

# Height Gage

A standard measuring tool of industry

## Linear Height

### SERIES 518 — High Performance 2D Measurement System

- Achieves indication accuracy of  $(1.1 + 0.6L/600) \mu\text{m}$ .
- 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.
- The TFT LCD provides excellent visibility and operability.
- Pneumatic full/semi-floating system allows adjustment of air-cushion height.
- Equipped with various interfaces for RS-232C communication in addition to connectability to printers and Digimatic measuring instruments.
- For precision Black Granite Surface Plates, refer to page E-49.
- Backup/Restore of data and measurement part programs can be implemented using USB storage devices (FAT16/32 format compatible).



LH-600E

## SPECIFICATIONS

Metric		
Model		
		LH-600E <sup>*3</sup> (without power grip)
		LH-600EG <sup>*3</sup> (with power grip)
Measuring range (Stroke)		0 to 977 mm (600 mm) 0 to 38 in (24 in)
Resolution		0.0001/0.001/0.01/0.1 mm (selectable) 0.000001/0.00001/0.0001/0.001 in (selectable)
Accuracy at 20 °C	Indication accuracy <sup>*1</sup>	$(1.1 + 0.6L/600) \mu\text{m}$ , L=Measured length (mm)
	Repeatability <sup>*1</sup>	Plane: 0.4 $\mu\text{m}$ (2 $\sigma$ ), Hole: 0.9 $\mu\text{m}$ (2 $\sigma$ )
	Perpendicularity (forward and backward) <sup>*2</sup>	5 $\mu\text{m}$ (after compensation)
	Straightness (forward and backward) <sup>*2</sup>	4 $\mu\text{m}$ (mechanical accuracy)
Guiding method		Roller bearing
Driving method		Motor-driven (5, 10, 15, 20, 25, 30, 40 mm/s: 7 steps)/Manual
Scale unit		Reflective-type linear encoder
Measuring force		1 N (automatic constant-force function)
Balancing method		Counter weight balance
Main unit moving mode		Full-floating (moving)/Semi-floating (measuring) air bearing
Air source		Built-in compressor
Monitor		5.7 inch COLOR TFT LCD
Max. number of programs		50
Max. number of measured data		60,000 (Max. number of data is 30,000/per program)
Power supply		AC adapter/Battery (NiMH)
Battery operation time		Approx. 5 hours (compressor duty cycle 25 % max.)
Battery charging time		Approx. 3 hours (usable during charge)
Dimensions (WxDxH)		237x438x1013 mm
Mass		24 kg
Operating temperature/humidity ranges		5 to 40 °C/20 to 80 % RH (non-condensing)
Storage temperature/humidity ranges		-10 to 50 °C/5 to 90 % RH (non-condensing)

\*1 Guaranteed when using the standard eccentric  $\phi 5$  probe.

\*2 Guaranteed when using the Lever Head (519-521), Mu-Checker (519-561).

\*3 Order No. depends on the destination as shown in the table on the right.

Note: To obtain maximum measurement accuracy, please note the following:

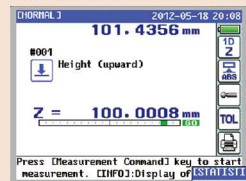
- Use in an environment that is as close as possible to 20 °C, and subject to minimal temperature change over time.
- Use in conjunction with a surface plate of JIS 1 class, or higher, flatness specification.



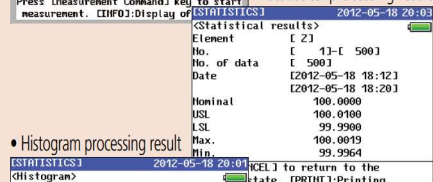
An inspection certificate is supplied as standard. Refer to page U-11 for details.

## Screenshot examples

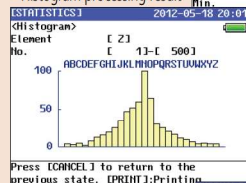
- Measurement screen



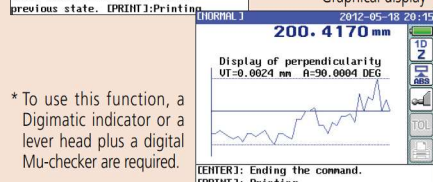
- Statistical processing result



- 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\*

## Standard Accessories

- 12AAF634  $\phi 5$  mm stepped probe
- 12AAA715 Ball-diameter corrected block
- Note: When the correction is performed by using the taper type contact point, the ball-diameter corrected block 12AAA787 (for taper type contact point) is required.
- 12AAF674 Auxiliary weight\*
- \* Two auxiliary weights come with the main unit.

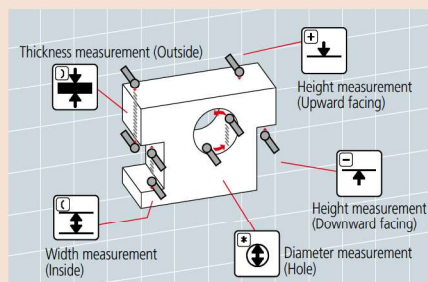
## Model without power grip

Order No.	Remarks
518-351-10	Model for Japan, Japanese manual
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 U.K., English manual
518-351DC	Model for China, Chinese manual
518-351K	Model for Korea, Korean manual

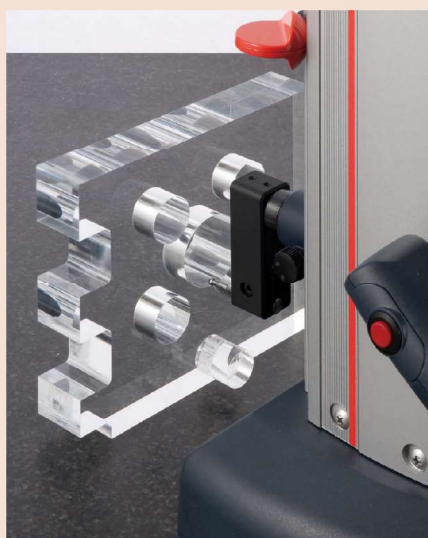
## Model with power grip (Power grip pre-installed model)

Order No.	Remarks
518-352-10	Model for Japan, Japanese manual
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 U.K., English manual
518-352DC	Model for China, Chinese manual
518-352K	Model for Korea, Korean manual

## Example of measurements

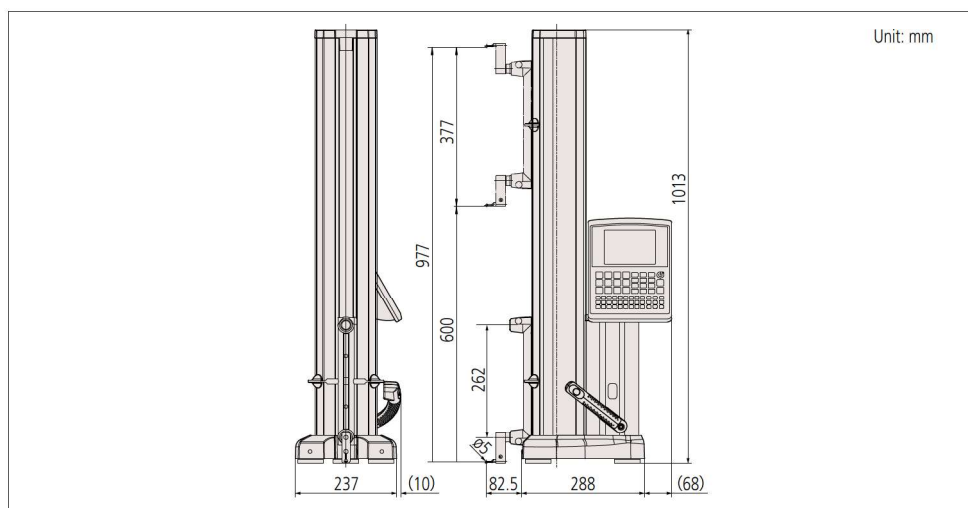


The power grip makes it easy to approach the workpiece.



The sample workpiece shown in the above photo is an optional accessory (12AAA879).

## DIMENSIONS



## Optional Accessories



No.	Order No.	Item
(1)	12AAC072	Depth probe
(2)	12AAC073	Taper probe
(3)	932361	Mu-checker lever head holder*1 *1 Two additional pieces of auxiliary weights required (total 4 pcs.)
(4)	12AAA792	Dial indicator holder
(5)	12AAA793	Probe extension holder
(6)	12AAB552	ø10 mm ball probe (coaxial type)
(7)	957265	ø20 mm disk probe
(8)	957264	ø14 mm disk probe
(9)	957261	ø2 mm ball probe (coaxial type)
(10)	957262	ø3 mm ball probe (coaxial type)
(11)	957263	ø4 mm ball probe (coaxial type)
(12)	226118	M3 CMM stylus adapter*2
(13)	226117	M2 CMM stylus adapter*2
(14)	12AAA789	ø6 mm ball offset probe
(15)	12AAA788	ø4 mm ball offset probe

Order No.	Item
12AAB136	ø10 mm cylindrical probe
12AAF666	ø1 mm ball probe (coaxial type)
12AAF667	ø2 mm ball probe (coaxial type) Ruby ball
12AAF668	ø10 mm ball probe (coaxial type) L: 82 mm
12AAF669	ø10 mm ball probe (coaxial type) L: 120 mm
12AAF670	ø5 mm disk probe
12AAF671	ø10 mm disk probe
12AAF672	ø1 mm ball offset probe
05HAA394	ø5 mm ball offset probe
12AAA879	Sample workpiece
932377A	ø2 mm CMM ball probes
932378A	ø3 mm CMM ball probes
932379A	ø5 mm CMM ball probes
932380A	ø6 mm CMM ball probes
532328	ø10 mm CMM ball probes
532345	ø20 mm CMM disk probes
930803	ø30 mm CMM disk probes
12AAF712	Battery pack

\*2 For enabling CMM stylus to be used.

Note: A gauge block may be required for zero-setting depending on the probe and contact point.

## Various peripheral devices

Order No.	Item
12AAN048*	Receipt printer (for Japan)
12AAN049*	Receipt printer (for North America)
12AAN050*	Receipt printer (for EU; excluded U.K.)
12AAN051*	Receipt printer (for U.K.)
12AAN052	Receipt paper (10-roll set)
12AAA804	Cable for page printer (2 m)
12AAA807	RS 232C cable (2 m/80 in)
936937	Digimatic cable (1 m)
965014	Digimatic cable (2 m)

\* Attachment for fixing the connecting cable is provided as standard.