Height Gage

A standard measuring tool of industry

Linear Height
SERIES 518 — High Performance 2D Measurement System

- Excellent accuracy of (1.1+0.6L/600)µm with 0.1µm/0.4µm resolution/repeatability.
- High-accuracy Height Gage incorporating a wide range of measurement functions.
- To achieve best-in-class accuracy, a high-accuracy reflective-type linear encoder and high-accuracy guide are used.
- Measurement can be implemented by icon-based commands that also support easy one-key operation.
  Perpendicularity (frontal) of 5µm and straightness of 4µm are guaranteed.
- The TFT LCD provides excellent visibility and operability.

- Pneumatic full/semi-floating system allows adjustment of air-cushion height.
- Basic statistical functions are provided and, additionally, RS-232C data output provides the option of evaluating measurement data externally with SPC software on a PC.
- For precision Black Granite Surface Plates, refer to page E-51.
- Backup/Restore of data and measurement part programs can be implemented using USB storage devices (FAT16/32 format compatible).

With power grip
518-352A-21

518-351A-21

PROPRIETARY INSPECTION CERTIFICATE
An inspection certificate is supplied as standard. Refer to page IX for details.

Technical Data

Measuring range: 0 - 977mm
Slider stroke: 600mm
Resolution: 0.0001 / 0.001 / 0.01 / 0.1mm or
(switchable) .000001" / .00001" / .0001" / .001"
Accuracy at 20°C*[1]: (1.1+0.6L/600)µm
L = Measuring length (mm)
Repeatability (2σ)*[1]: Plane: 0.4µm, Bore: 0.9µm
Perpendicularity*[2]: 5µm (after compensation)
Straightness*[2]: 4µm (mechanical straightness)
Drive method: Manual / motor (5 - 40mm/s, 7 steps)
Measuring force: 1N
Balancing method: Counter balance
Floating method: Full / semi-floating with built-in air compressor
Display: 5.7-inch color TFT LCD
Language for display: Japanese, English, German, French, Italian, Spanish, Dutch, Portuguese, Swedish, Czech, Hungarian, Slovene, Polish, Traditional Chinese, Korean, and Simplified Chinese
No. of stored programs: 50 (max.)
No. of stored data: 60,000 (max.)
Power supply: AC adapter / battery (Ni-MH)
Battery operation time: Approx. 5 hours
(air floating & slider elevation: 25% duty cycle)
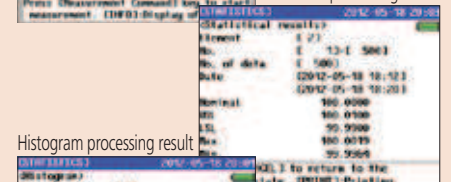*1 Guaranteed when using the standard eccentric ø5 probe
*2 Guaranteed when using the Lever Head (MLH-521) or Mu-checker (M-511)
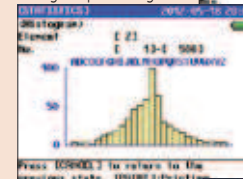
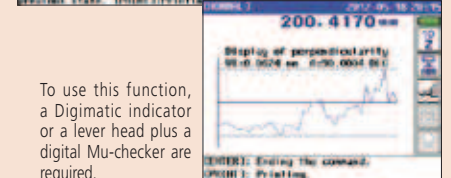## Screenshot examples

Measurement screen
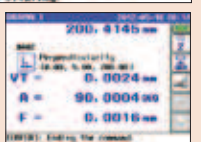

Statistical processing result

Histogram processing result

Squareness measurement result: Graphical display

To use this function, a Digimatic indicator or a lever head plus a digital Mu-checker are required.

Squareness measurement result: Numeric display

SPECIFICATIONS

Inch/Metric — Model without power grip

Order No.	Remarks
518-351A-21	Model for North America, English manual
518-351A-22	Model for South America, Spanish manual
518-351D-21	Model for EU, English manual
518-351E-21	Model for the UK, English manual
518-351DC	Model for China, Chinese manual
518-351K	Model for Korea, Korean manual

Inch/Metric — Model with power grip

Order No.	Remarks
518-352A-21	Model for North America, English manual
518-352A-22	Model for South America, Spanish manual
518-352D-21	Model for EU, English manual
518-352E-21	Model for the UK, English manual
518-352DC	Model for China, Chinese manual
518-352K	Model for Korea, Korean manual

* Power grip pre-installed models

Standard accessories

12AAF634 5-stepped probe
12AAA715 Ball-diameter corrected block
*When the correction is performed by using the taper type contact point, the ball-diameter corrected block No.**12AAA787** (for taper type contact point) is required.
12AAF674 Auxiliary weight (2pcs.)

Example of measurements

Thickness measurement (Outside)
Height measurement (Upward facing)
Width measurement (Inside)
Circle measurement (Hole)
Height measurement (Downward facing)

The power grip makes it easy to approach the workpiece.

DIMENSIONS

Unit: mm

377
977
1013
600
262
237
(10)
82.5
288
(68)

Optional accessories

● For Linear Height and QM-Height ● For Linear Height only ● For QM-Height only

(1) 12AAC072: Depth probe
(2) 12AAC073: ø20mm taper probe
(3) 12AAA792: Dial indicator (ø8mm stem) holder
(4) 12AAA793: Probe extension holder (85mm/3.3″)
● **12AAB136**: ø10mm cylindrical probe
(6) 932361: Mu-checker lever head holder*² additional auxiliary weights are required (total 4 pcs).
● **12AAF666**: ø1mm ball probe (coaxial type)
● **12AAF667**: ø2mm ruby ball probe (coaxial type)
(8) 957261: ø2mm ball probe (coaxial type)
(9) 957262: ø3mm ball probe (coaxial type)
(10) 957263: ø4mm ball probe (coaxial type)
(11) 12AAB552: ø10mm ball probe, L = 55mm (coaxial type)

● **12AAF668**: ø10mm ball probe, L = 82mm (coaxial type)
● **12AAF669**: ø10mm ball probe, L = 120mm (coaxial type)
● **12AAF670**: ø5mm disk probe
● **12AAF671**: ø10mm disk probe
(12) 957264: ø14mm disk probe
(13) 957265: ø20mm disk probe
● **12AAF672**: ø1mm ball offset probe
(14) 12AAA788: ø4mm ball offset probe
● ø5mm ball offset probe **No.05HAA394**
(15) 12AAA789: ø6mm ball offset probe
(16) 226116: Test indicator (ø6mm stem) adapter
● Sample workpiece **No.12AAA879**
(17) 226117: M2 CMM stylus adapter*¹
(18) 226118: M3 CMM stylus adapter*¹

● CMM ball and disk hard probes are available.
ø2 **No.932377A**, ø3 **No.932378A**
ø5 **No.932379A**, ø6 **No.932380A**
ø10 **No.532328**
Disc probe
ø20 **No.532345**, ø30 **No.930803**
● **12AAF712**: Battery pack
● **12AAF675**: Set with cover for large capacity battery*²
● **12AAG245**: Single large-capacity battery*³
● Scriber **No.05HZA173**
● Digimatic Mini-Processor DP-1VR **No.264-504**
SPC Cable
No.936937 (1m)
No.965014 (2m)
● AC Adopter **No.526688**

*1 Styli for CMMs can be provided
*2 Set with cover for large capacity battery
*3 Single piece of large capacity battery

Various peripheral devices

● **12AAN048**: Thermal printer (Attachment for fixing the connecting cable is provided as standard.)
● **12AAN052**: Thermal printing paper (10 pcs.)
● **12AAA804**: Cable for page printer (2m)
● **12AAA807**: RS-232C cable (2m/80″)
● **12AAG920**: RS-232C cable (3m/118″)
● Digimatic cable   **No.936937** (1m)
                                No.965014 (2m)

● RS-232C cable (Cable specification)
Cross (less than 3m)
Connector
D-sub 9 pin (female): Use commercial D-sub 9 pin (female)

D

Mitutoyo