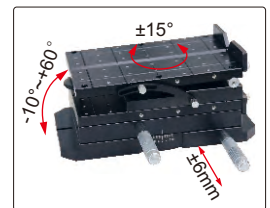
CAD profile comparison

- Software is included, for measurement and data output
- Profile sensor with low noise
- Wide range roughness sensor without skid
- Meet ISO1997, ISO1984, BS1988, DIN1990, ASME1995, JIS1982, JIS1994 standards
- 65 roughness parameters

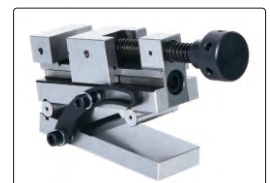


### PROFILE MEASUREMENT SPECIFICATION

X axis measuring range	140mm
X axis resolution	0.2μm
X axis traverse speed	0.05~15mm/s
Z axis measuring range	50mm
Z axis resolution	0.05μm
Z axis traverse speed	0.2~15mm/s
Straightness	0.5μm/100mm
Linear accuracy	±(0.8+ 0.15H )μm, H is measuring height in mm
Angular measuring accuracy	±1'
Arc measuring accuracy	±(1.5+R/12)μm, R is 2~10mm standard ball
Measuring unit	μm/μin
Measuring speed	0.05~1mm/s
Traceable angle	72° (upward), 88° (downward)
Travel of Z axis	430mm
Power supply	220±5%V, 50Hz
Dimension (L×W×H)	1400×850×1780mm
Weight	350kg



stage (included)



vise (included)



standard shaft (included)



standard blocks (included)



standard balls (included)

To be continued

### ROUGHNESS MEASUREMENT SPECIFICATION

Roughness parameters	Ra, Rp, Rv, Rz, Rz (JIS), R3z, Rz (DIN), Rzj, Rmax, Rc, Rt, Rq, Rsk, Rku, Rsm, Rs, PΔq, Rk, Rpk, Rvk, Mr1, Mr2, Rmr
Waviness parameters	Wa, Wt, Wp, Wv, Wz, Wq, Wsm, Wsk, Wku, Wmr
Primary profile parameters	Pa, Pt, Pp, Pv, Pz, Pq, Psm, Psk, Pku, Pmr
Measuring range	±420μm
Resolution	0.001μm
Linear accuracy	≤±(5nm+2.8%)
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/μin
Measuring speed	0.05~0.25mm/s

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**STANDARD DELIVERY**

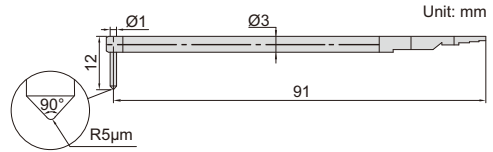
Main unit	1 pc
Calibration block	1 set
Roughness probe arm	1 pc
Roughness stylus	1 pc
Profile probe arm	1 pc
Profile chisel stylus	1 pc
Stage	1 set
Vise	1 set
Computer	1 pc
Software	1 set
Printer	1 pc
Installation tools	1 set

**OPTIONAL ACCESSORY**

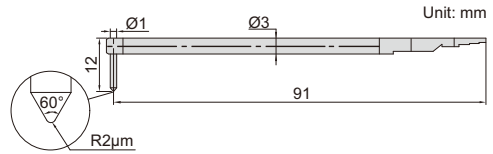
Probe and arm	refer to details
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**SPECIFICATION OF ROUGHNESS PROBE**

standard arm, code SPM-2000-P (included), probe is included



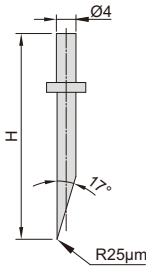
small roughness arm, code SPM-2000-P1 (optional), probe is included



**SPECIFICATION OF PROFILE PROBES AND ARMS**

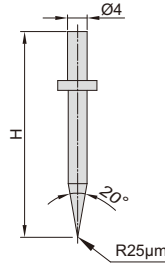
Unit: mm

**chisel probes**



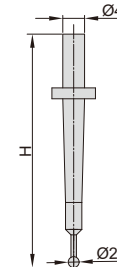
code SPM-1000-T01 (H=32mm, included)  
code SPM-1000-T02 (H=48mm, optional)  
code SPM-1000-T03 (H=68mm, optional)

**cone probes**



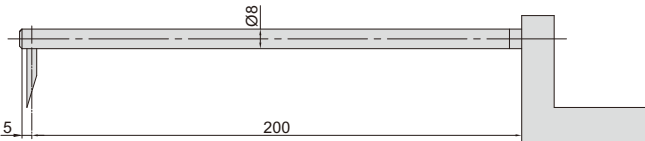
code SPM-1000-Z01 (H=32mm, optional)  
code SPM-1000-Z02 (H=48mm, optional)  
code SPM-1000-Z03 (H=68mm, optional)

**ball probes**

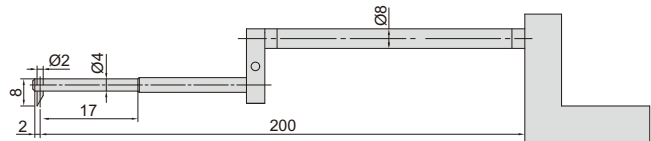


code SPM-1000-R01 (H=32mm, optional)  
code SPM-1000-R02 (H=48mm, optional)  
code SPM-1000-R03 (H=68mm, optional)

standard arm, code SPM-1000-SP (included), probe is not included

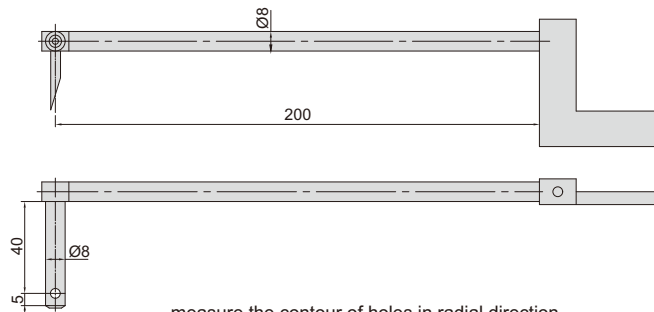


arm for small holes, code SPM-1000-SBP (optional), probe is included



measure the contour of holes with diameter > Ø8mm

transverse arm, code SPM-1000-LP (optional), probe is not included



measure the contour of holes in radial direction